Experimental testing of catch basin rating curves

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Experimental Testing of Catch Basin Rating Curves

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ABSTRACT

This report provides catchment flows for eight catch basin cover configurations at 6 grades ranging from 0.5 - 10.0% and cross-slopes of 2.0 and 4.0%. The curves were developed from a series of tests with a mock-up of a roadway conducted at the Ocean, Coastal & River Engineering Research Centre of the National Research Council Canada in Ottawa. Water flows ranging from 0.001 - 0.40 m^3/s were delivered to a model roadway to quantify the conveyance of the catch basin covers for various roadway grades and cross-slopes.

The report covers a review of the model roadway used and the experimental setup. A review of the instrumentation used and the measurements performed in this work follows. Then the eight catch basin cover combinations used in the study are examined. A preliminary analysis including an assessment of bias and uncertainty is performed. The detailed results from each of the eight catch basin cover combinations are provided. Finally, a comparison of the current results with previous results and of the various catch basins covered in this report is performed.

TERMS OF USE

The data in this report is provided as is. Any users of this data should understand that there are differences in obtaining results in a laboratory setting and the application in the field. Those differences include but are not limited to the uniformity of the road surface in advance of and near the catchment and the precise setting of the catchment into the surface of the roadway. For further information on the use of the data contained within the report readers should contact the authors.

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1. Introduction

The National Research Council of Canada's Ocean, Coastal and River Engineering Research Centre (NRC-OCRE) has prepared this report for the City of Toronto and Infrastructure Canada summarizing a collection of experiments conducted to determine catch basin rating curves over a broad range of conditions for different catch basin grates, or covers commonly used in the City of Toronto.

The NRC is Canada's leading research and technology organization and, through its Ocean, Coastal and River Engineering Research Centre, operates one of the world's largest and most advanced hydraulics laboratories dedicated to applied research in coastal and river engineering. The NRC-OCRE laboratory (formally known as the NRC Canadian Hydraulic Centre) has a strong track record of applied research concerning the design and performance of many types of marine and hydraulic infrastructure.

The City of Toronto currently uses hydrodynamic (computer) models to model urban flooding throughout the city for their Basement Flooding Protection Program. One of the key input parameters in these hydrodynamic models is the catch basin rating curve. These rating curves relate the hydraulic head above the catch basin grate to the inflow capacity of a specific grate type. The rating curves play a crucial role in the accuracy of the hydrodynamic model predictions because they govern the inflow through each catch basin cover in the model. The existing rating curves that are currently in use have been adopted from a series of experimental tests completed in 1982 for the Ontario Ministry of Transportation, which can be found in Burgi and Gober (1978), Marsalek (1982) and Marsalek (1986). The selection of grate covers is different from those performed in the previous studies and the present tests have examined the highest flow rates to date in an effort to better understand potential catch-basin conveyance in extreme flood conditions.

A series of 1140 tests has been undertaken in an effort to better understand the performance (conveyance) of catch basin covers and help improve the capacity to design, analyze and predict the flows through stormwater systems during flood events. The results will help improve resiliency in the face of a changing climate. A total of eight catch basin cover configurations were examined at six road grades ranging from 0.5 - 10.0% and cross-slopes of 2.0 and 4.0% and for each setup 13 water flows from 0.001 – 0.40 m^3/s were sent onto the model roadway.

2. Experimental Setup

The experiments were carried out in the National Research Council's (NRC's) Coastal Wave Basin (CWB) test facility. The facility is located in the NRC's Ocean, Coastal & River Engineering Research Centre (OCRE) in Ottawa, Canada. The experimental setup consisted of a model roadway, the water supply system and the measurement tank. A sketch of the experimental setup is provided in Figure 1.

The model roadway consisted of a road surface that was 10.70 m long and 2.60 m wide and was supported at six locations. Two hinged roadway supports at the upstream end of the road were situated on an I-beam which was supported by a pair of hinges (see Figure 1). Spacers were installed underneath one of the hinged supports to impose either a 2.0 or 4.0% cross-slope on the roadway. The roadway was also supported by four jack posts. Two posts were located 6.52 m from the hinged supports and two posts were located at the downstream end of the road (located 10.32 m and 10.35 m from the hinged supports for the east and west posts, respectively). The roadway level was determined by using a Nikon AE-7 automatic level with a Nikon micrometer-3 engineer's level and a surveyor's rod to measure the height of the road

deck above each of the six support locations. A roofing nail was put into the roadway surface above each of the six support locations as a reference point for the surveyor's rod. The NW corner served as fixed reference point because it was the closest to the 2 way pivot point. The slope of the roadway was adjusted using the following procedure:

- The height of the reference point was measured using the Nikon AE-7 with the micrometer-3 and a surveyor's rod.
- The other five locations were adjusted to match the height of the reference point to submillimeter precision by adjusting the height of the support post under each point.
- Once completed, the roadway height at each of the six locations was re-verified to ensure that the subsequent adjustments did not alter the original adjustment.
- Once the roadway was levelled the height from the basin floor to where each of the 4 support posts intersects the structural beam was noted using a measuring rod to millimeter precision. The distance of each post from the pivots was used to calculate the appropriate height adjustment from the measured level height for each of the 12 roadway settings (6 grades and 2 cross-slopes).
- The height of each post was adjusted accordingly to millimeter precision using a measuring rod.

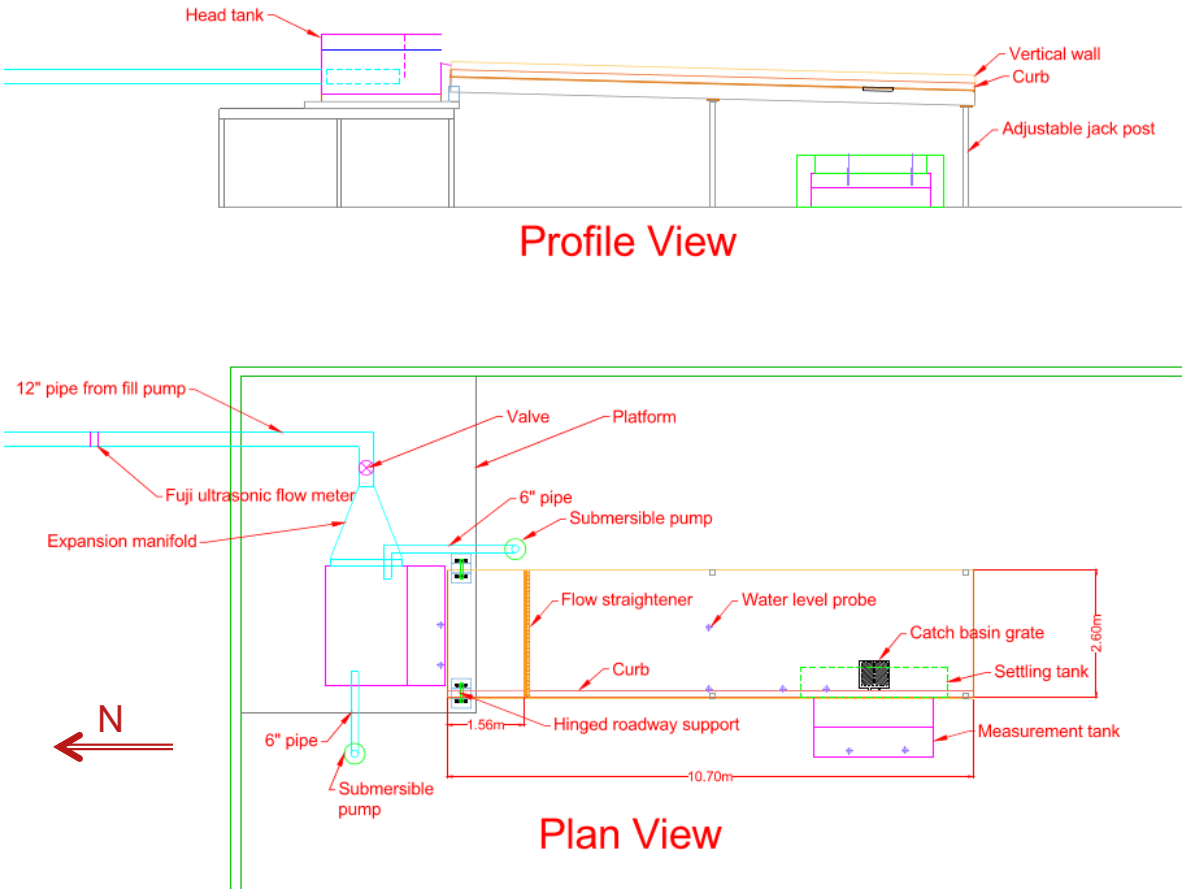

Figure 1. Model roadway sketch

The height of each jack post varied from 1.15 to 2.30 m with the pair of posts at the downstream end of the roadway experiencing the greatest range. The roadway level was re-verified and adjusted throughout the test program as needed. The final values of each jack post height for the various roadway configurations are provided in Appendix A (Table A.1).

A flow straightener was installed 1.56 m from the upstream end of the model roadway where the head tank is located. The flow straightener is illustrated in the Plan View of Figure 1 and shown in Figure 2. The flow straightener was constructed using two layers of Fibergrate® composite flooring. The straightener was 0.075 m thick and has a unit spacing of 0.038 m. As shown in Figure 2, the road was equipped with a 0.14 m high by 0.14 m wide curb along the right (West) side of the road when looking downstream. The roadway and curb were both covered with a water-proof material (WeatherWatch) that has a similar manning's roughness coefficient as road asphalt (0.013 $s/m^{1/3}$) to ensure a realistic simulation of real world flow conditions and velocities. Walls were installed on each side of the roadway. The walls contained the water within the roadway and were covered with tin to reduce friction (as much as possible) with the water.

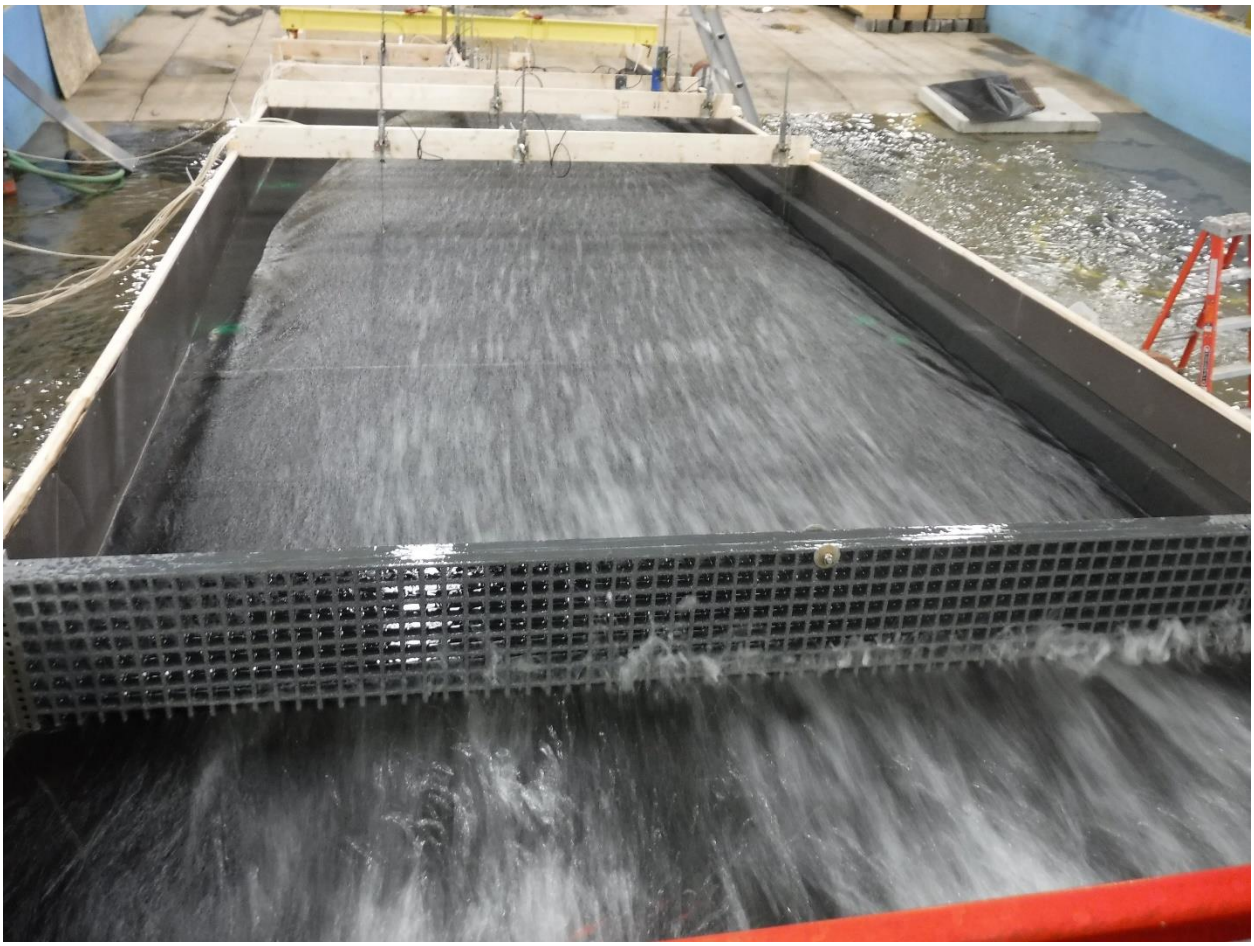

Figure 2. Model roadway image with flow straightener

Water was supplied to the model via a large pump that pumped water from the laboratory sump into a 1.83 m x 2.44 m head tank located at the upstream end of the roadway as illustrated in the Profile View of Figure 1 and shown in Figure 3. The pump supplied water to the head tank through a 12 inch pipe and an expansion manifold. The head tank included a baffle wall within the tank and a sharp-crested weir at outlet of the tank. The baffle wall was installed to reduce surface waves before the flow travelled over the outlet weir and onto the roadway. The water level above the outlet weir was measured with two Akamina Technologies capacitance wire wave gauges (HT1 and HT2). Two submersible pumps provided additional flow to the head tank via two 6 inch pipes. This allowed for the model to be supplied with a variable flow rate up to a maximum of 0.4 m^3/s.

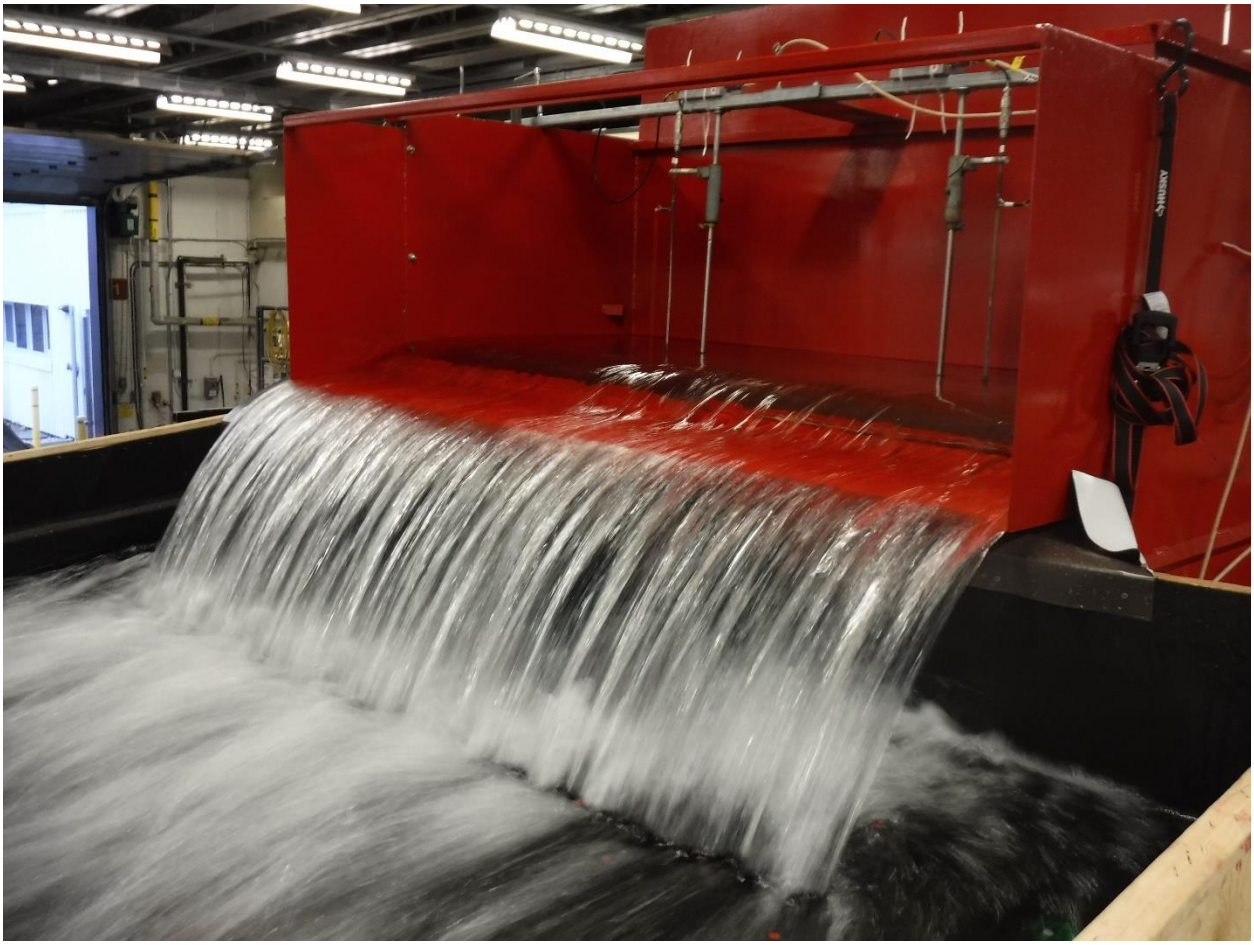

Figure 3. Head tank

The water supplied to the head tank would flow over the head tank outlet weir, onto the roadway and was allowed to freely flow down the road. Some of the water would flow through the catch basin grate and into the measurement tank (see section 2.1.3) while any water that bypassed the grate flowed over the end of

the roadway and onto the Coastal Wave Basin (CWB) floor. All of the water eventually flowed into the Coastal Wave Basin (CWB) and was drained to the sump for reuse.

2.1. Instrumentation

2.1.1. Water Depth Measurements

The main objective of the experiment was to measure the flow through the catch basin covers for various water depths upstream of the opening. The water depth upstream of the catch basin grates was measured using four capacitance wire water level gauges (by Akamina Technologies), an UltraLab ULS water level sensor and a point gauge. The three different types of sensors are shown in Figure 4.

The UltraLab ULS-40D acoustic sensor (see Figure 4a) is optimized for measuring water surfaces in ship basins and flumes. The distance to the water surface is determined by measuring the flight time for a 320 kHz acoustic ping. The accuracy is 1 mm and the data is acquired at 50 Hz.

In still water, or a calm flow, the height of the point gauge (see Figure 4b) was adjusted so that it formed a meniscus with the water. The resolution of the probe was 0.5 mm for a single measurement. For higher flows the surface of the water oscillated and the height of the probe was adjusted so that half the time it was contacting the water and half the time it did not in an effort to measure the average water height.

The capacitance wire water level probes (see Figure 4c) operate by sensing the change in capacitance that occurs as a portion of the insulated wire becomes wetted. The output is directly proportional to the percentage of the wire that is wetted, regardless of whether the wetting is continuous (green water) or intermittent (as in the case of splash or spray). The water level probes were calibrated by changing their elevation with respect to a fixed water level. The probes feature a highly linear response, with calibration errors typically less than 0.5% over a 0.2 m calibration range. This error represents an accuracy of ± 1 mm and the data is acquired at 100 Hz.

The water depth measurements used in this study are defined as the water depth normal to the road surface at the location of the capacitance wire water level gauge (RD6), 0.03 m from the curb and 2.29 m from the end of the model roadway. The point gauge and the UltraLab ULS were both situated near RD6 and used to validate the results from the capacitance wire gauge. Three more capacitance wire water level gauges were also installed in advance (up-stream) of the catch basin covers to better understand the incoming flow. The locations of the water level gauges relative to the curb and the end of the model roadway are provided in Table 1 and illustrated in Figure 5.

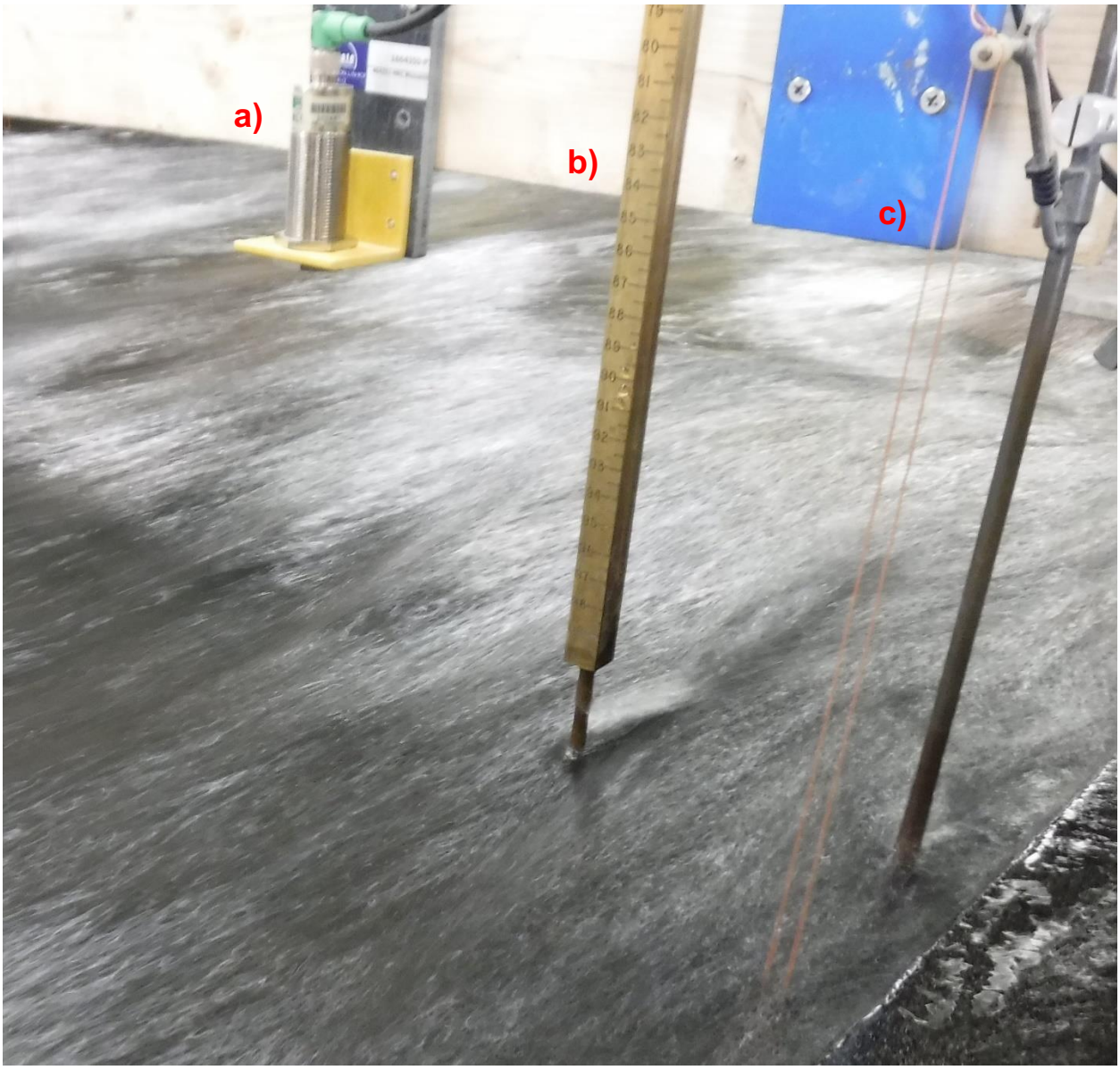

Figure 4. Water level gauges; a) UltraLab ULS, b) point gauge and c) capacitance wire gauge.

Table 1: Probe locations to measure road water depths

Probe	From curb (m)	From End (m)
RD1	0.03	5.37
RD2	1.28	5.37
RD4	1.28	3.85
RD6	0.03	2.97
WD1	0.23	2.76
Point Gauge	0.15	2.88

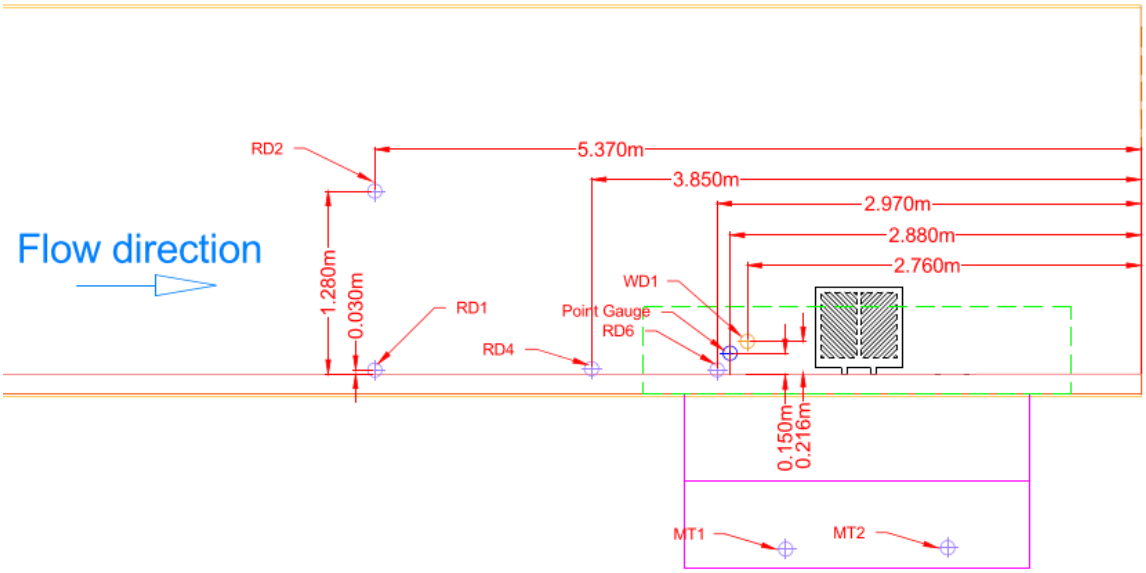

Figure 5. Locations of the water level gauges relative to the downstream end of the roadway.

The baseline water level was obtained by leveling the roadway and placing a 0.1 mm thick shim underneath the point gauge to determine the height of the road surface. The point gauge has a resolution of 0.5 mm. It is acknowledged that the WeatherWatch layer on the surface of the model roadway has a roughness and this methodology is setting the zero 0.1 mm above the top of this surface roughness. Once the zero point was determined, the end of the roadway was blocked and the roadway was filled with 50 – 100 mm of water. A low but constant flow of water was maintained to ensure that the water level was maintained calm and level while the data from the capacitance wire gauges and the UltraLab ULS was recorded and averaged over a three minute (180 second) period. The point gauge was also used to measure the water level at this time. The difference between the point gauge reading at the road surface and the water surface was used to establish the zero level for all of the other gauges.

2.1.2. Flow Measurements

Flow in the model was measured by three different methods. The first was using one of the flow meters. The flow meters used were Fuji Electric Portable type ultrasonic flow meters (FLCS1012) with FSSC extendable type transit time detectors. The flow meters were previously calibrated using a 3" pipe with flows ranging from 0.004 - 0.04 m^3/s and were found to have an accuracy of 0.5%. In this study one flow meter (FM1) was attached to a 12" diameter supply line which was fed by the main pump. The second flow meter (FM2) attached to a 6" diameter supply line which was fed by a secondary submersible pump. Both lines feed water to the head tank behind the baffle wall as shown in Figure 1.

The second method to measure flow in these experiments was done using a sharp crested weir. The flow supplied to the roadway was approximated by measuring the height of the water level above the knife edge on the head tank outlet weir, H_t. The measurement was the average of the two capacitance wire water level gauges (HT1 and HT2). The width of the rectangular weir is L = 1.826 m. From Mott (1979) we can calculate the flow over the weir in equation (1). In equation (2) the weir discharge coefficient is calculated using the depth of the head tank H_c = 0.614 m and a median value of $\overline{H_t}$ = 0.10 m for the water level above the weir.

$$Q = CLH_t^{3/2} \tag{1}$$

$$C = \frac{3.27 + 0.40\,\overline{H_t}/H_c}{\sqrt{3.2808}} \cong 1.84\,\frac{m^{1/2}}{s} \tag{2}$$

It is acknowledged that the approximated discharge coefficient increases low flows by up to 2% and reduces high flows by up to 5% in our experiments.

The final flow measurement method was an individualized calibration that was performed for the measurement tank and is further described in section 2.1.3.

2.1.3. Measurement Tank Weir Calibration

The water flowing through the catch basin covers flows into a stainless steel settlement tank shown in Figure 6, or as indicated by the green dashed line in Figure 5. Curtains have been installed to ensure that all the water falls directly into the settlement tank. The water from the settlement tank flows into a measurement tank (red colour in Figure 6) which is 2.435 m wide and equipped with a baffle wall at the back and a sharp-crested weir at the outlet.

The height of the water level above the weir's knife edge is measured using two Akamina wave gauges (MT1 and MT2). The height of the weir's knife edge was determined by using a Nikon AE-7 automatic level with a Nikon micrometer-3 and a surveyor's rod. The same technique was used to measure the height of a series of blocks and shims stacked under a point gauge which was adjusted to the same height as the knife edge to submillimeter precision. The point gauge is identical to that shown in Figure 4b. The difference in height between the blocks and shims and the water level measured with the point gauge was used to set the zero for the capacitance wire water level gauges. As discussed in section 2.1.1, the capacitance wire water level probes operate by sensing the change in capacitance that occurs as a portion of the insulated wire becomes wetted.

Figure 6. Settlement and Measurement Tanks

The main flow meter used for these experiments was a Fuji Electric Portable type ultrasonic flow meter as discussed in section 2.1.2. In order to calibrate the measurement tank system a 12” diameter supply line was fed by the main pump for the facility and flowed into the settlement tank as shown in Figure 7. All of the water from the settlement tank flowed into the measurement tank. For each flow setting the height of the water above the knife edge (M_t) was determined using the capacitance wire water level gauges. The data was acquired at 100 Hz for an interval of 180 seconds and the average from the two probes was used. The calibrations were performed over the course of 4 days, February 26th and March 1st as well as April 8-9th, 2021 when the range of the calibration was extended to account for the higher flows observed with the high capacity inlet. The measurement tank calibration curves are shown in Figure 8 and the data from those curves is included in the appendix (Table A.2).

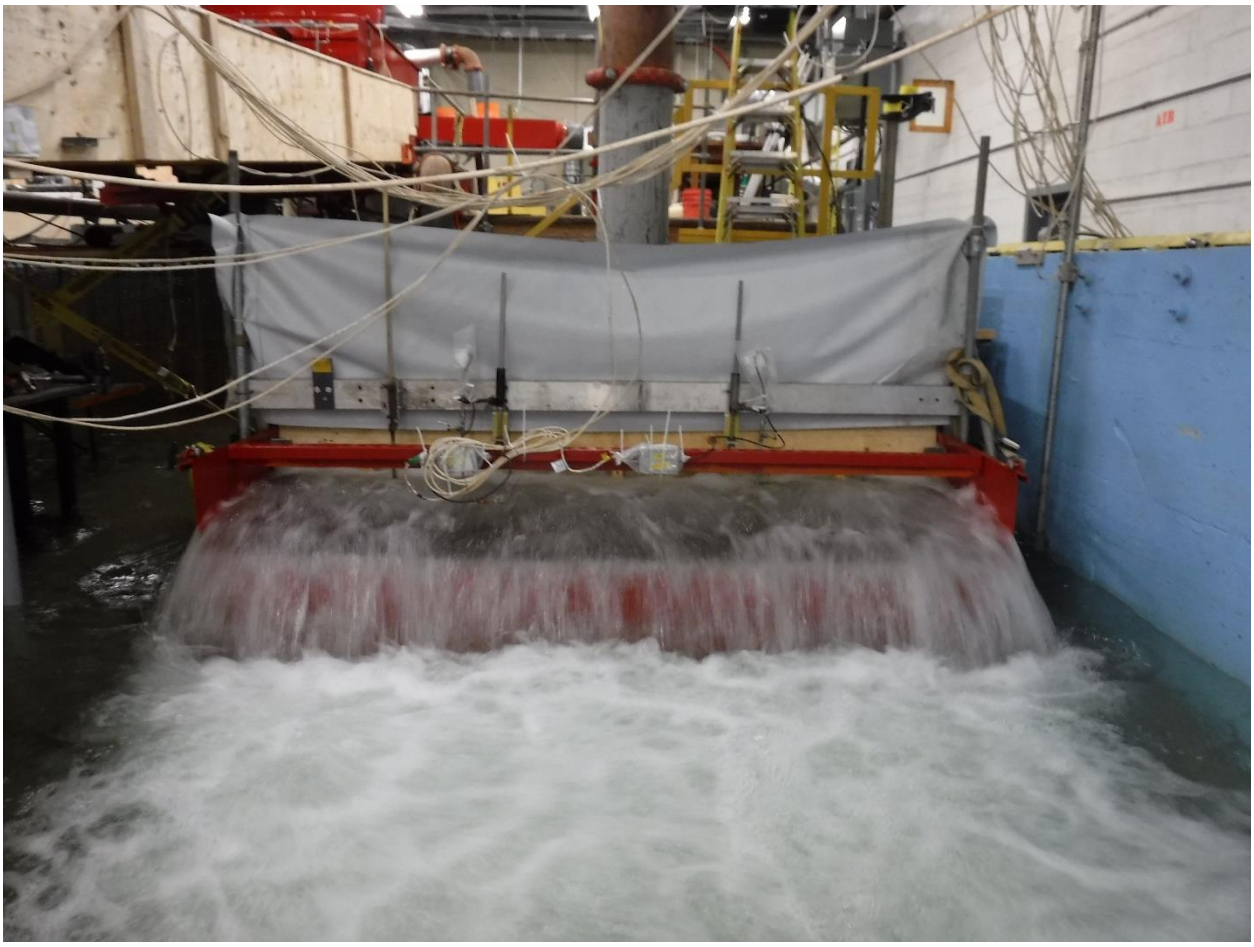

Figure 7. Measurement tank calibration at high flow

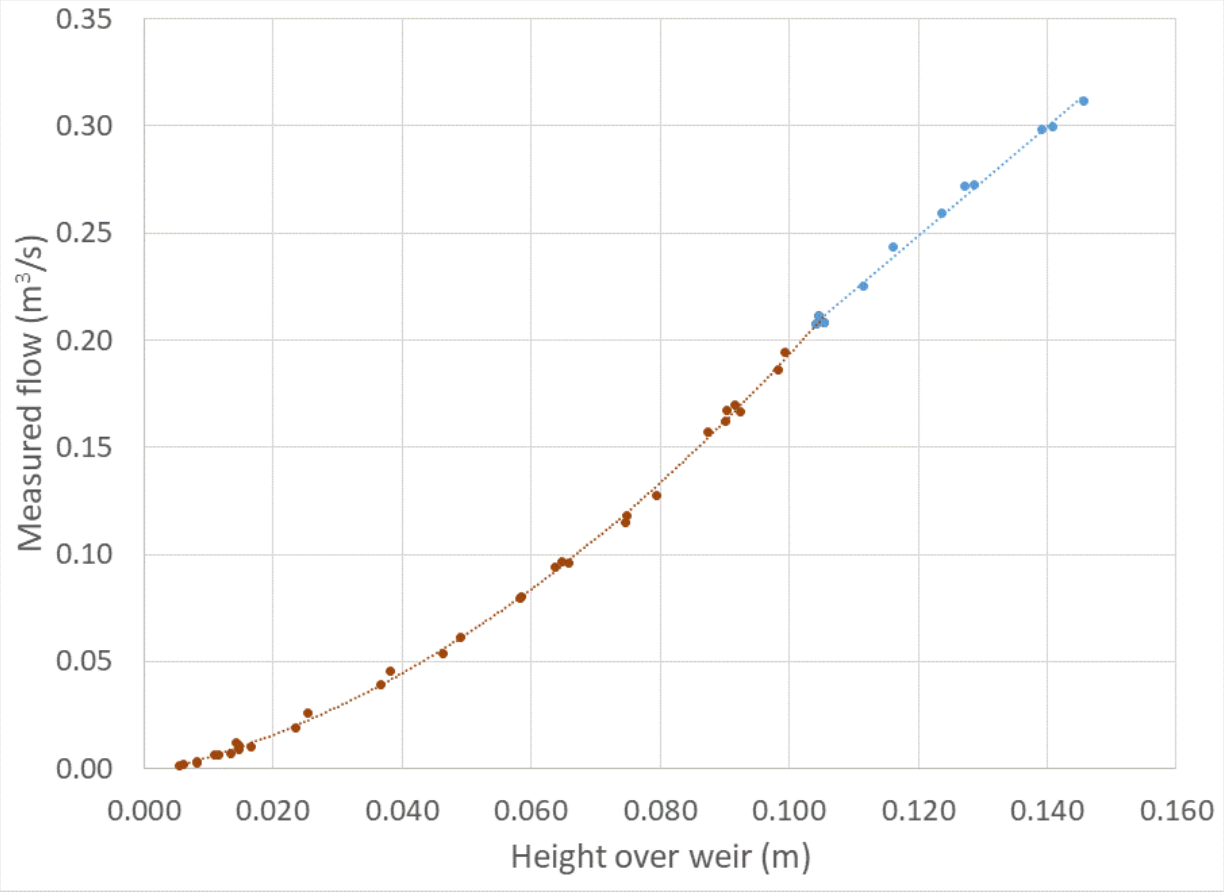

Figure 8. Measurement tank calibration curves. Red points (M_t < 0.106 m) are fitted to a quadratic curve and blue points (M_t > 0.104 m) are fitted to a linear curve.

The calibration flows follow two distinct trends, for measured water levels less than M_t ~ 0.105 m (red) over the weir the measured flow increases quadratically with the water level height over the weir as described by equation (3). There are four measurement points at a water level height near 0.105 m, they correspond to a pump setting of 8 PSI. These four data points were used in both the quadratic regression used to determine equation (3) and the linear regression (blue) used to determine equation (4) for water levels greater than M_t ~ 0.105 m over the height of the weir. At water levels greater than M_t ~ 0.105 m turbulence in the measurement tank is noticeably increased. The turbulence and air entrainment result in greater measured water depth and an increased flow is also observed however the increase in flow occurs at a reduced rate.

$$FM1 = \left(13.0 {M_t}^2 / \mathrm{m} + 0.66 M_t / \mathrm{m} - 0.0027\right) \mathrm{m}^3/\mathrm{s} \qquad M_t \leq 0.1058 \text{ m} \tag{3}$$

$$FM1 = \left(2.56 M_t / \mathrm{m} - 0.058\right) \mathrm{m}^3/\mathrm{s} \qquad M_t > 0.1058 \text{ m} \tag{4}$$

Equation (3) is in the form: $y = ax^2 + bx + c$, where the parameters *a, b* and *c* along with their accompanying standard errors were calculated by performing a least squares analysis on the dataset shown in Figure 8 and Table A.2. As a result, $a = 13.0 \pm 0.5$, $b = 0.66 \pm 0.05$ and $c = -0.0027 \pm 0.0010$. In the same manner, equation (4) is of the form: $y = dx + e$, where the parameters d and e along with their accompanying standard errors were calculated by performing a least squares analysis. As a result, $d = 2.56 \pm 0.06$ and $e = -0.058 \pm 0.007$.

The intersection between equation (3) and equation (4) occurs for a water level of 0.1058 m above the weir. For measured water levels below or equal to 0.1058 m equation (3) is used to determine the flow through the catch basin covers and for measured values above 0.1058 m equation (4) is used to determine the flow through the covers.

2.2. Low Flow Measurements

At low flows, less than 0.01 m^3/s or 0.015 m of water above the weir, the uncertainty using the flow values obtained from section 2.1.3 becomes more important. Beyond the uncertainty in the calibration regression there is also uncertainty in measuring the height of the water level relative to the weir's knife edge and potential effects from a meniscus that forms millimeters above the knife edge even when there is no flow. As such another strategy to measure the flow through the catch basin cover was utilized at the lowest flows. For these low flows, the water from the previous test was pumped out of the measurement tank and the capacitance wire water level gauges were used to measure the fill rate of the tank. The acquisition system acquires water level measurements at 100 Hz and an example of the fill rate analysis is show in Figure 9.

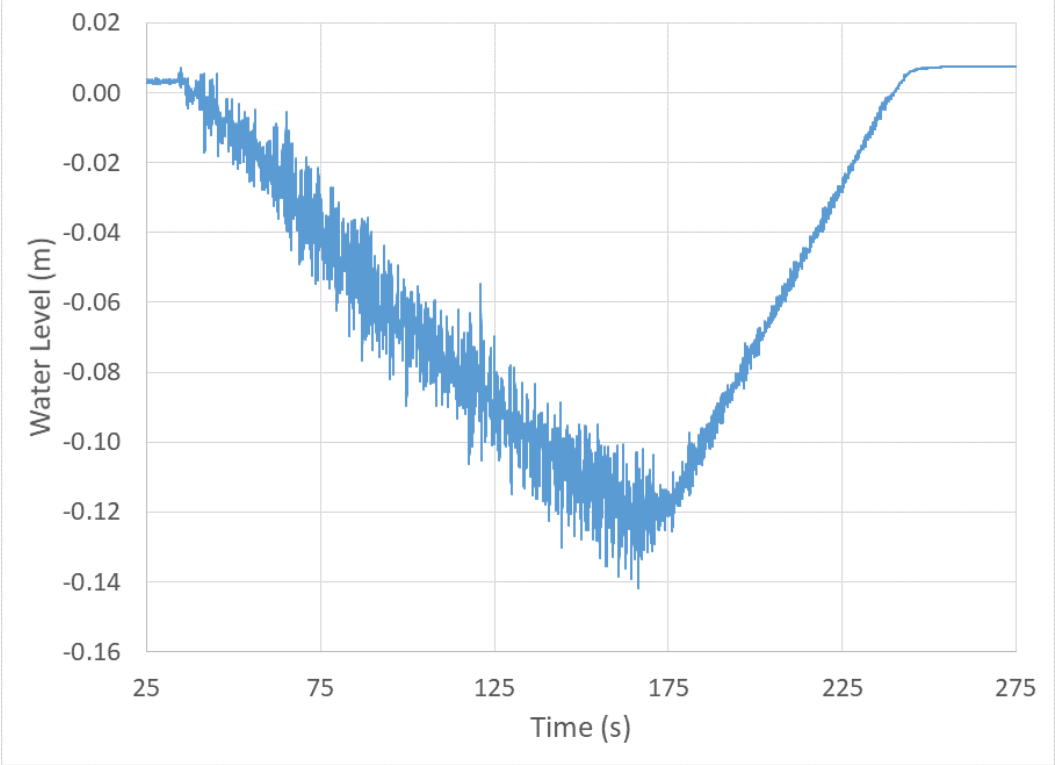

Figure 9. Example of a measurement tank fill rate time series, 2021-5-10_test011.

In Figure 9 the water is pumped out of the measurement tank from approximately 35 to 165 seconds at which time the pump is turned off and the tank is allowed to fill until around 245 seconds when the water crests the weir's knife edge. From approximately 185 to 235 seconds the tank is filling at a constant rate. Calculating the slope of the curve when the tank is filling at a constant rate we obtain the fill rate of the tank, r. The measurement tank, which is shown in Figure 6, is w = 2.435 m wide and l = 1.225 m long and the knife edge is 0.305 m above the bottom of the tank. By multiplying the fill rate by the width and length of the tank we obtain the flow rate through the catch basin cover $l \cdot w \cdot r$ in m^3/s.

An alternative method for measuring low flows through the catch basin covers is to use the flow measurement from the flow meter (FM1) and subtract, if necessary, any flow running off the end of the road. The runoff flow can be measured by using buckets to capture the water running off the end of the roadway while using a stop watch to measure the amount of time that the water is being captured. The water is weighed and converted into volume using 1 kg = 10^{-3} m^3 and dividing this volume by the time in seconds to collect the sample resulting in the runoff flow in m^3/s.

2.3. The Catch Basin Covers

A total of eight catch basin cover combinations were studied in the course of this project. The eight covers are described in Table 2. All of the catch basin covers were installed in the SW corner of the roadway as illustrated in Figure 1. Because the dimensions for each configuration are different the limits in distance of each cover from the end of the roadway and from the curve are also included in Table 2. Images for each of the eight catch basin cover combinations are shown from Figure 10 - Figure 17.

Table 2: Catch basin cover combinations

			From End (m)		From curb (cm)	
	Type of Catch Basin Grate	**Catch Basin Grate Specifications**	N	S	E	W
1	**Round Herringbone Single Catch Basin**	per OPSD 400.07	2.32	1.70	0.68	0.05
2	**Round Herringbone Double Catch Basin**	per OPSD 400.07	2.32	1.69	0.68	0.06
			1.49	0.86	0.68	0.06
3	**Square Herringbone Single Catch Basin**	per OPSD 400.010	2.30	1.68	0.66	0.05
4	**Square Herringbone Double Catch Basin**	per OPSD 400.010	2.30	1.68	0.66	0.05
			1.48	0.87	0.65	0.05
5	**Square Horizontal Bars Single Catch Basin**	per MT-310	2.30	1.68	0.66	0.05
6	**High Inlet Capacity Catch Basin**	per Stepcon 5103 (Galvanized)	2.21	0.99	0.79	0.02
7	**Circular Open Cover (Type B)**	per OPSD 401.010	2.32	1.70	0.68	0.05
8	**Circular Closed Cover (Type A)**	per OPSD 401.010	2.32	1.70	0.68	0.05

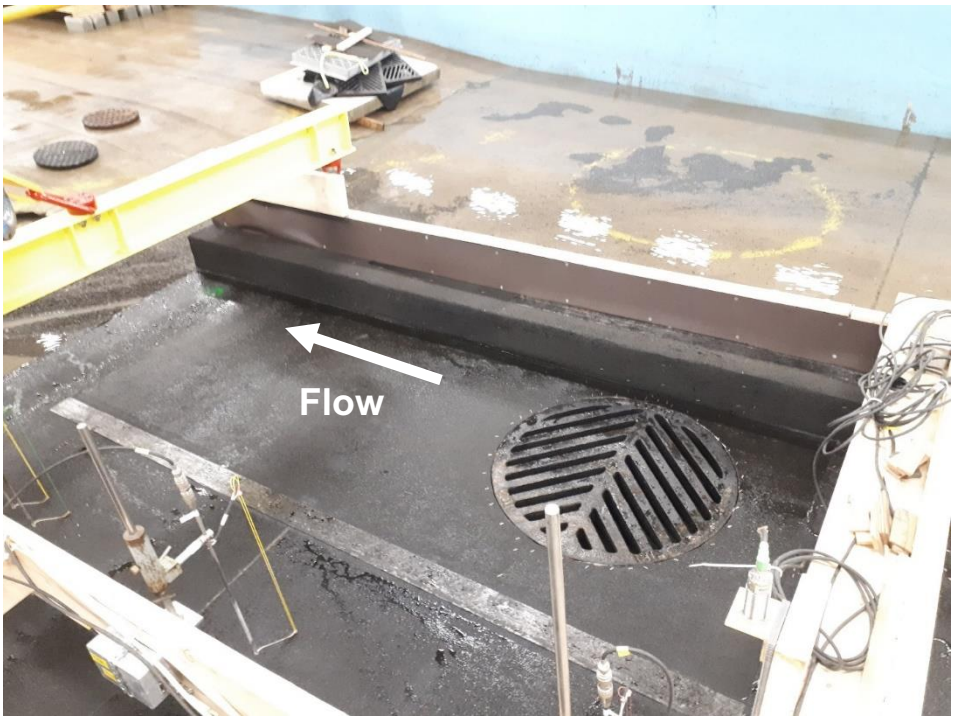

Figure 10. Single round cover with herringbone pattern (cover 1)

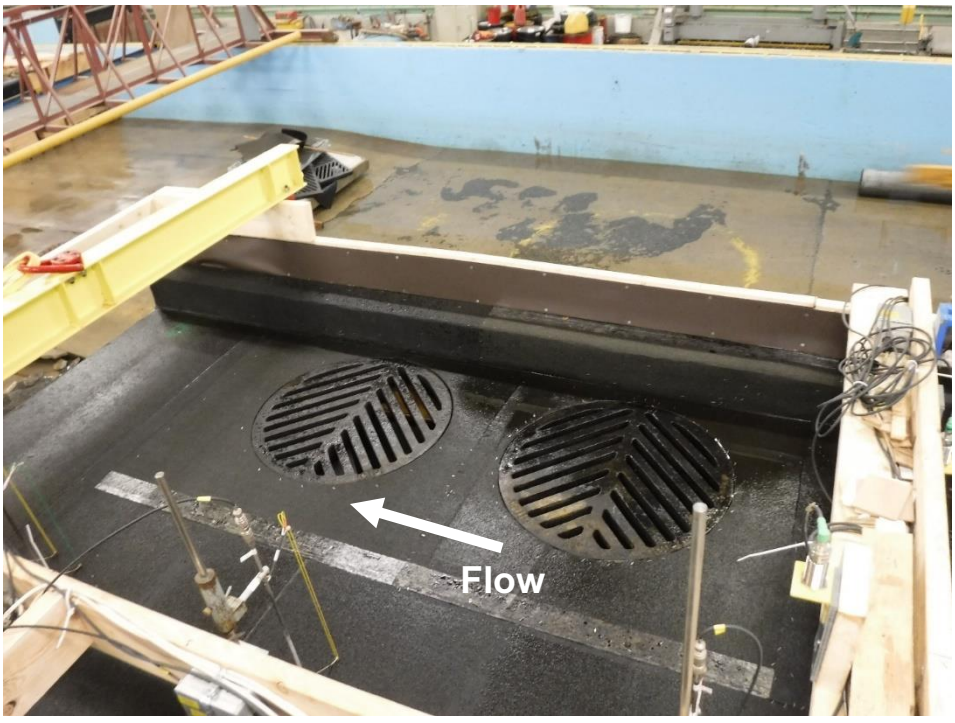

Figure 11. Double round cover with herringbone pattern (cover 2)

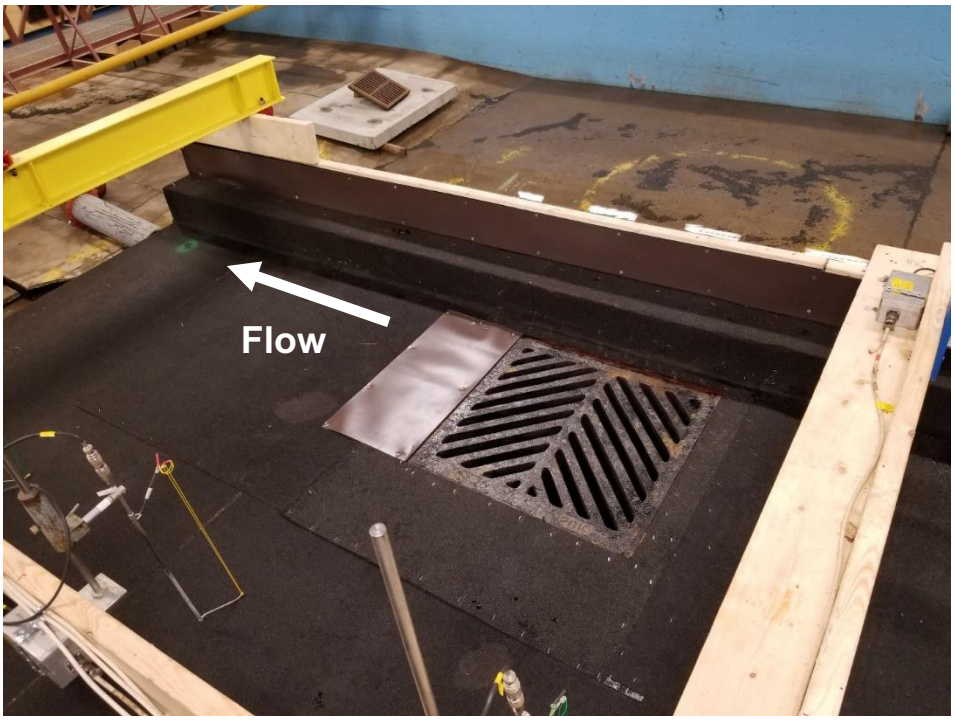

Figure 12. Single square cover with herringbone pattern (cover 3)

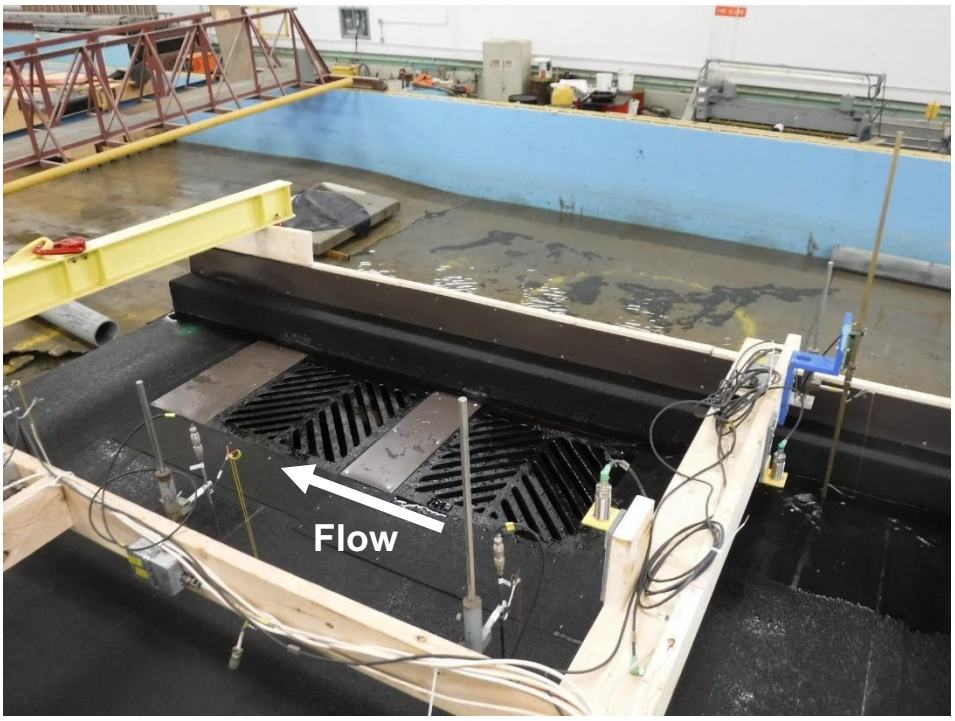

Figure 13. Double square cover with herringbone pattern (cover 4)

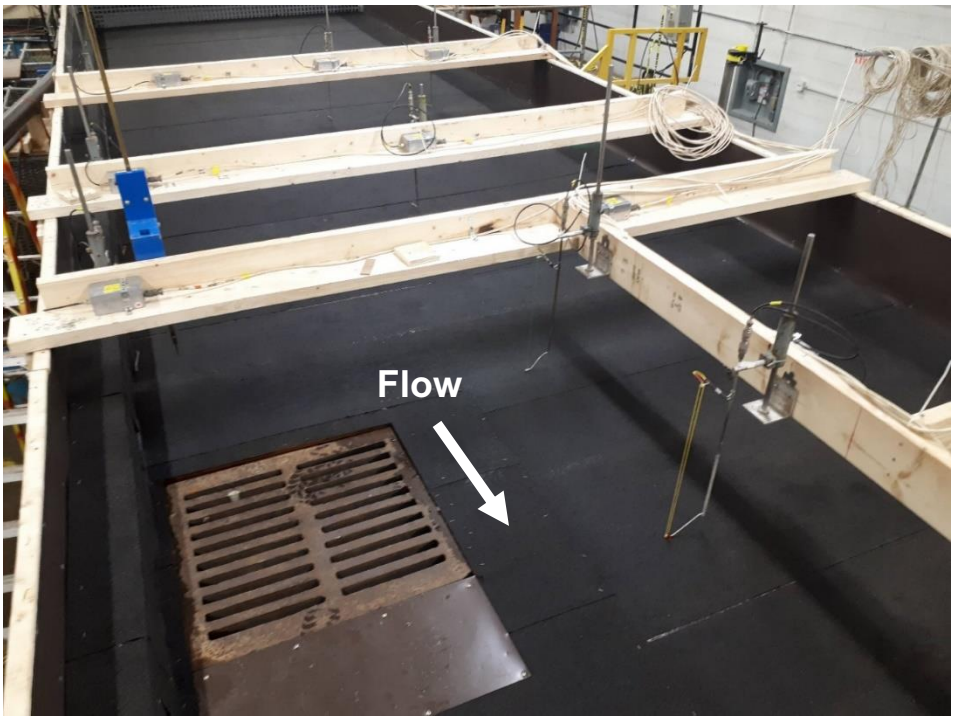

Figure 14. Square cover with horizontal bars (cover 5)

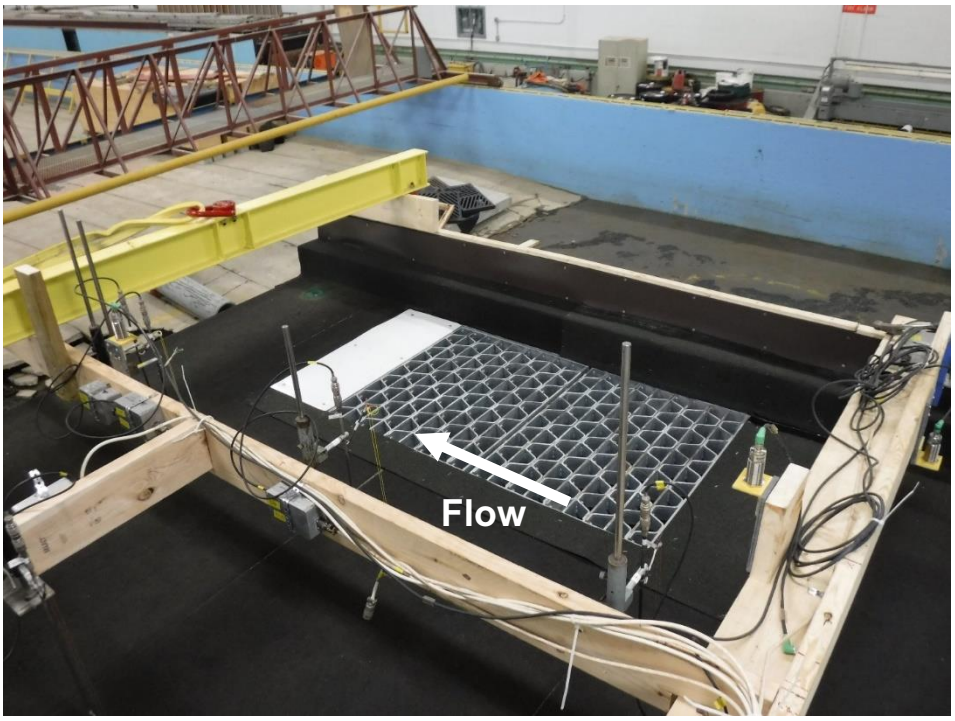

Figure 15. High inlet capacity catch basin (cover 6)

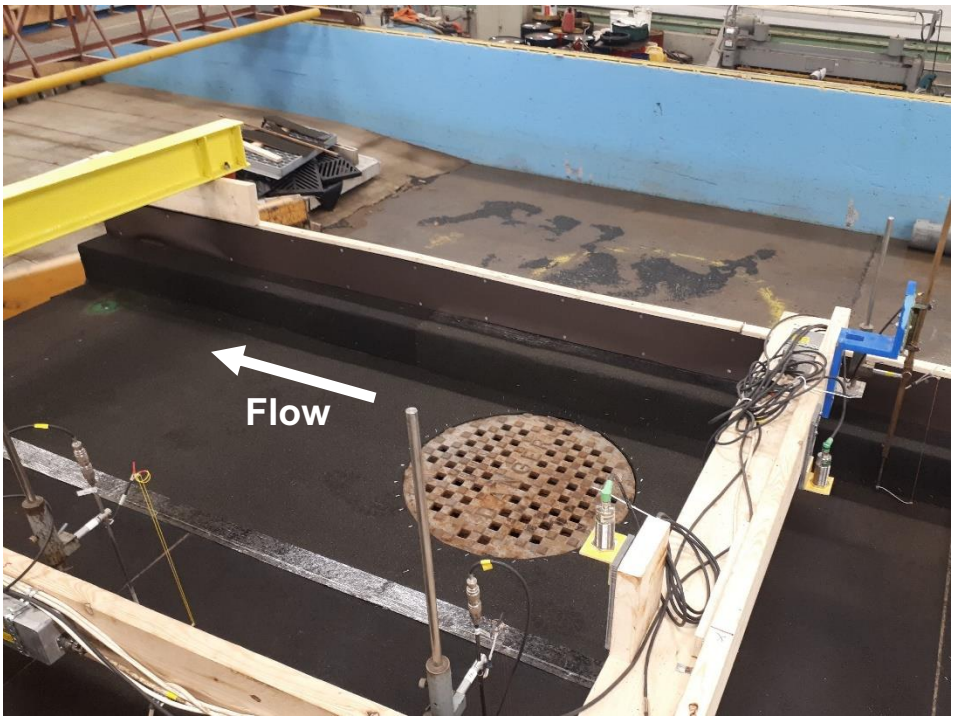

Figure 16. Circular open cover – Type B (cover 7)

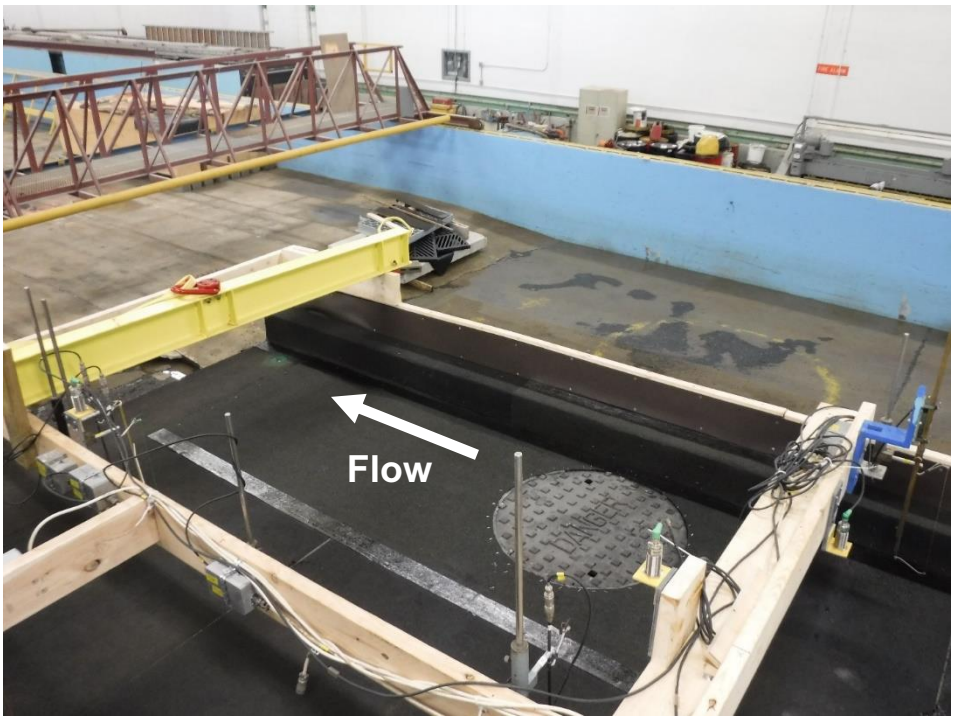

Figure 17. Circular closed cover – Type A (cover 8)

Catch basin covers 1-5 are representative of covers typically used throughout Toronto. Cover #6 (shown in Figure 15) is a high capacity inlet catch basin cover and has a much larger open area than the other covers. Covers #7 in Figure 16 and #8 in Figure 17 are covers for maintenance holes (as opposed to catch basin covers) and are not designed to drain water from the roadway. However, they do have openings and can allow water into the sewer system during high flow events. For this reason, the City of Toronto was interested in examining their inlet flow capacities.

3. Analysis

3.1. Data Bias

Early in the experimental program it was noted that variations in the readings from the capacitance wire water level gauges did not match the actual variations in the water level. This was specifically noted for higher road grades while the effect was minimal for low grades. It was eventually observed that the water was raising up the downstream side of the capacitance wire gauges. In Figure 18 the water is shown climbing on the backside of the wires and to a larger extent on the larger support located downstream of the wires.

In an effort to quantify the impact of the effect shown in Figure 18, point gauge measurements were taken for half of the flows and compared to the corresponding three minute average values from the RD6 capacitance wire gauge measurement. One example of this is shown in Figure 19. Due to the high linearity of the data it was not necessary to take a point gauge measurements for every flow value as every second flow value was sufficient to generate a correction value. The point gauge data was adjusted to account for the cross-slope in the roadway since the point gauge was 120 mm further from the curb than the capacitance wire gauge as noted in Table 1. Therefore, the point gauge data was increased by 0.02 x 120 mm = 2.4 mm when the cross-slope was 2.0% and 0.04 x 120 mm = 4.8 mm when the cross-slope was 4.0%. The slopes and y-intercepts from each of these plots for the catch basin covers 4, 6, 7 & 8 are included in Appendix A in Table A.3 and Table A.4. The tables also include a calculation of the predicted point gauge measurement for an RD6 measurement of 0.010 m and 0.100 m using the calculated slopes and y-intercepts.

In Table 3, Figure 20 and Figure 21 the average predicted point gauge value for each of the twelve road orientations as well as the standard deviation (sigma) for that dataset was determined. It should be noted that sigma is only representative of the distribution of data included in Table A.3 and Table A.4. It does not include other sources of uncertainty such as measurement uncertainty or uncertainty associated with the individual regressions such as shown in Figure 19. In Figure 20 we note that at 0.010 m there is little difference between the RD6 reading and the point gauge for 0.5% and 1.0% grades. For higher road grades RD6 records a higher reading than the point gauge. At 0.100 m, the point gauge is moderately lower than RD6 for low road grades and that difference increases with increasing road grade.

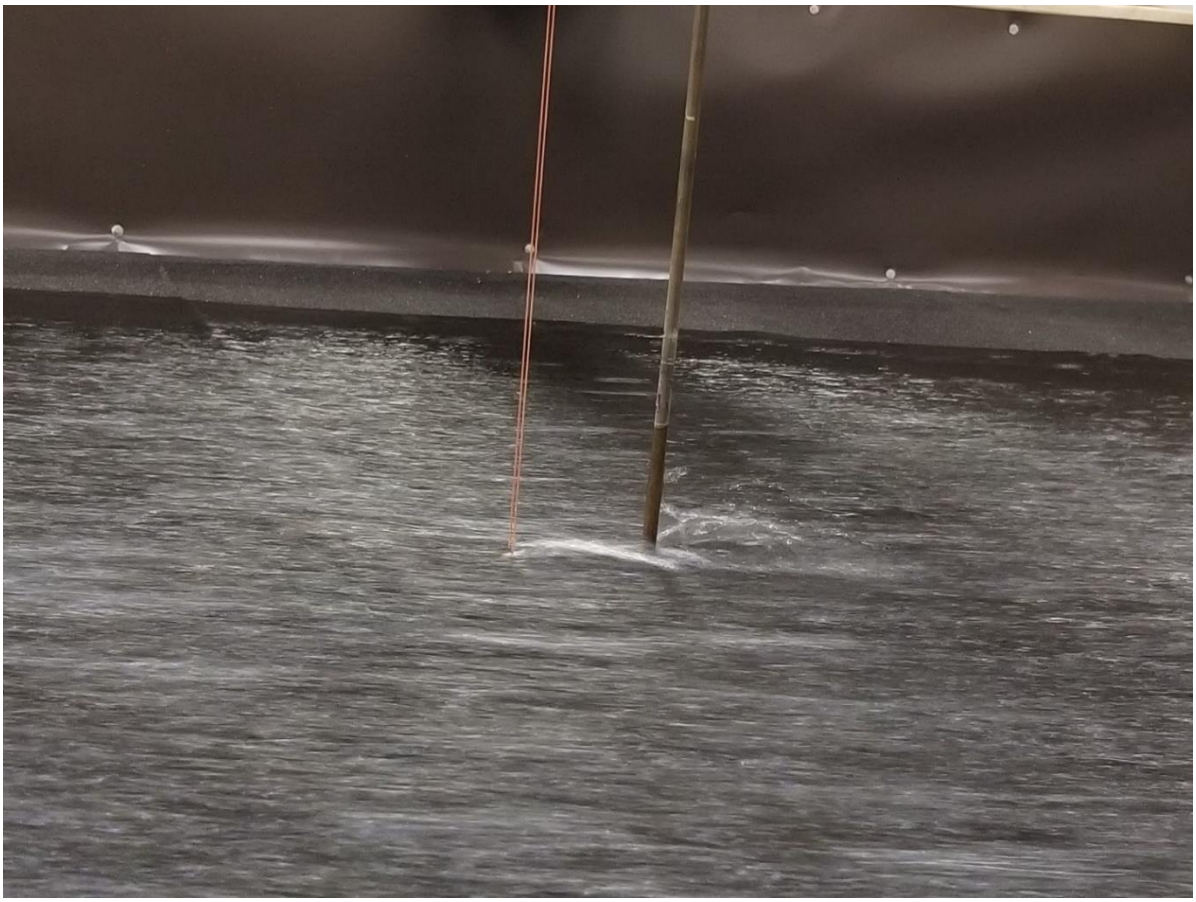

Figure 18. Water riding up the back of a capacitance wire water level gauge

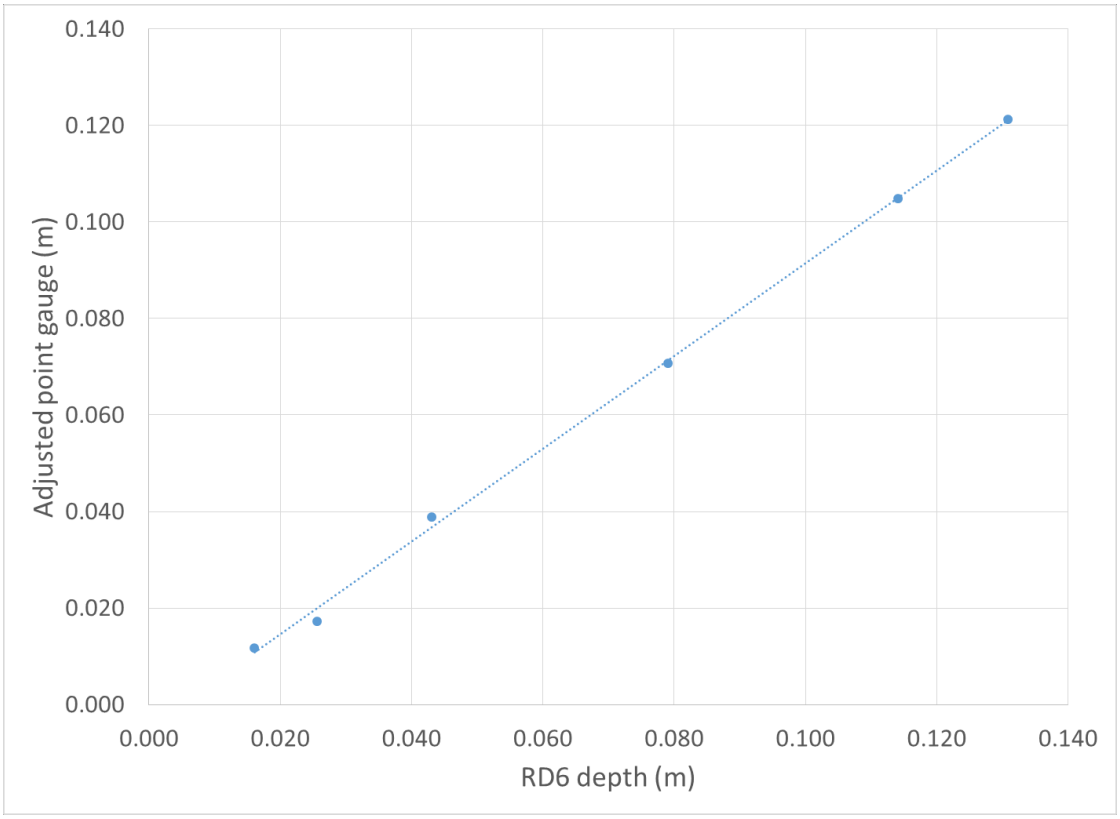

Figure 19. Sample water depth comparison between point gauge and capacitance wire gauge measurements. Data obtained on May 7, 2021 cover #2, road grade of 2.5% and cross-slope of 4.0%

Table 3: Predicted point gauge measurements for all twelve road orientations and measured RD6 values of 0.010 m and 0.100 m

		RD6 = 1 cm		RD6 = 10 cm	
Cross	Road	RD Pt Gauge (m)		RD Pt Gauge (m)	
Slope (%)	Grade (%)	eta	sigma	eta	sigma
2.00%	0.5	0.009	0.001	0.096	0.002
	1.0	0.010	0.002	0.095	0.000
	2.5	0.005	0.002	0.093	0.001
	5.0	0.007	0.001	0.094	0.000
	7.5	0.006	0.001	0.093	0.001
	10.0	0.007	0.001	0.090	0.003
4.00%	0.5	0.007	0.002	0.093	0.003
	1.0	0.009	0.001	0.095	0.001
	2.5	0.006	0.001	0.091	0.001
	5.0	0.006	0.002	0.093	0.002
	7.5	0.005	0.001	0.091	0.003
	10.0	0.005	0.001	0.088	0.002

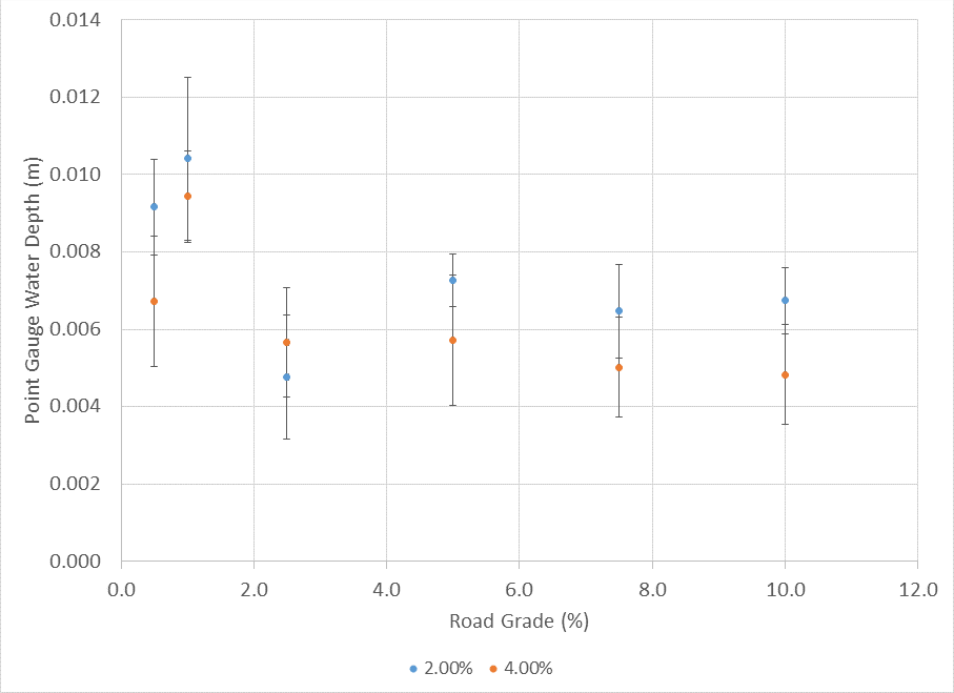

Figure 20. Predicted point gauge measurements for all road orientations at an RD6 value of 0.010 m

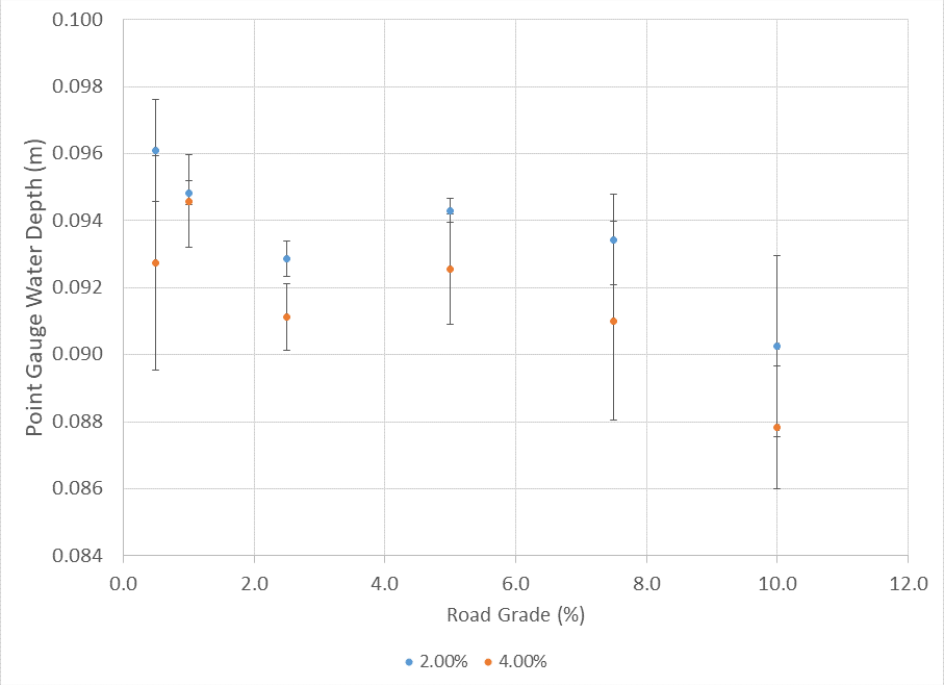

Figure 21. Predicted point gauge measurements for all road orientations at an RD6 value of 0.100 m

It was determined that the differences between the 2.0% and 4.0% cross-slopes are not significant. Therefore, the data for the two cross-slopes was averaged to provide a single unified result which is presented in Table 4. The slopes and y-intercepts from Table 4 were used to calculate the water depth from the capacitance wire water level gauges for all reported data.

Table 4: Predicted point gauge measurements for each road grade and measured RD6 values of 0.010 m and 0.100 m. Slopes and y-intercepts to predict actual water depth from the capacitance wire gauge data.

	RD6 = 1 cm		RD6 = 10 cm			
Road	RD Pt Gauge (m)		RD Pt Gauge (m)			
Grade (%)	eta	sigma	eta	sigma	m	b
0.5	0.008	0.002	0.095	0.002	0.97	-0.002
1.0	0.010	0.002	0.095	0.001	0.94	0.001
2.5	0.005	0.001	0.092	0.001	0.97	-0.005
5.0	0.006	0.001	0.093	0.001	0.97	-0.003
7.5	0.006	0.001	0.092	0.002	0.96	-0.004
10.0	0.006	0.001	0.089	0.002	0.93	-0.003

The acoustic sensor was utilized later in the test program. A similar analysis was attempted with the acoustic sensors without success. In some conditions there was a 1 to 1 match with the point gauge and in others the relationship was complex. One potential explanation could be that placing the sensor further from the curb than the other two sensors resulted in the acoustic sensor often not observing the same gutter effect as the other two sensors and making the data difficult to compare. For future work it is recommended that

the acoustic sensor be placed upstream of the capacitance wire gauge so that the three sensors can be closer together without any interference.

3.2. Uncertainty analysis

The primary data of interest from these experiments is the incident water depth and the catchment flow. These data correspond to the second and third columns of the data tables included in Appendix B. Because of the importance of this data an uncertainty analysis was conducted to better understand the confidence in these data. The primary source for the incident water depth data was the RD6 water level gauge. The baseline for the water level gauges is determined with two measurements of the point gauge as discussed in section 2.1.1. Specifically, one measurement is on top of a 0.1 mm shim on the road surface and the second at the surface of still water on a level roadway. The point gauge has a precision of 0.0005 m and as a result the uncertainty on the RD6 measurement is 0.001 m plus the standard deviation of the three minute average. That is the third from last column in the Appendix B data tables (see Table B.1). While a correction was applied to the RD6 values to determine the incident water depth this value is sufficiently precise for the uncertainty analysis.

The uncertainty on the catchment flow will be determined using multivariate measurement uncertainties. In section 2.1.3 it is shown that the catchment flow is calculated using either equation (3) or (4). Equation (3) is of the form $y_1 = aM_t^2 + bM_t + c$ and used for values of $M_t \leq 0.1058$ m. As a result the total uncertainty will be described by equation (5).

$$\Delta(flow) = \frac{\partial y_1}{\partial a}\Delta a + \frac{\partial y_1}{\partial b}\Delta b + \frac{\partial y_1}{\partial c}\Delta c + \frac{\partial y_1}{\partial M_t}\Delta M_t \tag{5}$$

Which can be simplified to equation (6),

$$\Delta(flow) = {M_t}^2\Delta a + M_t\Delta b + \Delta c + (2aM_t + b)\Delta M_t \tag{6}$$

And given the values a = 13.0 ± 0.5, b = 0.66 ± 0.05 and c = -0.0027 ± 0.0010 obtained in section 2.1.3, (6) is expanded to equation (7),

$$\Delta(flow) = \left({0.5{M_t}^2}/{m^2} + {0.05M_t}/{m} + 0.0010 + \left(2 \cdot {13.0M_t}/{m} + 0.66\right){\Delta M_t}/{m}\right) {m^3}/{s} \tag{7}$$

The height above the weir, M_t, is the average of the two measurement water level probes (MT1 & MT2) and the uncertainty on that measurement, ΔM_t, includes the uncertainty of setting the baseline for both the calibration and the measurement tank with the point gauge (0.002 m) plus the standard deviation of the measurement tank reading.

In a similar manner if the height of water above the weir is greater than 0.1058 m equation (4), which is of the form $y_2 = dM_t + e$, was used to calculate the catchment flow. In that case multivariate measurement uncertainties are still used resulting in equation (8).

$$\Delta(flow) = \frac{\partial y_2}{\partial d}\Delta d + \frac{\partial y_2}{\partial e}\Delta e + \frac{\partial y_2}{\partial M_t}\Delta M_t \tag{8}$$

Which can be simplified to equation (9),

$$\Delta(flow) = M_t\Delta d + \Delta e + d\Delta M_t \tag{9}$$

And given the values $d = 2.56 \pm 0.06$ and $e = -0.058 \pm 0.007$ obtained in section 2.1.3, (9) is expanded to equation (10) where M_t and ΔM_t are defined as they are for equation (7),

$$\Delta(flow) = \left({}^{0.06Mt}/_{m} + 0.007 + 2.56\,{}^{\Delta Mt}/_{m}\right){}^{m^3}/_{s} \tag{10}$$

In section 2.2 it is stated that the preferred method for measuring low flow is to empty the measurement tank and measure the fill rate r. In that case the catchment flow is $y_3 = l \cdot w \cdot r$, where $l = 1.225 \pm 0.005$ m and $w = 2.435 \pm 0.005$ m are the length and width of the measurement tank. The uncertainty analysis for the low flow testing uses multivariate measurement uncertainties. It also adds three additional terms to account for additional elements in the measurement tank. Specifically, the baffle, the pump and three pieces of 2x4 lumber (wood) are in the measurement tank and they displace water differently at different water levels. Because they are small the effect was ignored in calculating the flow and their maximum cross-section was added to the uncertainty. The low flow measurement uncertainty from filling the measurement tank is described in equation (11).

$$\Delta(flow) = \frac{\partial y_3}{\partial l}\Delta l + \frac{\partial y_3}{\partial w}\Delta w + \frac{\partial y_3}{\partial r}\Delta r + \Delta(baffle) + \Delta(pump) + \Delta(wood) \tag{11}$$

The baffle is a piece of wood, $t = 0.019$ m thick at an angle of $\theta = 45$ degrees and covers the width of the tank. When submerged the maximum cross section at the water line multiplied by Δr is described in equation (12)

$$\Delta(baffle) = w\frac{t}{\sin\theta}\Delta r = 2.435\ m\frac{2 \cdot 0.019\ m}{\sqrt{2}}\Delta r = 0.066\ m^2\Delta r \tag{12}$$

The pump has a maximum diameter, $D = 0.165$ m, when submerged the maximum cross-section multiplied by Δr is described in equation (13).

$$\Delta(pump) = \pi\frac{D^2}{4}\Delta r = \pi\frac{(0.165\ m)^2}{4}\Delta r = 0.021 m^2 \Delta r \quad (13)$$

Each of the 3 pieces of 2x4 is 1.5” thick by 3.5” wide resulting in a total maximum cross section multiplied by Δr described in equation (14).

$$\Delta(wood) = 3(1.5")(3.5")\left(\frac{0.0254\ m}{"}\right)^2 \Delta r = 0.010 m^2 \Delta r \quad (14)$$

As a result, it is possible to simplify equation (11) into equation (15),

$$\Delta(flow) = wr\Delta l + lr\Delta w + lw\Delta r + 0.097\ m^2 \Delta r \quad (15)$$

Which can be simplified to equation (16),

$$\Delta(flow) = r(w\Delta l + l\Delta w) + (wl + 0.097\ m^2)\Delta r \quad (16)$$

And developed into equation (17),

$$\Delta(flow) = r(w\Delta l + l\Delta w) + (wl + 0.097\ m^2)\Delta r \quad (17)$$

Using the values and uncertainties for *w* and *l* included above and a nominal value of $\Delta r/r = 1.8\text{x}10^{-4}$ taken from a typical curve (specifically 2021-4-23_test001A, the first test on April 23, 2021); the equation (17) simplifies to equation (18).

$$\Delta(flow) = r \cdot 0.019\ m^2 \quad (18)$$

In section 2.2 it is stated that an alternative method for measuring low flows uses the flow meter reading (*FM1*) and subtracting the measured runoff *V* for a given time *t*. In this case using multivariate measurement uncertainties we obtain equation (19).

$$\Delta(flow) = \frac{\partial\left(FM1 - {}^{V}/_{t}\right)}{\partial FM1}\Delta FM1 + \left[\frac{\partial\left(FM1 - {}^{V}/_{t}\right)}{\partial t}\right]\Delta t \quad (19)$$

Where Δt = 0.5 s is twice the normal reaction time to move or remove the bucket from the overflow we obtain equation (20),

$$\Delta(flow) = \Delta FM1 + \frac{V}{t^2}\Delta t \quad (20)$$

For simplicity the smallest measured runoff corresponded to approximately 12 litres in 60 seconds. This is 10 times greater precision then can be obtained with the measurement tank. For runoff rates below this value the runoff was was not measured and considered negligible leading to a minimum uncertainty when using the flow meter data in equation (21).

$$\Delta(flow) \geq 0.0002 \frac{m^3}{s} \tag{21}$$

3.3. Other sources of uncertainty

One of the main differences between the work performed in the laboratory and what is observed in the field is how the catch basin cover will sit in the roadway. An image of a typical catch basin is shown in Figure 22. The picture was taken in a neighbourhood near the National Research Council's laboratory facilities in Ottawa. In this case the catch basin cover is set higher than the road surface and there appears to be uneven settling of the roadway. This results in a situation where the drainage is not as efficient and a greater depth of water is required on the roadway to access the catch basin. The opposite can also be true where road maintenance results in a catch basin cover being recessed and as a result more efficient.

Figure 22. Typical catch basin cover in a roadway

Another challenging situation is when debris contacts the water level probes. Figure 23 shows an extreme example of this phenomenon where a large piece of plastic debris is tangled on the probe. The experiments were completed in a large open laboratory and with very large volumes of water. As a result debris were occasionally observed on the capacitance wire gauges. The data from RD6 was very closely monitored during testing and if there was something odd with the data the probe was inspected. The debris was often not visible to the naked eye and as fine as a hair but it could impact the experimental measurements on the capacitance wire gauges.

Just upstream from the wire gauge in Figure 23 four staples are visible in the curb. Given the large volume of water we did occasionally encounter issues with the WeatherWatch product pealing, lifting and affecting the water flow around some of our sensors. As a result some tests had to be repeated after the problems were identified and the product was reattached using staples. Regular inspections of the model were conducted in an effort to identify any irregularities that could impact the results. It should be noted that debris and irregularities in the roadway would also be present in the field. Those elements would impact results as they did impact the lab results. The aim throughout the test program was to provide repeatable results so those elements were avoided as much as possible.

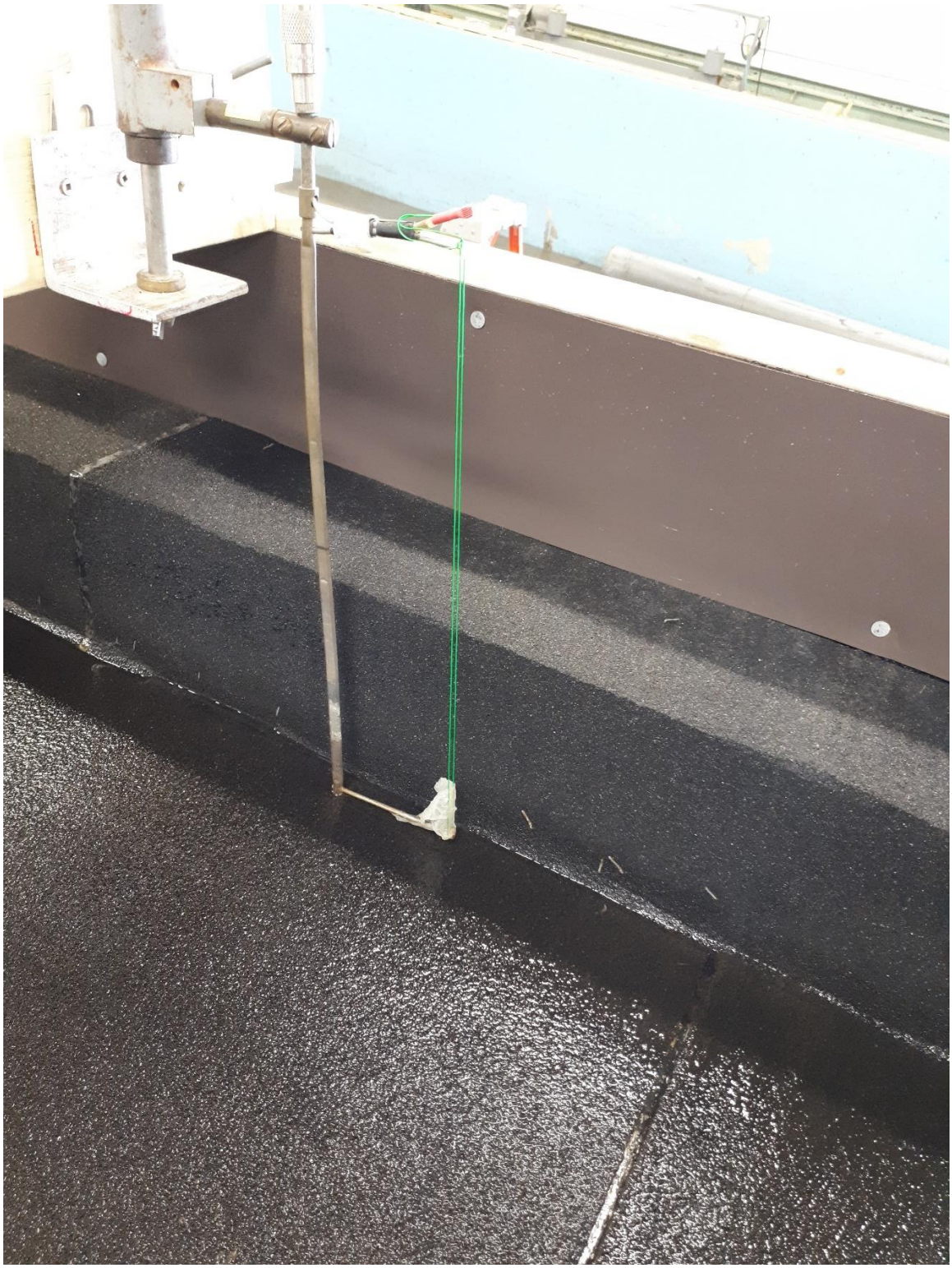

Figure 23. Plastic debris on the capacitance wire water level probe

Another source of uncertainty would be water losses in the roadway (leaks). The roadway was well constructed and these losses were minimal, on the order of 10^{-5} m^3/s.

3.4. Example data

The following example is for a road grade of 0.5% and a cross-slope of 2.0% and the single round cover with herringbone pattern (cover 1) shown in Figure 10. For 2021-4-27_test001, the main pump was set to 6 PSI with the valve open to 100%. The flow was allowed to run until all the signals had stabilized. The water levels recorded during the three minute sampling interval are shown in Figure 24. The water levels are recorded at 100 Hz. The figure includes the four water levels on the roadway described in Table 1 and the averages of the two probes in the head tank (HT) and the average of the two probes in the measurement tank (MT). At the end of each series of data the average, standard deviation maximum and minimum for the three minute interval are included. Figure 25 includes similar data on the water flows. In this figure the first four items are the water levels in the head tank (HT1 and HT2) followed by the measurement tank (MT1 and MT2). The following line is the flow meter data (FM1) which captures the flow from the main pump. The flow meter data is acquired at 50 Hz while all other data is acquired at 100 Hz. The final two lines are the approximate head tank flow and the measurement tank flow. These printouts for each series of tests can be found in the hard drive which accompanied this report in the 'Printout' directory. The files are categorized in folders for each of the catch basin covers and the flow data printouts are identified with a filename which begins with an 'F'. All of the three minute average and standard deviation data from these printouts can also be found summarized in the Data_Summary.xlsx summary file of the test program which is located in the main directory. To find the correct tab the naming follows Sum_(cover#)_(roadgrade)_(xslope) so in this case we are looking at the data from Sum_1_0p5_2. The three minute averages are found in the N through X 'eta' columns and the standard deviations are found in the Y through AI 'sigma' columns. These summary data tables are also all included in Appendix B of this report. The data in Figure 24 and Figure 25 provide the data for the first line of the Table B.2 and one point in Figure 27.

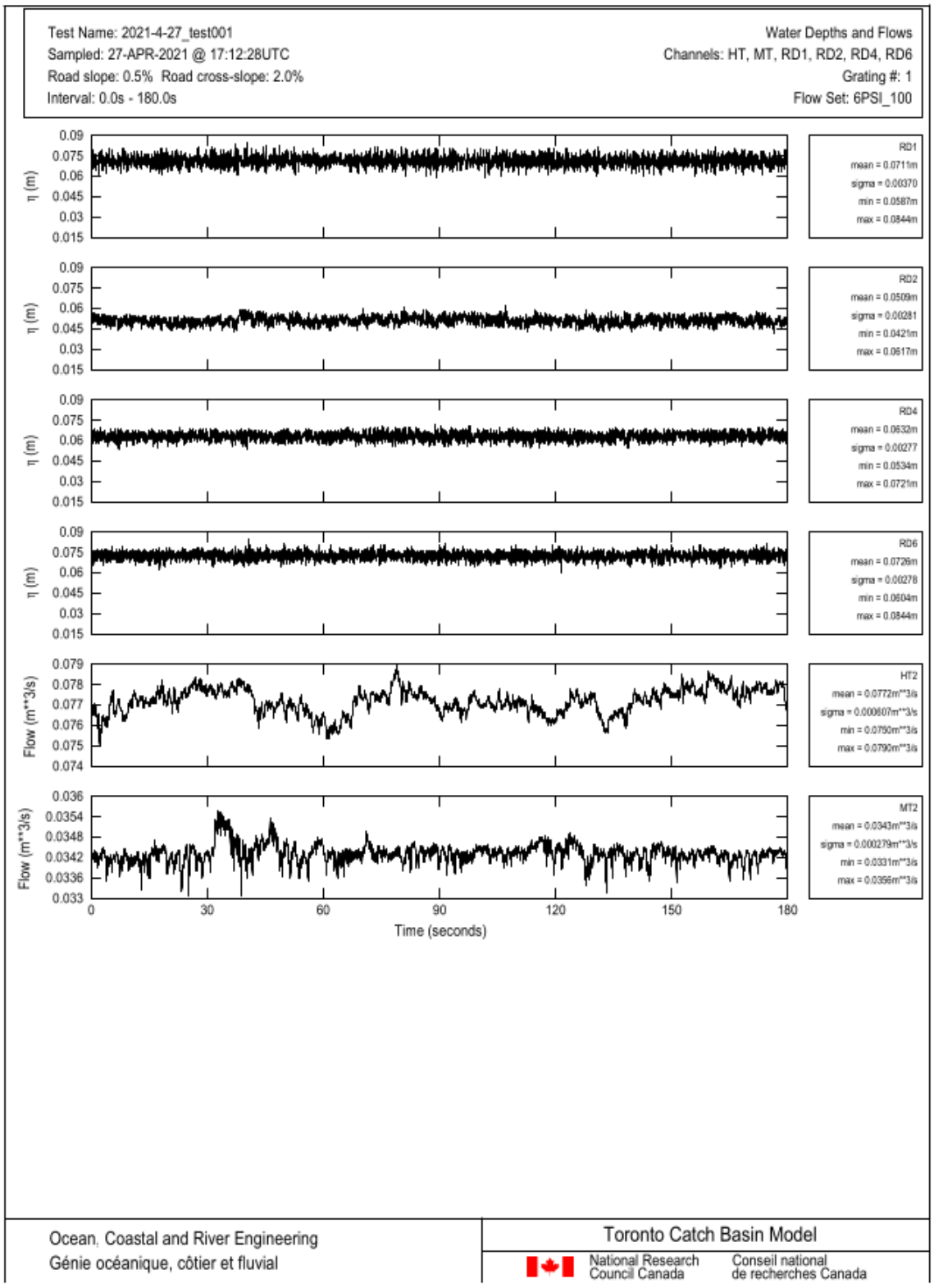

Figure 24. Water levels during the three minute sampling interval

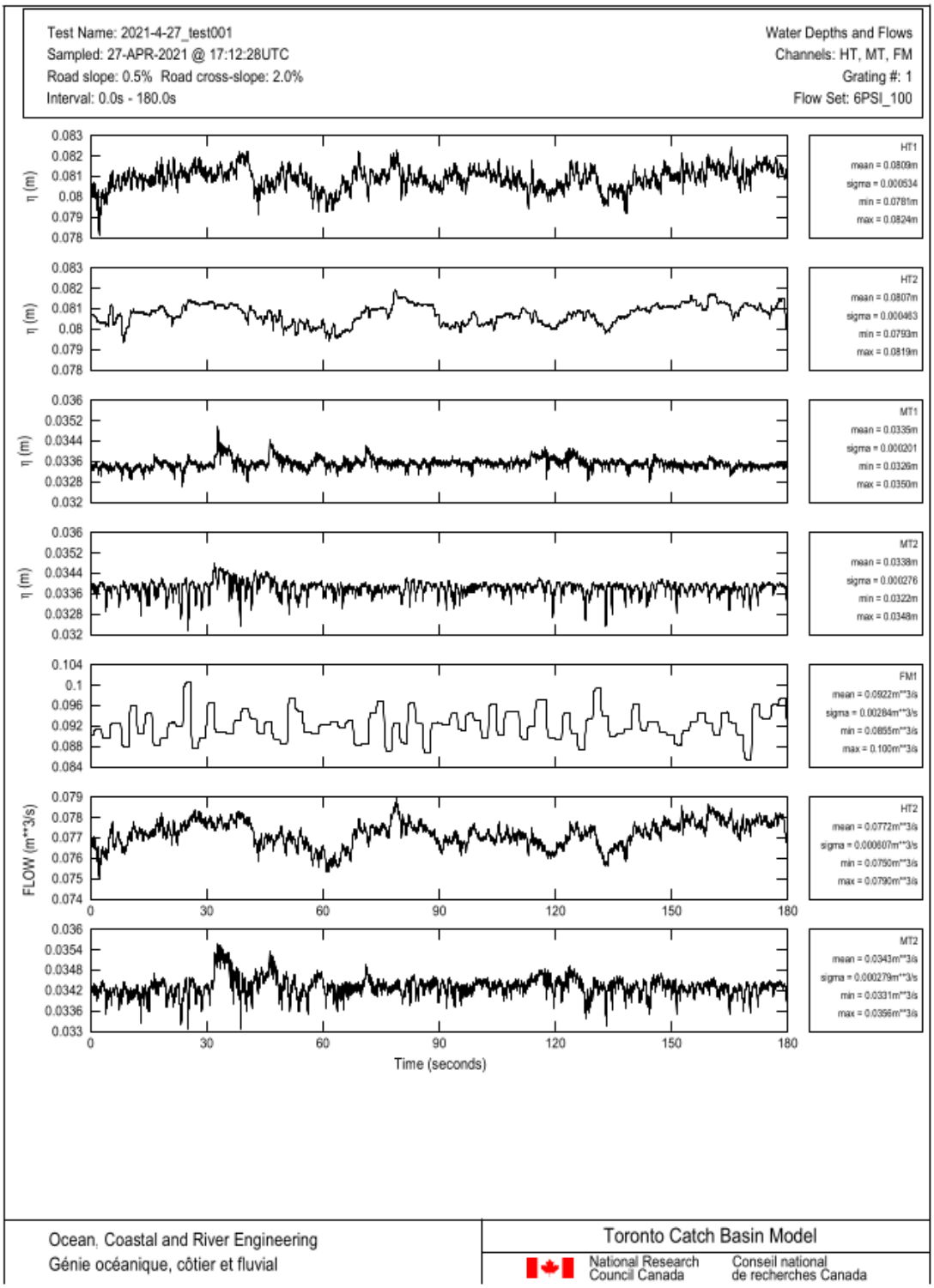

Figure 25. Water flow data during the three minute sampling interval

4. Test Parameters

A summary of the controlled test parameters (water flow, catch basin cover, road grade and cross-slope) is included in Table 5.

Table 5: Test parameters

Pump Settings	Type of Catch Basin Grate	Road Grade	Cross Slope
6PSI_05	#1 - Round Frame Single Catch Basin	0.50%	2.00%
6PSI_10	#2 - Round Frame Double Catch Basin	1.00%	4.00%
6PSI_15	#3 - Herringbone Single Catch Basin	2.50%	
6PSI_25	#4 - Herringbone Double Catch Basin	5.00%	
6PSI_35	#5 - Horizontal Bars Single Catch Basin	7.50%	
6PSI_50	#6 - High Inlet Capacity Catch Basin	10.00%	
6PSI_100	#7 - Circular Open Cover (Type B)		
7PSI	#8 - Circular Closed Cover (Type A)		
8PSI			
11PSI			
15PSI			
15PSI_NRC_100			
15PSI_RENT_NRC_100			

The head tank water flow was controlled by adjusting the pump settings. For each road configuration 13 flows ranging from 0.0006 – 0.40 m^3/s were sent onto the roadway. This produced upstream water depths ranging from ~ 0.01 - 0.14 m. Three pumps were used and a minimum pressure of 6 PSI was required on the main pump to deliver water up onto the model roadway. The six lowest pump settings use only the main pump at 6 PSI and open the main valve from 5 to 100%. The next four flows were obtained by increasing the pressure on the main pump up to 15 PSI with the main valve 100% open. Finally, the two highest flow settings were obtained by adding the flow from two additional 6" submersible pumps. The RENT pump only had one setting and the NRC pump was generally operated at 100%. A moderate flow condition is shown in Figure 2 while a high flow condition is shown in Figure 26.

For every road configuration;

- For each of the flow conditions the flow and water levels were allowed to stabilize for several minutes prior to initiating the data recording,
- The test series starts with a midrange flow (6 PSI),
- A second test was completed (15 PSI),
- The subsequent test is completed with the maximum flow (15 PSI + 2 additional 6" pumps),
- Work back down in flow from the highest to lowest remaining.

This methodology allowed us to 1) have two reference points for discontinuity in the data which could suggest a problem and 2) finish on lower flows which allow the basin to drain so that the roadway could be moved to the next configuration after the series was completed.

As discussed in section 2.3, a total of eight catch basin cover combinations were studied for this work each labeled with a number from 1 - 8. For each catch basin cover the flow through the catchment was measured for six road grades (0.5, 1.0, 2.5, 5.0, 7.5 and 10.0%) and two cross-slopes, 2.0 and 4.0%. On a typical test day two test series or road configurations were tested with a total of 13 water flows for each configuration. Each test has a name with the format: year, month, day followed by a three digit test number in the following form, YYYY_M_DD_test###. If a test needs to be repeated for any reason the test name is generally maintained but a letter is generally included after the test number. The most common reason to repeat a test is that the water levels and flows had not sufficiently stabilized in which case the test is replaced. Occasionally there are simply questions about the result and an additional test is performed to improve confidence and both tests may be retained.

Figure 26. Water flowing from the head tank to the roadway, high flow conditions

5. Results

This section includes an analysis of the catch basin flow tests performed in the National Research Council's Coastal Wave Basin from February 9th to May 14th 2021. The section below contains the results from all eight (8) catch basin covers studied. The numbering of the covers is taken from the project agreement and does not reflect the order in which the tests were performed. A daily test log of the experiments performed is included in the main directory of the hard drive that was provided along with this report.

5.1. Catch Basin Cover #1 – Single Round Herringbone

The first twelve summary tables in Appendix B correspond to the single round cover with herringbone pattern, cover #1 oriented at a cross-slope of 2.0% provide the data for Figure 27. The 79 points from Figure 27 are also provided in Appendix C (Table C.1).

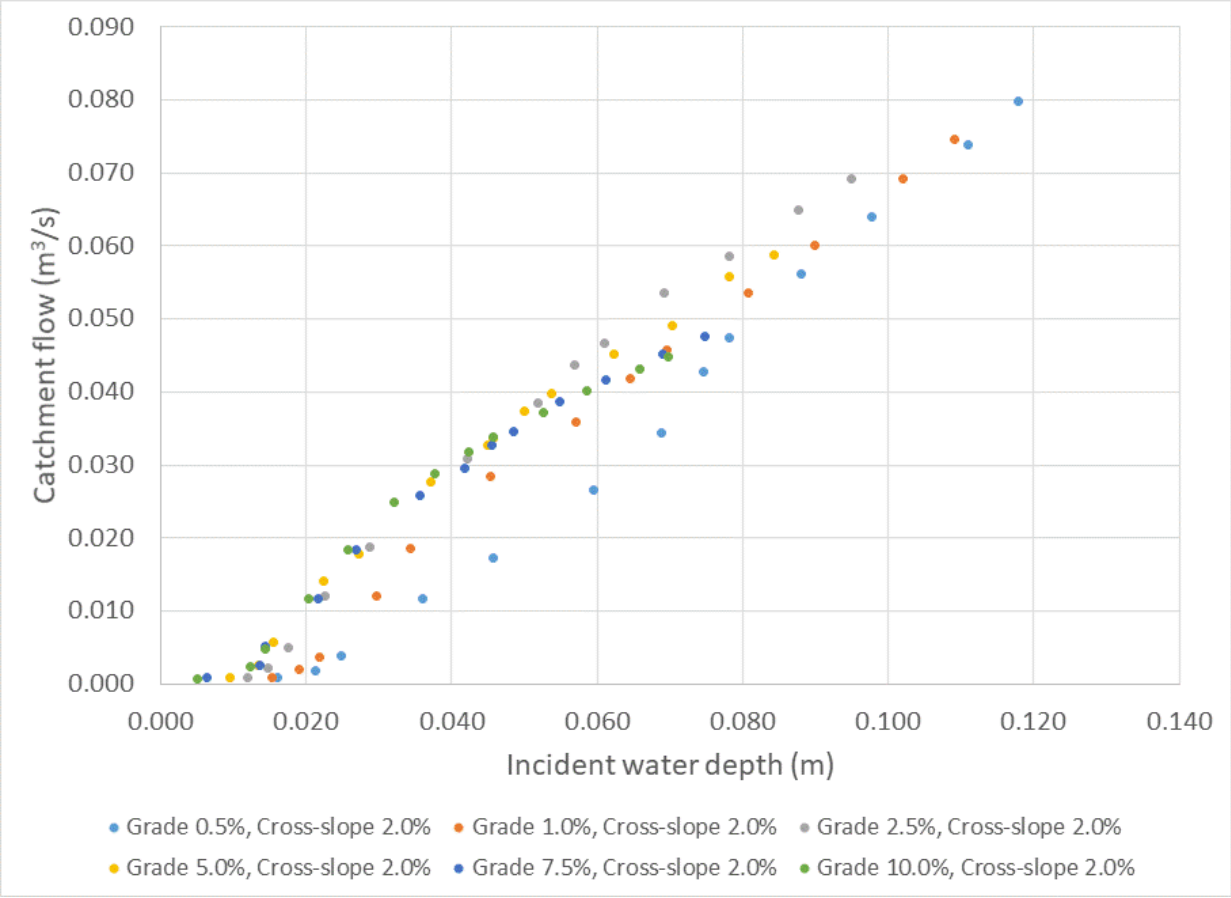

Figure 27. Measurements of catch basin inflow 2.0% cross-slope, single round herringbone cover (#1)

As a first impression of Figure 27 the highest catchment flows are obtained for the lowest grades and the deepest incident water depths. For the three lowest grades, a similar incident water depth results in

increasing catchment flow with increasing grade. This is because for a given flow over the roadway the incident water depth is greater for lower grades. For the four steepest grades at lower incident water depths the curves are fairly well overlapped. As the water depth increases the higher grades begin to saturate the catchment flow earlier so the lower grades have higher limits on the catchment flow.

Figure 28 is the result of 78 experiments very similar to those described for Figure 27 with a cross-slope of 4.0%. The 78 data points for this figure are summarized in Table C.2. The overall behaviour is very similar to the 2.0% cross-slope. The main difference is that with the increased cross-slope more water is directed to the curb and as a result the water depths are higher in general for the 4.0% cross-slope.

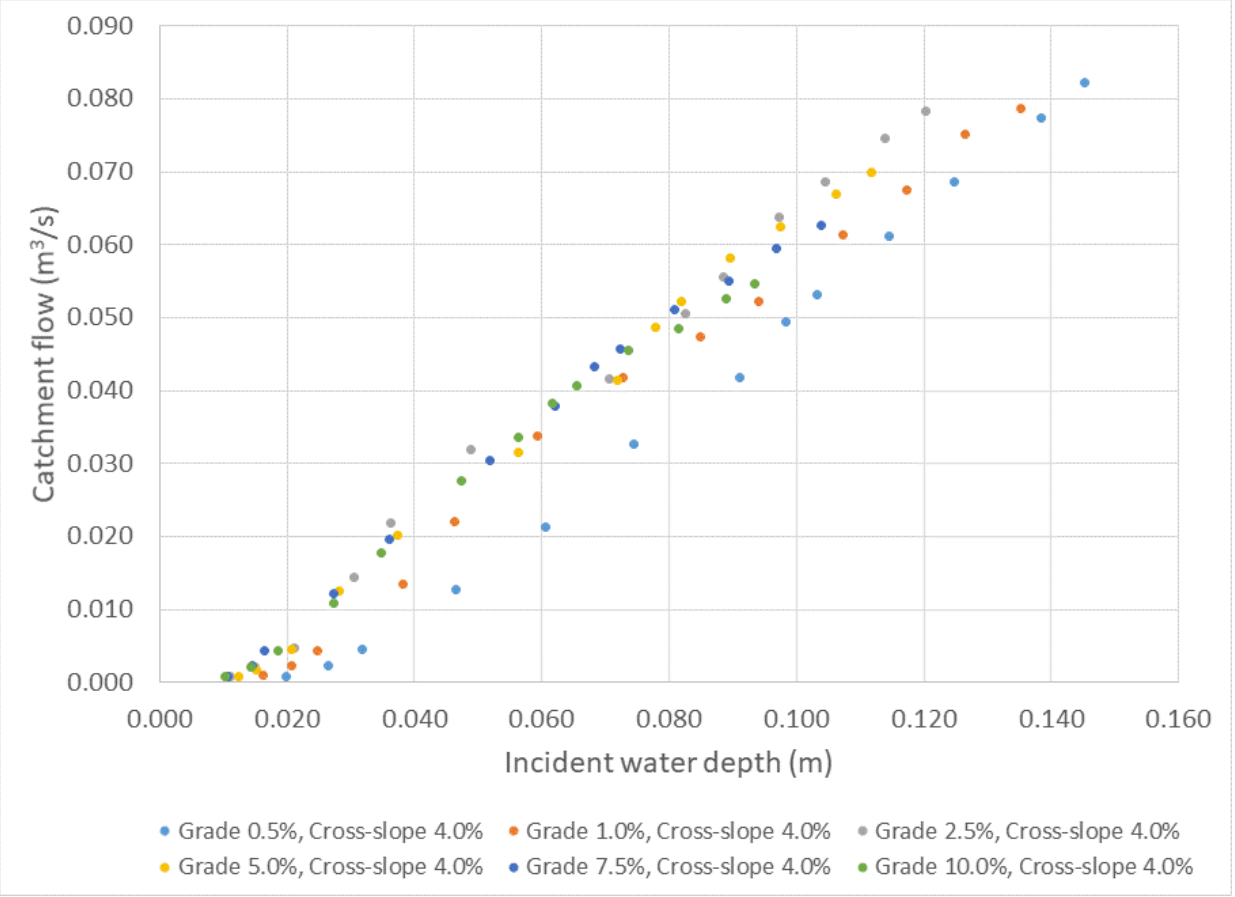

Figure 28. Measurements of catch basin inflow 4.0% cross-slope, single round herringbone cover (#1)

5.2. Catch Basin Cover #2 – Double Round Herringbone

The catchment flows for the double round herringbone cover oriented with a cross-slope of 2.0% are shown in Figure 29. The data for the 81 points included in Figure 29 can be found in Table C.3 and more detailed results from the tests are included in Appendix B.

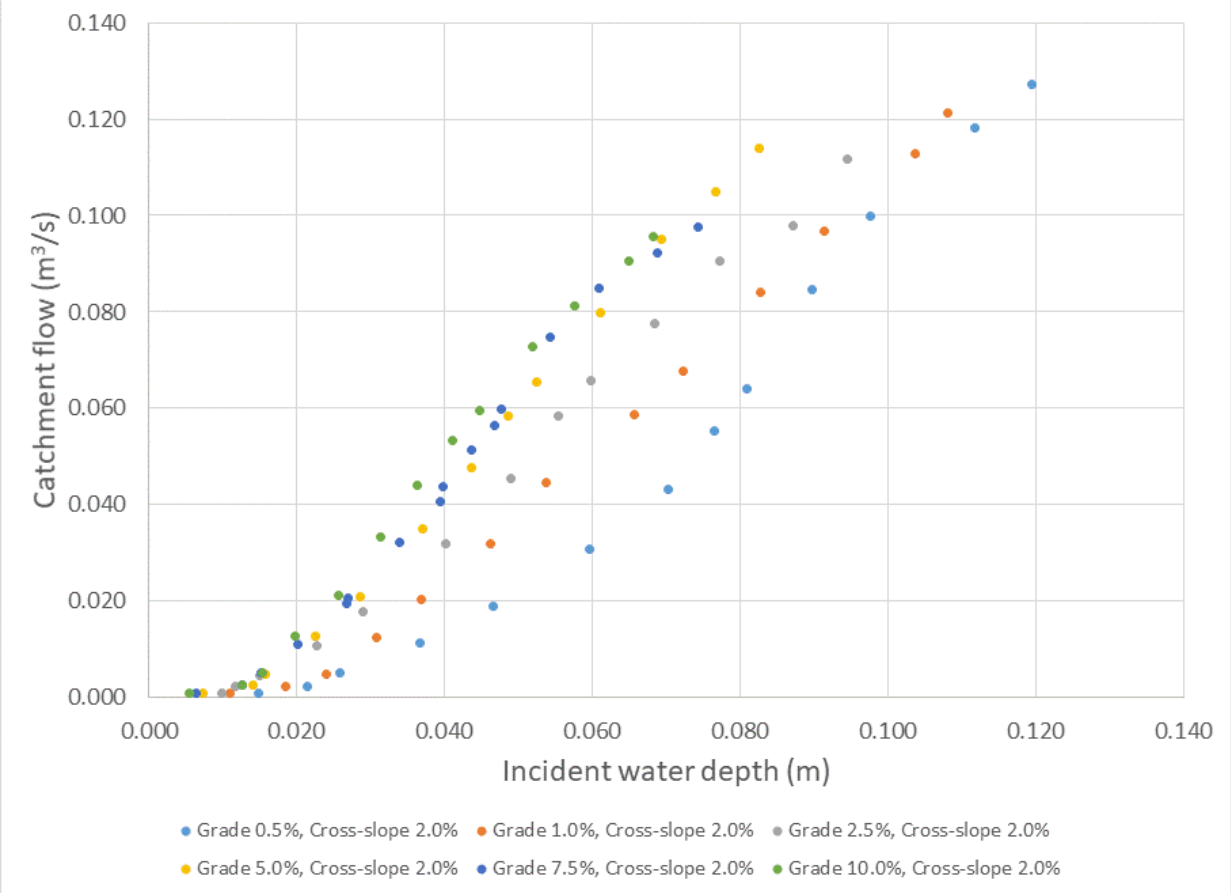

Figure 29. Measurements of catch basin inflow 2.0% cross-slope, double round herringbone cover (#2)

As a first impression of Figure 29 the highest catchment flows are obtained for the lowest grades and the deepest incident water depths. Similar to what was measured for the four lowest grades in the single round herringbone cover, a similar incident water depth results in increasing catchment flow with increasing grade. For the three steepest grades at lower incident water depths the curves are fairly well overlapped. For the 5.0% grade the maximum catchment flow observed was 0.114 m^3/s while for 7.5% and 10.0% it was just under 0.100 m^3/s.

The tests for the double round herringbone cover with a 4.0% cross-slope posed a challenge, specifically at the 5.0% grade. A number of incident water depths at this grade produced a series of standing waves, as shown in Figure 30. This phenomenon was observed to a lesser degree in other tests but it did not affect the results to this extent. In the other cases the phenomenon would occur for one specific test condition but all other adjacent test conditions would result in a displacement of the standing wave and there was little impact on the overall results. In this case, for a range of flow speeds, or incident water depths, the crest of the standing wave appeared to overlap with the RD6 wave probe impacting measurements. The results for the 5.0% grade with an incident water depth ranging from 0.037 m to 0.081 m appear to have a higher

incident water depth than expected. Of note, for incident water depths from 0.037 m to 0.070 m the incident water depth measured with wave probe RD6 for the 5.0% grade is greater than the 2.5% grade for similar catchment flows. Lower water depths are expected with increasing grade and no other such observations were made during this test program. Additional tests were performed a few days later in order to confirm that this observation was indeed repeatable. It is not clear what could have caused this to occur or why it was not observed for the other catch basin covers with the roadway set to a grade of 5.0% and a cross-slope of 4.0%. The video DSCF1435.MOV provided in the Photos folder of the hard drive accompanying this report can also provide additional information on the phenomenon.

Figure 30. Standing waves forming on the roadway for test 2021-5-14_test034, Pump setting of 6 PSI and valve at 50%.

As discussed in section 2.1.1 three methods for measuring the water depth were used in this series of experiments. The anomalous observation occurred for RD6 values ranging from 0.04 m to 0.09 m. As shown in Figure 31 higher values of RD6 are also noted relative to the acoustic probe over this range.

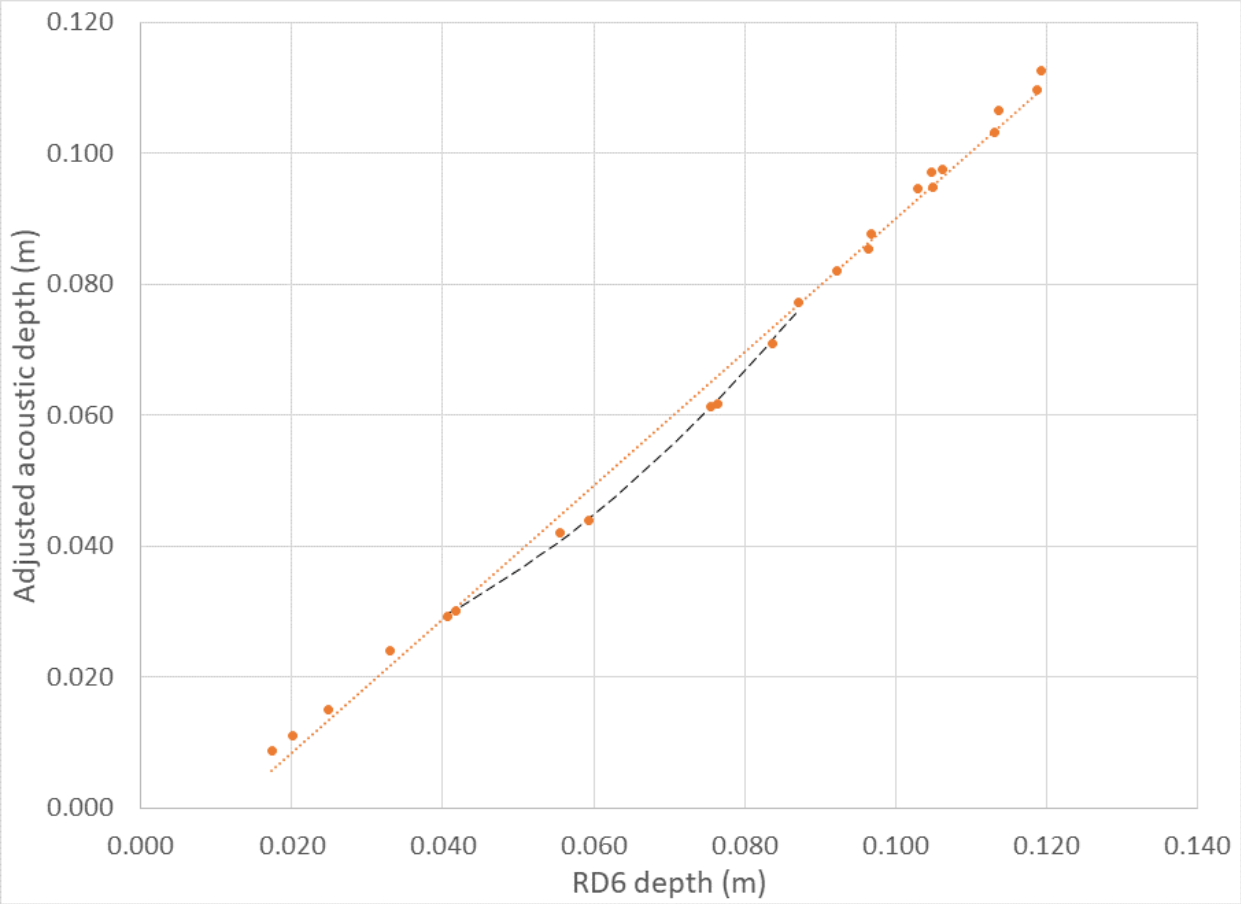

Figure 31. Comparison of the adjusted acoustic water depth with the RD6 capacitance wire gauge data.

The orange dotted line is the linear best fit to the entire data set and serves only to help see when the data deviates from the linear trend. The black dashed line is the quadratic best fit to the data in the range from RD6 of 0.04 m to 0.09 m.

To use the acoustic data in place of RD6 the acoustic data must be compare to the point gauge data as shown in Figure 32. The two lowest incident water depths were not used in Figure 32 as they do not provide sufficient water to get an accurate measurement under the acoustic gauge which is further from the curve than the other two gauges as shown in Table 1.

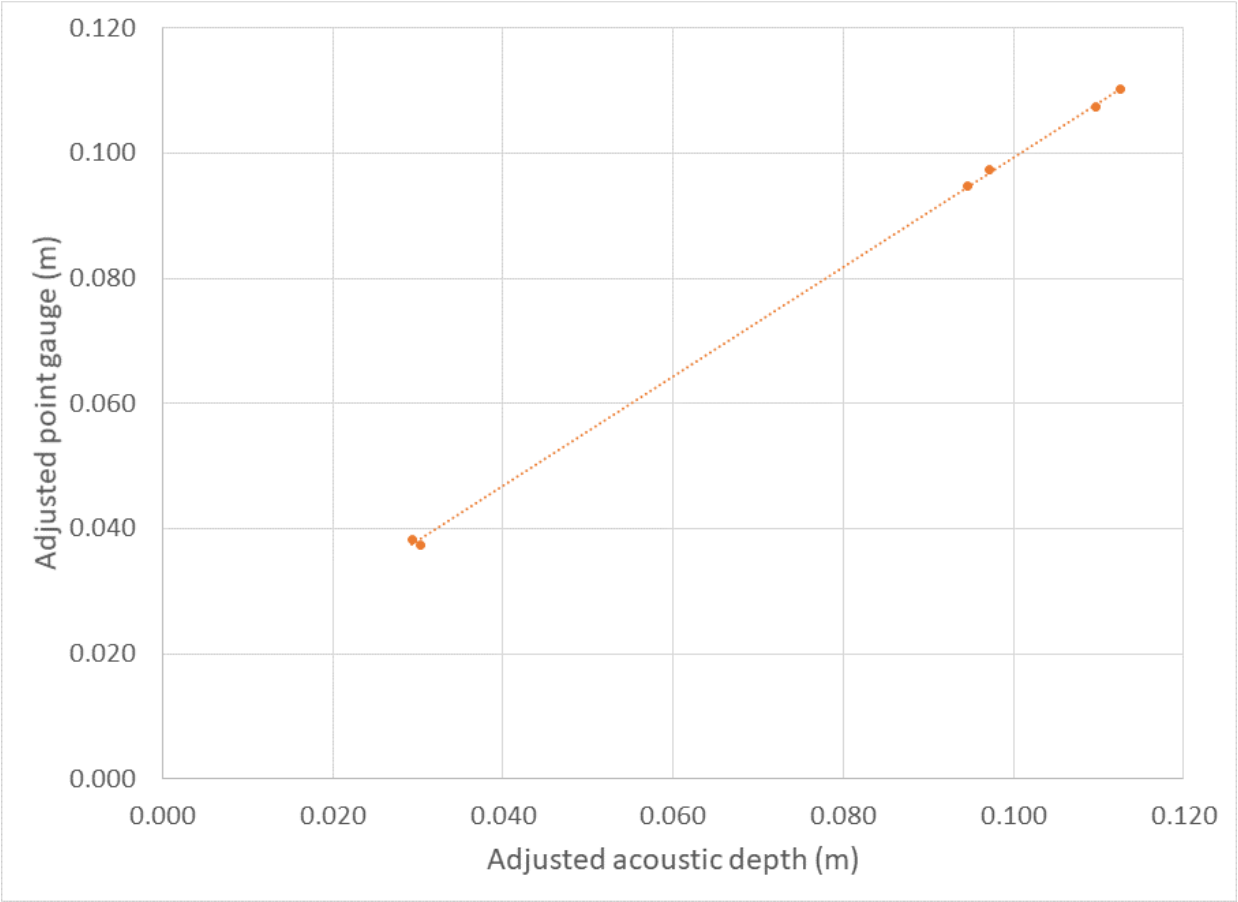

Figure 32. Comparison of the adjusted point gauge measurements with adjusted acoustic water depth.

The linear best fit relating the adjusted acoustic measurements to the adjusted point gauge measurement is described by equation (22),

$$Adjusted\ Point\ Gauge = 0.87(Adjusted\ Acoustic) + 0.012 \quad (22)$$

Using the acoustic sensor data and equation (22) for the problematic RD6 values from 0.04 m to 0.09 m allows us to determine the incident water depth for a grade of 5.0% and a cross-slope of 4.0%. Figure 33 is the result of 85 experiments with a cross-slope of 4.0%. The 85 data points for this figure are summarized in Table C.4. The overall behaviour is very similar to the 2.0% cross-slope. The increased cross-slope results in more water directed towards the curb and greater water depths in general for the 4.0% cross-slope. As observed for other covers at grades of 0.5% and 1.0% the catchment flow increases with incident water depth and for a similar water depth the catchment flow is greater for the higher grade. At 5.0%, 7.5% and 10.0% the curves overlap and the maximum flow observed at a grade of 5.0% is 0.140 m^3/s, at 7.5% is 0.132 m^3/s and it is only 0.111 m^3/s for a grade of 10.0%. For the 2.5% grade, the curve follows 5.0%, 7.5% and 10.0% up to an incident water depth of 0.049 m. As we continue up the curve we observe greater

incident water depths for similar catchment flows when compared with the 5.0%, 7.5% and 10.0% grade and eventually finishing along the 1.0% grade curve.

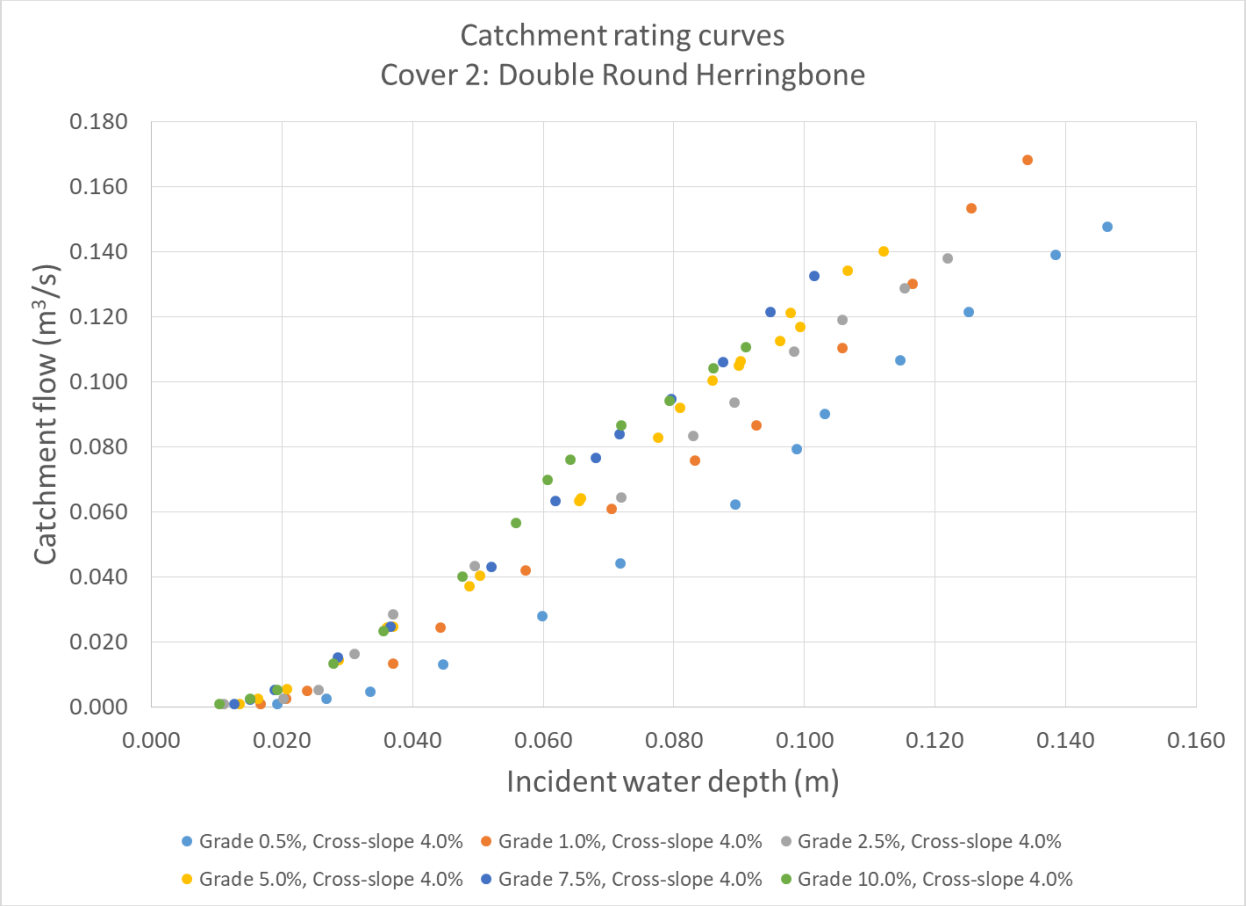

Figure 33. Measurements of catch basin inflow 4.0% cross-slope, double round herringbone cover (#2)

5.3. Catch Basin Cover #3 – Single Square Herringbone

The catchment flows for the single square catch basin cover with a herringbone pattern oriented with a cross-slope of 2.0% are shown in Figure 34. The data for the 86 points included in can be found in Table C.5 and more detailed results from the tests are included in Appendix B.

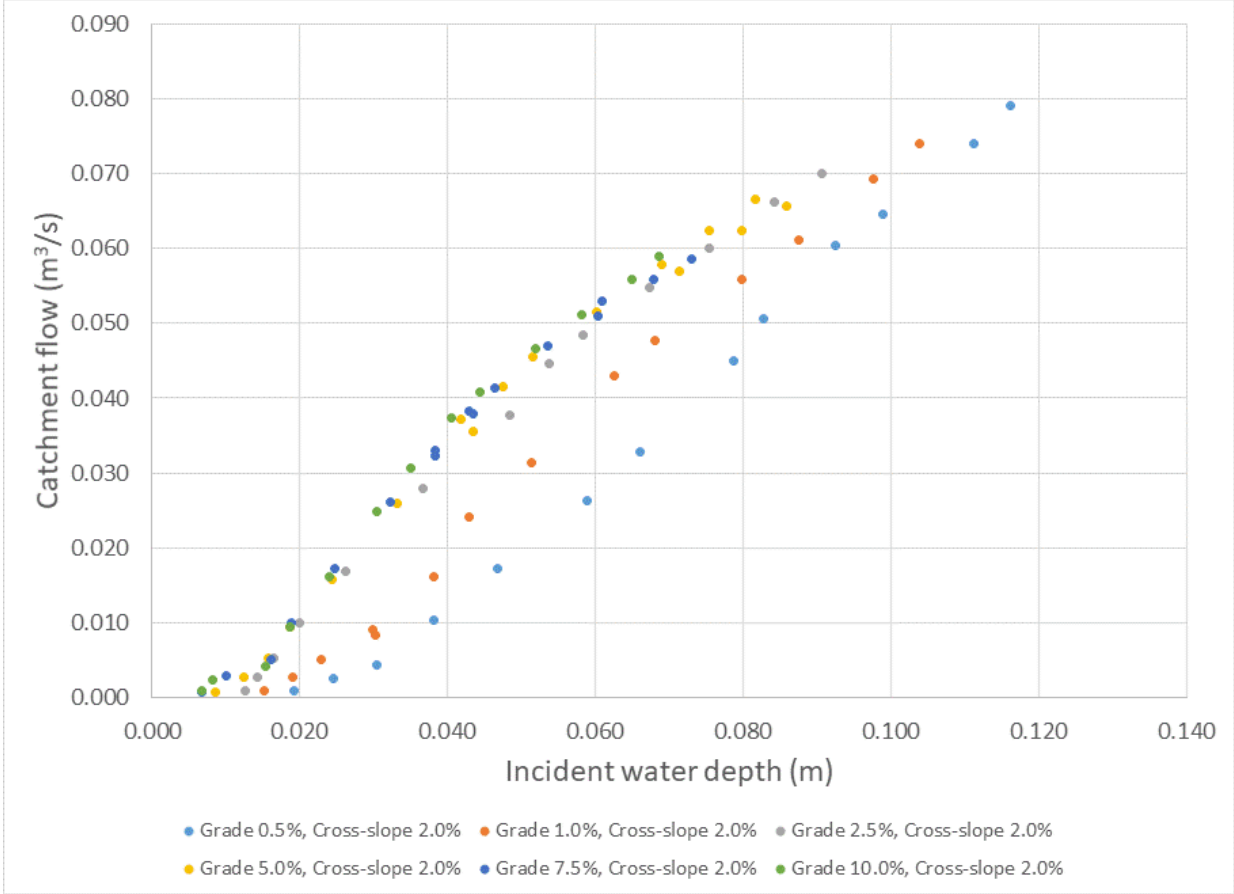

Figure 34. Measurements of catch basin inflow 2.0% cross-slope, single square herringbone cover (#3)

The catchment flow is comparable to the Single Round Herringbone Cover #1 and the qualitative performance is similar as well. The highest catchment flows are obtained for the lowest grades and the deepest incident water depths. For the three lowest grades, a similar incident water depth results in increasing catchment flow with increasing grade. For the four steepest grades at lower incident water depths the curves are fairly well overlapped. As the water depth increases the higher grades begin to saturate the catchment flow earlier so the lower grades have higher limits on the catchment flow.

Figure 35 is the result of 89 experiments very similar to those described for Figure 34 with a cross-slope of 4.0%. The 89 data points for this figure are summarized in Table C.6. The overall behaviour is very similar to the 2.0% cross-slope. The main difference is that with the increased cross-slope more water is directed to the curb and as a result the water depths are higher in general for the 4.0% cross-slope resulting in a higher limit on the catchment flows.

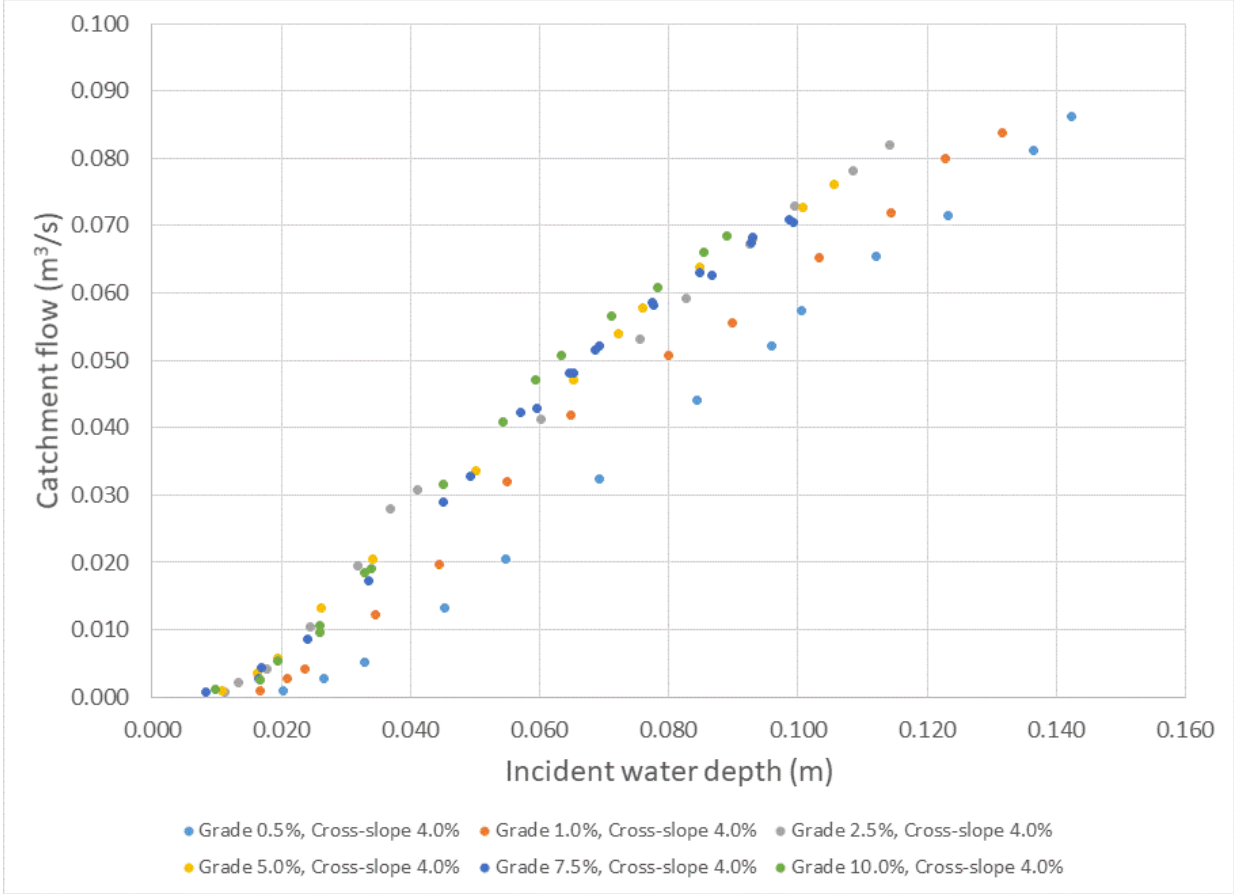

Figure 35. Measurements of catch basin inflow 4.0% cross-slope, single square herringbone cover (#3)

5.4. Catch Basin Cover #4 – Double Square Herringbone

The catchment flows for the double square catch basin covers with herringbone pattern oriented with a cross-slope of 2.0% are shown in Figure 36. The data for the 79 points included in Figure 36 can be found in Table C.7 and more detailed results from the tests are included in Appendix B.

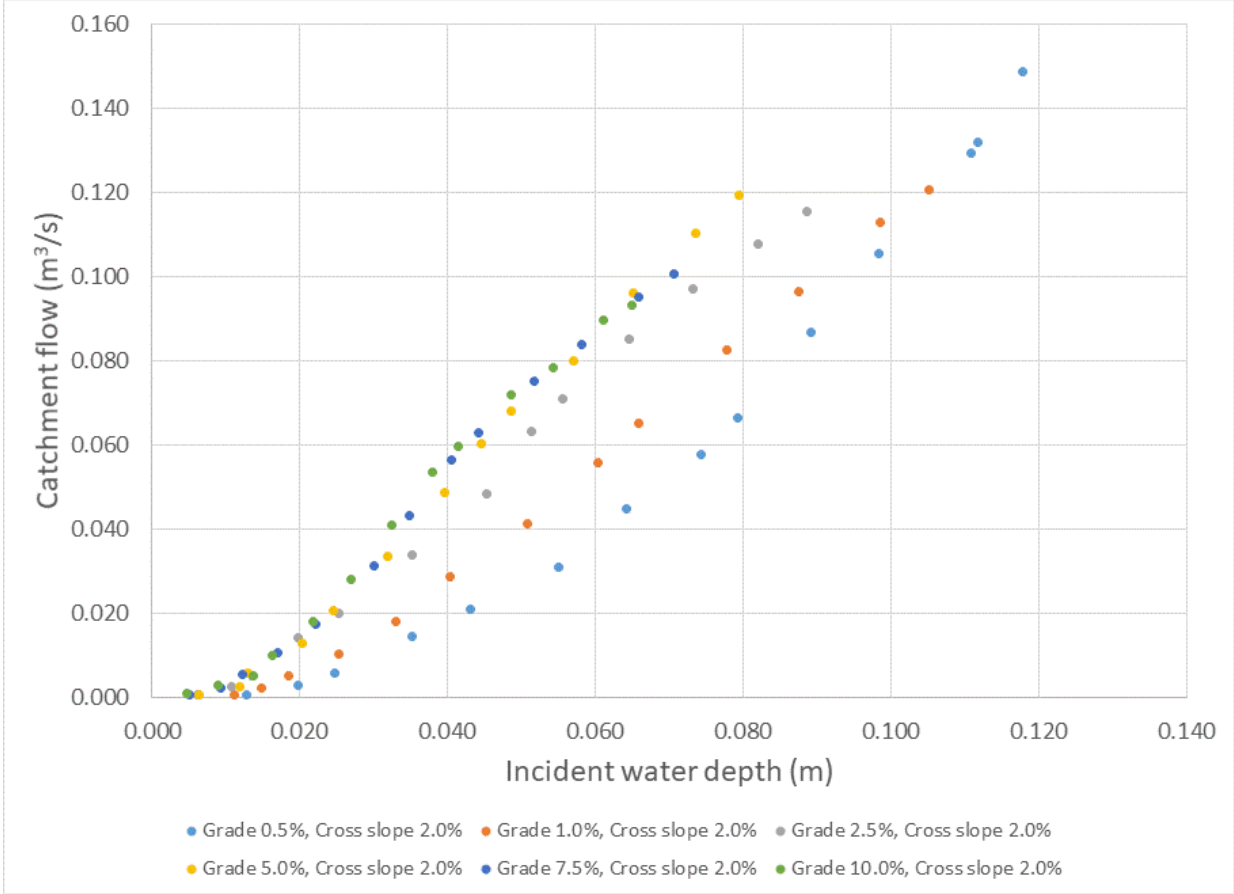

Figure 36. Measurements of catch basin inflow 2.0% cross-slope, double square herringbone cover (#4)

The catchment flow is comparable to the Double Round Herringbone Cover #2 and the qualitative performance is similar as well. The highest catchment flows are obtained for the lowest grades and the deepest incident water depths. For the four lowest grades, a similar incident water depth results in increasing catchment flow with increasing grade. For the three steepest grades at lower incident water depths the curves are fairly well overlapped. As the water depth increases the higher grades begin to saturate the catchment flow earlier so the lower grades have higher limits on the catchment flow. It is interesting to see how for this series of tests the 0.5% grade catchment flow extends well above the other grades.

Figure 37 is the result of 82 experiments very similar to those described for Figure 36 with a cross-slope of 4.0%. The 82 data points for this figure are summarized in Table C.8. The overall behaviour is very similar to the 2.0% cross-slope. The main difference is that with the increased cross-slope more water is directed to the curb and as a result the water depths are higher in general for the 4.0% cross-slope resulting in a higher limit on the catchment flows.

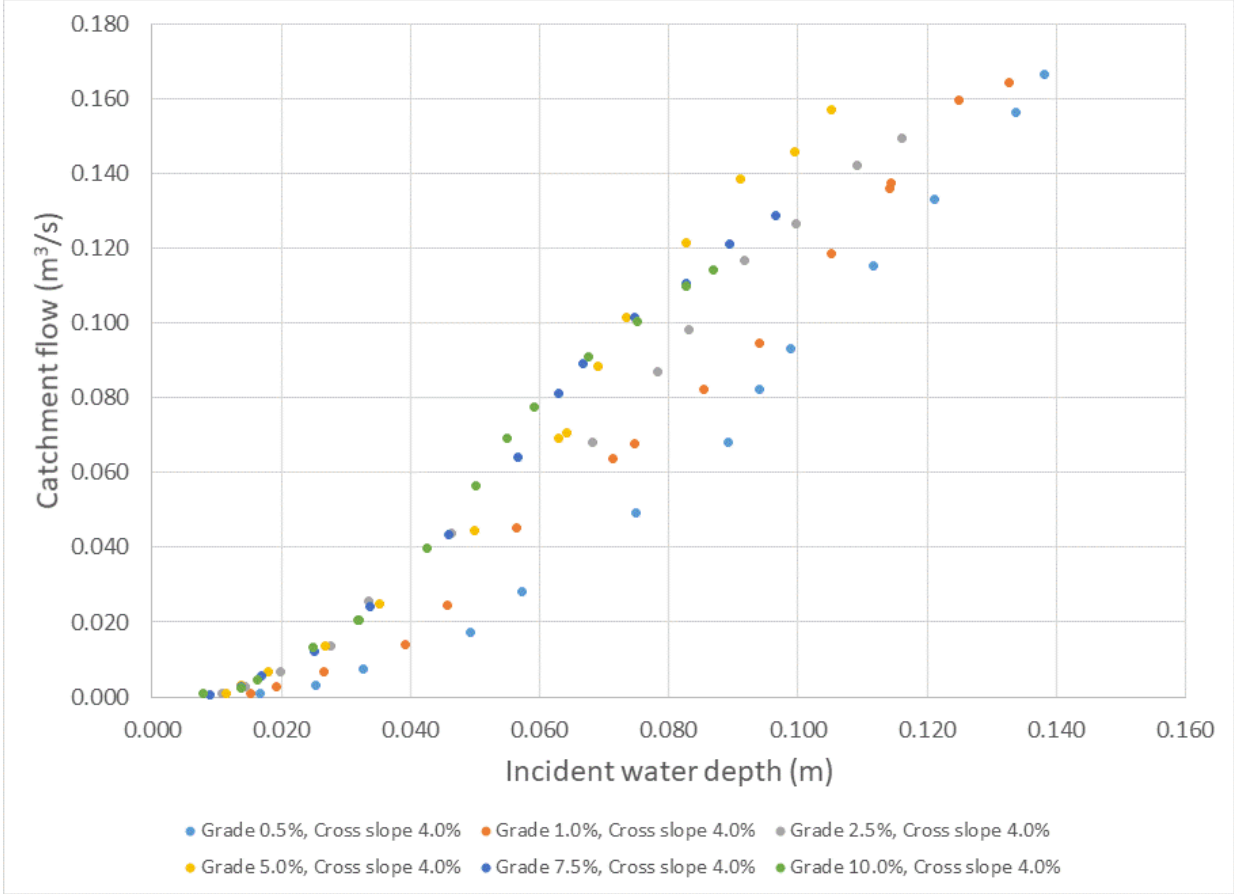

Figure 37. Measurements of catch basin inflow 4.0% cross-slope, double square herringbone cover (#4)

5.5. Catch Basin Cover #5 – Single Square with Horizontal Bars

The catchment flows for the square catch basin cover with horizontal bars oriented with a cross-slope of 2.0% are shown in Figure 38. The data for the 80 points included in Figure 38 can be found in Table C.9 and more detailed results from the tests are included in Appendix B.

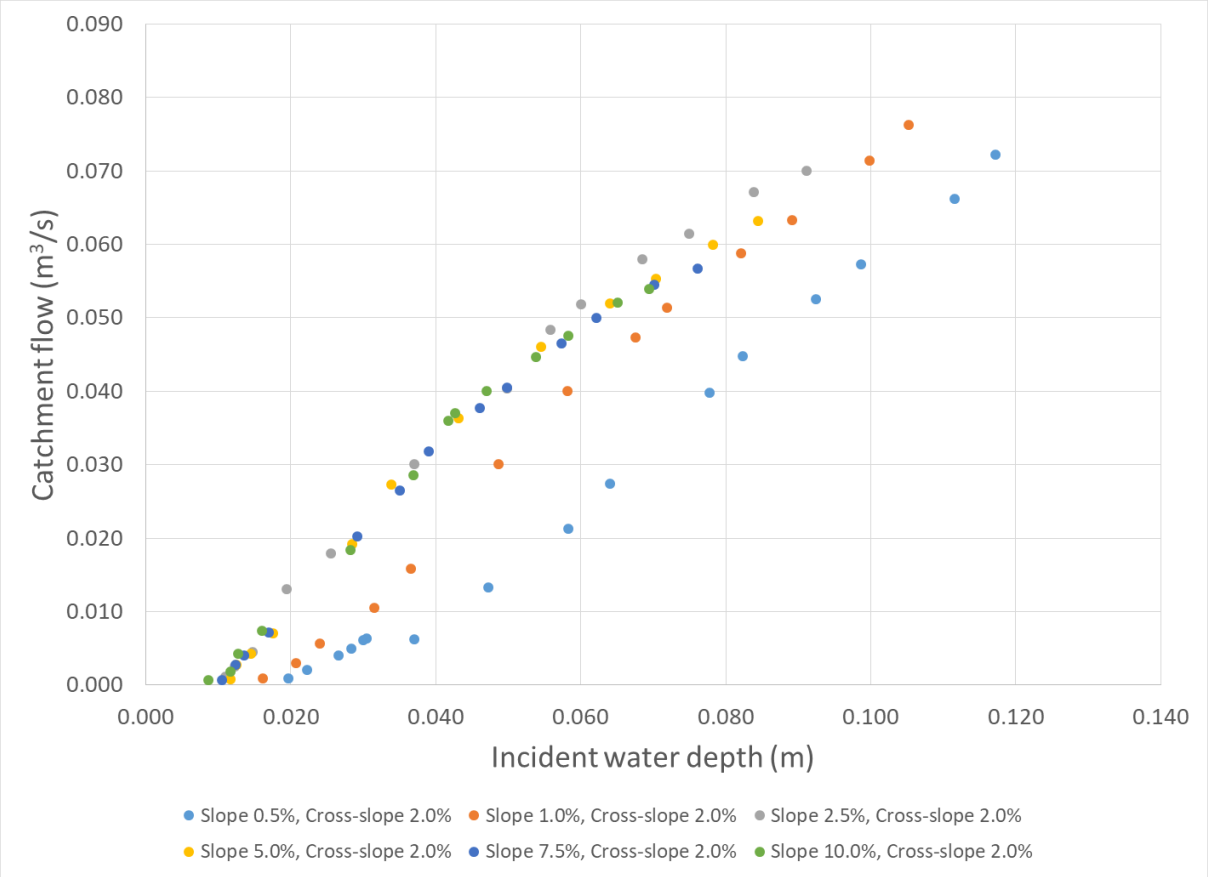

Figure 38. Measurements of catch basin inflow 2.0% cross-slope, single square cover with horizontal bars (#5)

The catchment flow is comparable to the other two single catch basin covers #1 and #3. The qualitative performance is similar to the other single covers as well. The highest catchment flows are obtained for the lowest grades and the deepest incident water depths. For the three lowest grades, a similar incident water depth results in increasing catchment flow with increasing grade. For the four steepest grades at lower incident water depths the curves are fairly well overlapped. As the water depth increases the higher grades begin to saturate the catchment flow earlier so the lower grades have higher limits on the catchment flow.

Figure 39 is the result of 118 experiments very similar to those described for Figure 38 with a cross-slope of 4.0%. The 118 data points for this figure are summarized in Table C.10. The overall behaviour is very similar to the 2.0% cross-slope. The main difference is that with the increased cross-slope more water is directed to the curb and as a result the water depths are higher in general for the 4.0% cross-slope resulting in a higher limit on the catchment flows.

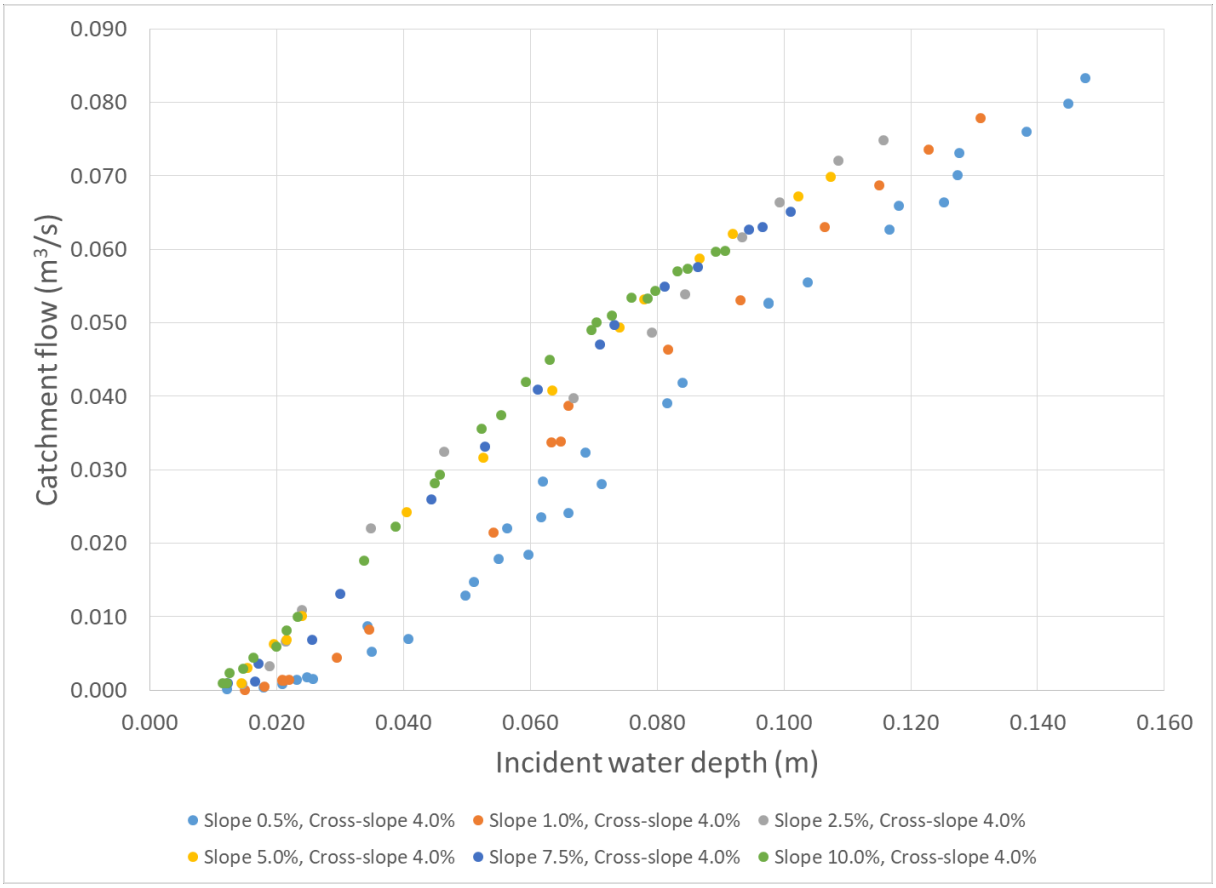

Figure 39. Measurements of catch basin inflow 4.0% cross-slope, single square cover with horizontal bars (#5)

5.6. Catch Basin Cover #6 – High Capacity Inlet

The catchment flows for the high capacity inlet oriented with a cross-slope of 2.0% are shown in Figure 40. The data for the 78 points included in Figure 40 can be found in Table C.11 and more detailed results from the tests are included in Appendix B.

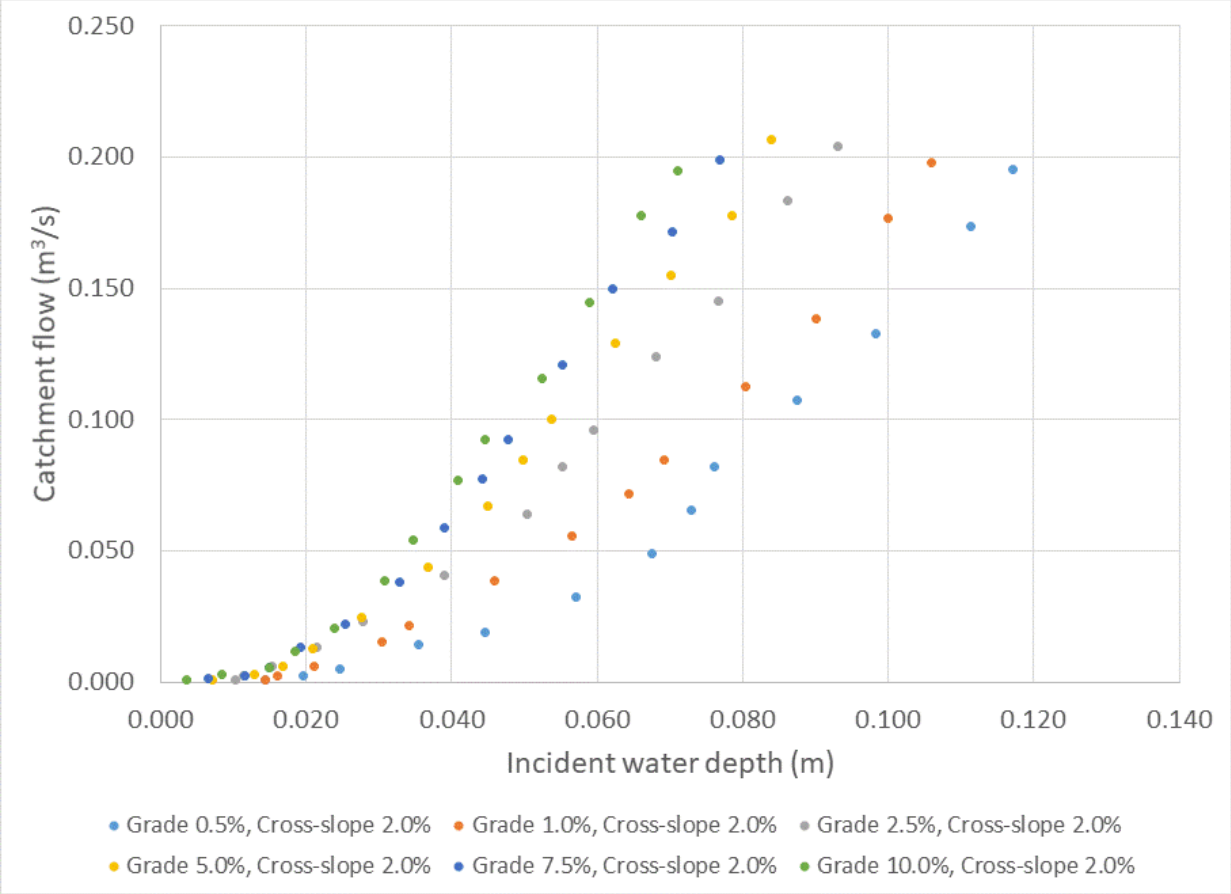

Figure 40. Measurements of catch basin inflow 2.0% cross-slope, high capacity inlet (#6)

The high capacity inlet stands out in comparison to the other covers examined due to its capacity to efficiently remove water from the roadway. Unlike the other covers the curves do not overlap for higher road grades, each curve is distinct. As the incident water depth increases, the catchment flow increases as well. As the road grade increases the catchment flow increases for a similar incident water depth which reflect the lower incident water depths on a steeper roadway.

In Figure 41 a moderate incident water depth is shown. The water in the image is flowing towards the top of the image off the end of the model roadway. This water depth would have easily covered the other catch basins in this study. Because of the high open area of the high capacity inlet it conveys much more water into the catch basin and a considerable portion of the cover on the downstream curbside is not exposed to water. The impact of this cover is also noticed in the overall water movement as it can be seen that the water downstream of the catch basin is directed not straight off the end of the road but the current is directed towards the curb at the end of the road. For several road grades the water near the curb downstream of the catch basin will flow uphill to the catch basin. The phenomenon is visible, though difficult to distinguish, in Figure 41 on the white strip downstream of the cover against the curb on the right of the image. This observation can be made for other combinations but not as strongly as for the high capacity inlet.

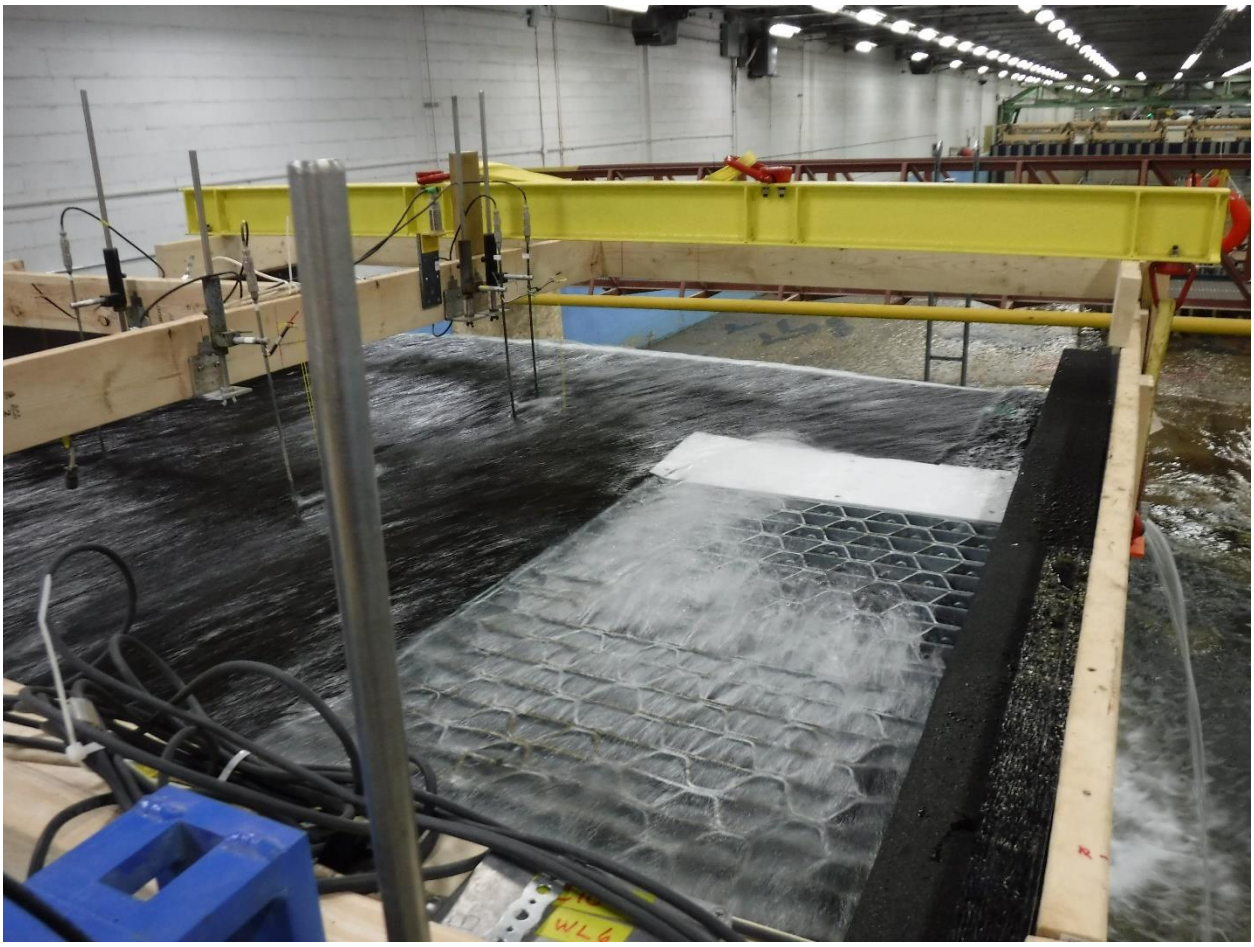

Figure 41. High capacity inlet with a moderate incident water depth

The catchment flows for the high capacity inlet oriented with a cross-slope of 4.0% are shown in Figure 42. The data for the 82 points included in Figure 42 can be found in Table C.12 and more detailed information on these tests is included in Appendix B.

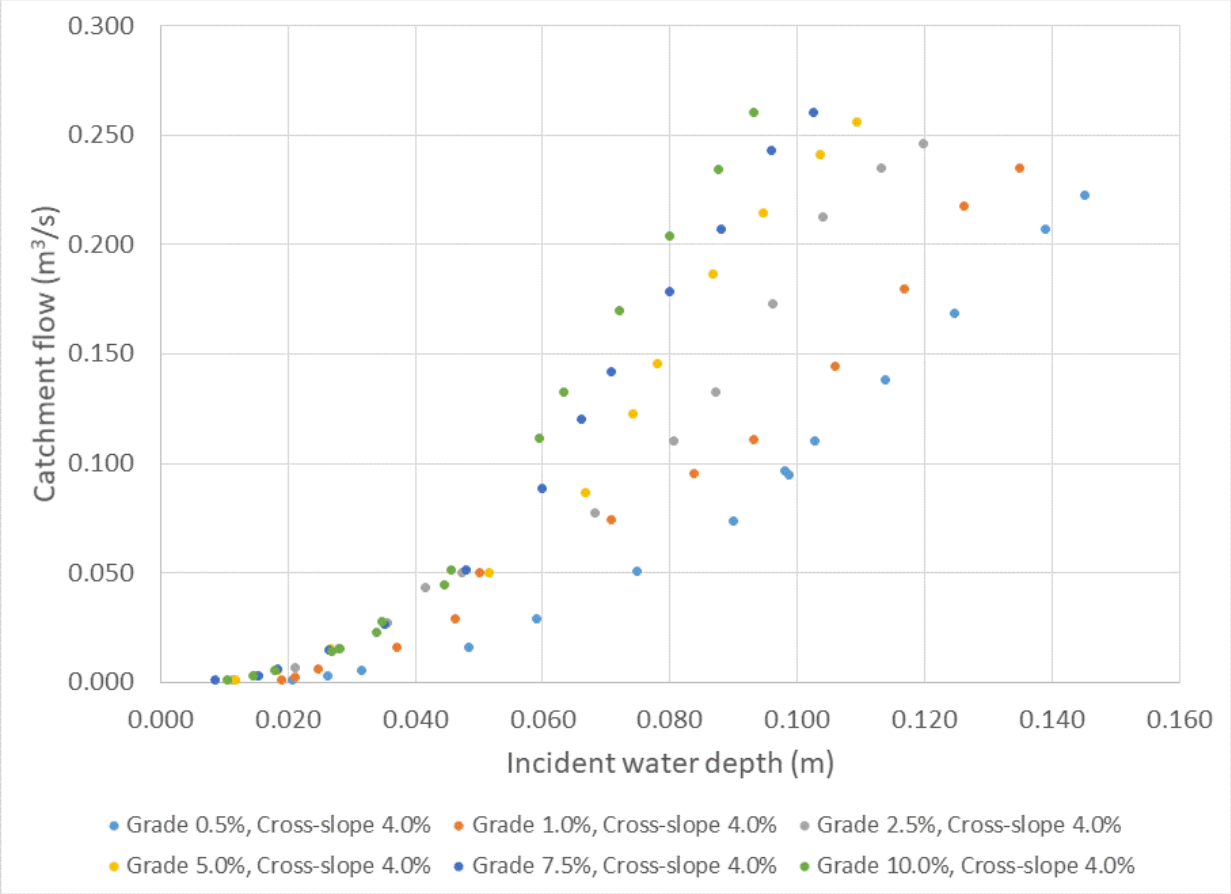

Figure 42. Measurements of catch basin inflow 4.0% cross-slope, high capacity inlet (#6)

The performance of the high capacity inlet is qualitatively similar at the 4.0% cross-slope. The increased cross-slope results in more water directed to the curb and as a result greater incident water depths when compared to the lower cross-slope. The increased water flow at the curve also increased the catchment flows with three points exceeding 0.250 m^3/s. These were the highest catchment flows observed during this test program.

5.7. Catch Basin Cover #7 – Circular Open Cover (Type B)

The catchment flows for the circular open cover oriented with a cross-slope of 2.0% are shown in Figure 43. The data for the 97 points included in Figure 43 can be found in Table C.13 and more detailed results from the tests are included in Appendix B.

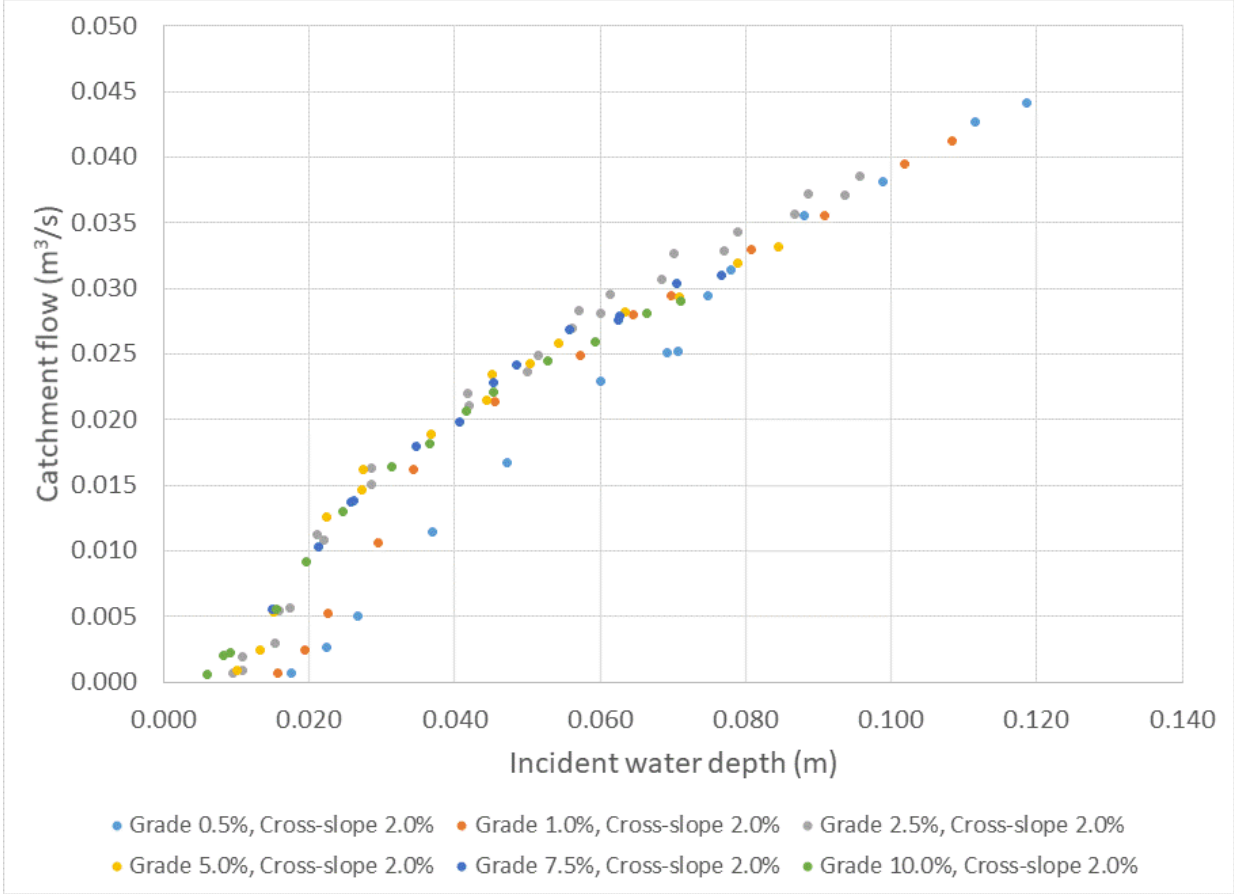

Figure 43. Measurements of catch basin inflow 2.0% cross-slope, single round cover (#7)

The maintenance hole cover is not designed to convey water from the roadway and this was noted in the measurements. The catchment flow is considerably less than for the catch basin covers examined in the test program. The qualitative performance is similar to the standard catch basin covers with a reduced catchment flow. The higher catchment flows occur for the lowest grades and deepest incident water depths. The four steepest grades see the curves overlapped but the greater the grade the lower the maximum catchment flow.

5.8. Catch Basin Cover #8 – Circular Closed Cover (Type A)

The catchment flows for the circular closed cover oriented with a cross-slope of 2.0% are shown in Figure 44. The data for the 26 points included in Figure 44 can be found in Table C.14 and more detailed results from the tests are included in Appendix B.

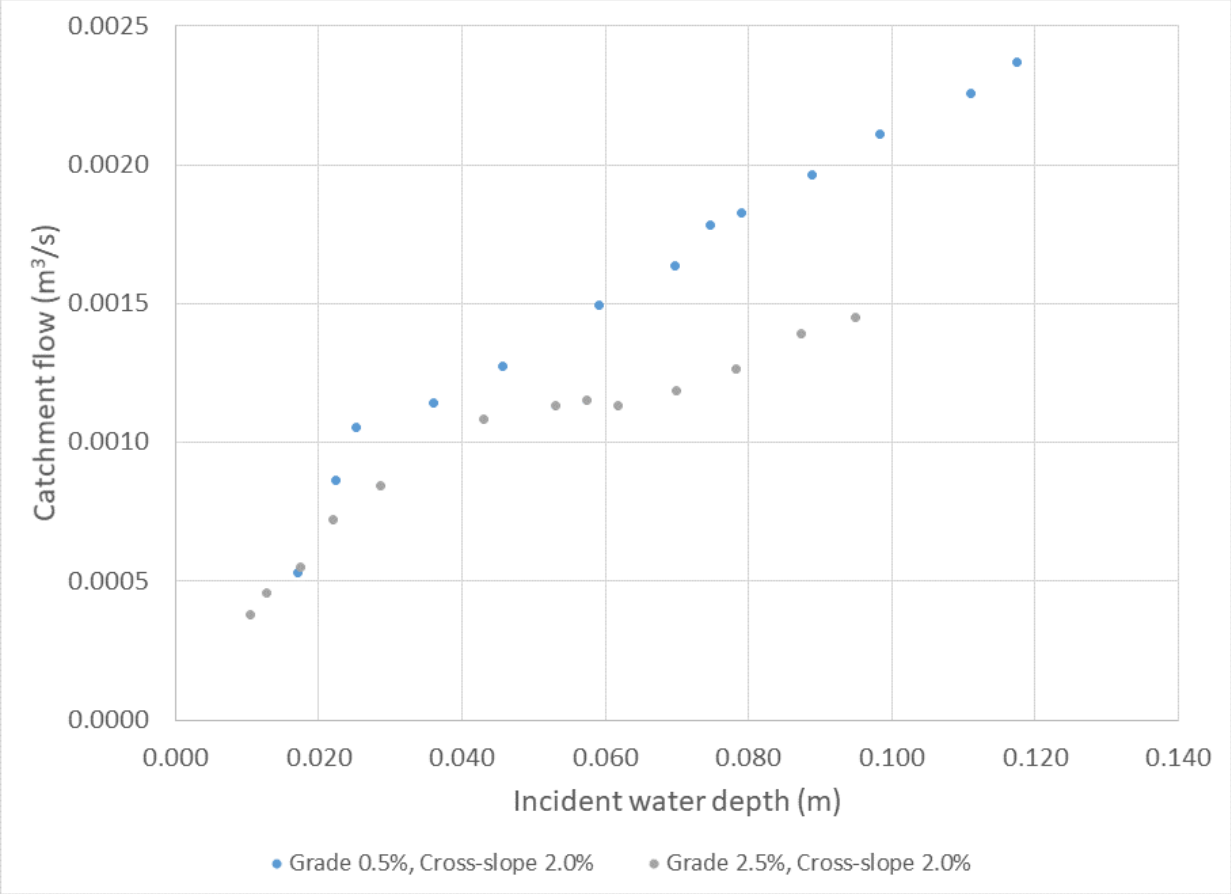

Figure 44. Measurements of catch basin inflow 2.0% cross-slope, single round cover (#8)

The closed maintenance hole cover allows for very little catchment flow as there is very little open area at the road surface. Specifically, the opening is limited to two small holes which allow a pry bar to remove the cover. The catchment flows from this cover are minimal when compared to all other covers tested. Similar to the other covers the greatest catchment flows are noted for the lowest grades and the greatest water depths. One significant difference with this specific cover is that for a given incident water depth an increase in road grade results in a decrease in catchment flow. This was not observed in any other covers tested. The slope of the curve also decreases with increasing water depth this effect was only observed to a small extent in some of the other covers.

6. Comparative Analysis

6.1. Comparison to Previous Work

It is useful to compare the work from this series of experiments to previous work done in this field. Specifically, in Figure 45 we have compared our measurements from the single square cover with

herringbone pattern (cover #3) from section 5.3 at a cross-slope of 2.0% and a grade of 0.5% with results from Marsalek (1982) at a grade of 0.3% and 1.0%.

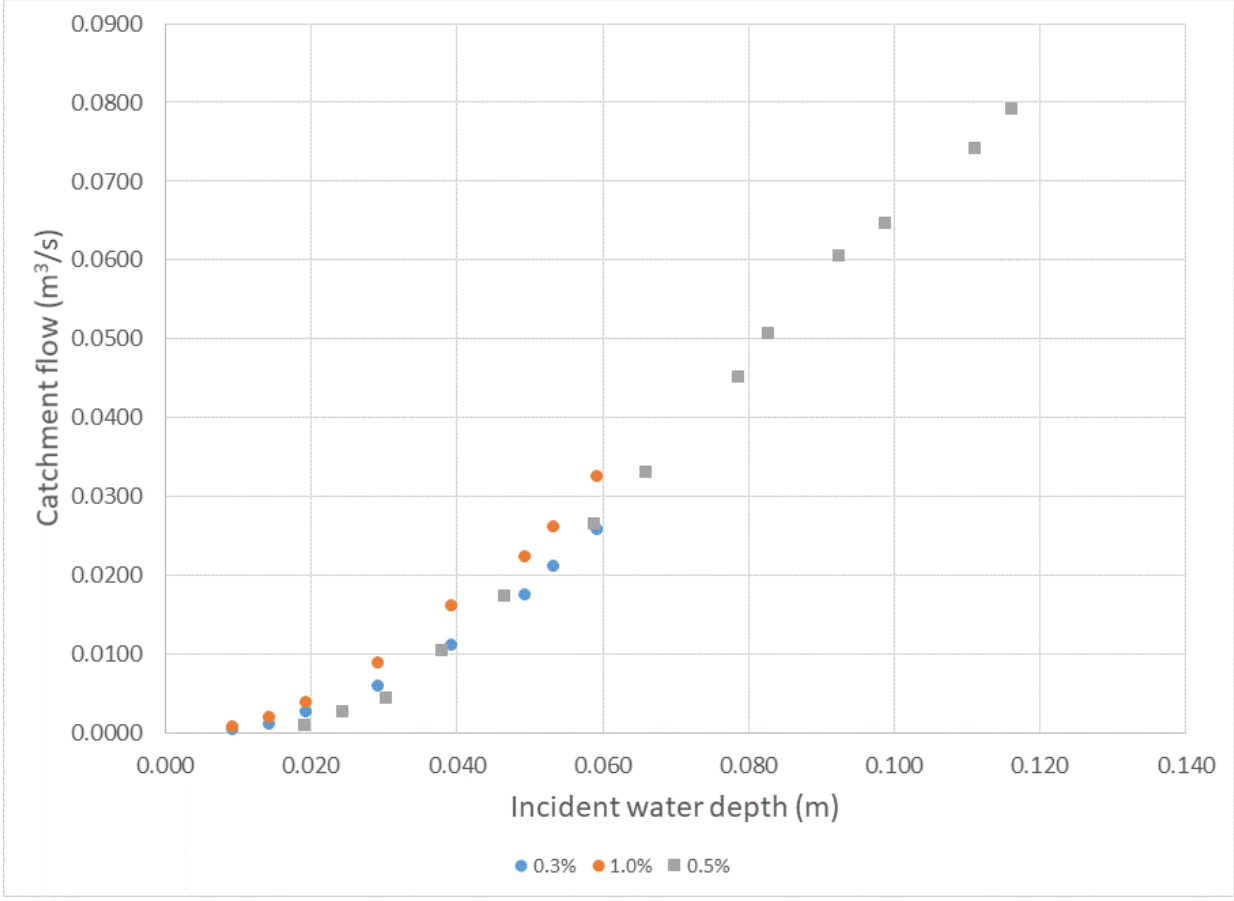

Figure 45. Comparison cover #3 - grey squares tested at a 2.0% cross-slope and a 0.5% grade with previous measurements Marsalek (1982) - circles at 0.3% and 1.0% grade.

The results shown in Figure 45 appear to be in complete agreement. The data from Marsalek (1982) which was taken from Table A1.7 and which is shared in Table 6 for the 2.0% and 4.0% cross-slopes. The incident depth was added in Table 6 to compare with the results from the experiments in this report. They are calculated using the spread from Marsalek (1982) and the fact that the incident water depth is measured 3 cm from the curb and normal to the road surface.

Table 6: Updated Table A1.7 from Marsalek (1982). Interpolated Grate Inlet Capacity for the Single Square Cover with Herringbone pattern with added incident water depth

			Grate Inlet Capacity (m^3/s)							
			Grade S (m/m)							
Crossfall	Spread	Incident	0.3%	1.0%	2.0%	3.0%	4.0%	6.0%	8.0%	10.0%
Sx(m/m)	T(m)	Depth (m)	0.003	0.01	0.02	0.03	0.04	0.06	0.08	0.10
0.02	0.50	0.009	0.0004	0.0007	0.0010	0.0014	0.0015	0.0016	0.0015	0.0012
	0.75	0.014	0.0010	0.0019	0.0028	0.0034	0.0038	0.0039	0.0033	0.0026
	1.00	0.019	0.0026	0.0038	0.0052	0.0063	0.0068	0.0071	0.0069	0.0061
	1.50	0.029	0.0059	0.0088	0.0121	0.0142	0.0150	0.0146	0.0133	0.0118
	2.00	0.039	0.0110	0.0160	0.0213	0.0245	0.0255	0.0246	0.0220	0.0193
	2.50	0.049	0.0175	0.0223	0.0287	0.0338	0.0367	0.0352	0.0310	0.0263
	2.70	0.053	0.0210	0.0261	0.0331	0.0389	0.0418	0.0396	0.0364	0.0322
	3.00	0.059	0.0257	0.0325	0.0407	0.0468	0.0500	0.0477	0.0437	0.0392
0.04	0.50	0.019	0.0012	0.0020	0.0029	0.0036	0.0042	0.0050	0.0047	0.0045
	0.75	0.029	0.0033	0.0051	0.0074	0.0092	0.0109	0.0128	0.0131	0.0120
	1.00	0.039	0.0072	0.0098	0.0132	0.0162	0.0189	0.0224	0.0223	0.0210
	1.50	0.059	0.0167	0.0222	0.0283	0.0333	0.0375	0.0430	0.0432	0.0406
	2.00	0.079	0.0290	0.0368	0.0452	0.0517	0.0574	0.0638	0.0634	0.0600
	2.50	0.099	0.0410	0.0500	0.0600	0.0681	0.0748	0.0819	0.0810	0.0775
	2.70	0.107	0.0460	0.0569	0.0666	0.0740	0.0806	0.0882	0.0880	0.0787
	3.00	0.119	0.0540	0.0660	0.0762	0.0837	0.0903	0.0986	0.0978	0.0930

The data acquired in the two studies was not all as similar as shown in Figure 45. At a 2.0% cross-slope the differences between the results of the two studies increased with increasing road grade. In Figure 46 the largest difference between the two test series is illustrated and the new results show greater catchment flow than the results from Marsalek (1982). The error bars have also been included to allow for perspective. The error bars for this study reflect the measurement uncertainties and the variations in measurements measured over a three minute interval. The error bars for the Marsalek (1982) data reflect the uncertainty estimates discussed in their report. The 0.05 m estimate on the uncertainty of the spread reported by Marsalek may be optimistic. Similar measurements were made at the start of our test series. Specifically, those results can be found in Appendix B for tests on cover #5 from February 9 – 16, 2021. The 0.05 m estimate for the measurement uncertainty was found to be appropriate in most cases however there were incidences of surface waves which complicated the measurements and increased the uncertainty on the spread by a factor of 2.5 times in the present work. These surface waves are discussed in Marsalek (1982) but it is not clear if or how the uncertainty may have been adjusted to account for them. Marsalek (1982) does not mention how long the system was allowed to settle before taking the measurements or over how long the measurements were taken. The current tests have allowed the system to settle for several minutes prior to making measurements. The road surface preparation was also different in each case. These differences may help to explain some of the different observations.

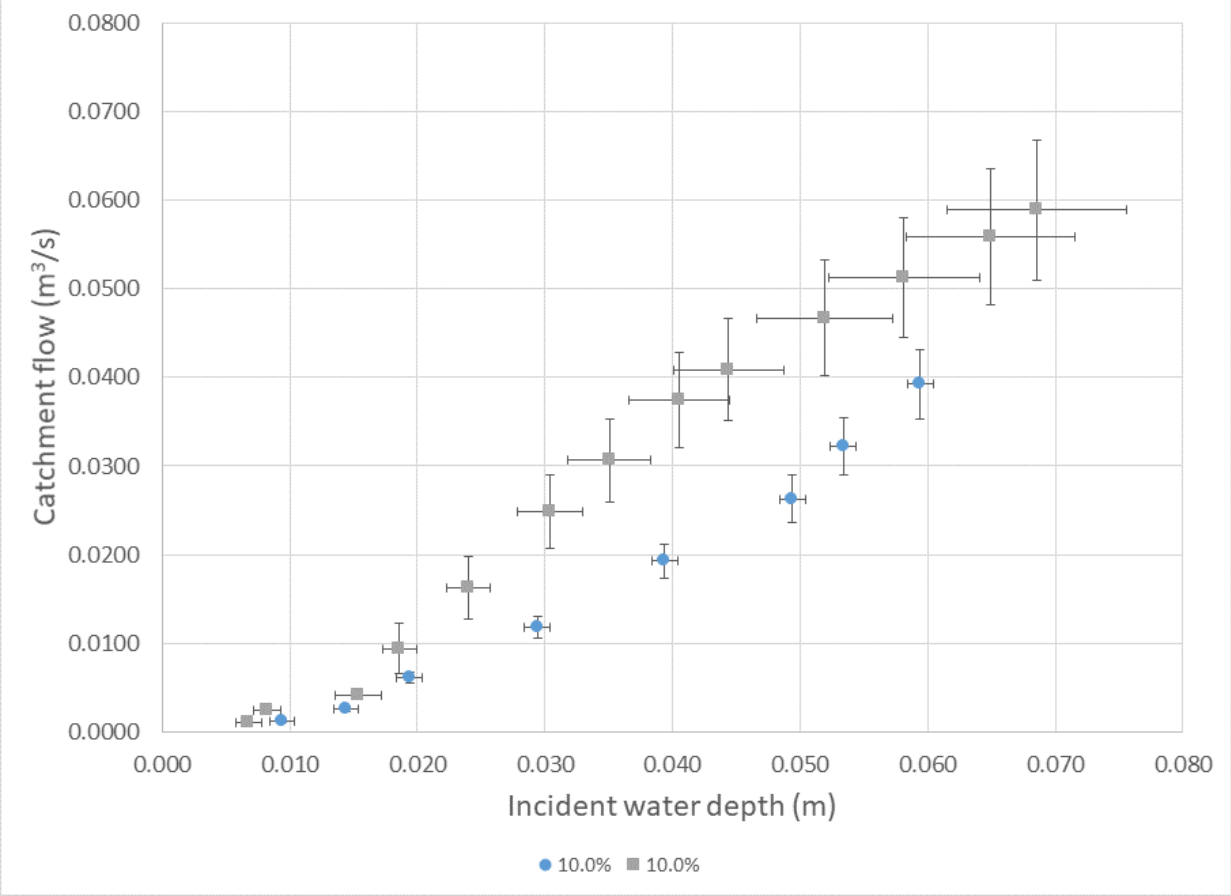

Figure 46. Comparison cover #3 - grey squares with previous measurements Marsalek (1982) - blue circles both tested at a 2.0% cross-slope and a 10.0% grade.

At a cross-slope of 2.0% most of the data presented in the current work has overlapping uncertainties with the data presented by Marsalek (1982). The only data for which the uncertainties do not overlap at a cross-slope of 2.0% occur for road grades of 7.5% and 10.0%.

For the 4.0% cross-slope the catchment flows measured for cover #3 from this report are almost identical to those reported in Marsalek (1982) for a 10.0% grade as shown in Figure 47. At the 4.0% cross-slope the difference between the two studies increases with decreasing road grade. As shown in Figure 48 the new measurements report a slightly higher inlet flow at lower grades. There are only a few measurement points at a road grade of 1.0% and 2.5% for which the uncertainties do no overlap. For the remainder of the data at a 4.0% cross-slope the present work is consistent with Marsalek (1982).

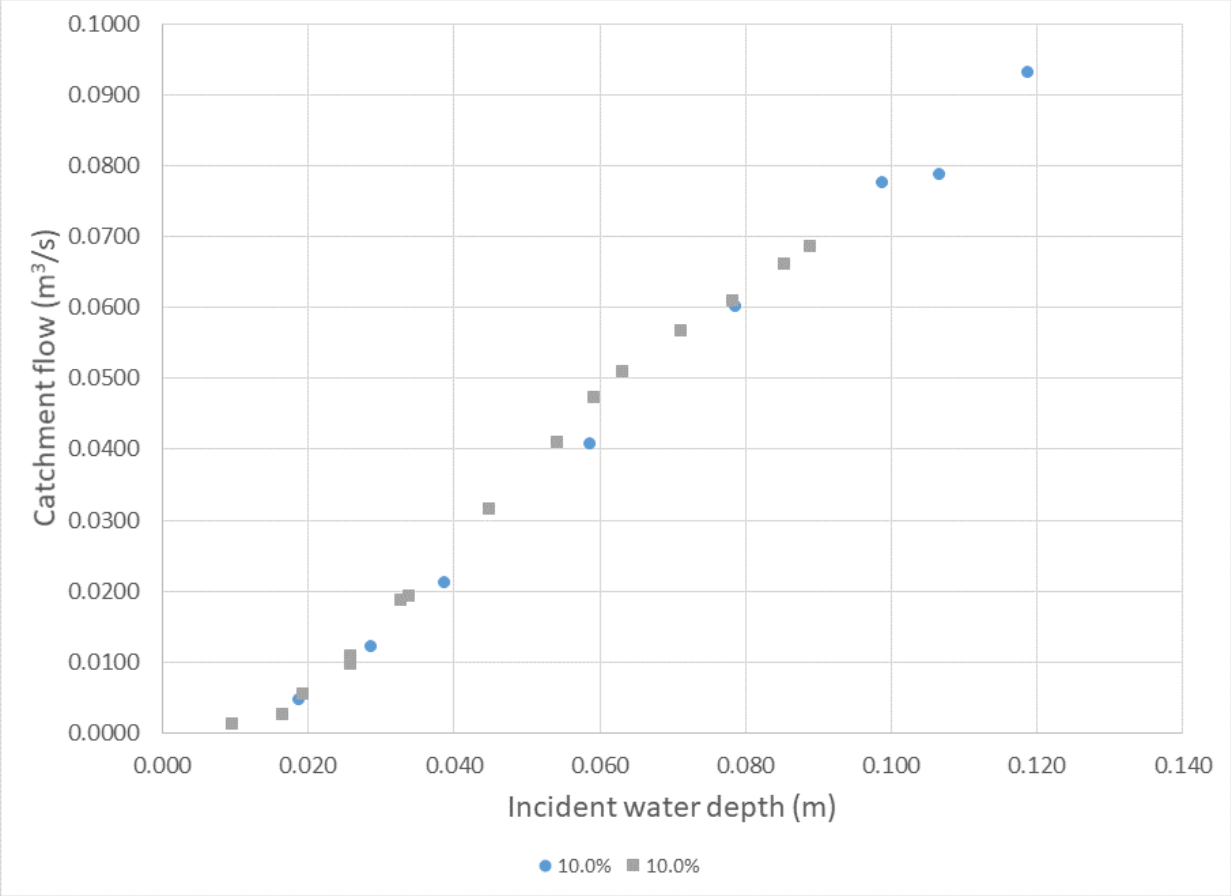

Figure 47. Comparison cover #3 - grey squares with previous measurements Marsalek (1982) - blue circles both tested at a 4.0% cross-slope and a 10.0% grade.

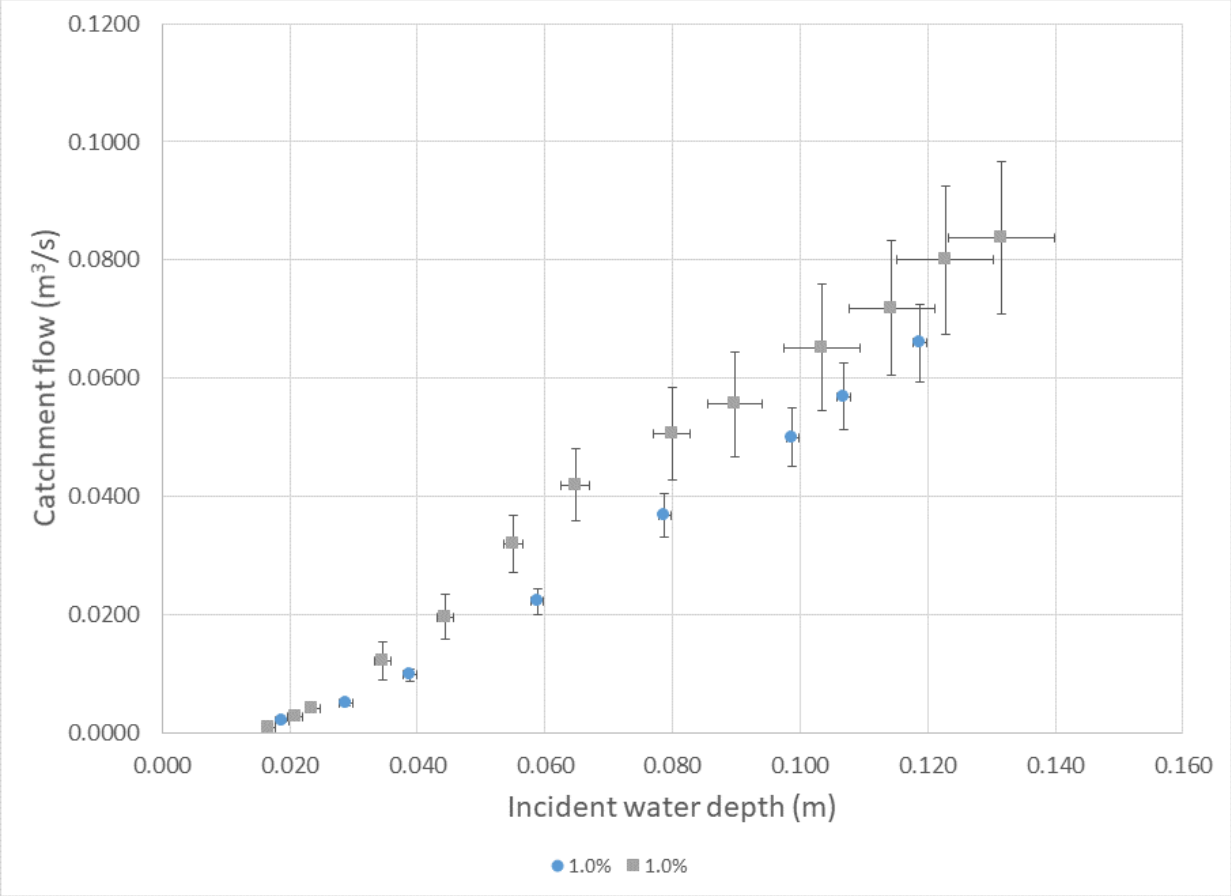

Figure 48. Comparison cover #3 - grey squares with previous measurements Marsalek (1982) - blue circles both tested at a 4.0% cross-slope and a 1.0% grade.

In section 4.3.2 of Marsalek (1982) we see that there is a maximum in the inlet capacity that occurs for a road grade between 1.0% and 8.0%. In Figure 49 we show the example of various road grades at a 2.0% cross-slope and for the higher incident water depths the highest catchment flow is observed at 4.0% grade while for the lower incident water depths the maximum occurs at 3.0%. This phenomenon is not observed in the present report at all. As shown in section 5 for incident water depths less than 0.06 m such as shown in Figure 49 the catchment flow always increases with increasing road grade for the high capacity inlet #6, for the double catch basins (#2 & #4) the catchment flow increases with increasing road grades from 0.5% to 5.0% and 0.5% to 2.5% for the single catch basins. For the higher road grades the catchment flow was independent of road grade for incident water depths less than 0.06 m but it did decrease with increasing road grade at greater incident water depths.

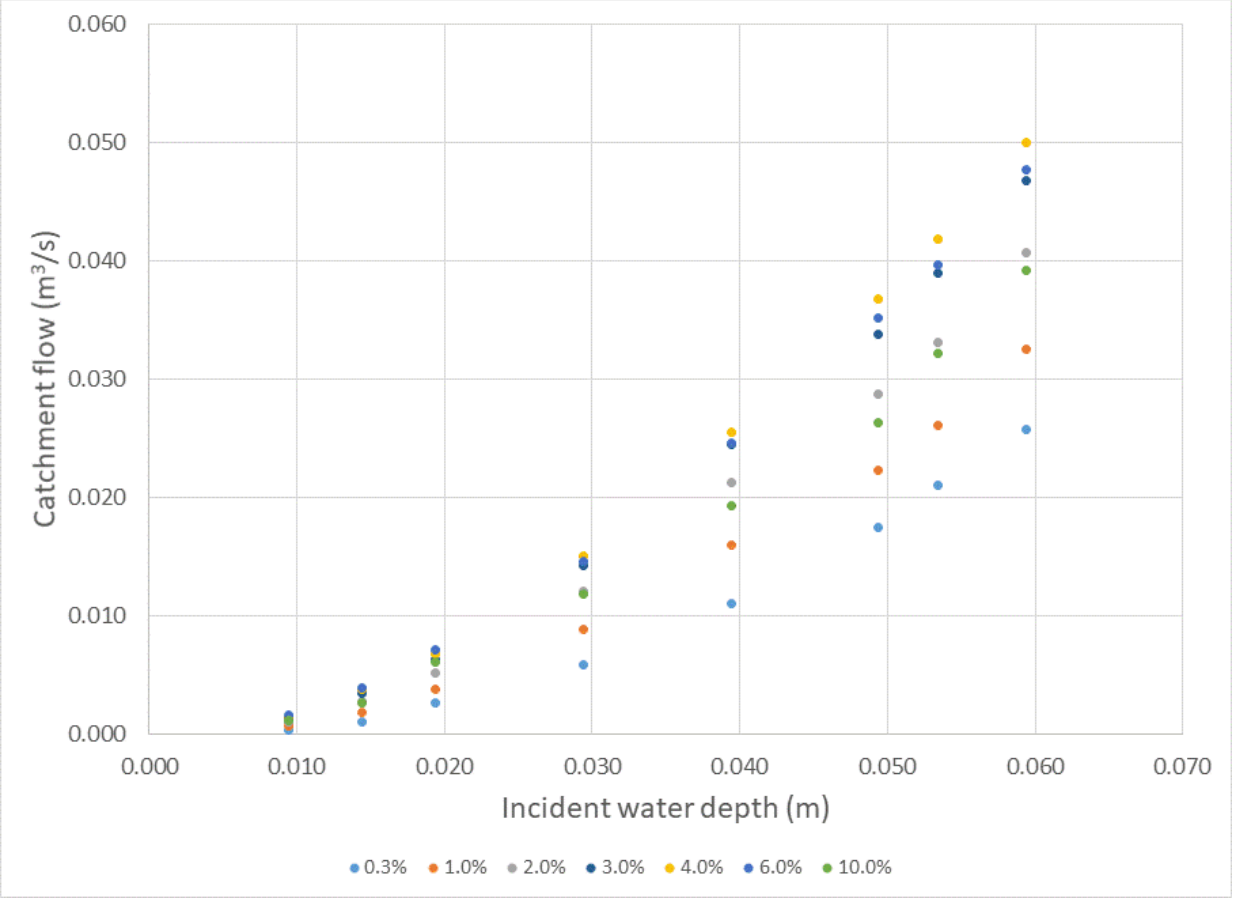

Figure 49. Interpolations of catch basin inflow from Marsalek (1982) for a 2.0% cross-slope, single square cover with herringbone pattern #3.

6.2. Comparing the Different Covers

After examining all of the covers independently this subsection compares the different covers. In Figure 50 the catchment flow for all of the different covers testing is shown at a cross-slope of 2.0% and a grade of 0.5%.

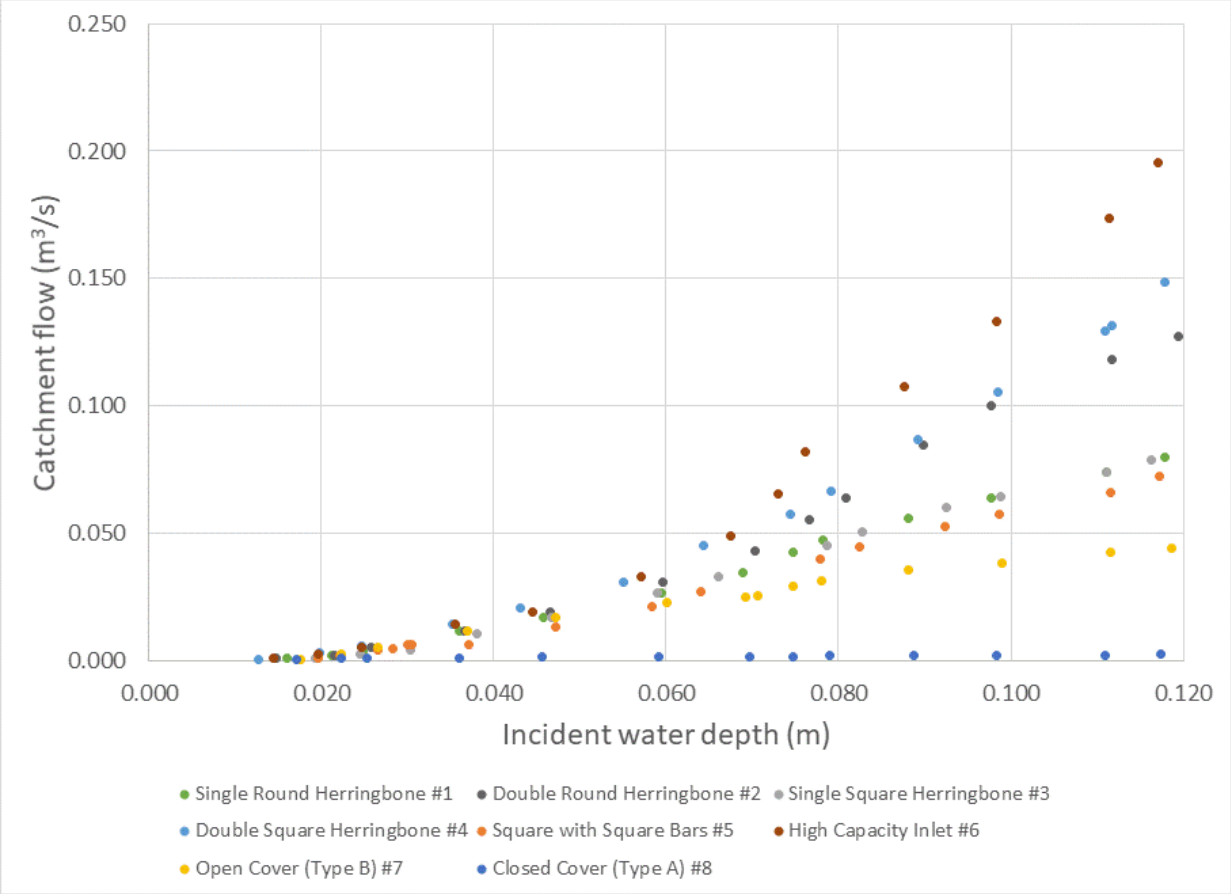

Figure 50. Measurements of catch basin inflow for all of the covers tested at a 2.0% cross-slope and a 0.5% grade.

The first observation is that the catchment flow appears to increase with the increasing open area. The cover with the greatest open area and greatest flow is the High Capacity Inlet #6 and that is followed by the Double Square Herringbone #4 and the Double Round Herringbone #2. The difference between the two sets of double catch basin covers increases within incident water depth for this configuration. However, the difference is always within the measurement uncertainty which can be found in Appendix B. Similarly, the next largest openings and highest flow rates are for the three single catch basin covers; Single round Herringbone #1, Single Square Herringbone #3 and Square with Square Bars #5. Once again the difference between these three covers is within the measurement uncertainty which can be found in Appendix B. Finally, the Open Cover #7 and the Closed Cover #8 have the smallest openings and allow the least flow with the closed cover allowing a much smaller flow than any other cover.

The results are very similar for other road orientations as well. For comparison, the results from a 2.0% cross-slope and a 2.5% grade are included in Figure 51 and for a 10.0% grade in Figure 52.

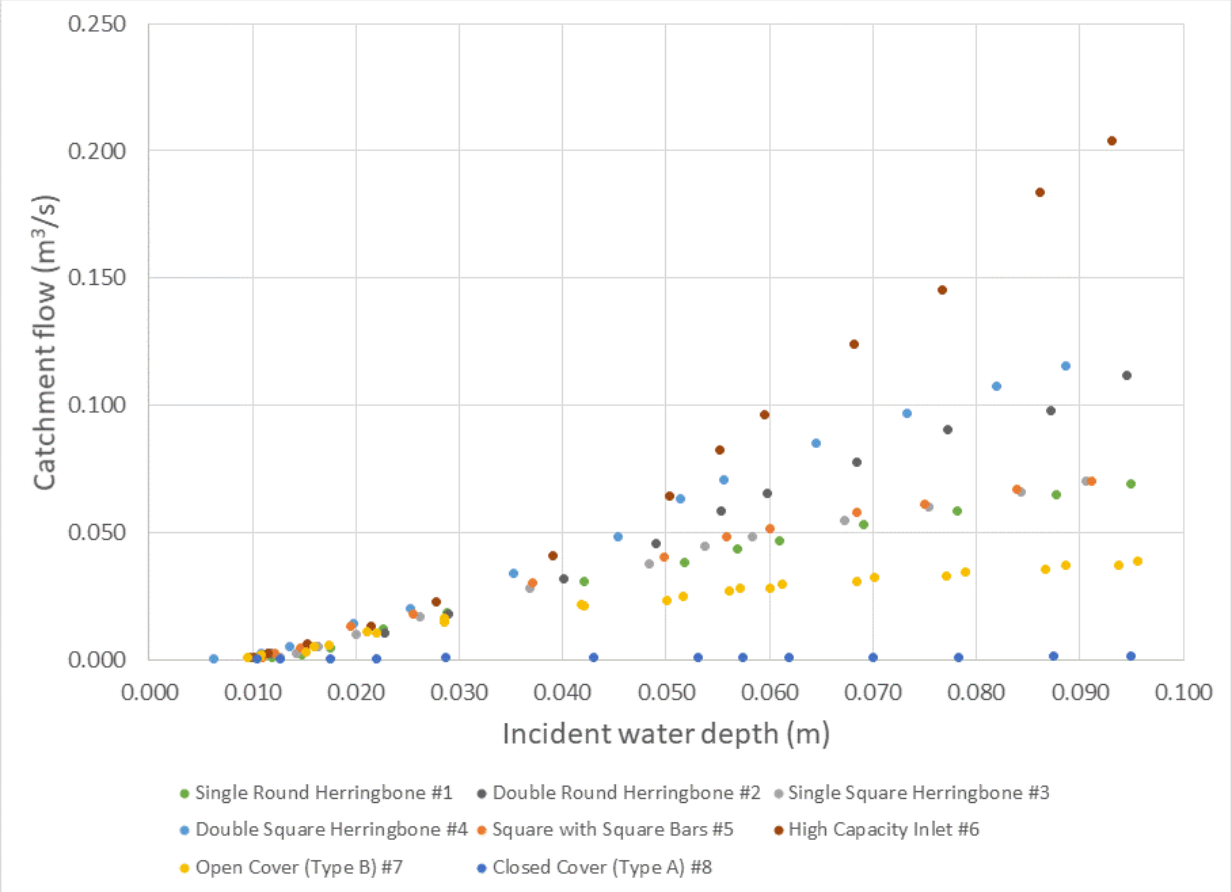

Figure 51. Measurements of catch basin flow for all of the covers tested at a 2.0% cross-slope and a 2.5% grade.

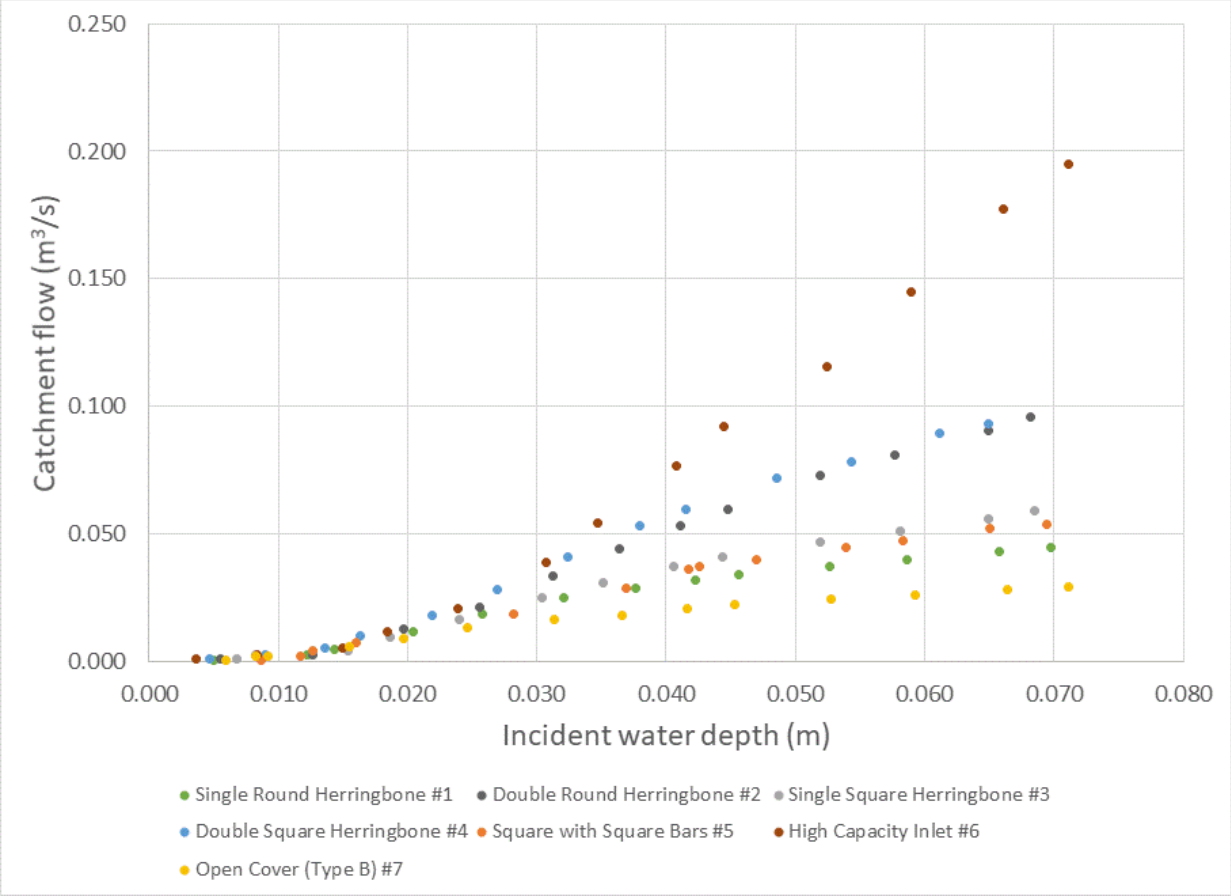

Figure 52. Measurements of catch basin inflow for all of the covers tested at a 2.0% cross-slope and a 10.0% grade.

Aside from the lower incident water depths with increasing road grade the results are qualitatively similar. The flow in the High Capacity Inlet #6 is not affected by the increasing grade however the other seven covers see reduced catchment flow with increasing grade.

6.3. Comparing Single vs. Double Catch Basins

In some instances, municipalities install multiple catch basins in succession in order to remove larger volumes of water from the roadway. This study has examined two such combinations: the round covers (#1 & #2) and the square covers (#3 & #4) both with a herringbone pattern. The performance of a single vs. double square cover with a herringbone pattern is shown in Figure 53 at a cross slope of 4.0% and a road grade of 0.5%.

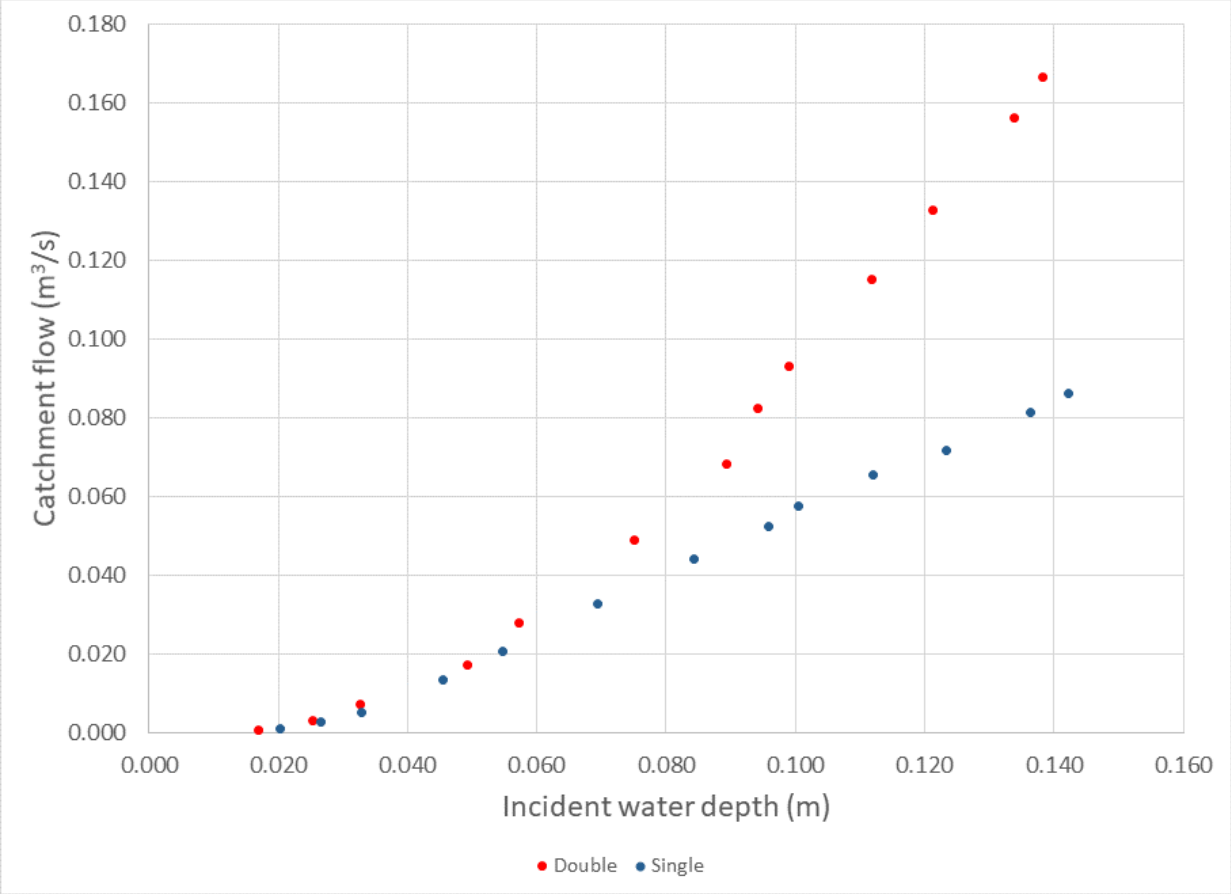

Figure 53. Comparison of a single (#3) and double (#4) square cover(s) with herringbone pattern at a 4.0% cross-slope and a 0.5% grade.

The most water that a pair of identical catch basins could remove from a road would be twice the amount of a single one. It is assumed that the first catch basin would reduce the incident water depth for the second and as such result in less catchment flow. Examining the results from Figure 53, for incident water depths less than 0.05 m the flow into the single is equal to that of the pair. This means the first catch basin cover is removing all of the flow and no water is reaching the second one. As the incident water depth increases the curves diverge as the second catch basin cover is required to draw more of the flow. At the highest incident water depth, ~ 0.14 m the single catch basin cover has a flow which is 51.8% of the flow of the pair. In Figure 54 we again compare the single vs. double square cover with herringbone pattern at a 4.0% cross-slope, this time with a 10.0 road grade.

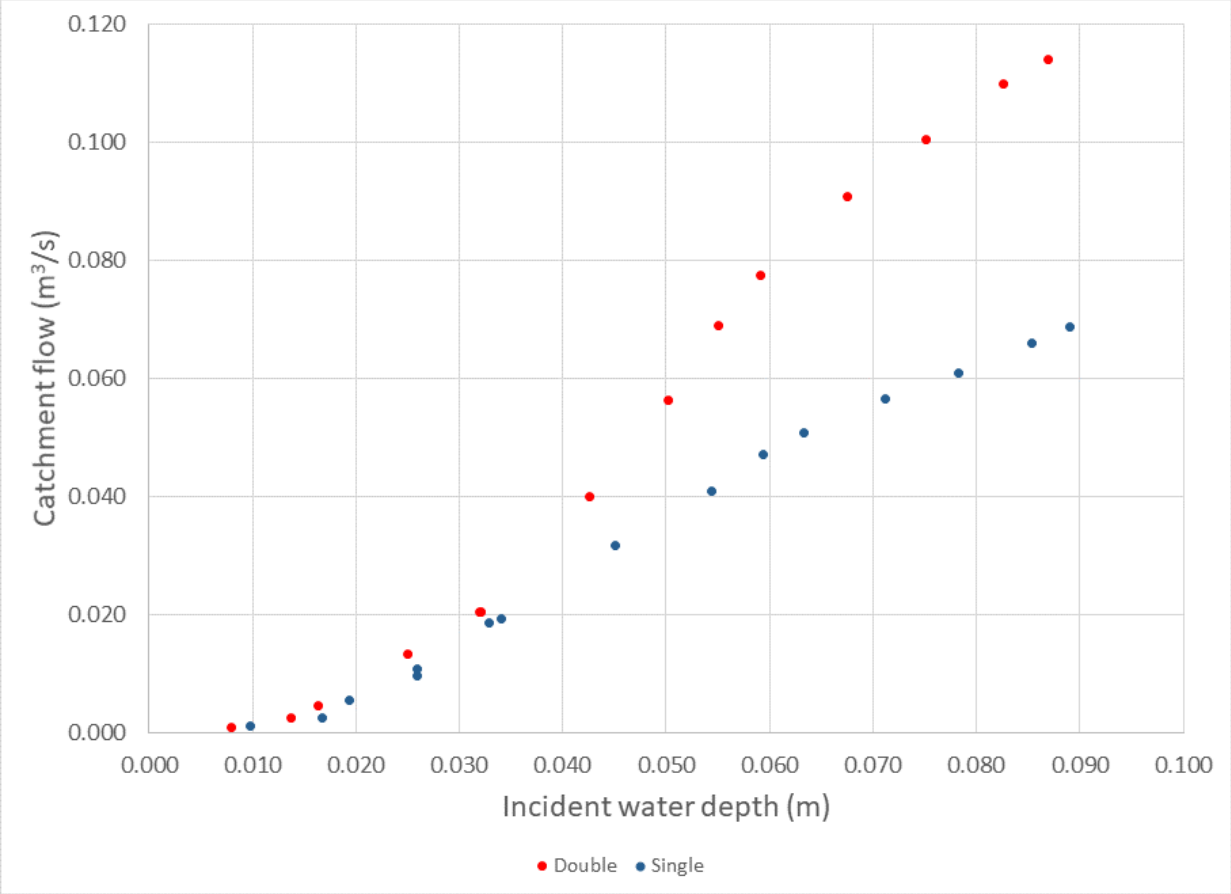

Figure 54. Comparison of a single (#3) and double (#4) square cover(s) with herringbone pattern at a 4.0% cross-slope and a 10.0% grade.

The higher road grade in Figure 54 results in lower incident water depths. The maximum incident water depth is ~ 0.09 m. At the maximum incident water depth the catchment flows are greater than those observed at 0.5% for the same water depth but lower than the maximum water depth at that grade and the single catch basin cover is drawing 60.5% of the water compared to the pair of grates. The second catch basin cover is not as efficient as was observed at the highest incident water depth for the 0.5% grade. At the 0.5% grade and an incident water depth of 0.095 m the single catch basin cover draws 63.4%, which is less than observed at a road grade of 10.0%. As shown in Figure 55 the observations are similar for a cross-slope of 2.0% as they were for 4.0% at a road grade of 0.5%.

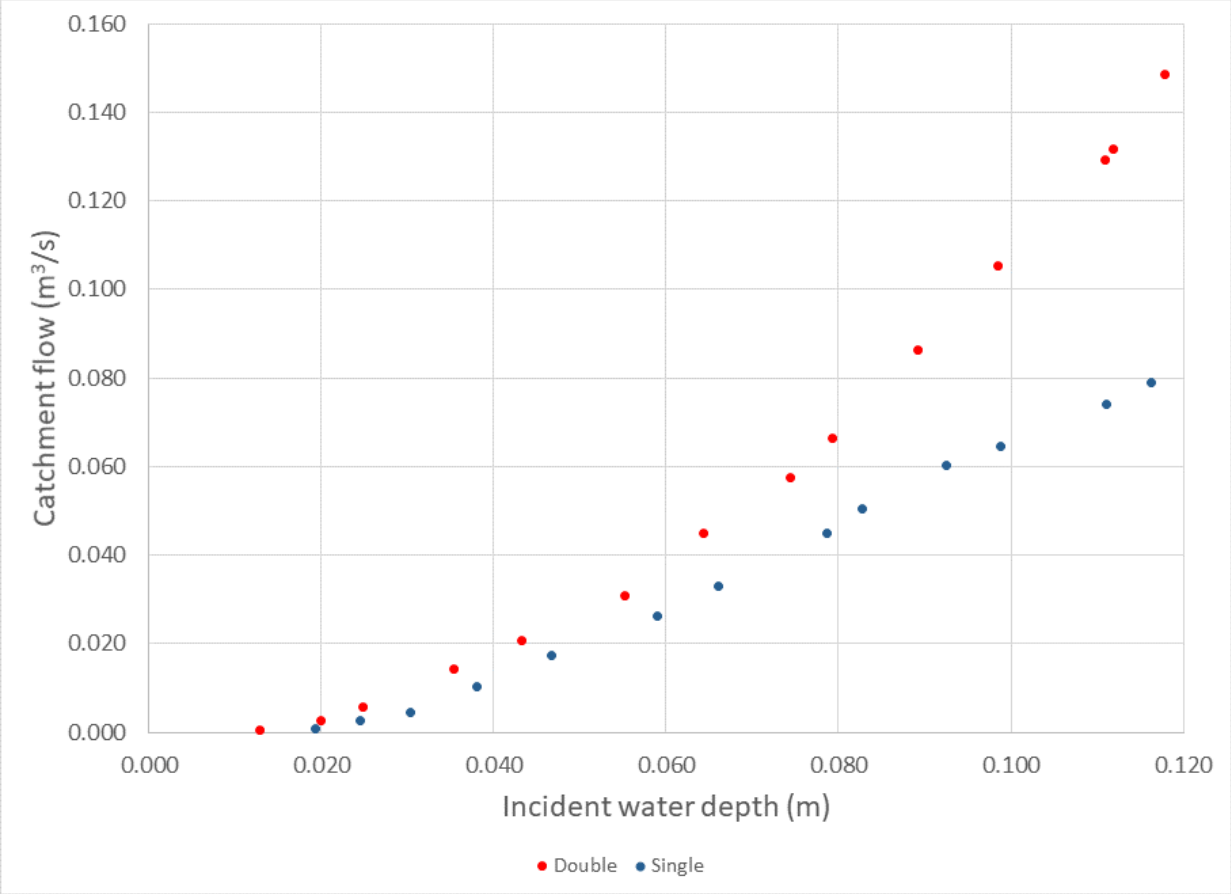

Figure 55. Comparison of a single (#3) and double (#4) square cover(s) with herringbone pattern at a 2.0% cross-slope and a 0.5% grade.

Less water is directed to the curb for the 2.0% cross-slope when compared to 4.0% producing lower incident water depths. The maximum incident water depth for a 0.5% road grade is ~ 0.12 m resulting in the single catch basin cover drawing 53.0% of the double. At a similar incident water depth for a 4.0% cross-slope and a 0.5% road grade the single catch basin cover draws 54.1% of the double.

7. Conclusions and Recommendations

A series of 1140 tests was completed at the National Research Council of Canada's Ocean, Coastal and River Engineering Research Centre's Coastal Wave Basin of a full scale model roadway to study the conveyance of catch basin covers. A total of eight catch basin cover configurations were examined at six road grades ranging from 0.5 - 10.0% and cross-slopes of 2.0 and 4.0% and for each setup 13 water flows from 0.001 – 0.40 m^3/s were sent onto the model roadway. Inflows through the covers as high as 0.260 m^3/s were measured through the high capacity inlet and as low as 0.00038 m^3/s were measured on the circular closed cover.

The main output from this work are the data tables in Appendix C which relate the incident water depth to the conveyance through the eight catch basin covers. The City of Toronto uses hydrodynamic models to asses urban flooding throughout the city for their Basement Flooding Protection Program. The new rating curves will improve the confidence of the hydrodynamic model predictions by providing direct measurements for the covers in question with a detailed uncertainty analysis. The new data will govern the inflow through each catch basin cover in the model. The rating curves currently in use are the result of a series of experimental tests completed in 1982 for the Ontario Ministry of Transportation.

The series of experiments performed here does not repeat the previous series of experiments however there is some overlap. In general, the experiments completed in this report do agree with previous work within the measurement uncertainties. To the extent that there is disagreement the current work reports higher inflows through the catch basin covers. The limited disagreements may be a result of underestimated uncertainties, differences in the model roadway surface or differences in the amount of time that the model was allowed to settle prior to acquiring data.

8. Acknowledgements

The authors would like to acknowledge financial support for this work from both sponsors Infrastructure Canada and the City of Toronto. Yehuda Kleiner from the NRC was instrumental in coordinating support from Infrastructure Canada to the benefit of other municipalities. The City of Toronto was also an active participant in ensuring that our work met the needs of Canadian Municipalities whom are the target audience for the work by providing us both their direct input and contacts from other municipalities to add their input as well.

The authors would like to acknowledge the support from the technical staff at the NRC. Specifically, John Marquardt and Yvan Brunet for building, maintaining and installing the model as well as the supply and measurement system. The instrumentation setup was completed by David Hnatiw and he and Jax Saini ran the operations during the test program. We would also like to acknowledge the support and mentorship of Dr. Andrew Cornett for his help throughout the project.

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A. Appendix - General

The deviations (or decrease in height) from the level roadway as well as the absolute heights of the four support posts for the model roadway are found in Table A.1.

Table A.1: Deviations (or drop) from level and height of the support posts for the model roadway

2% cross slope										
slopes			drop (cm)				height (m)			
%	radian	deg	West 1	West 2	East 1	East 2	West 1	West 2	East 1	East 2
0.5	5.0E-03	0.29	4.2	6.2	-1.3	0.5	2.176	2.152	2.234	2.208
1.0	1.0E-02	0.57	7.5	11.4	2.0	5.7	2.143	2.100	2.201	2.156
2.5	2.5E-02	1.43	17.3	26.9	11.7	21.2	2.045	1.945	2.104	2.001
5.0	5.0E-02	2.86	33.5	52.7	28.0	46.9	1.883	1.687	1.941	1.744
7.5	7.5E-02	4.29	49.7	78.5	44.2	72.6	1.721	1.429	1.779	1.487
10.0	1.0E-01	5.71	65.8	104.0	60.3	98.1	1.560	1.174	1.618	1.232
4% cross slope										
slopes			drop (cm)				height (m)			
%	radian	deg	West 1	West 2	East 1	East 2	West 1	West 2	East 1	East 2
0.5	5.0E-03	0.29	5.2	7.3	-5.8	-4.1	2.166	2.141	2.279	2.254
1.0	1.0E-02	0.57	8.5	12.5	-2.6	1.1	2.133	2.089	2.247	2.202
2.5	2.5E-02	1.43	18.2	28.0	7.2	16.6	2.036	1.934	2.149	2.047
5.0	5.0E-02	2.86	34.5	53.8	23.5	42.3	1.873	1.676	1.986	1.790
7.5	7.5E-02	4.29	50.7	79.5	39.7	68.0	1.711	1.419	1.824	1.533
10.0	1.0E-01	5.71	66.8	105.1	55.8	93.5	1.550	1.163	1.663	1.278

The data from the calibration of the measurement tank is included in Table A.2. The eta values represent the three minute averages while the sigma values represent the standard deviation of the sample measurement over that period. The capacitance wire water level probes in the measurement tank (MT1 and MT2) acquired data at 100 Hz while the flow meter (FM1) acquired data at 50 Hz. MT_avg is the average value of MT1 and MT2. The pump settings (Pump_Set) include the pump pressure in PSI and if the pump is set to 6PSI the value for the valve setting in percentage is also included. For pump pressures greater the 6PSI the valve is always set to 100%.

Table A.2: Measurement tank calibration data

			eta			Sigma		
test	Pump_Set	MT_avg	FM1	MT1	MT2	FM1	MT1	MT2
		(m)	(m3/s)	(m)	(m)	(m3/s)	(m)	(m)
2021-3-1_test001	6PSI_02	0.006	0.0011	0.005	0.006	0.0001	0.000	0.000
2021-2-26_test010	6PSI_05	0.006	0.0017	0.006	0.006	0.0001	0.000	0.000
2021-2-26_test011	6PSI_10	0.008	0.0034	0.008	0.008	0.0002	0.000	0.000
2021-2-26_test024	6PSI_10	0.008	0.0028	0.008	0.008	0.0001	0.000	0.000
2021-2-26_test009	6PSI_15	0.011	0.0064	0.011	0.011	0.0003	0.000	0.000
2021-2-26_test009A	6PSI_15	0.012	0.0064	0.011	0.012	0.0004	0.000	0.000
2021-3-1_test008	6PSI_15	0.014	0.0072	0.013	0.014	0.0003	0.000	0.000
2021-4-8_test001	6PSI_20	0.014	0.0120	0.014	0.014	0.0004	0.000	0.000
2021-2-26_test008	6PSI_20	0.015	0.0107	0.015	0.015	0.0003	0.001	0.001
2021-2-26_test012	6PSI_20	0.015	0.0090	0.015	0.015	0.0003	0.000	0.001
2021-2-26_test020	6PSI_20	0.017	0.0102	0.017	0.016	0.0003	0.000	0.001
2021-2-26_test013	6PSI_30	0.024	0.0190	0.023	0.024	0.0006	0.001	0.001
2021-4-8_test002	6PSI_32	0.025	0.0261	0.025	0.025	0.0006	0.001	0.001
2021-3-1_test002	6PSI_32	0.037	0.0394	0.037	0.037	0.0010	0.000	0.000
2021-4-9_test001	6PSI_35	0.038	0.046	0.038	0.038	0.0011	0.001	0.001
2021-2-26_test019	6PSI_35	0.046	0.0535	0.047	0.046	0.0009	0.000	0.000
2021-2-26_test014	6PSI_40	0.049	0.0610	0.049	0.049	0.0013	0.000	0.000
2021-3-1_test003	6PSI_45	0.058	0.0796	0.059	0.058	0.0031	0.002	0.000
2021-2-26_test016	6PSI_45	0.058	0.0803	0.059	0.058	0.0025	0.001	0.001
2021-4-8_test003	6PSI_50	0.064	0.0938	0.063	0.065	0.0014	0.002	0.002
2021-2-26_test001	6PSI_50	0.065	0.0964	0.065	0.065	0.0030	0.002	0.001
2021-2-26_test015	6PSI_50	0.066	0.0957	0.067	0.065	0.0035	0.001	0.000
2021-2-26_test021	6PSI_55	0.075	0.115	0.075	0.074	0.0037	0.002	0.002
2021-3-1_test004	6PSI_55	0.075	0.118	0.075	0.074	0.0036	0.003	0.002
2021-2-26_test017	6PSI_60	0.080	0.127	0.081	0.078	0.0038	0.003	0.002
2021-3-1_test005	6PSI_70	0.087	0.157	0.088	0.086	0.0040	0.003	0.003
2021-2-26_test018	6PSI_80	0.090	0.162	0.092	0.088	0.0045	0.003	0.003
2021-4-8_test004	6PSI_100	0.090	0.167	0.090	0.091	0.0038	0.004	0.005
2021-4-9_test002	6PSI_100	0.092	0.170	0.091	0.092	0.0051	0.004	0.005
2021-2-26_test022	6PSI_100	0.092	0.167	0.095	0.090	0.0040	0.004	0.004
2021-2-26_test023	7PSI	0.098	0.186	0.101	0.095	0.0046	0.004	0.004
2021-3-1_test006	7PSI	0.099	0.194	0.103	0.096	0.0045	0.004	0.004
2021-4-9_test003A	8PSI	0.104	0.207	0.102	0.106	0.0048	0.006	0.008
2021-3-1_test007	8PSI	0.105	0.211	0.109	0.100	0.0048	0.005	0.005
2021-4-8_test005A	8PSI	0.105	0.209	0.102	0.107	0.0051	0.005	0.006
2021-4-8_test005	8PSI	0.105	0.208	0.103	0.108	0.0047	0.005	0.006
2021-4-9_test009	9PSI	0.112	0.225	0.108	0.115	0.0051	0.007	0.007
2021-4-9_test004	10PSI	0.116	0.244	0.114	0.118	0.0056	0.008	0.009
2021-4-9_test010	11PSI	0.124	0.259	0.121	0.127	0.0058	0.009	0.009
2021-4-9_test005	12PSI	0.127	0.272	0.127	0.128	0.0053	0.009	0.009
2021-4-9_test011	12PSI	0.129	0.272	0.127	0.131	0.0063	0.009	0.009
2021-4-9_test012	14PSI	0.139	0.298	0.136	0.142	0.0067	0.009	0.009
2021-4-9_test007	14PSI	0.141	0.300	0.143	0.139	0.0071	0.009	0.009
2021-4-9_test006	15PSI	0.146	0.312	0.146	0.145	0.0059	0.010	0.010

In Table A.3 and Table A.4 the RD6 capacitance wire gauge data is compared to the point gauge. Specifically, m and b represent the slopes and y-intercepts of the graphs of point gauge data plotted versus the RD6 three (3) minute averages similar to Figure 19. The RD_Pt_gauge (RD6) columns represents the point gauge value obtained for a RD6 value of 0.010 m or 0.100 m respectively using the corresponding m and b values. All data from covers 4, 6, 7 and 8 are included, March 18 to Apr. 29, 2021.

Table A.3: Comparison of the capacitance wire gauge and the point gauge for a 2.0% cross-slope

			RD_Pt_gauge		RD_Pt_gauge (RD6)	
cover	grade (%)	cross-slope (%)	m	b	0.010	0.100
4	0.5	2.0			0.000	0.000
4	1.0	2.0	0.93	0.002	0.011	0.095
4	2.5	2.0	0.96	-0.003	0.007	0.094
4	5.0	2.0	0.96	-0.002	0.008	0.094
4	7.5	2.0	0.97	-0.002	0.007	0.095
4	10.0	2.0	0.96	-0.003	0.007	0.093
6	0.5	2.0	0.96	-0.001	0.008	0.094
6	1.0	2.0	0.96	-0.002	0.008	0.095
6	2.5	2.0	0.98	-0.005	0.004	0.093
6	5.0	2.0	0.96	-0.002	0.008	0.094
6	7.5	2.0	0.94	-0.002	0.007	0.092
6	10.0	2.0	0.89	-0.001	0.008	0.088
7	0.5	2.0	0.96	0.001	0.011	0.097
7	1.0	2.0	0.92	0.003	0.012	0.095
7	2.5	2.0	0.98	-0.006	0.004	0.093
7	5.0	2.0	0.98	-0.003	0.006	0.095
7	7.5	2.0	0.99	-0.005	0.005	0.094
7	10.0	2.0	0.93	-0.003	0.006	0.089
8	0.5	2.0	0.98	-0.001	0.009	0.097
8	2.5	2.0	0.99	-0.007	0.003	0.092

Table A.4: Comparison of the capacitance wire gauge and the point gauge for a 4.0% cross-slope

			RD_Pt_gauge		RD_Pt_gauge (RD6)	
cover	grade (%)	cross-slope (%)	m	b	0.010	0.100
4	0.5	4.0	0.96	-0.004	0.006	0.092
4	1.0	4.0	0.94	0.001	0.010	0.095
4	2.5	4.0	0.94	-0.002	0.007	0.092
4	5.0	4.0	0.97	-0.003	0.007	0.094
4	7.5	4.0	0.99	-0.004	0.006	0.094
4	10.0	4.0	0.94	-0.004	0.006	0.090
6	0.5	4.0	0.98	-0.002	0.008	0.096
6	1.0	4.0	0.94	-0.001	0.008	0.093
6	2.5	4.0	0.95	-0.005	0.005	0.090
6	5.0	4.0	0.98	-0.006	0.004	0.092
6	7.5	4.0	0.95	-0.006	0.004	0.089
6	10.0	4.0	0.93	-0.006	0.003	0.087

Video data was acquired for each of the tests performed during this test series. In order to view the video of a specific test check the test log in the main directory of the hard drive accompanying this report. The time and date of the test can be cross referenced with the time and date of the video. All of the videos files can be found in the Video directory on the hard drive. As shown in Figure A.1 the video files have three cameras which recorded simultaneously.

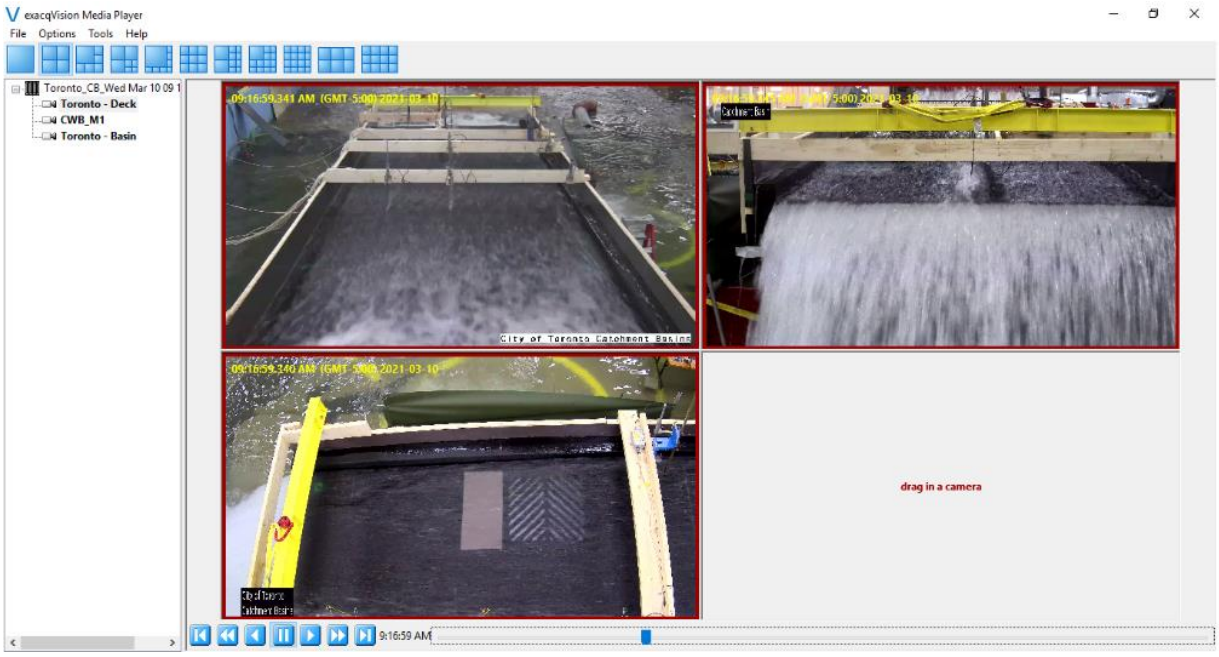

Figure A.1. Images of the catch basin videos, test 2021-3-10_test004

The example shown is Cover #3, a single square herringbone cover. The roadway is set to a grade of 10.0% and a cross-slope of 2.0%. The main pump is set to 15 PSI with the additional NRC pump at 100%. One camera is located above the head tank and is looking down the road (top left), another is located beyond the end of the roadway and is looking up at the flow down the road (top right) and the third camera in located above the catch basin covers and looking down upon them (bottom left).

B. Appendix – Measurement data tables

This appendix includes all of the summary data tables from the Data_Summary.xlsx file. The Excel file which can be found in the main directory of the hard drive accompanying this report is an alternative option to review the data. One summary table is provided for each of the catch basin curves. There are a total of 80 of these tables, one for each catch basin cover, road grade and cross-section combination. There are 12 each for the covers #1 - 6 as well as six for cover #7 and two for cover #8.

A description for the headers of the tables in this appendix are included in Table B.1. Further details on these measurements are provided in Section 2.

Table B.1: Appendix tables header descriptions

Header	Description
test	Test name
depth	Water depth upstream of the catch basin
Catchment	Catch basin capture flow rate
HT	Water level above the head tank knife edge (average of HT1 and HT2)
MT	Water level above the measurement tank knife edge (average of MT1 and MT2)
RD6	Capacitance wire water level gauge reading upstream of the catch basin
Pump_Set	Pump pressure setting in PSI and valve opening in percentage (valve set to 100 if not indicated)
D(depth)	Uncertainty on the water depth upstream of the catch basin
D(flow)	Uncertainty on the catch basin capture flow rate
man depth	Adjusted point gauge water level reading upstream of the catch basin
Adj. WD	Adjusted accoustic water level reading upstream of the catch basin
Q_fill	Measured fill rate for the measurement tank
runoff	Measured rate of water running off the end of the model roadway
eta	Three minute average values of the measurement
sigma	Standard deviation for the three minute interval of the measurement
FM1	Flow meter reading from the main pump into the head tank (Does not capture NRC or RENT)
HT	Water level above the head tank knife edge (average of HT1 and HT2)
MT	Water level above the measurement tank knife edge (average of MT1 and MT2)
HT1-2	Capacitance wire water level readings above the head tank knife edge
MT1-2	Capacitance wire water level readings above the measurement tank knife edge
RD1-6	Capacitance wire water level gauge readings
WD1	Accoustic water level reading upstream of the catch basin
spread	Width of water on the model roadway from the curb upstream of the catch basin

Erroneous data has been flagged in this section by colouring the cell in question red. For example in the low flow cases where the measurement tank was emptied and the fill rate was measured the average measurement from the measurement tank water level gauges provides no useful data and could be confusing. For this reason those cells are left blank and coloured red. In those cases the fill rate was measured using those gauges as described in section 2.2. Other examples of erroneous data may be the result of a sensor which has been knocked out of position, or that had debris tangled on the sensor.

Table B.2: Catch Basin cover #1, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-27_test001	0.069	0.034	0.08	0.034	0.073	6PSI_100	0.004	0.005	0.075	0.071			0.0922	0.08	0.034	0.081	0.081	0.034	0.034	0.071	0.051	0.063	0.073	0.0028	0.001	0.000	0.001	0.000	0.000	0.000	0.004	0.003	0.003	0.003	-0.114	0.003
2021-4-27_test002	0.098	0.064	0.26	0.064	0.102	15PSI	0.008	0.008	0.098	0.097			0.288	0.26	0.064	0.179	0.187	0.051	0.050	0.111	0.088	0.104	0.102	0.0064	0.009	0.001	0.005	0.006	0.001	0.001	0.009	0.006	0.007	0.007	-0.088	0.006
2021-4-27_test003	0.118	0.080	0.37	0.080	0.123	15PSI_RENT_NRC_100	0.011	0.010	0.119	0.118			0.287	0.37	0.080	0.223	0.235	0.059	0.058	0.130	0.111	0.126	0.123	0.0064	0.013	0.002	0.008	0.008	0.001	0.001	0.011	0.008	0.009	0.010	-0.067	0.007
2021-4-27_test004	0.111	0.074	0.33	0.074	0.116	15PSI_NRC_100	0.010	0.009		0.109			0.286	0.33	0.074	0.207	0.215	0.056	0.055	0.121	0.102	0.119	0.116	0.0059	0.011	0.002	0.007	0.006	0.001	0.001	0.010	0.008	0.008	0.009	-0.076	0.006
2021-4-27_test005	0.088	0.056	0.20	0.056	0.092	11PSI	0.008	0.007		0.085			0.224	0.20	0.056	0.152	0.157	0.047	0.046	0.099	0.076	0.093	0.092	0.0054	0.004	0.001	0.003	0.003	0.001	0.001	0.008	0.005	0.006	0.007	-0.100	0.005
2021-4-27_test006	0.078	0.047	0.14	0.047	0.082	8PSI	0.006	0.006		0.081			0.159	0.14	0.047	0.120	0.121	0.042	0.041	0.086	0.067	0.079	0.082	0.0042	0.002	0.001	0.001	0.001	0.000	0.000	0.006	0.004	0.005	0.005	-0.104	0.004
2021-4-27_test007	0.075	0.043	0.11	0.043	0.079	7PSI	0.005	0.006		0.078			0.131	0.11	0.043	0.104	0.105	0.039	0.039	0.080	0.060	0.073	0.079	0.0041	0.001	0.000	0.001	0.001	0.000	0.001	0.005	0.004	0.004	0.004	-0.107	0.003
2021-4-27_test008	0.059	0.027	0.05	0.027	0.063	6PSI_50	0.002	0.005		0.056			0.0546	0.05	0.027	0.057	0.057	0.028	0.029	0.062	0.038	0.056	0.063	0.0010	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.002	0.001	0.001	-0.129	0.002
2021-4-27_test009	0.046	0.017	0.02	0.017	0.049	6PSI_35	0.001	0.004	0.053	0.038			0.0273	0.02	0.017	0.032	0.032	0.021	0.021	0.050	0.024	0.041	0.049	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.147	0.001
2021-4-27_test010A	0.036	0.012	0.01	0.012	0.039	6PSI_25	0.001	0.003		0.035			0.0158	0.01	0.012	0.021	0.021	0.017	0.016	0.041	0.015	0.033	0.039	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.150	0.001
2021-4-27_test011A	0.025	0.00380	0.00		0.027	6PSI_15	0.001	0.00002			3.80E-03		0.0052	0.00		0.008	0.008	-0.060	-0.061	0.029	0.008	0.024	0.027	0.0002	0.000	0.000	0.000	0.000	0.029	0.029	0.000	0.000	0.000	0.000	-0.162	0.001
2021-4-27_test012A	0.021	0.00181	0.00		0.023	6PSI_10	0.001	0.00001	0.022		1.81E-03		0.0021	0.00		0.004	0.004	-0.047	-0.047	0.024	0.008	0.021	0.023	0.0001	0.000	0.000	0.000	0.000	0.022	0.022	0.000	0.000	0.000	0.000	-0.171	0.000
2021-4-27_test013	0.016	0.00085	0.00		0.018	6PSI_05	0.001	0.00001	0.017		8.48E-04		0.0008	0.00		0.002	0.002	-0.046	-0.046	0.019	0.008	0.019	0.018	0.0001	0.000	0.000	0.000	0.000	0.020	0.020	0.000	0.000	0.000	0.000	-0.176	0.000
erroneous data																																				

Table B.3: Catch Basin cover #1, Grade 1.0%, Cross slope 2.0%

Grade 1.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-28_test001	0.057	0.036	0.08	0.036	0.061	6PSI_100	0.003	0.005	0.057	0.055			0.0973	0.08	0.036	0.084	0.084	0.035	0.035	0.070	0.043	0.068	0.061	0.0029	0.001	0.000	0.001	0.000	0.000	0.000	0.003	0.002	0.002	0.002	-0.130	0.002
2021-4-28_test002	0.090	0.060	0.26	0.060	0.096	15PSI	0.008	0.007	0.091	0.090			0.289	0.26	0.060	0.179	0.188	0.049	0.048	0.106	0.075	0.097	0.096	0.0061	0.008	0.001	0.004	0.006	0.000	0.000	0.008	0.005	0.006	0.007	-0.095	0.005
2021-4-28_test003	0.109	0.075	0.37	0.075	0.116	15PSI_RENT_NRC_100	0.010	0.009	0.111	0.104			0.286	0.37	0.075	0.225	0.235	0.057	0.055	0.126	0.091	0.115	0.116	0.0067	0.014	0.001	0.008	0.008	0.001	0.001	0.011	0.006	0.007	0.009	-0.081	0.006
2021-4-28_test004	0.102	0.069	0.33	0.069	0.109	15PSI_NRC_100	0.009	0.008		0.099			0.290	0.33	0.069	0.208	0.217	0.054	0.052	0.118	0.084	0.107	0.109	0.0053	0.010	0.001	0.006	0.006	0.001	0.001	0.009	0.005	0.006	0.008	-0.086	0.005
2021-4-28_test005	0.081	0.054	0.21	0.054	0.086	11PSI	0.007	0.007		0.079			0.224	0.21	0.054	0.152	0.158	0.045	0.045	0.093	0.063	0.089	0.086	0.0052	0.005	0.000	0.003	0.003	0.000	0.000	0.007	0.004	0.006	0.006	-0.106	0.004
2021-4-28_test006	0.070	0.046	0.14	0.046	0.074	8PSI	0.005	0.006		0.070			0.161	0.14	0.046	0.121	0.123	0.041	0.041	0.081	0.052	0.080	0.074	0.0041	0.002	0.000	0.001	0.001	0.000	0.000	0.006	0.004	0.004	0.004	-0.115	0.003
2021-4-28_test007	0.065	0.042	0.12	0.042	0.069	7PSI	0.004	0.006		0.064			0.133	0.12	0.042	0.106	0.107	0.038	0.038	0.077	0.049	0.076	0.069	0.0037	0.001	0.000	0.001	0.001	0.000	0.000	0.005	0.003	0.004	0.003	-0.121	0.003
2021-4-28_test008	0.045	0.028	0.05	0.028	0.049	6PSI_50	0.001	0.005		0.043			0.0566	0.05	0.028	0.058	0.058	0.029	0.030	0.061	0.035	0.057	0.049	0.0009	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.002	0.001	0.000	-0.142	0.001
2021-4-28_test009	0.034	0.019	0.02	0.019	0.037	6PSI_35	0.001	0.004	0.037	0.034			0.0291	0.02	0.019	0.034	0.034	0.022	0.023	0.047	0.020	0.043	0.037	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.151	0.001
2021-4-28_test010	0.030	0.012	0.01	0.012	0.032	6PSI_25	0.001	0.003		0.027			0.0158	0.01	0.012	0.021	0.021	0.017	0.017	0.036	0.012	0.035	0.032	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.158	0.001
2021-4-28_test011	0.022	0.00369	0.00		0.024	6PSI_15	0.001	0.00002		0.015	3.69E-03		0.0052	0.00		0.008	0.008	-0.039	-0.039	0.027	0.008	0.023	0.024	0.0002	0.000	0.000	0.000	0.000	0.022	0.022	0.000	0.000	0.000	0.000	-0.170	0.000
2021-4-28_test012	0.019	0.00207	0.00		0.021	6PSI_10	0.001	0.00001	0.022	0.013	2.07E-03		0.0025	0.00		0.004	0.004	-0.027	-0.027	0.024	0.008	0.022	0.021	0.0001	0.000	0.000	0.000	0.000	0.014	0.014	0.000	0.000	0.000	0.000	-0.172	0.000
2021-4-28_test013	0.015	0.00084	0.00		0.017	6PSI_05	0.001	0.00001	0.016	0.008	8.37E-04		0.0008	0.00		0.002	0.002	-0.064	-0.065	0.019	0.008	0.019	0.017	0.0001	0.000	0.000	0.000	0.000	0.008	0.008	0.000	0.000	0.000	0.000	-0.177	0.000
erroneous data																																				

Table B.4: Catch Basin cover #1, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-28_test014	0.052	0.038	0.08	0.038	0.058	6PSI_100	0.003	0.005	0.051	0.052			0.0998	0.08	0.038	0.086	0.086	0.036	0.036	0.063	0.032	0.058	0.058	0.0035	0.001	0.000	0.001	0.000	0.000	0.000	0.003	0.002	0.002	0.002	-0.133	0.002
2021-4-28_test015	0.078	0.059	0.26	0.059	0.086	15PSI	0.006	0.007	0.078	0.076			0.289	0.26	0.059	0.179	0.188	0.048	0.047	0.098	0.058	0.085	0.086	0.0069	0.008	0.000	0.004	0.006	0.000	0.000	0.008	0.004	0.005	0.005	-0.109	0.004
2021-4-28_test016	0.095	0.069	0.37	0.069	0.103	15PSI_RENT_NRC_100	0.008	0.008	0.093	0.089			0.289	0.37	0.069	0.224	0.235	0.054	0.052	0.119	0.080	0.100	0.103	0.0066	0.014	0.001	0.008	0.008	0.000	0.001	0.010	0.005	0.006	0.007	-0.096	0.005
2021-4-28_test017	0.088	0.065	0.33	0.065	0.095	15PSI_NRC_100	0.007	0.008		0.083			0.287	0.33	0.065	0.207	0.217	0.052	0.051	0.110	0.072	0.094	0.095	0.0069	0.011	0.001	0.007	0.007	0.000	0.001	0.009	0.005	0.006	0.006	-0.102	0.005
2021-4-28_test018	0.069	0.053	0.21	0.053	0.076	11PSI	0.006	0.007		0.068			0.224	0.21	0.053	0.152	0.158	0.045	0.045	0.084	0.050	0.077	0.076	0.0054	0.005	0.000	0.003	0.003	0.000	0.000	0.006	0.004	0.004	0.005	-0.117	0.004
2021-4-28_test019	0.061	0.047	0.14	0.047	0.068	8PSI	0.005	0.006		0.058			0.162	0.14	0.047	0.122	0.124	0.041	0.041	0.074	0.041	0.068	0.068	0.0042	0.002	0.000	0.002	0.002	0.000	0.000	0.005	0.003	0.004	0.004	-0.127	0.003
2021-4-28_test020	0.057	0.044	0.12	0.044	0.064	7PSI	0.004	0.006		0.055			0.133	0.12	0.044	0.106	0.107	0.039	0.040	0.069	0.038	0.063	0.064	0.0042	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.130	0.003
2021-4-28_test021	0.042	0.031	0.05	0.031	0.048	6PSI_50	0.002	0.005		0.042			0.0572	0.05	0.031	0.059	0.058	0.032	0.031	0.054	0.024	0.050	0.048	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.143	0.001
2021-4-28_test022A	0.029	0.019	0.02	0.019	0.034	6PSI_35	0.001	0.004	0.030	0.028			0.0284	0.02	0.019	0.034	0.033	0.023	0.022	0.042	0.015	0.038	0.034	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.157	0.001
2021-4-28_test023	0.023	0.012	0.01	0.012	0.028	6PSI_25	0.001	0.003		0.021			0.0159	0.01	0.012	0.021	0.021	0.017	0.016	0.035	0.010	0.029	0.028	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.164	0.001
2021-4-28_test024	0.017	0.00497	0.00		0.023	6PSI_15	0.001	0.00003		0.014	4.97E-03		0.0063	0.00		0.009	0.009	-0.039	-0.040	0.026	0.010	0.023	0.023	0.0002	0.000	0.000	0.000	0.000	0.023	0.023	0.000	0.000	0.000	0.000	-0.171	0.000
2021-4-28_test025	0.015	0.00214	0.00		0.020	6PSI_10	0.001	0.00001	0.013	0.009	2.14E-03		0.0027	0.00		0.005	0.004	-0.036	-0.036	0.024	0.010	0.022	0.020	0.0001	0.000	0.000	0.000	0.000	0.020	0.020	0.000	0.000	0.000	0.000	-0.176	0.000
2021-4-28_test026	0.012	0.00093	0.00		0.017	6PSI_05	0.001	0.00001	0.009	0.005	9.33E-04		0.0009	0.00		0.002	0.002	-0.034	-0.035	0.020	0.009	0.020	0.017	0.0001	0.000	0.000	0.000	0.000	0.018	0.018	0.000	0.000	0.000	0.000	-0.180	0.000
erroneous data																																				

Table B.5: Catch Basin cover #1, Grade 5.0%, Cross slope 2.0%

Grade 5.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-29_test001	0.045	0.033	0.08	0.033	0.050	6PSI_100	0.003	0.005	0.046	0.040			0.0982	0.08	0.033	0.086	0.085	0.033	0.032	0.051	0.029	0.053	0.050	0.0028	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.002	-0.145	0.002
2021-4-29_test002	0.070	0.049	0.26	0.049	0.076	15PSI	0.006	0.006	0.070	0.065			0.287	0.26	0.049	0.179	0.188	0.043	0.042	0.082	0.052	0.078	0.076	0.0069	0.008	0.000	0.005	0.006	0.000	0.000	0.006	0.004	0.005	0.005	-0.120	0.004
2021-4-29_test003	0.084	0.059	0.37	0.059	0.091	15PSI_RENT_NRC_100	0.008	0.007	0.083	0.080			0.286	0.37	0.059	0.224	0.235	0.048	0.048	0.098	0.067	0.095	0.091	0.0070	0.014	0.001	0.008	0.008	0.000	0.001	0.008	0.005	0.006	0.007	-0.105	0.005
2021-4-29_test004	0.078	0.056	0.33	0.056	0.084	15PSI_NRC_100	0.007	0.007		0.072			0.286	0.33	0.056	0.207	0.217	0.046	0.046	0.091	0.060	0.087	0.084	0.0067	0.012	0.001	0.007	0.007	0.000	0.001	0.007	0.004	0.005	0.006	-0.113	0.004
2021-4-29_test005	0.062	0.045	0.21	0.045	0.068	11PSI	0.006	0.006		0.057			0.223	0.21	0.045	0.153	0.158	0.040	0.040	0.073	0.044	0.069	0.068	0.0061	0.005	0.000	0.003	0.003	0.000	0.000	0.006	0.003	0.004	0.005	-0.128	0.004
2021-4-29_test006	0.054	0.040	0.14	0.040	0.059	8PSI	0.004	0.005		0.049			0.160	0.14	0.040	0.122	0.123	0.037	0.037	0.063	0.036	0.062	0.059	0.0046	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.136	0.003
2021-4-29_test007	0.050	0.037	0.12	0.037	0.055	7PSI	0.004	0.005		0.045			0.133	0.12	0.037	0.106	0.107	0.035	0.036	0.059	0.033	0.058	0.055	0.0041	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.140	0.003
2021-4-29_test008	0.037	0.028	0.05	0.028	0.042	6PSI_50	0.002	0.004		0.032			0.0579	0.05	0.028	0.060	0.059	0.029	0.029	0.044	0.023	0.046	0.042	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.153	0.002
2021-4-29_test009	0.027	0.018	0.02	0.018	0.032	6PSI_35	0.001	0.004	0.029	0.022			0.0288	0.02	0.018	0.035	0.034	0.022	0.022	0.036	0.017	0.037	0.032	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.163	0.001
2021-4-29_test001B	0.046	0.034	0.09	0.034	0.051	6PSI_100	0.003	0.005	0.047	0.042			0.1043	0.09	0.034	0.090	0.090	0.033	0.033	0.053	0.030	0.054	0.051	0.0032	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.002	-0.143	0.002
2021-4-29_test010B	0.022	0.014	0.01	0.014	0.026	6PSI_25	0.001	0.003		0.018			0.0180	0.01	0.014	0.024	0.023	0.019	0.018	0.031	0.013	0.030	0.026	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.167	0.001
2021-4-29_test011B	0.016	0.00574	0.00		0.019	6PSI_15	0.001	0.00004		0.011	5.74E-03		0.0070	0.00		0.010	0.010	-0.035	-0.035	0.027	0.009	0.023	0.019	0.0002	0.000	0.000	0.000	0.000	0.023	0.022	0.000	0.000	0.000	0.000	-0.174	0.001
2021-4-29_test012B	0.013	0.00252	0.00		0.017	6PSI_10	0.001	0.00002	0.012	0.008	2.52E-03		0.0029	0.00		0.005	0.005	-0.031	-0.031	0.021	0.009	0.025	0.017	0.0001	0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000	-0.177	0.001
2021-4-29_test013B	0.009	0.00091	0.00		0.013	6PSI_05	0.002	0.00001	0.008	0.004	9.05E-04		0.0008	0.00		0.002	0.002	-0.045	-0.045	0.019	0.009	0.018	0.013	0.0001	0.000	0.000	0.000	0.000	0.011	0.011	0.000	0.000	0.000	0.001	-0.181	0.000
erroneous data																																				

Table B.6: Catch Basin cover #1, Grade 7.5%, Cross slope 2.0%

Grade 7.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-30_test001	0.042	0.030	0.09	0.030	0.047	6PSI_100	0.004	0.005	0.043	0.035			0.1077	0.09	0.030	0.091	0.092	0.031	0.030	0.048	0.029	0.050	0.047	0.0033	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.003	-0.150	0.003
2021-4-30_test002	0.061	0.042	0.27	0.042	0.068	15PSI	0.006	0.005	0.063	0.058			0.290	0.27	0.042	0.181	0.190	0.038	0.038	0.073	0.047	0.073	0.068	0.0067	0.009	0.000	0.004	0.006	0.000	0.000	0.006	0.004	0.005	0.005	-0.127	0.004
2021-4-30_test003	0.075	0.048	0.37	0.048	0.082	15PSI_RENT_NRC_100	0.007	0.006	0.076	0.068			0.289	0.37	0.048	0.225	0.235	0.042	0.042	0.089	0.062	0.085	0.082	0.0066	0.014	0.000	0.008	0.008	0.000	0.000	0.008	0.004	0.006	0.006	-0.117	0.005
2021-4-30_test004	0.069	0.045	0.33	0.045	0.076	15PSI_NRC_100	0.007	0.006		0.064			0.289	0.33	0.045	0.208	0.217	0.040	0.041	0.083	0.057	0.080	0.076	0.0070	0.012	0.000	0.007	0.006	0.000	0.000	0.007	0.004	0.005	0.006	-0.121	0.004
2021-4-30_test005	0.055	0.039	0.21	0.039	0.061	11PSI	0.005	0.005		0.050			0.225	0.21	0.039	0.155	0.160	0.036	0.037	0.066	0.041	0.066	0.061	0.0051	0.005	0.000	0.003	0.003	0.000	0.000	0.005	0.003	0.004	0.004	-0.135	0.004
2021-4-30_test006	0.048	0.035	0.15	0.035	0.054	8PSI	0.004	0.005		0.042			0.165	0.15	0.035	0.125	0.126	0.034	0.034	0.057	0.035	0.058	0.054	0.0049	0.002	0.000	0.001	0.002	0.000	0.000	0.004	0.003	0.003	0.003	-0.143	0.003
2021-4-30_test007	0.045	0.033	0.12	0.033	0.051	7PSI	0.004	0.005		0.039			0.138	0.12	0.033	0.110	0.111	0.032	0.033	0.053	0.032	0.055	0.051	0.0040	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.146	0.003
2021-4-30_test008	0.036	0.026	0.05	0.026	0.041	6PSI_50	0.002	0.004		0.028			0.0616	0.05	0.026	0.062	0.062	0.027	0.028	0.041	0.024	0.043	0.041	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.157	0.002
2021-4-30_test009B	0.027	0.018	0.02	0.018	0.032	6PSI_35	0.001	0.004	0.029	0.021			0.0324	0.02	0.018	0.038	0.038	0.022	0.022	0.035	0.020	0.037	0.032	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	-0.164	0.001
2021-4-30_test010	0.022	0.012	0.01	0.012	0.027	6PSI_25	0.001	0.003		0.015			0.0177	0.01	0.012	0.023	0.023	0.016	0.017	0.029	0.015	0.030	0.027	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.170	0.001
2021-4-30_test011	0.014	0.00523	0.00		0.019	6PSI_15	0.001	0.00003		0.009	5.23E-03		0.0066	0.00		0.010	0.010	-0.051	-0.050	0.029	0.010	0.023	0.019	0.0002	0.000	0.000	0.000	0.000	0.032	0.031	0.001	0.000	0.000	0.000	-0.176	0.001
2021-4-30_test012	0.014	0.00265	0.00		0.018	6PSI_10	0.001	0.00002	0.011	0.006	2.65E-03		0.0031	0.00		0.005	0.005	-0.042	-0.042	0.018	0.010	0.027	0.018	0.0001	0.000	0.000	0.000	0.000	0.023	0.023	0.000	0.000	0.001	0.000	-0.179	0.001
2021-4-30_test013	0.006	0.00086	0.00		0.011	6PSI_05	0.001	0.00001	0.008	0.003	8.65E-04		0.0008	0.00		0.002	0.002	-0.021	-0.021	0.018	0.010	0.013	0.011	0.0001	0.000	0.000	0.000	0.000	0.011	0.011	0.000	0.000	0.000	0.000	-0.182	0.001
erroneous data																																				

Table B.7: Catch Basin cover #1, Grade 10.0%, Cross slope 2.0%

Grade 10.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-30_test014	0.038	0.029	0.09	0.029	0.045	6PSI_100	0.004	0.004	0.038	0.031			0.1063	0.09	0.029	0.090	0.090	0.030	0.030	0.043	0.029	0.047	0.045	0.0033	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.003	0.003	-0.154	0.003
2021-4-30_test015	0.059	0.040	0.27	0.040	0.067	15PSI	0.006	0.005	0.059	0.052			0.290	0.27	0.040	0.180	0.189	0.037	0.037	0.067	0.046	0.069	0.067	0.0055	0.009	0.000	0.005	0.006	0.000	0.000	0.005	0.004	0.005	0.005	-0.133	0.006
2021-4-30_test016	0.070	0.045	0.37	0.045	0.079	15PSI_RENT_NRC_100	0.007	0.006	0.070	0.064			0.289	0.37	0.045	0.225	0.235	0.041	0.040	0.082	0.061	0.080	0.079	0.0070	0.014	0.000	0.008	0.008	0.000	0.000	0.007	0.004	0.006	0.006	-0.121	0.006
2021-4-30_test017	0.066	0.043	0.33	0.043	0.075	15PSI_NRC_100	0.006	0.006		0.058			0.288	0.33	0.043	0.210	0.217	0.040	0.038	0.076	0.055	0.075	0.075	0.0064	0.013	0.000	0.007	0.007	0.000	0.000	0.006	0.004	0.005	0.005	-0.127	0.005
2021-4-30_test018	0.053	0.037	0.21	0.037	0.061	11PSI	0.005	0.005		0.045			0.227	0.21	0.037	0.155	0.160	0.036	0.035	0.060	0.040	0.062	0.061	0.0059	0.005	0.000	0.003	0.003	0.000	0.000	0.005	0.003	0.004	0.004	-0.140	0.005
2021-4-30_test019	0.046	0.034	0.15	0.034	0.053	8PSI	0.005	0.005		0.039			0.164	0.15	0.034	0.124	0.125	0.034	0.033	0.052	0.034	0.055	0.053	0.0048	0.002	0.000	0.001	0.002	0.000	0.000	0.004	0.003	0.004	0.004	-0.146	0.005
2021-4-30_test020	0.042	0.032	0.12	0.032	0.050	7PSI	0.004	0.005		0.035			0.138	0.12	0.032	0.110	0.111	0.032	0.032	0.048	0.032	0.051	0.050	0.0046	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.150	0.004
2021-4-30_test021	0.032	0.025	0.05	0.025	0.038	6PSI_50	0.002	0.004		0.024			0.0615	0.05	0.025	0.062	0.062	0.028	0.027	0.037	0.024	0.039	0.038	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.161	0.002
2021-4-30_test022	0.026	0.018	0.02	0.018	0.032	6PSI_35	0.002	0.004	0.026	0.017			0.0325	0.02	0.018	0.038	0.038	0.022	0.022	0.032	0.022	0.033	0.032	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	-0.168	0.002
2021-4-30_test023	0.020	0.012	0.01	0.012	0.026	6PSI_25	0.001	0.003		0.013			0.0171	0.01	0.012	0.023	0.023	0.017	0.016	0.030	0.015	0.028	0.026	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	-0.172	0.001
2021-4-30_test024	0.014	0.00479	0.00		0.019	6PSI_15	0.001	0.00003	0.013	0.007	4.79E-03		0.0064	0.00		0.010	0.009	-0.051	-0.052	0.022	0.010	0.026	0.019	0.0002	0.000	0.000	0.000	0.000	0.028	0.028	0.000	0.000	0.000	0.000	-0.178	0.001
2021-4-30_test025	0.012	0.00238	0.00		0.017	6PSI_10	0.001	0.00001	0.009	0.004	2.38E-03		0.0029	0.00		0.005	0.005	-0.040	-0.040	0.018	0.009	0.022	0.017	0.0001	0.000	0.000	0.000	0.000	0.023	0.023	0.000	0.000	0.000	0.000	-0.181	0.000
2021-4-30_test026	0.005	0.00072	0.00		0.009	6PSI_05	0.001	0.00000	0.006	0.003	7.18E-04		0.0008	0.00		0.002	0.002	-0.033	-0.033	0.018	0.009	0.018	0.009	0.0001	0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000	-0.182	0.000
erroneous data																																				

Table B.8: Catch Basin cover #1, Grade 0.5%, Cross slope 4.0%

Grade 0.5%, Cross-slope 4.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-5_test014	0.091	0.042	0.09	0.042	0.096	6PSI_100	0.004	0.006	0.095	0.085			0.102	0.09	0.042	0.088	0.087	0.039	0.038	0.098	0.053	0.089	0.096	0.0037	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.005	0.003	0.003	-0.100	0.003
2021-5-5_test015	0.125	0.069	0.27	0.069	0.130	15PSI	0.008	0.010	0.134	0.118			0.290	0.27	0.069	0.181	0.189	0.054	0.052	0.138	0.087	0.130	0.130	0.0056	0.008	0.002	0.005	0.006	0.001	0.001	0.008	0.007	0.006	0.007	-0.067	0.005
2021-5-5_test016	0.145	0.082	0.37	0.082	0.152	15PSI_RENT_NRC_100	0.009	0.012	0.157	0.136			0.288	0.37	0.082	0.225	0.235	0.061	0.058	0.160	0.115	0.152	0.152	0.0080	0.014	0.003	0.008	0.008	0.002	0.002	0.009	0.009	0.007	0.008	-0.049	0.006
2021-5-5_test017	0.138	0.077	0.33	0.077	0.145	15PSI_NRC_100	0.008	0.011		0.129			0.289	0.33	0.077	0.209	0.218	0.058	0.056	0.151	0.105	0.143	0.145	0.0074	0.012	0.003	0.007	0.007	0.002	0.002	0.008	0.008	0.007	0.007	-0.056	0.006
2021-5-5_test018	0.115	0.061	0.21	0.061	0.120	15PSI_NRC_100	0.007	0.009		0.107			0.225	0.21	0.061	0.154	0.159	0.050	0.048	0.126	0.077	0.118	0.120	0.0056	0.004	0.002	0.003	0.003	0.001	0.001	0.008	0.006	0.005	0.006	-0.078	0.005
2021-5-5_test019	0.103	0.053	0.15	0.053	0.108	8PSI	0.006	0.008		0.099			0.161	0.15	0.053	0.123	0.125	0.046	0.044	0.113	0.067	0.105	0.108	0.0051	0.002	0.001	0.001	0.002	0.001	0.001	0.007	0.006	0.005	0.005	-0.086	0.004
2021-5-5_test020	0.098	0.049	0.12	0.049	0.103	7PSI	0.005	0.007		0.097			0.134	0.12	0.049	0.107	0.108	0.044	0.042	0.107	0.057	0.098	0.103	0.0039	0.001	0.001	0.001	0.001	0.001	0.001	0.006	0.005	0.004	0.004	-0.088	0.003
2021-5-5_test021	0.074	0.033	0.05	0.033	0.078	6PSI_50	0.003	0.005		0.075			0.0596	0.05	0.033	0.061	0.061	0.033	0.032	0.086	0.038	0.079	0.078	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.002	-0.110	0.002
2021-5-5_test022	0.061	0.021	0.02	0.021	0.064	6PSI_35	0.002	0.004	0.063	0.057			0.0308	0.02	0.021	0.036	0.036	0.025	0.024	0.067	0.015	0.059	0.064	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	-0.128	0.002
2021-5-5_test023	0.046	0.013	0.01	0.013	0.050	6PSI_25	0.002	0.003		0.030			0.0168	0.01	0.013	0.022	0.022	0.018	0.017	0.053	0.009	0.044	0.050	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	-0.155	0.001
2021-5-5_test024	0.032	0.00450	0.00	0.013	0.034	6PSI_15	0.001	0.00003		0.021	4.50E-03		0.0056	0.00	0.013	0.009	0.009	-0.052	-0.054	0.037	0.008	0.028	0.034	0.0002	0.000	0.000	0.000	0.000	0.033	0.033	0.000	0.000	0.000	0.000	-0.164	0.001
2021-5-5_test025	0.027	0.00229	0.00	0.013	0.029	6PSI_10	0.001	0.00001	0.028	0.014	2.29E-03		0.0027	0.00	0.013	0.005	0.005	-0.047	-0.048	0.031	0.008	0.024	0.029	0.0001	0.000	0.000	0.000	0.000	0.026	0.027	0.000	0.000	0.000	0.000	-0.171	0.000
2021-5-5_test026	0.020	0.00086	0.00	0.013	0.022	6PSI_05	0.001	0.00001	0.019	0.007	8.58E-04		0.0008	0.00	0.013	0.002	0.002	-0.037	-0.038	0.025	0.008	0.022	0.022	0.0001	0.000	0.000	0.000	0.000	0.021	0.022	0.000	0.000	0.000	0.000	-0.178	0.000
erroneous data																																				

Table B.9: Catch Basin cover #1, Grade 1.0%, Cross slope 4.0%

Grade 1.0%, Cross-slope 4.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-5_test001C	0.073	0.042	0.09	0.042	0.078	6PSI_100	0.003	0.006	0.074	0.064			0.101	0.09	0.042	0.088	0.088	0.038	0.038	0.101	0.039	0.090	0.078	0.0033	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.002	0.002	-0.121	0.002
2021-5-5_test002C	0.117	0.067	0.27	0.067	0.125	15PSI	0.007	0.009	0.125	0.110			0.286	0.27	0.067	0.180	0.190	0.053	0.051	0.137	0.078	0.130	0.125	0.0068	0.009	0.001	0.005	0.006	0.001	0.001	0.008	0.006	0.006	0.006	-0.075	0.005
2021-5-5_test003C	0.135	0.079	0.37	0.079	0.144	15PSI_RENT_NRC_100	0.009	0.010	0.142	0.128			0.285	0.37	0.079	0.225	0.235	0.059	0.057	0.156	0.097	0.144	0.144	0.0055	0.014	0.002	0.008	0.008	0.001	0.001	0.009	0.007	0.007	0.008	-0.057	0.006
2021-5-5_test004C	0.127	0.075	0.33	0.075	0.135	15PSI_NRC_100	0.008	0.010		0.121			0.286	0.33	0.075	0.208	0.218	0.057	0.055	0.148	0.089	0.137	0.135	0.0060	0.012	0.002	0.007	0.007	0.001	0.001	0.009	0.006	0.006	0.007	-0.064	0.006
2021-5-5_test005C	0.107	0.061	0.21	0.061	0.114	11PSI	0.007	0.008		0.100			0.225	0.21	0.061	0.154	0.159	0.050	0.048	0.127	0.069	0.119	0.114	0.0063	0.004	0.001	0.003	0.003	0.001	0.001	0.008	0.006	0.005	0.006	-0.085	0.004
2021-5-5_test006C	0.094	0.052	0.15	0.052	0.100	8PSI	0.005	0.007		0.087			0.161	0.15	0.052	0.123	0.125	0.045	0.044	0.113	0.062	0.107	0.100	0.0052	0.002	0.001	0.001	0.001	0.000	0.001	0.006	0.005	0.004	0.004	-0.098	0.003
2021-5-5_test007C	0.085	0.047	0.12	0.047	0.091	7PSI	0.004	0.006		0.076			0.134	0.12	0.047	0.108	0.108	0.042	0.042	0.109	0.054	0.100	0.091	0.0042	0.002	0.000	0.001	0.001	0.000	0.000	0.005	0.005	0.003	0.003	-0.109	0.003
2021-5-5_test008C	0.059	0.034	0.05	0.034	0.063	6PSI_50	0.002	0.005		0.056			0.0573	0.05	0.034	0.060	0.059	0.033	0.033	0.085	0.020	0.073	0.063	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001	-0.129	0.001
2021-5-5_test009C	0.046	0.022	0.02	0.022	0.050	6PSI_35	0.001	0.004	0.049	0.040			0.0306	0.02	0.022	0.036	0.036	0.025	0.025	0.063	0.011	0.058	0.050	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	-0.145	0.001
2021-5-5_test010C	0.038	0.014	0.01	0.014	0.041	6PSI_25	0.001	0.003		0.028			0.0169	0.01	0.014	0.023	0.022	0.019	0.018	0.053	0.008	0.047	0.041	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	-0.157	0.001
2021-5-5_test011C	0.025	0.00431	0.00		0.027	6PSI_15	0.001	0.00003		0.016	4.31E-03		0.0058	0.00		0.009	0.009	-0.059	-0.060	0.036	0.008	0.033	0.027	0.0002	0.000	0.000	0.000	0.000	0.035	0.036	0.000	0.000	0.000	0.000	-0.169	0.000
2021-5-5_test012C	0.021	0.00223	0.00		0.023	6PSI_10	0.001	0.00001		0.010	2.23E-03		0.0027	0.00		0.005	0.005	-0.054	-0.055	0.028	0.008	0.025	0.023	0.0001	0.000	0.000	0.000	0.000	0.031	0.032	0.000	0.000	0.000	0.000	-0.175	0.000
2021-5-5_test013C	0.016	0.00089	0.00		0.018	6PSI_05	0.001	0.00001	0.016	0.004	8.89E-04		0.0010	0.00		0.003	0.002	-0.020	-0.020	0.023	0.008	0.023	0.018	0.0001	0.000	0.000	0.000	0.000	0.011	0.013	0.000	0.000	0.000	0.000	-0.181	0.000

Table B.10: Catch Basin cover #1, Grade 2.5%, Cross slope 4.0%

Grade 2.5%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-4_test014A	0.071	0.042	0.08	0.042	0.078	6PSI_100	0.002	0.006	0.069	0.062			0.0985	0.08	0.042	0.086	0.086	0.038	0.038	0.090	0.027	0.084	0.078	0.0032	0.001	0.000	0.001	0.000	0.000	0.000	0.003	0.002	0.002	0.001	-0.123	0.002
2021-5-4_test015B	0.105	0.069	0.27	0.069	0.113	15PSI	0.007	0.009	0.108	0.099			0.287	0.27	0.069	0.180	0.188	0.054	0.052	0.121	0.053	0.114	0.113	0.0071	0.008	0.001	0.004	0.006	0.001	0.001	0.007	0.004	0.005	0.006	-0.086	0.005
2021-5-4_test016	0.120	0.078	0.37	0.078	0.129	15PSI_RENT_NRC_100	0.008	0.010		0.115			0.286	0.37	0.078	0.225	0.236	0.059	0.056	0.142	0.074	0.128	0.129	0.0067	0.014	0.002	0.008	0.008	0.001	0.001	0.009	0.006	0.006	0.007	-0.070	0.006
2021-5-4_test017	0.114	0.075	0.33	0.075	0.123	15PSI_NRC_100	0.007	0.009	0.116	0.108			0.286	0.33	0.075	0.208	0.217	0.057	0.055	0.133	0.066	0.121	0.123	0.0060	0.011	0.001	0.007	0.007	0.001	0.001	0.008	0.005	0.006	0.006	-0.077	0.005
2021-5-4_test018	0.097	0.064	0.21	0.064	0.105	15PSI_NRC_100	0.006	0.008		0.090			0.222	0.21	0.064	0.154	0.159	0.051	0.050	0.111	0.045	0.105	0.105	0.0056	0.004	0.001	0.003	0.003	0.001	0.001	0.007	0.003	0.005	0.005	-0.095	0.004
2021-5-4_test019	0.088	0.056	0.14	0.056	0.096	8PSI	0.005	0.007		0.080			0.159	0.14	0.056	0.122	0.124	0.047	0.046	0.101	0.037	0.095	0.096	0.0042	0.002	0.001	0.001	0.001	0.000	0.000	0.005	0.003	0.004	0.004	-0.105	0.003
2021-5-4_test020	0.083	0.050	0.12	0.050	0.090	7PSI	0.004	0.006		0.072			0.132	0.12	0.050	0.106	0.107	0.044	0.043	0.097	0.033	0.092	0.090	0.0040	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.002	0.003	0.003	-0.113	0.003
2021-5-4_test021	0.049	0.032	0.05	0.032	0.055	6PSI_50	0.002	0.005		0.040			0.0570	0.05	0.032	0.059	0.059	0.032	0.032	0.081	0.017	0.066	0.055	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	-0.145	0.001
2021-5-4_test022A	0.036	0.022	0.02	0.022	0.042	6PSI_35	0.001	0.004	0.036	0.029			0.0294	0.02	0.022	0.035	0.035	0.025	0.025	0.058	0.010	0.043	0.042	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.156	0.001
2021-5-4_test023	0.031	0.014	0.01	0.014	0.036	6PSI_25	0.001	0.003		0.023			0.0170	0.01	0.014	0.023	0.023	0.019	0.019	0.044	0.010	0.037	0.036	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.162	0.001
2021-5-4_test024	0.021	0.00479	0.00		0.027	6PSI_15	0.001	0.00003		0.012	4.79E-03		0.0059	0.00		0.009	0.009	-0.052	-0.052	0.031	0.010	0.027	0.027	0.0002	0.000	0.000	0.000	0.000	0.033	0.033	0.000	0.000	0.000	0.000	-0.173	0.000
2021-5-4_test025	0.015	0.00212	0.00		0.020	6PSI_10	0.001	0.00001	0.014	0.005	2.12E-03		0.0027	0.00		0.005	0.005	-0.024	-0.023	0.027	0.010	0.024	0.020	0.0001	0.000	0.000	0.000	0.000	0.015	0.016	0.000	0.000	0.000	0.000	-0.180	0.000
2021-5-4_test026	0.011	0.00079	0.00		0.016	6PSI_05	0.001	0.00000	0.009		7.86E-04		0.0007	0.00		0.002	0.002	-0.039	-0.038	0.025	0.010	0.022	0.016	0.0001	0.000	0.000	0.000	0.000	0.022	0.023	0.000	0.000	0.000	0.000	-0.185	0.000
erroneous data																																				

Table B.11: Catch Basin cover #1, Grade 5.0%, Cross slope 4.0%

Grade 5.0%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-4_test001C	0.072	0.041	0.09	0.041	0.078	6PSI_100	0.003	0.005	0.070	0.055			0.0997	0.09	0.041	0.086	0.086	0.038	0.038	0.075	0.026	0.077	0.078	0.0035	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.002	0.002	-0.130	0.002
2021-5-4_test002	0.097	0.062	0.26	0.062	0.104	15PSI	0.007	0.008	0.101	0.088			0.286	0.26	0.062	0.179	0.188	0.050	0.050	0.103	0.050	0.105	0.104	0.0065	0.008	0.001	0.004	0.005	0.000	0.001	0.006	0.004	0.005	0.006	-0.097	0.005
2021-5-4_test003	0.112	0.070	0.37	0.070	0.119	15PSI_RENT_NRC_100	0.008	0.008	0.115	0.103			0.286	0.37	0.070	0.224	0.234	0.054	0.053	0.117	0.066	0.120	0.119	0.0066	0.014	0.001	0.008	0.008	0.000	0.001	0.008	0.004	0.007	0.007	-0.082	0.005
2021-5-4_test004	0.106	0.067	0.33	0.067	0.113	15PSI_NRC_100	0.007	0.008		0.096			0.287	0.33	0.067	0.207	0.217	0.052	0.052	0.112	0.060	0.112	0.113	0.0067	0.011	0.001	0.007	0.006	0.000	0.001	0.007	0.004	0.006	0.006	-0.089	0.005
2021-5-4_test005	0.090	0.058	0.21	0.058	0.096	11PSI	0.006	0.007		0.079			0.224	0.21	0.058	0.154	0.158	0.048	0.047	0.094	0.042	0.096	0.096	0.0052	0.004	0.001	0.003	0.003	0.000	0.001	0.006	0.003	0.005	0.005	-0.106	0.004
2021-5-4_test006	0.082	0.052	0.15	0.052	0.088	8PSI	0.005	0.006		0.070			0.161	0.15	0.052	0.122	0.124	0.045	0.044	0.086	0.034	0.087	0.088	0.0049	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.004	0.004	-0.115	0.003
2021-5-4_test007	0.078	0.049	0.12	0.049	0.084	7PSI	0.004	0.006		0.064			0.133	0.12	0.049	0.107	0.108	0.043	0.042	0.082	0.031	0.083	0.084	0.0041	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.002	0.003	0.003	-0.121	0.003
2021-5-4_test008A	0.056	0.032	0.05	0.032	0.062	6PSI_50	0.002	0.005		0.037			0.0575	0.05	0.032	0.060	0.059	0.032	0.032	0.071	0.020	0.066	0.062	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	-0.148	0.001
2021-5-4_test009	0.037	0.020	0.02	0.020	0.042	6PSI_35	0.002	0.004	0.035	0.021			0.0297	0.02	0.020	0.035	0.035	0.024	0.023	0.057	0.010	0.046	0.042	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	-0.164	0.001
2021-5-4_test010	0.028	0.013	0.01	0.013	0.032	6PSI_25	0.001	0.003		0.015			0.0161	0.01	0.013	0.022	0.022	0.017	0.017	0.043	0.010	0.037	0.032	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.170	0.001
2021-5-4_test011	0.021	0.00449	0.00		0.025	6PSI_15	0.001	0.00003		0.007	4.49E-03		0.0056	0.00		0.009	0.009	-0.040	-0.040	0.029	0.010	0.026	0.025	0.0002	0.000	0.000	0.000	0.000	0.025	0.026	0.000	0.000	0.000	0.000	-0.178	0.001
2021-5-4_test012	0.015	0.00168	0.00		0.019	6PSI_10	0.001	0.00001	0.012	0.003	1.68E-03		0.0025	0.00		0.005	0.005	-0.031	-0.030	0.028	0.010	0.024	0.019	0.0001	0.000	0.000	0.000	0.000	0.018	0.019	0.000	0.000	0.000	0.000	-0.182	0.000
2021-5-4_test013	0.012	0.00079	0.00		0.016	6PSI_05	0.001	0.00000	0.008		7.85E-04		0.0007	0.00		0.002	0.002	-0.048	-0.048	0.021	0.010	0.019	0.016	0.0001	0.000	0.000	0.000	0.000	0.016	0.016	0.000	0.000	0.001	0.000	-0.185	0.000
erroneous data																																				

Table B.12: Catch Basin cover #1, Grade 7.5%, Cross slope 4.0%

Grade 7.5%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-3_test014	0.062	0.038	0.08	0.038	0.069	6PSI_100	0.004	0.005	0.061	0.049			0.0960	0.08	0.038	0.084	0.084	0.036	0.036	0.063	0.026	0.070	0.069	0.0031	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.001	0.002	0.003	-0.136	0.003
2021-5-3_test015	0.089	0.055	0.26	0.055	0.097	15PSI	0.007	0.007	0.092	0.073			0.286	0.26	0.055	0.179	0.188	0.046	0.046	0.096	0.046	0.093	0.097	0.0055	0.008	0.000	0.005	0.006	0.000	0.000	0.006	0.004	0.005	0.006	-0.112	0.005
2021-5-3_test016A	0.104	0.063	0.37	0.063	0.112	15PSI_RENT_NRC_100	0.008	0.008	0.107	0.084			0.285	0.37	0.063	0.224	0.235	0.050	0.050	0.113	0.061	0.107	0.112	0.0059	0.014	0.001	0.009	0.008	0.000	0.001	0.008	0.004	0.006	0.007	-0.101	0.005
2021-5-3_test017	0.097	0.059	0.33	0.059	0.105	15PSI_NRC_100	0.007	0.007		0.079			0.285	0.33	0.059	0.208	0.216	0.048	0.048	0.106	0.055	0.102	0.105	0.0065	0.012	0.001	0.007	0.007	0.000	0.001	0.007	0.004	0.005	0.006	-0.106	0.005
2021-5-3_test018	0.081	0.051	0.20	0.051	0.088	11PSI	0.006	0.006		0.066			0.221	0.20	0.051	0.153	0.157	0.044	0.044	0.085	0.039	0.087	0.088	0.0059	0.004	0.000	0.003	0.003	0.000	0.000	0.005	0.003	0.004	0.005	-0.119	0.004
2021-5-3_test019	0.072	0.046	0.14	0.046	0.079	8PSI	0.005	0.006		0.060			0.158	0.14	0.046	0.121	0.122	0.041	0.040	0.076	0.032	0.079	0.079	0.0043	0.002	0.000	0.002	0.002	0.000	0.000	0.004	0.002	0.004	0.004	-0.125	0.004
2021-5-3_test020A	0.068	0.043	0.12	0.043	0.075	7PSI	0.004	0.006		0.056			0.130	0.12	0.043	0.105	0.106	0.039	0.039	0.072	0.030	0.076	0.075	0.0037	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.002	0.003	0.003	-0.129	0.004
2021-5-3_test021	0.052	0.030	0.05	0.030	0.058	6PSI_50	0.002	0.005		0.037			0.0565	0.05	0.030	0.059	0.058	0.031	0.031	0.059	0.022	0.061	0.058	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.001	-0.148	0.002
2021-5-3_test022	0.036	0.020	0.02	0.020	0.042	6PSI_35	0.002	0.004	0.035	0.021			0.0288	0.02	0.020	0.034	0.034	0.023	0.023	0.052	0.010	0.046	0.042	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	-0.164	0.001
2021-5-3_test023	0.027	0.012	0.01	0.012	0.033	6PSI_25	0.001	0.003		0.013			0.0153	0.01	0.012	0.021	0.021	0.017	0.017	0.041	0.009	0.037	0.033	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.172	0.001
2021-5-3_test024	0.016	0.00427	0.00		0.021	6PSI_15	0.001	0.00003		0.005	4.27E-03		0.0057	0.00		0.009	0.008	-0.042	-0.042	0.029	0.009	0.025	0.021	0.0002	0.000	0.000	0.000	0.000	0.025	0.025	0.000	0.000	0.000	0.000	-0.180	0.001
2021-5-3_test025	0.015	0.00225	0.00		0.019	6PSI_10	0.001	0.00001	0.012	0.001	2.25E-03		0.0028	0.00		0.005	0.005	-0.034	-0.033	0.031	0.009	0.025	0.019	0.0001	0.000	0.000	0.000	0.000	0.019	0.020	0.000	0.000	0.000	0.000	-0.184	0.000
2021-5-3_test026	0.011	0.00084	0.00		0.015	6PSI_05	0.001	0.00001	0.007	0.001	8.45E-04		0.0008	0.00		0.002	0.002	-0.017	-0.015	0.019	0.008	0.017	0.015	0.0001	0.000	0.000	0.000	0.000	0.010	0.011	0.000	0.000	0.000	0.000	-0.184	0.000
erroneous data																																				

Table B.13: Catch Basin cover #1, Grade 10.0%, Cross slope 4.0%

Grade 10.0%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-3_test001	0.056	0.033	0.08	0.033	0.065	6PSI_100	0.004	0.005	0.056	0.043			0.0956	0.08	0.033	0.083	0.083	0.034	0.032	0.055	0.027	0.064	0.065	0.0029	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.003	0.003	-0.142	0.004
2021-5-3_test002	0.082	0.049	0.26	0.049	0.092	15PSI	0.006	0.006	0.084	0.069			0.287	0.26	0.049	0.179	0.188	0.043	0.042	0.086	0.045	0.090	0.092	0.0061	0.009	0.000	0.005	0.006	0.000	0.000	0.006	0.003	0.005	0.005	-0.116	0.006
2021-5-3_test003	0.093	0.055	0.37	0.055	0.105	15PSI_RENT_NRC_100	0.007	0.007	0.096	0.081			0.285	0.37	0.055	0.224	0.235	0.046	0.046	0.102	0.059	0.101	0.105	0.0068	0.013	0.000	0.008	0.007	0.000	0.000	0.008	0.004	0.006	0.006	-0.104	0.006
2021-5-3_test004	0.089	0.053	0.33	0.053	0.100	15PSI_NRC_100	0.007	0.006		0.075			0.285	0.33	0.053	0.208	0.216	0.045	0.045	0.096	0.054	0.096	0.100	0.0062	0.011	0.000	0.006	0.007	0.000	0.000	0.006	0.004	0.005	0.006	-0.110	0.006
2021-5-3_test005	0.074	0.046	0.20	0.046	0.083	11PSI	0.006	0.006		0.062			0.222	0.20	0.046	0.152	0.157	0.041	0.040	0.077	0.039	0.082	0.083	0.0057	0.004	0.000	0.003	0.003	0.000	0.000	0.005	0.003	0.005	0.005	-0.123	0.006
2021-5-3_test006	0.065	0.041	0.14	0.041	0.074	8PSI	0.005	0.005		0.054			0.160	0.14	0.041	0.121	0.123	0.038	0.037	0.069	0.032	0.074	0.074	0.0048	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.002	0.004	0.004	-0.131	0.004
2021-5-3_test007	0.062	0.038	0.12	0.038	0.070	7PSI	0.004	0.005		0.050			0.130	0.12	0.038	0.105	0.106	0.037	0.036	0.064	0.030	0.070	0.070	0.0037	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.135	0.005
2021-5-3_test008	0.047	0.028	0.05	0.028	0.055	6PSI_50	0.003	0.004		0.033			0.0555	0.05	0.028	0.058	0.058	0.029	0.029	0.052	0.022	0.057	0.055	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.002	-0.152	0.004
2021-5-3_test009A	0.035	0.018	0.02	0.018	0.041	6PSI_35	0.002	0.004	0.033	0.020			0.0284	0.02	0.018	0.034	0.034	0.022	0.021	0.045	0.012	0.045	0.041	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.165	0.002
2021-5-3_test010	0.027	0.011	0.01	0.011	0.033	6PSI_25	0.001	0.003		0.013			0.0158	0.01	0.011	0.021	0.021	0.016	0.015	0.037	0.009	0.037	0.033	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.172	0.001
2021-5-3_test011	0.018	0.00436	0.00		0.024	6PSI_15	0.001	0.00003		0.004	4.36E-03		0.0057	0.00		0.009	0.009	-0.045	-0.046	0.030	0.009	0.027	0.024	0.0002	0.000	0.000	0.000	0.000	0.025	0.025	0.000	0.000	0.000	0.000	-0.181	0.001
2021-5-3_test012	0.014	0.00207	0.00		0.019	6PSI_10	0.001	0.00001	0.011	0.001	2.07E-03		0.0025	0.00		0.005	0.005	-0.032	-0.031	0.029	0.009	0.026	0.019	0.0001	0.000	0.000	0.000	0.000	0.019	0.021	0.001	0.000	0.001	0.000	-0.184	0.000
2021-5-3_test013	0.010	0.00075	0.00		0.015	6PSI_05	0.002	0.00000	0.007	0.001	7.55E-04		0.0007	0.00		0.002	0.002	-0.034	-0.034	0.018	0.009	0.017	0.015	0.0001	0.000	0.000	0.000	0.000	0.019	0.020	0.000	0.000	0.000	0.001	-0.184	0.000
erroneous data																																				

Table B.14: Catch Basin cover #2, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-14_test001	0.070	0.043	0.08	0.043	0.074	6PSI_100	0.004	0.006	0.074	0.076			0.094	0.08	0.043	0.083	0.083	0.039	0.039	0.074	0.062	0.065	0.074	0.0027	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.113	0.003
2021-5-14_test002	0.098	0.100	0.26	0.100	0.102	15PSI	0.008	0.015	0.104	0.102			0.286	0.26	0.100	0.178	0.188	0.068	0.066	0.113	0.088	0.105	0.102	0.0076	0.008	0.004	0.004	0.006	0.003	0.002	0.009	0.006	0.007	0.007	-0.087	0.005
2021-5-14_test003	0.119	0.127	0.37	0.127	0.125	15PSI_RENT_NRC_100	0.011	0.019	0.123	0.122			0.286	0.37	0.127	0.224	0.235	0.079	0.076	0.133	0.113	0.128	0.125	0.0066	0.014	0.007	0.008	0.008	0.004	0.003	0.011	0.009	0.009	0.010	-0.067	0.007
2021-5-14_test004	0.112	0.118	0.33	0.118	0.117	15PSI_NRC_100	0.009	0.018		0.113			0.285	0.33	0.118	0.208	0.217	0.076	0.073	0.124	0.104	0.122	0.117	0.0066	0.012	0.006	0.007	0.007	0.003	0.003	0.010	0.008	0.008	0.008	-0.076	0.006
2021-5-14_test005	0.090	0.085	0.20	0.085	0.094	11PSI_NRC	0.007	0.012		0.092			0.222	0.20	0.085	0.152	0.158	0.061	0.060	0.101	0.076	0.094	0.094	0.0055	0.005	0.003	0.003	0.003	0.002	0.002	0.008	0.005	0.006	0.006	-0.097	0.005
2021-5-14_test006	0.081	0.064	0.14	0.064	0.085	8PSI_NRC	0.006	0.009		0.089			0.157	0.14	0.064	0.120	0.121	0.051	0.050	0.087	0.069	0.079	0.085	0.0050	0.002	0.001	0.001	0.001	0.001	0.001	0.006	0.004	0.005	0.005	-0.100	0.004
2021-5-14_test007	0.077	0.055	0.11	0.055	0.081	7PSI_NRC	0.005	0.007		0.084			0.128	0.11	0.055	0.104	0.104	0.047	0.045	0.081	0.060	0.074	0.081	0.0044	0.001	0.001	0.001	0.001	0.000	0.001	0.005	0.003	0.004	0.004	-0.105	0.003
2021-5-14_test008	0.060	0.031	0.04	0.031	0.063	6PSI_50_NRC	0.002	0.005		0.062			0.0533	0.04	0.031	0.056	0.056	0.032	0.031	0.063	0.039	0.057	0.063	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001	-0.127	0.002
2021-5-14_test009	0.047	0.019	0.02	0.019	0.050	6PSI_35	0.001	0.004	0.055	0.042			0.0276	0.02	0.019	0.034	0.034	0.023	0.022	0.052	0.026	0.042	0.050	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.147	0.001
2021-5-14_test010	0.037	0.011	0.01	0.011	0.039	6PSI_25	0.001	0.003		0.039			0.0148	0.01	0.011	0.020	0.020	0.017	0.016	0.042	0.016	0.033	0.039	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.150	0.001
2021-5-14_test011	0.026	0.00516	0.00		0.028	6PSI_15	0.001	0.00003		0.028	5.16E-03		0.0056	0.00		0.009	0.009	-0.055	-0.057	0.031	0.013	0.023	0.028	0.0002	0.000	0.003	0.000	0.000	0.030	0.030	0.000	0.000	0.000	0.000	-0.161	0.001
2021-5-14_test012	0.021	0.00227	0.00		0.024	6PSI_15	0.001	0.00001	0.027	0.019	2.27E-03		0.0024	0.00		0.005	0.004	-0.030	-0.031	0.026	0.012	0.021	0.024	0.0001	0.000	0.003	0.000	0.000	0.017	0.018	0.000	0.000	0.000	0.000	-0.169	0.000
2021-5-14_test013	0.015	0.00082	0.00		0.017	6PSI_05	0.001	0.00001	0.017	0.014	8.20E-04		0.0006	0.00		0.002	0.002	-0.030	-0.031	0.022	0.011	0.015	0.017	0.0001	0.000	0.003	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000	-0.175	0.000
erroneous data																																				

Table B.15: Catch Basin cover #2, Grade 1.0%, Cross slope 2.0%

Grade 1.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-13_test014	0.054	0.044	0.07	0.044	0.058	6PSI_100	0.003	0.006	0.054	0.056			0.089	0.07	0.044	0.079	0.079	0.040	0.040	0.069	0.040	0.066	0.058	0.0032	0.001	0.000	0.000	0.000	0.000	0.000	0.003	0.002	0.002	0.002	-0.133	0.002
2021-5-13_test015	0.091	0.097	0.26	0.097	0.095	15PSI	0.007	0.013	0.090	0.093			0.288	0.26	0.097	0.179	0.187	0.066	0.065	0.106	0.076	0.099	0.095	0.0059	0.008	0.003	0.004	0.006	0.002	0.002	0.008	0.005	0.006	0.006	-0.096	0.005
2021-5-13_test016	0.108	0.121	0.37	0.121	0.117	15PSI_RENT_NRC_100	0.010	0.017	0.110	0.110			0.285	0.37	0.121	0.224	0.235	0.077	0.074	0.127	0.093	0.116	0.117	0.0058	0.014	0.005	0.008	0.008	0.003	0.002	0.011	0.006	0.007	0.009	-0.079	0.006
2021-5-13_test017	0.104	0.113	0.33	0.113	0.110	15PSI_NRC_100	0.009	0.015		0.106			0.287	0.33	0.113	0.207	0.216	0.073	0.071	0.119	0.086	0.108	0.110	0.0073	0.012	0.004	0.007	0.007	0.002	0.002	0.009	0.006	0.006	0.008	-0.083	0.005
2021-5-13_test018	0.083	0.084	0.20	0.084	0.086	11PSI_NRC	0.006	0.011		0.084			0.222	0.20	0.084	0.152	0.157	0.061	0.060	0.094	0.064	0.091	0.086	0.0047	0.004	0.002	0.003	0.003	0.001	0.002	0.007	0.004	0.006	0.005	-0.105	0.004
2021-5-13_test019	0.072	0.068	0.14	0.068	0.073	8PSI_NRC	0.005	0.009		0.073			0.156	0.14	0.068	0.120	0.121	0.053	0.052	0.082	0.053	0.080	0.073	0.0042	0.002	0.001	0.001	0.001	0.001	0.001	0.005	0.004	0.004	0.004	-0.116	0.003
2021-5-13_test020	0.066	0.059	0.11	0.059	0.067	7PSI_NRC	0.004	0.008		0.066			0.128	0.11	0.059	0.104	0.104	0.048	0.048	0.077	0.050	0.076	0.067	0.0042	0.001	0.001	0.001	0.001	0.000	0.001	0.004	0.003	0.003	0.003	-0.123	0.003
2021-5-13_test021	0.046	0.032	0.04	0.032	0.046	6PSI_50_NRC	0.001	0.005		0.046			0.0517	0.04	0.032	0.055	0.055	0.032	0.032	0.062	0.034	0.056	0.046	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.000	-0.143	0.001
2021-5-13_test022	0.037	0.020	0.02	0.020	0.035	6PSI_35	0.001	0.004	0.034	0.036			0.0275	0.02	0.020	0.033	0.033	0.024	0.024	0.046	0.020	0.045	0.035	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.153	0.001
2021-5-13_test023A	0.031	0.012	0.01	0.012	0.031	6PSI_25	0.001	0.003		0.030			0.0147	0.01	0.012	0.020	0.020	0.017	0.017	0.037	0.011	0.035	0.031	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.159	0.001
2021-5-13_test024	0.024	0.00475	0.00		0.021	6PSI_15	0.001	0.00003		0.023	4.75E-03		0.0052	0.00		0.008	0.008	-0.058	-0.059	0.027	0.009	0.025	0.021	0.0002	0.000	0.002	0.000	0.000	0.034	0.035	0.000	0.000	0.000	0.000	-0.166	0.000
2021-5-13_test025	0.019	0.00226	0.00		0.018	6PSI_10	0.001	0.00001	0.015	0.017	2.26E-03		0.0026	0.00		0.005	0.005	-0.029	-0.029	0.024	0.008	0.021	0.018	0.0001	0.000	0.002	0.000	0.000	0.018	0.018	0.000	0.000	0.000	0.000	-0.172	0.000
2021-5-13_test013	0.011	0.00095	0.00		0.015	6PSI_05	0.001	0.00001	0.013	0.009	9.47E-04		0.0008	0.00		0.003	0.002	-0.027	-0.028	0.019	0.010	0.017	0.015	0.0001	0.000	0.000	0.000	0.000	0.015	0.015	0.000	0.000	0.001	0.000	-0.180	0.000
erroneous data																																				

Table B.16: Catch Basin cover #2, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross-slope 2.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-13_test001	0.049	0.046	0.07	0.046	0.055	6PSI_100	0.003	0.006	0.047	0.052			0.085	0.07	0.046	0.077	0.077	0.041	0.040	0.059	0.030	0.054	0.055	0.0031	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.001	0.002	-0.137	0.002
2021-5-13_test002	0.077	0.090	0.26	0.090	0.085	15PSI	0.007	0.012	0.072	0.080			0.286	0.26	0.090	0.179	0.187	0.064	0.062	0.096	0.058	0.083	0.085	0.0063	0.008	0.003	0.004	0.006	0.001	0.002	0.008	0.004	0.005	0.006	-0.109	0.005
2021-5-13_test003	0.095	0.112	0.37	0.112	0.102	15PSI	0.008	0.015	0.085	0.092			0.286	0.37	0.112	0.222	0.233	0.073	0.071	0.114	0.081	0.099	0.102	0.0064	0.014	0.004	0.008	0.008	0.002	0.002	0.009	0.005	0.006	0.007	-0.096	0.005
2021-5-13_test004	0.087	0.098	0.33	0.098	0.095	15PSI_NRC_100	0.007	0.013		0.086			0.285	0.33	0.098	0.207	0.216	0.067	0.065	0.107	0.073	0.092	0.095	0.0073	0.012	0.003	0.007	0.007	0.002	0.002	0.008	0.005	0.005	0.006	-0.102	0.004
2021-5-13_test005	0.068	0.078	0.20	0.078	0.075	11PSI_NRC	0.006	0.011		0.071			0.220	0.20	0.078	0.152	0.156	0.058	0.056	0.082	0.050	0.075	0.075	0.0058	0.004	0.002	0.003	0.003	0.001	0.002	0.006	0.004	0.005	0.005	-0.118	0.004
2021-5-13_test006	0.060	0.066	0.14	0.066	0.067	8PSI_NRC	0.004	0.009		0.062			0.156	0.14	0.066	0.119	0.121	0.052	0.051	0.072	0.041	0.067	0.067	0.0045	0.002	0.001	0.001	0.002	0.001	0.001	0.004	0.003	0.003	0.003	-0.127	0.003
2021-5-13_test007	0.055	0.058	0.11	0.058	0.062	7PSI_NRC	0.004	0.008		0.059			0.127	0.11	0.058	0.102	0.103	0.048	0.047	0.067	0.037	0.061	0.062	0.0041	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.002	0.003	-0.130	0.003
2021-5-13_test008	0.040	0.032	0.04	0.032	0.046	6PSI_50_NRC	0.001	0.005		0.044			0.0508	0.04	0.032	0.054	0.054	0.032	0.032	0.053	0.023	0.047	0.046	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.145	0.001
2021-5-13_test009	0.029	0.018	0.02	0.018	0.035	6PSI_35	0.001	0.004	0.029	0.031			0.0264	0.02	0.018	0.032	0.032	0.022	0.021	0.042	0.016	0.037	0.035	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.158	0.001
2021-5-13_test010	0.023	0.011	0.01	0.011	0.028	6PSI_25	0.001	0.003		0.024			0.0148	0.01	0.011	0.020	0.020	0.016	0.015	0.035	0.010	0.030	0.028	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.165	0.001
2021-5-13_test011	0.015	0.00467	0.00		0.020	6PSI_15	0.001	0.00003		0.016	4.67E-03		0.0050	0.00		0.008	0.008	-0.060	-0.061	0.027	0.010	0.022	0.020	0.0002	0.000	0.000	0.000	0.000	0.034	0.034	0.000	0.000	0.000	0.000	-0.173	0.000
2021-5-13_test012	0.012	0.00245	0.00		0.017	6PSI_10	0.001	0.00002	0.012	0.013	2.45E-03		0.0026	0.00		0.005	0.005	-0.035	-0.035	0.025	0.010	0.020	0.017	0.0001	0.000	0.000	0.000	0.000	0.019	0.019	0.000	0.000	0.000	0.000	-0.176	0.000
2021-5-13_test013	0.010	0.00095	0.00		0.015	6PSI_05	0.001	0.00001	0.009	0.009	9.47E-04		0.0008	0.00		0.003	0.002	-0.027	-0.028	0.019	0.010	0.017	0.015	0.0001	0.000	0.000	0.000	0.000	0.015	0.015	0.000	0.000	0.001	0.000	-0.180	0.000
erroneous data																																				

Table B.17: Catch Basin cover #2, Grade 5.0%, Cross slope 2.0%

Grade 5.0%, Cross-slope 2.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-12_test014	0.044	0.048	0.08	0.048	0.049	6PSI_100	0.003	0.006	0.042	0.043			0.093	0.08	0.048	0.082	0.081	0.042	0.042	0.050	0.029	0.052	0.049	0.0029	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.002	0.002	-0.146	0.002
2021-5-12_test015A	0.069	0.095	0.26	0.095	0.075	15PSI	0.007	0.012	0.061	0.068			0.287	0.26	0.095	0.179	0.189	0.065	0.064	0.082	0.052	0.076	0.075	0.0067	0.009	0.003	0.005	0.006	0.001	0.002	0.006	0.004	0.005	0.006	-0.121	0.004
2021-5-12_test016	0.083	0.114	0.37	0.114	0.089	15PSI_RENT_NRC_100	0.008	0.014	0.073	0.084			0.287	0.37	0.114	0.225	0.235	0.073	0.072	0.100	0.067	0.092	0.089	0.0065	0.014	0.003	0.008	0.007	0.002	0.002	0.008	0.005	0.006	0.007	-0.105	0.006
2021-5-12_test017	0.077	0.105	0.33	0.105	0.083	15PSI_NRC_100	0.007	0.013		0.076			0.287	0.33	0.105	0.208	0.217	0.070	0.069	0.093	0.060	0.085	0.083	0.0076	0.012	0.003	0.007	0.007	0.001	0.002	0.007	0.004	0.005	0.006	-0.113	0.005
2021-5-12_test018	0.061	0.080	0.20	0.080	0.067	11PSI_NRC	0.006	0.010		0.060			0.222	0.20	0.080	0.152	0.157	0.059	0.058	0.071	0.044	0.068	0.067	0.0063	0.005	0.002	0.003	0.003	0.001	0.002	0.005	0.003	0.004	0.005	-0.129	0.004
2021-5-12_test019	0.052	0.065	0.14	0.065	0.058	8PSI_NRC	0.004	0.008		0.052			0.157	0.14	0.065	0.120	0.121	0.051	0.051	0.062	0.036	0.060	0.058	0.0054	0.002	0.001	0.001	0.001	0.000	0.001	0.004	0.003	0.003	0.003	-0.137	0.003
2021-5-12_test020A	0.049	0.058	0.11	0.058	0.054	7PSI_NRC	0.004	0.007		0.048			0.129	0.11	0.058	0.104	0.104	0.048	0.047	0.057	0.033	0.056	0.054	0.0042	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.002	0.003	0.003	-0.140	0.003
2021-5-12_test021	0.037	0.035	0.05	0.035	0.042	6PSI_50_NRC	0.002	0.005		0.035			0.0542	0.05	0.035	0.057	0.056	0.034	0.034	0.043	0.023	0.045	0.042	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.154	0.001
2021-5-12_test022	0.029	0.021	0.02	0.021	0.033	6PSI_35	0.001	0.004	0.028	0.026			0.0281	0.02	0.021	0.034	0.034	0.025	0.024	0.037	0.018	0.036	0.033	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.163	0.001
2021-5-12_test023	0.023	0.013	0.01	0.013	0.027	6PSI_25	0.001	0.003		0.021			0.0160	0.01	0.013	0.022	0.021	0.018	0.017	0.031	0.011	0.029	0.027	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.168	0.001
2021-5-12_test024	0.016	0.00486	0.00		0.020	6PSI_15	0.001	0.00003		0.014	4.86E-03		0.0053	0.00		0.009	0.008	-0.062	-0.063	0.028	0.010	0.024	0.020	0.0002	0.000	0.000	0.000	0.000	0.035	0.035	0.000	0.000	0.000	0.000	-0.175	0.001
2021-5-12_test025	0.014	0.00253	0.00		0.018	6PSI_10	0.001	0.00002	0.011	0.012	2.53E-03		0.0026	0.00		0.005	0.005	-0.031	-0.032	0.021	0.009	0.026	0.018	0.0001	0.000	0.000	0.000	0.000	0.018	0.018	0.000	0.000	0.001	0.000	-0.177	0.001
2021-5-12_test026	0.007	0.00079	0.00		0.011	6PSI_05	0.001	0.00000	0.008	0.007	7.92E-04		0.0006	0.00		0.002	0.002	-0.025	-0.026	0.019	0.008	0.014	0.011	0.0001	0.000	0.000	0.000	0.000	0.015	0.015	0.000	0.000	0.000	0.000	-0.182	0.000
erroneous data																																				

Table B.18: Catch Basin cover #2, Grade 7.5%, Cross slope 2.0%

Grade 7.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-12_test001	0.039	0.041	0.08	0.041	0.045	6PSI_100	0.003	0.006	0.038	0.036			0.093	0.08	0.041	0.082	0.082	0.038	0.037	0.044	0.029	0.048	0.045	0.0031	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.002	0.002	-0.153	0.003
2021-5-12_test006	0.047	0.056	0.14	0.056	0.053	8PSI_NRC	0.004	0.007		0.045			0.157	0.14	0.056	0.120	0.121	0.047	0.046	0.056	0.035	0.057	0.053	0.0042	0.002	0.001	0.001	0.001	0.000	0.001	0.004	0.003	0.003	0.003	-0.144	0.003
2021-5-12_test007	0.044	0.051	0.11	0.051	0.049	7PSI_NRC	0.004	0.007		0.041			0.130	0.11	0.051	0.104	0.104	0.045	0.043	0.051	0.032	0.053	0.049	0.0035	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.003	0.003	-0.147	0.003
2021-5-12_test008	0.034	0.032	0.05	0.032	0.039	6PSI_50_NRC	0.003	0.005		0.031			0.0543	0.05	0.032	0.057	0.057	0.033	0.032	0.039	0.024	0.042	0.039	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	-0.158	0.002
2021-5-12_test009	0.027	0.019	0.02	0.019	0.032	6PSI_35	0.002	0.004	0.027	0.024			0.0291	0.02	0.019	0.035	0.035	0.023	0.023	0.034	0.020	0.035	0.032	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.001	-0.165	0.001
2021-5-12_test010	0.020	0.011	0.01	0.011	0.025	6PSI_25	0.001	0.003		0.018			0.0156	0.01	0.011	0.021	0.021	0.016	0.015	0.029	0.013	0.029	0.025	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.171	0.001
2021-5-12_test011	0.015	0.00501	0.00		0.020	6PSI_15	0.001	0.00003		0.012	5.01E-03		0.0057	0.00		0.009	0.009	-0.061	-0.062	0.024	0.010	0.024	0.020	0.0003	0.000	0.000	0.000	0.000	0.036	0.037	0.001	0.000	0.000	0.000	-0.177	0.001
2021-5-12_test012	0.013	0.00252	0.00		0.017	6PSI_10	0.001	0.00002	0.010	0.009	2.52E-03		0.0027	0.00		0.005	0.005	-0.034	-0.034	0.020	0.010	0.026	0.017	0.0001	0.000	0.000	0.000	0.000	0.018	0.018	0.000	0.000	0.001	0.000	-0.180	0.000
2021-5-12_test013	0.006	0.00085	0.00		0.011	6PSI_05	0.001	0.00001	0.007		8.47E-04		0.0007	0.00		0.002	0.002	-0.029	-0.030	0.020	0.010	0.013	0.011	0.0001	0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000	-0.182	0.001
2021-5-14_test014	0.040	0.044	0.08	0.044	0.046	6PSI_100	0.003	0.006	0.039	0.036			0.092	0.08	0.044	0.082	0.081	0.040	0.039	0.044	0.029	0.047	0.046	0.0030	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.002	0.002	-0.153	0.003
2021-5-14_test016	0.074	0.098	0.37	0.098	0.081	15PSI_RENT_NRC_100	0.007	0.012	0.077	0.071			0.285	0.37	0.098	0.223	0.233	0.068	0.064	0.087	0.062	0.082	0.081	0.0063	0.014	0.003	0.008	0.008	0.001	0.002	0.007	0.004	0.005	0.006	-0.118	0.005
2021-5-14_test017	0.069	0.092	0.33	0.092	0.076	15PSI_NRC_100	0.006	0.012		0.066			0.285	0.33	0.092	0.208	0.217	0.065	0.063	0.080	0.057	0.079	0.076	0.0067	0.012	0.003	0.007	0.007	0.002	0.002	0.006	0.004	0.005	0.005	-0.123	0.005
2021-5-14_test018	0.054	0.075	0.20	0.075	0.061	11PSI	0.005	0.009		0.053			0.221	0.20	0.075	0.153	0.157	0.057	0.055	0.064	0.042	0.065	0.061	0.0066	0.004	0.001	0.003	0.003	0.001	0.001	0.005	0.003	0.004	0.004	-0.136	0.004
2021-5-14_test019	0.048	0.060	0.14	0.060	0.054	8PSI	0.004	0.007		0.046			0.157	0.14	0.060	0.120	0.122	0.049	0.048	0.056	0.035	0.057	0.054	0.0050	0.002	0.001	0.001	0.001	0.000	0.000	0.003	0.003	0.003	0.003	-0.143	0.003
2021-5-14_test015A	0.061	0.085	0.26	0.085	0.067	15PSI	0.006	0.011		0.060			0.286	0.26	0.085	0.179	0.187	0.062	0.059	0.072	0.049	0.071	0.067	0.0074	0.008	0.002	0.004	0.006	0.001	0.002	0.005	0.004	0.004	0.005	-0.129	0.004
2021-5-14_test022	0.027	0.021	0.02	0.021	0.032	6PSI_35	0.002	0.004	0.028	0.024			0.028	0.02	0.021	0.034	0.034	0.024	0.024	0.033	0.020	0.036	0.032	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	-0.165	0.001
erroneous data																																				

Table B.19: Catch Basin cover #2, Grade 10.0%, Cross slope 2.0%

Grade 10.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-11_test014	0.036	0.044	0.08	0.044	0.043	6PSI_100	0.004	0.006	0.036	0.033			0.098	0.08	0.044	0.085	0.085	0.040	0.040	0.042	0.028	0.045	0.043	0.0030	0.001	0.000	0.001	0.000	0.000	0.000	0.001	0.002	0.002	0.003	-0.156	0.003
2021-5-11_test015	0.058	0.081	0.26	0.081	0.066	15PSI	0.006	0.010	0.054	0.055			0.289	0.26	0.081	0.179	0.188	0.059	0.059	0.067	0.046	0.068	0.066	0.0074	0.009	0.002	0.004	0.006	0.001	0.001	0.005	0.004	0.005	0.005	-0.134	0.005
2021-5-11_test016	0.068	0.096	0.36	0.096	0.078	15PSI_RENT_NRC_100	0.006	0.012	0.062	0.067			0.288	0.36	0.096	0.223	0.232	0.065	0.066	0.082	0.062	0.080	0.078	0.0065	0.015	0.003	0.008	0.008	0.001	0.002	0.007	0.004	0.005	0.005	-0.122	0.006
2021-5-11_test017	0.065	0.091	0.33	0.091	0.074	15PSI_NRC_100	0.006	0.011		0.061			0.286	0.33	0.091	0.207	0.216	0.063	0.064	0.075	0.055	0.076	0.074	0.0065	0.011	0.002	0.007	0.007	0.001	0.002	0.006	0.004	0.005	0.005	-0.128	0.006
2021-5-11_test018	0.052	0.073	0.21	0.073	0.060	11PSI_NRC	0.005	0.009		0.048			0.225	0.21	0.073	0.153	0.158	0.055	0.055	0.060	0.040	0.064	0.060	0.0057	0.005	0.001	0.003	0.003	0.001	0.001	0.005	0.003	0.004	0.004	-0.141	0.006
2021-5-11_test019	0.045	0.060	0.14	0.060	0.052	8PSI_NRC	0.004	0.007		0.042			0.160	0.14	0.060	0.122	0.123	0.048	0.049	0.052	0.034	0.056	0.052	0.0041	0.002	0.001	0.001	0.001	0.000	0.001	0.003	0.003	0.003	0.003	-0.147	0.005
2021-5-11_test020	0.041	0.053	0.12	0.053	0.048	7PSI_NRC	0.004	0.007		0.038			0.132	0.12	0.053	0.106	0.107	0.045	0.045	0.047	0.032	0.052	0.048	0.0042	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.002	0.003	0.003	-0.151	0.004
2021-5-11_test021	0.031	0.033	0.05	0.033	0.038	6PSI_50_NRC	0.003	0.005		0.027			0.0563	0.05	0.033	0.058	0.058	0.033	0.033	0.037	0.024	0.041	0.038	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	-0.162	0.002
2021-5-11_test022	0.026	0.021	0.02	0.021	0.031	6PSI_35	0.002	0.004	0.025	0.021			0.0301	0.02	0.021	0.036	0.036	0.025	0.024	0.032	0.022	0.034	0.031	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.001	-0.168	0.002
2021-5-11_test023	0.020	0.013	0.01	0.013	0.025	6PSI_25	0.001	0.003		0.016			0.0153	0.01	0.013	0.021	0.021	0.018	0.017	0.031	0.013	0.030	0.025	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.173	0.001
2021-5-11_test024	0.015	0.00509	0.00		0.020	6PSI_15	0.001	0.00003		0.011	5.09E-03		0.0062	0.00		0.009	0.009	-0.062	-0.063	0.024	0.010	0.029	0.020	0.0002	0.000	0.000	0.000	0.000	0.037	0.037	0.000	0.000	0.000	0.000	-0.178	0.001
2021-5-11_test025	0.013	0.00259	0.00		0.017	6PSI_10	0.002	0.00002	0.010	0.008	2.59E-03		0.0029	0.00		0.005	0.005	-0.031	-0.032	0.018	0.010	0.022	0.017	0.0001	0.000	0.000	0.000	0.000	0.017	0.018	0.000	0.000	0.002	0.001	-0.181	0.000
2021-5-11_test026	0.006	0.00079	0.00		0.010	6PSI_05	0.001	0.00000	0.006		7.90E-04		0.0008	0.00		0.002	0.002	-0.026	-0.027	0.018	0.010	0.014	0.010	0.0001	0.000	0.000	0.000	0.000	0.014	0.014	0.000	0.000	0.000	0.000	-0.182	0.000
erroneous data																																				

Table B.20: Catch Basin cover #2, Grade 0.5%, Cross slope 4.0%

Grade 0.5%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-6_test001A	0.089	0.062	0.08	0.062	0.094	6PSI_100	0.003	0.008	0.092	0.083			0.095	0.08	0.062	0.083	0.083	0.050	0.049	0.097	0.056	0.087	0.094	0.0030	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.004	0.002	0.002	-0.102	0.002
2021-5-6_test002A	0.125	0.121	0.27	0.121	0.131	15PSI	0.008	0.017	0.128	0.118			0.287	0.27	0.121	0.180	0.188	0.076	0.075	0.138	0.086	0.130	0.131	0.0057	0.009	0.005	0.005	0.006	0.003	0.003	0.008	0.007	0.006	0.007	-0.067	0.005
2021-5-6_test003	0.146	0.148	0.37	0.148	0.153	15PSI_RENT_NRC_100	0.009	0.022	0.147	0.136			0.286	0.37	0.148	0.224	0.235	0.086	0.084	0.160	0.114	0.152	0.153	0.0074	0.014	0.008	0.008	0.008	0.004	0.003	0.009	0.008	0.007	0.008	-0.049	0.006
2021-5-6_test004	0.138	0.139	0.33	0.139	0.144	15PSI_NRC_100	0.008	0.020		0.129			0.286	0.33	0.139	0.209	0.218	0.082	0.082	0.150	0.105	0.143	0.144	0.0070	0.012	0.007	0.007	0.007	0.004	0.003	0.008	0.008	0.007	0.007	-0.056	0.006
2021-5-6_test005	0.115	0.107	0.21	0.107	0.120	11PSI	0.007	0.014		0.107			0.224	0.21	0.107	0.153	0.158	0.070	0.070	0.126	0.078	0.118	0.120	0.0058	0.004	0.004	0.003	0.003	0.002	0.002	0.008	0.007	0.006	0.006	-0.078	0.005
2021-5-6_test006	0.103	0.090	0.14	0.090	0.108	8PSI	0.006	0.012		0.100			0.159	0.14	0.090	0.121	0.122	0.063	0.062	0.113	0.065	0.104	0.108	0.0046	0.002	0.003	0.001	0.001	0.002	0.002	0.007	0.005	0.005	0.005	-0.085	0.004
2021-5-6_test007	0.099	0.079	0.12	0.079	0.104	7PSI	0.004	0.010		0.095			0.130	0.12	0.079	0.105	0.106	0.058	0.058	0.106	0.057	0.097	0.104	0.0041	0.001	0.002	0.001	0.001	0.001	0.001	0.005	0.004	0.004	0.003	-0.090	0.003
2021-5-6_test008	0.072	0.044	0.05	0.044	0.076	8PSI	0.002	0.006		0.069			0.0548	0.05	0.044	0.057	0.057	0.040	0.040	0.084	0.032	0.076	0.076	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001	-0.116	0.002
2021-5-6_test009	0.060	0.028	0.02	0.028	0.063	6PSI_35	0.002	0.005	0.062	0.056			0.0295	0.02	0.028	0.035	0.035	0.029	0.029	0.066	0.014	0.058	0.063	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	-0.129	0.002
2021-5-6_test010A	0.045	0.013	0.01	0.013	0.048	6PSI_25	0.001	0.003		0.032			0.0129	0.01	0.013	0.018	0.017	0.018	0.017	0.051	0.008	0.042	0.048	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	-0.153	0.001
2021-5-6_test011	0.033	0.00476	0.00		0.036	6PSI_15	0.001	0.00003		0.020	4.76E-03		0.0051	0.00		0.008	0.008	-0.052	-0.053	0.037	0.008	0.028	0.036	0.0002	0.000	0.000	0.000	0.000	0.032	0.033	0.000	0.000	0.000	0.000	-0.165	0.001
2021-5-6_test012	0.027	0.00256	0.00		0.029	6PSI_10	0.001	0.00002	0.028	0.014	2.56E-03		0.0027	0.00		0.005	0.005	-0.032	-0.032	0.031	0.008	0.024	0.029	0.0001	0.000	0.000	0.000	0.000	0.017	0.018	0.000	0.000	0.000	0.000	-0.171	0.000
2021-5-6_test013	0.019	0.00092	0.00		0.021	6PSI_05	0.001	0.00001	0.019	0.007	9.16E-04		0.0008	0.00		0.002	0.002	-0.041	-0.042	0.025	0.008	0.023	0.021	0.0001	0.000	0.000	0.000	0.000	0.023	0.024	0.000	0.000	0.000	0.000	-0.178	0.000

Table B.21: Catch Basin cover #2, Grade 1.0%, Cross slope 4.0%

Grade 1.0%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-7_test001	0.070	0.061	0.08	0.061	0.075	6PSI_100	0.002	0.008	0.071	0.071			0.097	0.08	0.061	0.084	0.084	0.050	0.048	0.098	0.040	0.088	0.075	0.0040	0.001	0.001	0.001	0.001	0.000	0.001	0.004	0.004	0.002	0.001	-0.122	0.002
2021-5-7_test002	0.117	0.130	0.26	0.130	0.124	15PSI	0.007	0.019	0.118	0.117			0.288	0.26	0.130	0.179	0.189	0.079	0.078	0.135	0.078	0.129	0.124	0.0068	0.008	0.006	0.004	0.006	0.003	0.003	0.008	0.006	0.006	0.006	-0.076	0.005
2021-5-7_test003	0.134	0.168	0.37	0.168	0.143	15PSI_RENT_NRC_100	0.009	0.026	0.134	0.135			0.286	0.37	0.168	0.224	0.235	0.093	0.091	0.154	0.098	0.143	0.143	0.0064	0.014	0.010	0.008	0.008	0.005	0.005	0.009	0.007	0.007	0.008	-0.058	0.006
2021-5-7_test004	0.126	0.153	0.33	0.153	0.134	15PSI_NRC_100	0.008	0.023	0.130	0.128			0.286	0.33	0.153	0.209	0.218	0.088	0.086	0.146	0.089	0.137	0.134	0.0063	0.013	0.008	0.007	0.007	0.004	0.004	0.009	0.006	0.006	0.007	-0.065	0.005
2021-5-7_test005	0.106	0.110	0.21	0.110	0.113	11PSI	0.006	0.015		0.107			0.223	0.21	0.110	0.153	0.158	0.072	0.070	0.125	0.068	0.118	0.113	0.0058	0.004	0.004	0.003	0.003	0.003	0.002	0.007	0.005	0.005	0.005	-0.086	0.004
2021-5-7_test006	0.093	0.087	0.14	0.087	0.099	8PSI	0.005	0.012		0.093			0.158	0.14	0.087	0.121	0.122	0.062	0.060	0.112	0.060	0.106	0.099	0.0050	0.002	0.003	0.001	0.001	0.002	0.002	0.006	0.005	0.004	0.004	-0.100	0.003
2021-5-7_test007	0.083	0.076	0.11	0.076	0.089	7PSI	0.003	0.010		0.082			0.131	0.11	0.076	0.105	0.106	0.057	0.056	0.106	0.051	0.098	0.089	0.0042	0.001	0.002	0.001	0.001	0.001	0.001	0.005	0.005	0.003	0.002	-0.111	0.003
2021-5-7_test008	0.057	0.042	0.04	0.042	0.061	6PSI_50	0.001	0.006		0.061			0.0537	0.04	0.042	0.056	0.056	0.039	0.038	0.082	0.020	0.071	0.061	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.000	-0.131	0.001
2021-5-7_test009A	0.044	0.024	0.02	0.024	0.047	6PSI_35	0.001	0.004	0.048	0.046			0.0283	0.02	0.024	0.034	0.034	0.027	0.027	0.059	0.011	0.056	0.047	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	-0.147	0.001
2021-5-7_test010	0.037	0.013	0.01	0.013	0.040	6PSI_25	0.001	0.003		0.034			0.0152	0.01	0.013	0.021	0.020	0.019	0.017	0.051	0.008	0.044	0.040	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.159	0.001
2021-5-7_test011	0.024	0.00489	0.00		0.026	6PSI_15	0.001	0.00003		0.023	4.89E-03		0.0053	0.00		0.008	0.008	-0.061	-0.063	0.032	0.008	0.032	0.026	0.0002	0.000	0.000	0.000	0.000	0.035	0.035	0.000	0.000	0.000	0.000	-0.170	0.000
2021-5-7_test012	0.021	0.00262	0.00		0.022	6PSI_10	0.001	0.00002	0.019	0.019	2.62E-03		0.0029	0.00		0.005	0.005	-0.033	-0.034	0.028	0.008	0.025	0.022	0.0001	0.000	0.000	0.000	0.000	0.021	0.021	0.000	0.000	0.000	0.000	-0.174	0.000
2021-5-7_test013	0.017	0.00085	0.00		0.018	6PSI_05	0.001	0.00001	0.018	0.011	8.47E-04		0.0006	0.00		0.002	0.002	-0.034	-0.036	0.023	0.008	0.022	0.018	0.0001	0.000	0.000	0.000	0.000	0.016	0.016	0.000	0.000	0.000	0.000	-0.181	0.000

erroneous data

Table B.22: Catch Basin cover #2, Grade 2.5%, Cross slope 4.0%

Grade 2.5%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-7_test014	0.072	0.065	0.08	0.065	0.079	6PSI_100	0.002	0.008	0.071	0.070			0.098	0.08	0.065	0.086	0.085	0.051	0.051	0.089	0.027	0.085	0.079	0.0028	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.002	0.002	0.001	-0.122	0.002
2021-5-7_test015	0.106	0.119	0.27	0.119	0.114	15PSI	0.007	0.016	0.105	0.107			0.289	0.27	0.119	0.180	0.189	0.076	0.074	0.121	0.053	0.115	0.114	0.0070	0.008	0.004	0.004	0.006	0.003	0.002	0.007	0.004	0.006	0.006	-0.085	0.005
2021-5-7_test016	0.122	0.138	0.37	0.138	0.131	15PSI_RENT_NRC_100	0.009	0.019	0.121	0.124			0.288	0.37	0.138	0.224	0.236	0.083	0.080	0.141	0.074	0.129	0.131	0.0068	0.014	0.006	0.008	0.008	0.003	0.003	0.009	0.006	0.006	0.008	-0.069	0.006
2021-5-7_test017	0.115	0.129	0.33	0.129	0.124	15PSI_NRC_100	0.007	0.018		0.117			0.287	0.33	0.129	0.208	0.217	0.080	0.076	0.134	0.066	0.122	0.124	0.0061	0.011	0.006	0.006	0.007	0.003	0.002	0.009	0.005	0.005	0.006	-0.076	0.005
2021-5-7_test018	0.098	0.109	0.21	0.109	0.106	11PSI	0.006	0.014		0.098			0.223	0.21	0.109	0.153	0.158	0.072	0.070	0.111	0.045	0.105	0.106	0.0059	0.005	0.004	0.003	0.003	0.002	0.002	0.007	0.003	0.005	0.005	-0.095	0.004
2021-5-7_test019	0.089	0.094	0.14	0.094	0.097	8PSI	0.005	0.012		0.088			0.160	0.14	0.094	0.122	0.124	0.065	0.063	0.101	0.037	0.095	0.097	0.0049	0.002	0.003	0.001	0.001	0.002	0.002	0.005	0.003	0.004	0.004	-0.105	0.003
2021-5-7_test020	0.083	0.083	0.12	0.083	0.091	7PSI	0.003	0.011		0.079			0.132	0.12	0.083	0.106	0.106	0.061	0.059	0.097	0.033	0.091	0.091	0.0042	0.001	0.002	0.001	0.001	0.001	0.001	0.004	0.002	0.003	0.002	-0.113	0.003
2021-5-7_test021	0.049	0.043	0.05	0.043	0.056	6PSI_50	0.002	0.006		0.047			0.0555	0.05	0.043	0.058	0.058	0.039	0.039	0.081	0.016	0.065	0.056	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	-0.146	0.001
2021-5-7_test022	0.037	0.028	0.02	0.028	0.043	6PSI_35	0.001	0.004	0.039	0.038			0.0307	0.02	0.028	0.036	0.036	0.030	0.030	0.060	0.011	0.044	0.043	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.155	0.001
2021-5-7_test023	0.031	0.016	0.01	0.016	0.037	6PSI_25	0.001	0.004		0.030			0.0161	0.01	0.016	0.022	0.022	0.021	0.020	0.043	0.011	0.037	0.037	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.163	0.001
2021-5-7_test024	0.026	0.00524	0.00		0.031	6PSI_15	0.002	0.00003		0.019	5.24E-03		0.0057	0.00		0.009	0.009	-0.067	-0.068	0.032	0.011	0.028	0.031	0.0001	0.000	0.000	0.000	0.000	0.039	0.039	0.000	0.000	0.000	0.001	-0.173	0.000
2021-5-7_test025	0.020	0.00243	0.00		0.026	6PSI_10	0.002	0.00002	0.017	0.013	2.43E-03		0.0026	0.00		0.005	0.005	-0.040	-0.041	0.029	0.010	0.023	0.026	0.0001	0.000	0.000	0.000	0.000	0.024	0.024	0.000	0.000	0.000	0.001	-0.179	0.000
2021-5-7_test026	0.011	0.00081	0.00		0.016	6PSI_05	0.001	0.00001	0.012	0.008	8.11E-04		0.0006	0.00		0.002	0.002	-0.030	-0.030	0.026	0.010	0.021	0.016	0.0001	0.000	0.000	0.000	0.000	0.018	0.017	0.001	0.000	0.000	0.000	-0.185	0.000
erroneous data																																				

In Table B.23 there is more data for cover #2 at a grade of 5.0% and a cross slope of 4.0% than most configurations. Standing waves resulted in higher RD6 values than expected for certain incident water depths. Additional measurements were taken to ensure the phenomenon was repeatable. This is discussed extensively in Section 3.2.

Table B.23: Catch Basin cover #2, Grade 5.0%, Cross slope 4.0%

Slope 5.0%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-10_test001	0.065	0.063	0.08	0.063	0.076	6PSI_100	0.003	0.008	0.069	0.061			0.097	0.08	0.063	0.084	0.084	0.049	0.051	0.072	0.027	0.076	0.076	0.0037	0.001	0.001	0.001	0.000	0.000	0.001	0.002	0.002	0.002	0.002	-0.132	0.002
2021-5-10_test002	0.096	0.112	0.26	0.112	0.103	15PSI	0.006	0.015	0.095	0.095			0.289	0.26	0.112	0.180	0.188	0.072	0.072	0.100	0.051	0.105	0.103	0.0063	0.008	0.004	0.005	0.005	0.002	0.002	0.006	0.004	0.005	0.005	-0.098	0.005
2021-5-10_test006	0.090	0.105	0.22	0.105	0.096	8PSI_NRC	0.006	0.015		0.085			0.157	0.22	0.105	0.160	0.162	0.068	0.070	0.097	0.046	0.095	0.096	0.0040	0.006	0.005	0.004	0.004	0.002	0.003	0.006	0.003	0.004	0.005	-0.107	0.004
2021-5-10_test007	0.086	0.100	0.19	0.100	0.092	7PSI_NRC	0.005	0.014		0.082			0.129	0.19	0.100	0.145	0.146	0.066	0.068	0.093	0.042	0.092	0.092	0.0040	0.004	0.004	0.003	0.003	0.002	0.003	0.005	0.003	0.004	0.004	-0.111	0.004
2021-5-10_test008	0.078	0.083	0.12	0.083	0.084	6PSI_50_NRC	0.004	0.011		0.071			0.0524	0.12	0.083	0.105	0.107	0.059	0.060	0.081	0.032	0.083	0.084	0.0011	0.002	0.002	0.002	0.002	0.001	0.002	0.004	0.003	0.003	0.003	-0.122	0.003
2021-5-10_test009	0.036	0.024	0.02	0.024	0.041	6PSI_35	0.001	0.004	0.038	0.029			0.0292	0.02	0.024	0.035	0.035	0.026	0.027	0.064	0.010	0.046	0.041	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.164	0.001
2021-5-10_test010	0.029	0.014	0.01	0.014	0.033	6PSI_25	0.001	0.003		0.024			0.0163	0.01	0.014	0.022	0.022	0.019	0.019	0.065	0.010	0.037	0.033	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	-0.169	0.001
2021-5-10_test008B	0.049	0.037	0.04	0.037	0.056	6PSI_50	0.002	0.005		0.042			0.0497	0.04	0.037	0.053	0.053	0.035	0.036	0.075	0.018	0.061	0.056	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.151	0.001
2021-5-10_test011	0.021	0.00555	0.00		0.025	6PSI_15	0.001	0.00003		0.015	5.55E-03		0.0062	0.00		0.009	0.009	-0.060	-0.061	0.061	0.010	0.025	0.025	0.0002	0.000	0.000	0.000	0.000	0.034	0.034	0.002	0.000	0.000	0.000	-0.178	0.001
2021-5-10_test012	0.016	0.00264	0.00		0.020	6PSI_10	0.001	0.00002	0.016	0.011	2.64E-03		0.0028	0.00		0.005	0.005	-0.040	-0.039	0.051	0.010	0.024	0.020	0.0001	0.000	0.000	0.000	0.000	0.023	0.023	0.000	0.000	0.000	0.000	-0.182	0.000
2021-5-10_test013	0.014	0.00092	0.00		0.017	6PSI_05	0.001	0.00001	0.011	0.009	9.15E-04		0.0009	0.00		0.003	0.002	-0.034	-0.033	0.049	0.010	0.024	0.017	0.0001	0.000	0.000	0.000	0.000	0.016	0.015	0.000	0.000	0.000	0.000	-0.184	0.000
2021-5-14_test027	0.066	0.064	0.08	0.064	0.076	6PSI_100	0.003	0.009	0.069	0.062			0.095	0.08	0.064	0.084	0.083	0.051	0.051	0.074	0.027	0.076	0.076	0.0035	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.002	0.002	0.002	-0.131	0.002
2021-5-14_test028	0.098	0.121	0.26	0.121	0.105	15PSI	0.007	0.017	0.097	0.097			0.287	0.26	0.121	0.179	0.188	0.075	0.075	0.102	0.051	0.103	0.105	0.0063	0.009	0.005	0.005	0.006	0.003	0.003	0.006	0.004	0.005	0.006	-0.096	0.005
2021-5-14_test029	0.112	0.140	0.37	0.140	0.119	15PSI_RENT_NRC_100	0.008	0.020	0.110	0.113			0.286	0.37	0.140	0.223	0.234	0.083	0.082	0.117	0.067	0.118	0.119	0.0065	0.015	0.007	0.009	0.008	0.003	0.003	0.008	0.004	0.007	0.007	-0.080	0.006
2021-5-14_test030	0.107	0.134	0.33	0.134	0.114	15PSI_NRC_100	0.007	0.019		0.107			0.285	0.33	0.134	0.208	0.217	0.081	0.080	0.111	0.061	0.110	0.114	0.0058	0.011	0.006	0.006	0.007	0.003	0.003	0.007	0.004	0.006	0.006	-0.086	0.005
2021-5-14_test031	0.099	0.117	0.27	0.117	0.106	11PSI_NRC_100	0.007	0.016		0.098			0.220	0.27	0.117	0.184	0.192	0.073	0.074	0.104	0.053	0.101	0.106	0.0053	0.008	0.005	0.005	0.005	0.002	0.003	0.006	0.004	0.005	0.006	-0.095	0.005
2021-5-14_test032	0.090	0.106	0.22	0.106	0.097	8PSI_NRC_100	0.006	0.014		0.088			0.154	0.22	0.106	0.160	0.162	0.069	0.070	0.094	0.046	0.093	0.097	0.0045	0.006	0.003	0.004	0.004	0.002	0.002	0.005	0.003	0.004	0.005	-0.105	0.004
2021-5-14_test032A	0.081	0.092	0.14	0.092	0.087	8PSI	0.005	0.012		0.077			0.158	0.14	0.092	0.121	0.122	0.063	0.064	0.085	0.035	0.087	0.087	0.0045	0.002	0.003	0.001	0.001	0.001	0.002	0.004	0.003	0.004	0.004	-0.116	0.003
2021-5-14_test034	0.050	0.040	0.04	0.040	0.059	6PSI_50	0.002	0.005		0.044			0.053	0.04	0.040	0.056	0.056	0.037	0.038	0.070	0.020	0.064	0.059	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	-0.149	0.001
2021-5-14_test035	0.037	0.025	0.02	0.025	0.042	6PSI_35	0.002	0.004	0.037	0.030			0.029	0.02	0.025	0.035	0.035	0.027	0.027	0.057	0.013	0.047	0.042	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	-0.163	0.001
erroneous data																																				

Table B.24: Catch Basin cover #2, Grade 7.5%, Cross slope 4.0%

Grade 7.5%, Cross-slope 4.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-10_test014A	0.062	0.063	0.08	0.063	0.068	6PSI_100	0.004	0.007	0.062	0.057			0.099	0.08	0.063	0.086	0.086	0.051	0.049	0.063	0.027	0.069	0.068	0.0031	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.002	0.002	0.003	-0.136	0.003
2021-5-10_test015	0.088	0.106	0.26	0.106	0.095	15PSI	0.006	0.014	0.084	0.079			0.289	0.26	0.106	0.179	0.188	0.070	0.069	0.096	0.047	0.091	0.095	0.0067	0.008	0.004	0.004	0.006	0.002	0.002	0.006	0.004	0.004	0.005	-0.113	0.004
2021-5-10_test016	0.102	0.132	0.37	0.132	0.110	15PSI_RENT_NRC_100	0.008	0.019	0.097	0.089			0.287	0.37	0.132	0.223	0.234	0.080	0.079	0.112	0.062	0.102	0.110	0.0067	0.014	0.006	0.008	0.008	0.003	0.003	0.008	0.004	0.005	0.007	-0.103	0.005
2021-5-10_test017	0.095	0.121	0.33	0.121	0.103	15PSINRC_100	0.007	0.017		0.086			0.289	0.33	0.121	0.208	0.217	0.075	0.076	0.103	0.056	0.098	0.103	0.0063	0.011	0.005	0.007	0.007	0.002	0.003	0.007	0.004	0.005	0.006	-0.107	0.005
2021-5-10_test020	0.068	0.077	0.12	0.077	0.075	7PSI_NRC	0.004	0.009		0.063			0.133	0.12	0.077	0.106	0.107	0.057	0.057	0.071	0.030	0.074	0.075	0.0036	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.003	0.003	-0.130	0.003
2021-5-10_test021	0.052	0.043	0.05	0.043	0.058	6PSI_50_NRC	0.002	0.006		0.045			0.0570	0.05	0.043	0.059	0.059	0.040	0.038	0.058	0.022	0.061	0.058	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.148	0.002
2021-5-10_test022	0.037	0.025	0.02	0.025	0.042	6PSI_50	0.002	0.004	0.038	0.030			0.0291	0.02	0.025	0.035	0.035	0.028	0.026	0.051	0.011	0.047	0.042	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	-0.163	0.001
2021-5-10_test018A	0.080	0.095	0.21	0.095	0.087	11PSI	0.006	0.012		0.073			0.2263	0.21	0.095	0.153	0.158	0.065	0.065	0.085	0.040	0.085	0.087	0.0057	0.004	0.003	0.003	0.003	0.001	0.002	0.005	0.003	0.004	0.005	-0.120	0.004
2021-5-10_test019A	0.072	0.084	0.14	0.084	0.079	8PSI	0.005	0.010		0.066			0.1617	0.14	0.084	0.122	0.124	0.060	0.060	0.076	0.033	0.077	0.079	0.0051	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.003	0.004	-0.127	0.004
2021-5-10_test023	0.029	0.015	0.01	0.015	0.034	6PSI_25	0.001	0.003		0.022			0.0170	0.01	0.015	0.022	0.022	0.020	0.019	0.043	0.010	0.038	0.034	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.171	0.001
2021-5-10_test024	0.019	0.00520	0.00		0.024	6PSI_15	0.001	0.00003		0.014	5.20E-03		0.0058	0.00		0.009	0.009	-0.057	-0.059	0.030	0.010	0.027	0.024	0.0003	0.000	0.000	0.000	0.000	0.035	0.036	0.000	0.000	0.000	0.000	-0.179	0.001
2021-5-10_test025	0.015	0.00227	0.00		0.020	6PSI_10	0.001	0.00001	0.015	0.009	2.27E-03		0.0028	0.00		0.005	0.005	-0.041	-0.042	0.032	0.010	0.024	0.020	0.0001	0.000	0.000	0.000	0.000	0.024	0.024	0.000	0.000	0.000	0.000	-0.183	0.000
2021-5-10_test026	0.013	0.00098	0.00		0.017	6PSI_05	0.001	0.00001	0.010	0.009	9.84E-04		0.0009	0.00		0.003	0.002	-0.030	-0.031	0.021	0.010	0.019	0.017	0.0001	0.000	0.000	0.000	0.000	0.016	0.016	0.000	0.000	0.001	0.000	-0.184	0.000
erroneous data																																				

Table B.25: Catch Basin cover #2, Grade 10.0%, Cross slope 4.0%

Grade 10.0%, Cross-slope 4.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-5-11_test001	0.056	0.057	0.08	0.057	0.064	6PSI_100	0.004	0.007	0.055	0.051			0.098	0.08	0.057	0.085	0.085	0.047	0.047	0.056	0.027	0.064	0.064	0.0032	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.003	0.003	-0.142	0.004
2021-5-11_test002	0.079	0.094	0.27	0.094	0.089	15PSI	0.006	0.012	0.076	0.076			0.288	0.27	0.094	0.179	0.189	0.064	0.065	0.087	0.046	0.087	0.089	0.0064	0.009	0.002	0.005	0.007	0.001	0.002	0.006	0.003	0.005	0.005	-0.117	0.006
2021-5-11_test003	0.091	0.111	0.37	0.111	0.102	15PSI_RENT_NRC_100	0.007	0.014	0.089	0.088			0.288	0.37	0.111	0.224	0.234	0.071	0.072	0.101	0.060	0.098	0.102	0.0073	0.015	0.004	0.008	0.008	0.002	0.002	0.008	0.004	0.006	0.006	-0.105	0.006
2021-5-11_test004	0.086	0.104	0.33	0.104	0.097	15PSI_NRC_100	0.006	0.014		0.082			0.287	0.33	0.104	0.207	0.216	0.068	0.069	0.094	0.055	0.094	0.097	0.0066	0.012	0.003	0.007	0.007	0.002	0.002	0.006	0.004	0.005	0.005	-0.111	0.006
2021-5-11_test005	0.072	0.087	0.21	0.087	0.082	11PSI_NRC	0.006	0.011		0.068			0.224	0.21	0.087	0.153	0.157	0.061	0.061	0.077	0.039	0.081	0.082	0.0051	0.004	0.002	0.003	0.003	0.001	0.002	0.005	0.003	0.004	0.005	-0.124	0.006
2021-5-11_test006	0.064	0.076	0.14	0.076	0.073	8PSI_NRC	0.005	0.010		0.060			0.160	0.14	0.076	0.122	0.123	0.057	0.056	0.069	0.033	0.074	0.073	0.0045	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.004	-0.132	0.005
2021-5-11_test007	0.061	0.070	0.12	0.070	0.069	7PSI_NRC	0.004	0.009		0.057			0.133	0.12	0.070	0.106	0.107	0.054	0.053	0.064	0.030	0.070	0.069	0.0039	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.002	0.003	0.003	-0.136	0.005
2021-5-11_test008	0.048	0.040	0.05	0.040	0.055	6PSI_50_NRC	0.003	0.006		0.041			0.0567	0.05	0.040	0.059	0.059	0.037	0.037	0.052	0.023	0.058	0.055	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	-0.152	0.003
2021-5-11_test009	0.036	0.023	0.02	0.023	0.042	6PSI_35	0.002	0.004	0.036	0.029			0.0298	0.02	0.023	0.035	0.035	0.026	0.026	0.046	0.013	0.047	0.042	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.001	-0.164	0.001
2021-5-11_test010A	0.028	0.013	0.01	0.013	0.034	6PSI_25	0.001	0.003		0.021			0.0161	0.01	0.013	0.022	0.022	0.018	0.017	0.038	0.010	0.038	0.034	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	-0.172	0.002
2021-5-11_test011	0.019	0.00527	0.00		0.025	6PSI_15	0.001	0.00003		0.013	5.27E-03		0.0059	0.00		0.009	0.009	-0.064	-0.066	0.030	0.010	0.027	0.025	0.0002	0.000	0.000	0.000	0.000	0.036	0.036	0.000	0.000	0.000	0.000	-0.180	0.001
2021-5-11_test012	0.015	0.00260	0.00		0.020	6PSI_10	0.001	0.00002	0.014	0.009	2.60E-03		0.0028	0.00		0.005	0.005	-0.031	-0.031	0.033	0.010	0.026	0.020	0.0001	0.000	0.000	0.000	0.000	0.018	0.018	0.001	0.000	0.000	0.000	-0.184	0.000
2021-5-11_test013	0.010	0.00079	0.00		0.015	6PSI_05	0.002	0.00000	0.009		7.90E-04		0.0007	0.00		0.002	0.002	-0.029	-0.030	0.020	0.010	0.014	0.015	0.0001	0.000	0.000	0.000	0.000	0.017	0.016	0.000	0.000	0.000	0.001	-0.184	0.000
erroneous data																																				

Table B.26: Catch Basin cover #3, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-5_test001	0.066	0.033	0.07	0.033	0.070	6PSI_100	0.003	0.005	0.066				0.0770	0.07	0.033	0.076	0.076	0.033	0.033	0.066	0.050	0.064	0.070	0.0026	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.004	0.002	0.002
2021-3-5_test002	0.099	0.064	0.26	0.064	0.104	15PSI	0.008	0.009	0.097				0.269	0.26	0.064	0.178	0.186	0.051	0.051	0.105	0.083	0.099	0.104	0.0058	0.007	0.002	0.004	0.005	0.001	0.001	0.008	0.007	0.008	0.007
2021-3-5_test003	0.116	0.079	0.37	0.079	0.122	15PSI_RENT_NRC_100	0.010	0.011	0.115				0.270	0.37	0.079	0.223	0.234	0.058	0.058	0.121	0.109	0.117	0.122	0.0065	0.014	0.003	0.008	0.008	0.002	0.002	0.010	0.008	0.009	0.009
2021-3-5_test004	0.111	0.074	0.33	0.074	0.116	15PSI_NRC_100	0.009	0.011					0.270	0.33	0.074	0.208	0.217	0.056	0.055	0.113	0.101	0.111	0.116	0.0067	0.011	0.003	0.007	0.006	0.002	0.002	0.009	0.008	0.008	0.008
2021-3-5_test005	0.092	0.060	0.21	0.060	0.097	11PSI	0.007	0.009					0.219	0.21	0.060	0.157	0.161	0.049	0.049	0.096	0.074	0.089	0.097	0.0054	0.005	0.002	0.003	0.003	0.001	0.001	0.008	0.005	0.007	0.006
2021-3-5_test006	0.083	0.051	0.15	0.051	0.087	8PSI	0.006	0.008					0.154	0.15	0.051	0.123	0.125	0.044	0.043	0.083	0.066	0.078	0.087	0.0041	0.002	0.001	0.001	0.002	0.001	0.001	0.006	0.005	0.005	0.005
2021-3-5_test007	0.079	0.045	0.12	0.045	0.083	7PSI	0.005	0.007					0.125	0.12	0.045	0.107	0.108	0.040	0.040	0.077	0.057	0.073	0.083	0.0036	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.003	0.004	0.004
2021-3-5_test008	0.059	0.026	0.05	0.026	0.062	6PSI_50	0.002	0.004	0.058				0.0508	0.05	0.026	0.058	0.058	0.028	0.029	0.060	0.040	0.059	0.062	0.0018	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.001	0.001
2021-3-5_test009	0.047	0.017	0.02	0.017	0.050	6PSI_35	0.001	0.004	0.044				0.0247	0.02	0.017	0.036	0.036	0.021	0.021	0.048	0.026	0.045	0.050	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-5_test010	0.038	0.010	0.01	0.010	0.041	6PSI_25	0.001	0.003	0.034				0.0133	0.01	0.010	0.023	0.023	0.015	0.016	0.039	0.017	0.036	0.041	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-5_test011	0.030	0.004	0.01	0.004	0.033	6PSI_15	0.001	0.002	0.028				0.0053	0.01	0.004	0.013	0.013	0.009	0.009	0.029	0.008	0.027	0.033	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-5_test012	0.024	0.0026	0.00	0.002	0.027	6PSI_10	0.001	0.0002	0.023			0.0E+00	0.0026	0.00	0.002	0.010	0.010	0.006	0.006	0.025	0.006	0.023	0.027	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-5_test013	0.019	0.0009	0.00	0.001	0.021	6PSI_2	0.001	0.0002	0.017			0.0E+00	0.0009	0.00	0.001	0.008	0.008	0.005	0.005	0.018	0.006	0.017	0.021	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.27: Catch Basin cover #3, Grade 1.0%, Cross slope 2.0%

Grade 1.0%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-8_test001	0.051	0.031	0.06	0.031	0.056	6PSI_100	0.002	0.005	0.049				0.0681	0.06	0.031	0.070	0.070	0.032	0.032	0.061	0.037	0.057	0.056	0.0023	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.002	0.001
2021-3-8_test003	0.104	0.074	0.35	0.074	0.112	15PSI_RENT_NRC_100	0.008	0.011	0.105				0.266	0.35	0.074	0.216	0.226	0.055	0.056	0.117	0.084	0.110	0.112	0.0062	0.013	0.003	0.008	0.008	0.002	0.002	0.010	0.006	0.008	0.007
2021-3-8_test004	0.098	0.069	0.31	0.069	0.105	15PSI_NRC_100	0.008	0.011					0.267	0.31	0.069	0.201	0.209	0.053	0.053	0.109	0.078	0.102	0.105	0.0059	0.010	0.003	0.007	0.006	0.002	0.002	0.009	0.006	0.007	0.007
2021-3-8_test005	0.080	0.056	0.20	0.056	0.086	11PSI	0.006	0.009					0.215	0.20	0.056	0.149	0.153	0.046	0.046	0.087	0.060	0.084	0.086	0.0049	0.004	0.002	0.003	0.003	0.001	0.001	0.007	0.004	0.006	0.005
2021-3-8_test006	0.068	0.048	0.13	0.048	0.074	8PSI	0.005	0.007					0.148	0.13	0.048	0.114	0.116	0.042	0.042	0.076	0.049	0.073	0.074	0.0043	0.002	0.001	0.001	0.001	0.001	0.001	0.005	0.003	0.004	0.004
2021-3-8_test007	0.063	0.043	0.10	0.043	0.068	7PSI	0.003	0.006					0.118	0.10	0.043	0.097	0.097	0.039	0.039	0.071	0.046	0.069	0.068	0.0037	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.003	0.002
2021-3-8_test008	0.043	0.024	0.03	0.024	0.047	6PSI_50	0.002	0.004					0.0456	0.03	0.024	0.048	0.048	0.026	0.027	0.054	0.028	0.047	0.047	0.0018	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
2021-3-8_test009	0.038	0.016	0.02	0.016	0.042	6PSI_35	0.001	0.004	0.032				0.0239	0.02	0.016	0.029	0.029	0.020	0.020	0.041	0.018	0.037	0.042	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-8_test010	0.030	0.009	0.01	0.009	0.033	6PSI_25	0.001	0.003					0.0122	0.01	0.009	0.015	0.016	0.014	0.014	0.033	0.009	0.029	0.033	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test011	0.023	0.0051	0.00	0.004	0.026	6PSI_15	0.001	0.0002	0.027			0.0E+00	0.0051	0.00	0.004	0.007	0.007	0.008	0.008	0.024	0.008	0.021	0.026	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test012	0.019	0.0028	0.00	0.002	0.022	6PSI_10	0.001	0.0002	0.019			0.0E+00	0.0028	0.00	0.002	0.004	0.004	0.006	0.006	0.023	0.007	0.019	0.022	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test013	0.015	0.0009	0.00	0.000	0.018	6PSI_02	0.001	0.0002	0.015			0.0E+00	0.0009	0.00	0.000	0.001	0.002	0.004	0.004	0.017	0.007	0.016	0.018	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test002A	0.088	0.061	0.25	0.061	0.095	15PSI	0.007	0.009					0.2681	0.25	0.061	0.171	0.179	0.049	0.049	0.096	0.069	0.090	0.095	0.0059	0.007	0.002	0.004	0.005	0.001	0.001	0.007	0.005	0.006	0.006
2021-3-8_test010A	0.030	0.008	0.01	0.008	0.034	6PSI_25	0.001	0.003					0.0118	0.01	0.008	0.014	0.015	0.013	0.013	0.031	0.009	0.029	0.034	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.28: Catch Basin cover #3, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-8_test014	0.048	0.038	0.07	0.038	0.055	6PSI_100	0.002	0.005	0.046				0.0888	0.07	0.038	0.079	0.079	0.036	0.036	0.054	0.032	0.053	0.055	0.0026	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.001	0.001
2021-3-8_test015	0.075	0.060	0.26	0.060	0.083	15PSI	0.006	0.009	0.074				0.284	0.26	0.060	0.178	0.186	0.048	0.049	0.091	0.058	0.083	0.083	0.0060	0.008	0.002	0.004	0.006	0.001	0.001	0.007	0.004	0.005	0.005
2021-3-8_test016	0.091	0.070	0.36	0.070	0.098	15PSI_RENT_NRC_100	0.007	0.010	0.091				0.283	0.36	0.070	0.220	0.231	0.053	0.054	0.114	0.080	0.098	0.098	0.0068	0.015	0.002	0.008	0.008	0.002	0.001	0.009	0.005	0.007	0.006
2021-3-8_test017	0.084	0.066	0.32	0.066	0.092	15PSI_NRC_100	0.006	0.010					0.281	0.32	0.066	0.205	0.214	0.051	0.052	0.106	0.072	0.091	0.092	0.0060	0.012	0.002	0.007	0.007	0.002	0.001	0.008	0.005	0.006	0.005
2021-3-8_test018	0.067	0.055	0.20	0.055	0.074	11PSI	0.005	0.008	0.066				0.218	0.20	0.055	0.150	0.155	0.046	0.046	0.078	0.050	0.074	0.074	0.0055	0.004	0.002	0.003	0.003	0.001	0.001	0.006	0.004	0.005	0.004
2021-3-8_test019	0.058	0.048	0.13	0.048	0.065	8PSI	0.004	0.007					0.153	0.13	0.048	0.116	0.118	0.042	0.042	0.066	0.041	0.065	0.065	0.0045	0.002	0.001	0.001	0.001	0.001	0.001	0.005	0.003	0.003	0.003
2021-3-8_test020	0.054	0.045	0.10	0.045	0.060	7PSI	0.003	0.007					0.121	0.10	0.045	0.099	0.099	0.040	0.040	0.061	0.037	0.059	0.060	0.0035	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.002	0.002
2021-3-8_test021	0.037	0.028	0.04	0.028	0.043	6PSI_50	0.001	0.005					0.0489	0.04	0.028	0.050	0.051	0.029	0.030	0.050	0.021	0.043	0.043	0.0018	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-8_test022	0.026	0.017	0.02	0.017	0.032	6PSI_35	0.001	0.004	0.027				0.0247	0.02	0.017	0.030	0.030	0.021	0.021	0.043	0.013	0.033	0.032	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test023	0.020	0.010	0.01	0.010	0.025	6PSI_25	0.001	0.003					0.0133	0.01	0.010	0.017	0.017	0.015	0.015	0.030	0.008	0.025	0.025	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test024	0.016	0.0054	0.00	0.004	0.022	6PSI_15	0.001	0.0002				0.0E+00	0.0054	0.00	0.004	0.007	0.007	0.009	0.009	0.023	0.006	0.020	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-8_test025	0.014	0.0028	0.00	0.001	0.019	6PSI_10	0.001	0.0002	0.012			0.0E+00	0.0028	0.00	0.001	0.004	0.004	0.005	0.006	0.019	0.006	0.018	0.019	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-8_test026	0.013	0.0009	0.00	0.000	0.018	6PSI_02	0.001	0.0002	0.009			0.0E+00	0.0009	0.00	0.000	0.001	0.001	0.004	0.004	0.013	0.006	0.017	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.29: Catch Basin cover #3, Grade 5.0%, Cross slope 2.0%

Grade 5.0%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-9_test001	0.043	0.036	0.07	0.036	0.048	6PSI_100	0.001	0.005	0.042				0.0862	0.07	0.036	0.076	0.077	0.034	0.035	0.045	0.027	0.050	0.048	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-9_test002	0.071	0.057	0.26	0.057	0.077	15PSI	0.006	0.008	0.069				0.283	0.26	0.057	0.177	0.185	0.047	0.047	0.079	0.051	0.078	0.077	0.0070	0.008	0.001	0.005	0.006	0.001	0.001	0.006	0.004	0.005	0.005
2021-3-9_test003	0.086	0.066	0.36	0.066	0.092	15PSI_RENT_NRC_100	0.007	0.009	0.083				0.281	0.36	0.066	0.221	0.231	0.051	0.052	0.095	0.066	0.095	0.092	0.0066	0.015	0.001	0.008	0.008	0.001	0.001	0.008	0.005	0.007	0.006
2021-3-9_test004	0.080	0.062	0.32	0.062	0.086	15PSI_NRC_100	0.007	0.009					0.282	0.32	0.062	0.205	0.214	0.049	0.050	0.088	0.059	0.088	0.086	0.0055	0.010	0.001	0.006	0.006	0.001	0.001	0.006	0.004	0.007	0.006
2021-3-9_test005	0.012	0.0028	0.00	0.001	0.016	6PSI_10	0.001	0.0002	0.011			0.00E+00	0.0028	0.00	0.001	0.003	0.003	0.004	0.005	0.013	0.005	0.016	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-9_test006	0.019	0.010	0.01	0.010	0.023	6PSI_25	0.001	0.003	0.018				0.0123	0.01	0.010	0.015	0.015	0.014	0.015	0.026	0.010	0.024	0.023	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-9_test007	0.024	0.016	0.01	0.016	0.029	6PSI_35	0.001	0.003	0.024				0.0221	0.01	0.016	0.026	0.026	0.020	0.021	0.030	0.012	0.030	0.029	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-9_test008	0.033	0.026	0.03	0.026	0.038	6PSI_50	0.002	0.004	0.033				0.0446	0.03	0.026	0.047	0.047	0.027	0.029	0.038	0.019	0.040	0.038	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2021-3-9_test009	0.048	0.042	0.11	0.042	0.053	7PSI	0.003	0.006					0.123	0.11	0.042	0.100	0.101	0.038	0.038	0.054	0.032	0.056	0.053	0.0038	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.002
2021-3-9_test010	0.052	0.046	0.14	0.046	0.057	8PSI	0.004	0.006					0.154	0.14	0.046	0.117	0.119	0.041	0.041	0.059	0.036	0.060	0.057	0.0039	0.002	0.001	0.001	0.001	0.001	0.000	0.004	0.003	0.003	0.003
2021-3-9_test011	0.060	0.052	0.20	0.052	0.066	11PSI	0.006	0.007					0.218	0.20	0.052	0.149	0.154	0.044	0.044	0.069	0.044	0.069	0.066	0.0054	0.004	0.001	0.003	0.003	0.001	0.001	0.005	0.003	0.005	0.005
2021-3-9_test012	0.016	0.0053	0.00	0.004	0.020	6PSI_15	0.001	0.0002				2.0E-04	0.0055	0.00	0.004	0.007	0.007	0.008	0.009	0.027	0.007	0.020	0.020	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-9_test004B	0.075	0.062	0.32	0.062	0.081	15PSI_NRC_100	0.006	0.008					0.282	0.32	0.062	0.205	0.214	0.049	0.050	0.088	0.059	0.088	0.081	0.0061	0.012	0.001	0.007	0.006	0.001	0.001	0.007	0.004	0.006	0.005
2021-3-9_test003A	0.082	0.067	0.36	0.067	0.088	15PSI_RENT_NRC_100	0.007	0.009	0.083				0.283	0.36	0.067	0.221	0.232	0.051	0.052	0.094	0.066	0.095	0.088	0.0062	0.015	0.002	0.008	0.009	0.001	0.001	0.007	0.005	0.007	0.006
2021-3-9_test002A	0.069	0.058	0.26	0.058	0.075	15PSI	0.006	0.008	0.070				0.283	0.26	0.058	0.178	0.186	0.047	0.048	0.079	0.052	0.079	0.075	0.0065	0.009	0.001	0.004	0.006	0.001	0.001	0.006	0.004	0.006	0.005
2021-3-9_test001A	0.042	0.037	0.07	0.037	0.047	6PSI_100	0.002	0.005	0.042				0.0875	0.07	0.037	0.078	0.078	0.035	0.036	0.046	0.028	0.050	0.047	0.0028	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.001
2021-3-9_test013	0.009	0.0008	0.00	0.000	0.012	6PSI_02	0.001	0.0002	0.008			0.0E+00	0.0008	0.00	0.000	0.001	0.001	0.004	0.005	0.015	0.006	0.016	0.012	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.30: Catch Basin cover #3, Grade 7.5%, Cross slope 2.0%

Grade 7.5%, Cross-slope 2.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-9_test014	0.038	0.033	0.07	0.033	0.044	6PSI_100	0.003	0.005	0.039				0.0862	0.07	0.033	0.076	0.077	0.033	0.033	0.040	0.026	0.044	0.044	0.0028	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002
2021-3-9_test015	0.061	0.053	0.26	0.053	0.067	15PSI	0.006	0.007	0.061				0.283	0.26	0.053	0.177	0.186	0.046	0.044	0.072	0.046	0.071	0.067	0.0059	0.008	0.001	0.004	0.006	0.001	0.000	0.005	0.004	0.006	0.005
2021-3-9_test020	0.043	0.038	0.11	0.038	0.049	7PSI	0.004	0.005					0.123	0.11	0.038	0.100	0.101	0.036	0.036	0.049	0.031	0.051	0.049	0.0035	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003
2021-3-9_test021	0.032	0.026	0.04	0.026	0.038	6PSI_50	0.002	0.004					0.0486	0.04	0.026	0.050	0.051	0.028	0.028	0.036	0.007	0.038	0.038	0.0019	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
2021-3-9_test022	0.025	0.017	0.02	0.017	0.030	6PSI_35	0.002	0.004	0.024				0.0248	0.02	0.017	0.030	0.030	0.021	0.021	0.029	0.000	0.031	0.030	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-9_test023	0.019	0.010	0.01	0.010	0.024	6PSI_25	0.001	0.003					0.0127	0.01	0.010	0.016	0.016	0.014	0.015	0.030	-0.006	0.024	0.024	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-9_test024	0.016	0.0051	0.00	0.004	0.021	6PSI_15	0.001	0.0002				2.0E-04	0.0053	0.00	0.004	0.007	0.007	0.009	0.009	0.017	-0.006	0.018	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-9_test025	0.010	0.0029	0.00	0.002	0.015	6PSI_10	0.002	0.0002	0.010			0.0E+00	0.0029	0.00	0.002	0.004	0.004	0.006	0.006	0.014	-0.006	0.017	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2021-3-9_test026	0.007	0.0007	0.00	0.000	0.011	6PSI_02	0.001	0.0002	0.006			0.0E+00	0.0007	0.00	0.000	0.001	0.001	0.004	0.004	0.013	-0.006	0.012	0.011	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-17_test001	0.038	0.032	0.08	0.032	0.044	6PSI_100	0.003	0.005	0.038				0.0926	0.08	0.032	0.080	0.079	0.032	0.033	0.042	0.026	0.045	0.044	0.0030	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002
2021-3-17_test002	0.060	0.051	0.26	0.051	0.067	15PSI	0.006	0.007	0.059				0.287	0.26	0.051	0.177	0.185	0.044	0.043	0.071	0.047	0.072	0.067	0.0069	0.008	0.001	0.005	0.005	0.001	0.001	0.005	0.004	0.006	0.005
2021-3-17_test003	0.073	0.059	0.36	0.059	0.080	15PSI_RENT_NRC_100	0.007	0.009	0.074				0.285	0.36	0.059	0.221	0.233	0.048	0.048	0.085	0.062	0.084	0.080	0.0063	0.015	0.002	0.008	0.009	0.002	0.001	0.007	0.004	0.007	0.006
2021-3-17_test004	0.068	0.056	0.32	0.056	0.075	15PSI_NRC_100	0.006	0.008					0.286	0.32	0.056	0.205	0.213	0.047	0.046	0.079	0.056	0.080	0.075	0.0065	0.011	0.002	0.007	0.006	0.002	0.001	0.006	0.004	0.006	0.005
2021-3-17_test005	0.053	0.047	0.20	0.047	0.060	11PSI	0.005	0.007					0.221	0.20	0.047	0.150	0.154	0.042	0.041	0.063	0.040	0.064	0.060	0.0055	0.004	0.001	0.003	0.003	0.001	0.001	0.005	0.003	0.005	0.004
2021-3-17_test006	0.046	0.041	0.14	0.041	0.052	8PSI	0.004	0.006					0.156	0.14	0.041	0.118	0.119	0.038	0.038	0.054	0.034	0.055	0.052	0.0040	0.002	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.003
2021-3-17_test007	0.043	0.038	0.11	0.038	0.049	7PSI	0.004	0.006					0.126	0.11	0.038	0.101	0.101	0.036	0.036	0.049	0.031	0.051	0.049	0.0040	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003
erroneous data																																		

Table B.31: Catch Basin cover #3, Grade 10.0%, Cross slope 2.0%

Grade 10.0%, Cross-slope 2.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-10_test001	0.035	0.031	0.07	0.031	0.042	6PSI_100	0.003	0.005	0.036				0.0844	0.07	0.031	0.075	0.075	0.031	0.032	0.037	-0.003	0.041	0.042	0.0028	0.001	0.000	0.001	0.001	0.000	0.000	0.001	0.003	0.002	0.002
2021-3-10_test002	0.058	0.051	0.26	0.051	0.067	15PSI	0.006	0.007	0.057				0.283	0.26	0.051	0.177	0.185	0.044	0.044	0.068	0.013	0.069	0.067	0.0056	0.009	0.001	0.005	0.006	0.001	0.000	0.006	0.005	0.006	0.005
2021-3-10_test003	0.069	0.059	0.36	0.059	0.078	15PSI_RENT_NRC_100	0.007	0.008	0.070				0.281	0.36	0.059	0.221	0.232	0.048	0.048	0.081	0.021	0.082	0.078	0.0057	0.014	0.001	0.008	0.008	0.001	0.001	0.007	0.006	0.007	0.006
2021-3-10_test004	0.065	0.056	0.32	0.056	0.074	15PSI_NRC_100	0.007	0.008					0.282	0.32	0.056	0.205	0.214	0.047	0.046	0.076	0.019	0.077	0.074	0.0064	0.012	0.001	0.007	0.007	0.001	0.000	0.006	0.005	0.006	0.006
2021-3-10_test005	0.052	0.047	0.20	0.047	0.060	11PSI	0.005	0.007					0.219	0.20	0.047	0.150	0.155	0.042	0.041	0.060	0.016	0.062	0.060	0.0057	0.004	0.001	0.003	0.003	0.001	0.000	0.005	0.005	0.005	0.004
2021-3-10_test006	0.044	0.041	0.13	0.041	0.052	8PSI	0.004	0.006					0.152	0.13	0.041	0.116	0.118	0.038	0.038	0.050	0.017	0.053	0.052	0.0037	0.002	0.000	0.001	0.001	0.001	0.000	0.003	0.005	0.004	0.003
2021-3-10_test007	0.041	0.037	0.11	0.037	0.048	7PSI	0.004	0.005					0.122	0.11	0.037	0.099	0.100	0.035	0.036	0.044	0.016	0.048	0.048	0.0035	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.004	0.003	0.003
2021-3-10_test008	0.030	0.025	0.04	0.025	0.037	6PSI_50	0.003	0.004					0.0480	0.04	0.025	0.050	0.051	0.027	0.028	0.034	0.001	0.036	0.037	0.0017	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002
2021-3-10_test009	0.024	0.016	0.02	0.016	0.030	6PSI_35	0.002	0.003	0.023				0.0248	0.02	0.016	0.030	0.030	0.020	0.021	0.029	-0.005	0.029	0.030	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-10_test010	0.019	0.009	0.01	0.009	0.024	6PSI_25	0.001	0.003					0.0133	0.01	0.009	0.017	0.017	0.014	0.015	0.033	-0.006	0.023	0.024	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000
2021-3-10_test011	0.015	0.0041	0.00	0.003	0.020	6PSI_15	0.002	0.0002				5.4E-04	0.0047	0.00	0.003	0.006	0.007	0.008	0.008	0.013	-0.006	0.017	0.020	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2021-3-10_test012	0.008	0.0024	0.00	0.001	0.013	6PSI_10	0.001	0.0002	0.008			0.0E+00	0.0024	0.00	0.001	0.003	0.004	0.005	0.005	0.013	-0.006	0.019	0.013	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-10_test013	0.007	0.0010	0.00	0.000	0.011	6PSI_2	0.001	0.0002	0.006			0.0E+00	0.0010	0.00	0.000	0.002	0.002	0.004	0.004	0.013	-0.006	0.012	0.011	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.32: Catch Basin cover #3, Grade 0.5%, Cross slope 4.0%

Grade 0.5%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-16_test001	0.084	0.044	0.07	0.044	0.089	6PSI_100	0.003	0.007	0.084				0.0877	0.07	0.044	0.077	0.076	0.040	0.040	0.091	0.058	0.087	0.089	0.0030	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.004	0.002	0.002
2021-3-16_test002	0.123	0.072	0.26	0.072	0.129	15PSI	0.007	0.011	0.125				0.285	0.26	0.072	0.177	0.186	0.054	0.054	0.132	0.081	0.126	0.129	0.0059	0.008	0.003	0.004	0.006	0.002	0.002	0.008	0.006	0.007	0.006
2021-3-16_test003	0.142	0.086	0.36	0.086	0.148	15PSI_RENT_NRC_100	0.008	0.013	0.142				0.284	0.36	0.086	0.221	0.231	0.061	0.061	0.155	0.095	0.148	0.148	0.0062	0.015	0.003	0.008	0.009	0.002	0.002	0.009	0.008	0.008	0.007
2021-3-16_test004	0.136	0.081	0.32	0.081	0.142	15PSI_NRC_100	0.008	0.013					0.286	0.32	0.081	0.205	0.213	0.059	0.059	0.145	0.081	0.139	0.142	0.0054	0.011	0.003	0.007	0.007	0.002	0.002	0.009	0.008	0.008	0.007
2021-3-16_test005	0.112	0.065	0.20	0.065	0.117	11PSI	0.007	0.010					0.220	0.20	0.065	0.150	0.155	0.051	0.051	0.119	0.056	0.115	0.117	0.0058	0.005	0.002	0.003	0.003	0.002	0.002	0.008	0.007	0.006	0.006
2021-3-16_test006	0.101	0.057	0.14	0.057	0.105	8PSI	0.005	0.009					0.155	0.14	0.057	0.117	0.119	0.047	0.047	0.106	0.042	0.102	0.105	0.0042	0.002	0.002	0.001	0.001	0.001	0.002	0.006	0.004	0.005	0.004
2021-3-16_test007	0.096	0.052	0.11	0.052	0.101	7PSI	0.004	0.008					0.126	0.11	0.052	0.101	0.101	0.044	0.044	0.101	0.035	0.095	0.101	0.0038	0.001	0.002	0.001	0.001	0.001	0.001	0.005	0.004	0.004	0.003
2021-3-16_test008	0.069	0.032	0.04	0.032	0.073	6PSI_50	0.002	0.005					0.0488	0.04	0.032	0.050	0.050	0.032	0.033	0.077	0.010	0.070	0.073	0.0008	0.000	0.001	0.000	0.000	0.000	0.001	0.002	0.002	0.001	0.001
2021-3-16_test009	0.055	0.021	0.02	0.021	0.058	6PSI_35	0.002	0.004	0.055				0.0254	0.02	0.021	0.029	0.029	0.024	0.024	0.060	-0.006	0.055	0.058	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001
2021-3-16_test010A	0.045	0.0132	0.01	0.012	0.048	6PSI_25	0.002	0.0002				5.4E-04	0.0138	0.01	0.012	0.017	0.017	0.016	0.017	0.049	-0.006	0.043	0.048	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001
2021-3-16_test011	0.033	0.0052	0.00	0.004	0.035	6PSI_15	0.002	0.0002				0.0E+00	0.0052	0.00	0.004	0.006	0.006	0.008	0.008	0.035	-0.006	0.032	0.035	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2021-3-16_test012	0.027	0.0026	0.00	0.001	0.029	6PSI_10	0.001	0.0002	0.025			0.0E+00	0.0026	0.00	0.001	0.003	0.003	0.005	0.005	0.028	-0.006	0.025	0.029	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-16_test013	0.020	0.0010	0.00	0.000	0.022	6PSI_02	0.001	0.0002	0.019			0.0E+00	0.0010	0.00	0.000	0.001	0.001	0.003	0.004	0.022	-0.006	0.021	0.022	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.33: Catch Basin cover #3, Grade 1.0%, Cross slope 4.0%

Grade 1.0%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-15_test014	0.065	0.042	0.06	0.042	0.069	6PSI_100	0.002	0.006	0.057				0.0796	0.06	0.042	0.072	0.071	0.039	0.038	0.089	0.001	0.078	0.069	0.0029	0.001	0.001	0.001	0.001	0.000	0.001	0.003	0.004	0.002	0.001
2021-3-15_test015	0.114	0.072	0.26	0.072	0.122	15PSI	0.007	0.011	0.114				0.282	0.26	0.072	0.177	0.184	0.054	0.055	0.128	0.040	0.124	0.122	0.0054	0.008	0.003	0.004	0.005	0.002	0.002	0.008	0.005	0.006	0.006
2021-3-15_test016	0.132	0.084	0.36	0.084	0.140	15PSI_RENT_NRC_100	0.008	0.013	0.129				0.281	0.36	0.084	0.220	0.230	0.060	0.060	0.147	0.055	0.136	0.140	0.0066	0.014	0.004	0.008	0.008	0.002	0.002	0.010	0.008	0.007	0.007
2021-3-15_test017	0.123	0.080	0.32	0.080	0.131	15PSI_NRC_100	0.008	0.013					0.283	0.32	0.080	0.204	0.213	0.058	0.059	0.139	0.061	0.130	0.131	0.0060	0.012	0.003	0.007	0.006	0.002	0.002	0.009	0.006	0.007	0.007
2021-3-15_test018	0.103	0.065	0.20	0.065	0.110	11PSI	0.006	0.011					0.218	0.20	0.065	0.149	0.153	0.051	0.051	0.118	0.041	0.113	0.110	0.0054	0.005	0.003	0.003	0.003	0.002	0.002	0.008	0.005	0.006	0.005
2021-3-15_test019	0.090	0.056	0.13	0.056	0.096	8PSI	0.004	0.009					0.151	0.13	0.056	0.115	0.116	0.046	0.046	0.105	0.031	0.101	0.096	0.0038	0.002	0.002	0.001	0.001	0.001	0.001	0.006	0.004	0.005	0.003
2021-3-15_test020	0.080	0.051	0.10	0.051	0.085	7PSI	0.003	0.008					0.122	0.10	0.051	0.098	0.098	0.044	0.043	0.100	0.022	0.093	0.085	0.0039	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.003	0.002
2021-3-15_test021	0.055	0.032	0.04	0.032	0.059	6PSI_50	0.001	0.005					0.0464	0.04	0.032	0.048	0.048	0.032	0.032	0.073	-0.005	0.063	0.059	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000
2021-3-15_test022	0.044	0.020	0.02	0.020	0.048	6PSI_35	0.001	0.004	0.042				0.0240	0.02	0.020	0.028	0.028	0.023	0.023	0.050	-0.006	0.049	0.048	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-15_test023	0.035	0.012	0.01	0.012	0.037	6PSI_25	0.001	0.003					0.0138	0.01	0.012	0.017	0.017	0.017	0.017	0.047	-0.006	0.039	0.037	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test024	0.024	0.0041	0.00	0.003	0.026	6PSI_15	0.001	0.0002				0.0E+00	0.0041	0.00	0.003	0.005	0.005	0.007	0.007	0.031	-0.006	0.025	0.026	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test025	0.021	0.0027	0.00	0.001	0.023	6PSI_10	0.001	0.0002				0.0E+00	0.0027	0.00	0.001	0.003	0.003	0.005	0.006	0.023	-0.006	0.024	0.023	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test026	0.017	0.0009	0.00	0.000	0.018	6PSI_02	0.001	0.0002	0.014			0.0E+00	0.0009	0.00	0.000	0.001	0.001	0.004	0.004	0.018	-0.006	0.017	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.34: Catch Basin cover #3, Grade 2.5%, Cross slope 4.0%

Grade 2.5%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-15_test001	0.060	0.041	0.06	0.041	0.067	6PSI_100	0.002	0.006	0.057				0.0804	0.06	0.041	0.072	0.071	0.038	0.038	0.078	0.022	0.078	0.067	0.0024	0.000	0.001	0.000	0.000	0.001	0.001	0.002	0.001	0.002	0.001
2021-3-15_test002	0.099	0.073	0.26	0.073	0.108	15PSI	0.006	0.011	0.098				0.283	0.26	0.073	0.176	0.185	0.055	0.055	0.119	0.053	0.113	0.108	0.0058	0.007	0.003	0.004	0.005	0.002	0.002	0.007	0.004	0.005	0.005
2021-3-15_test003	0.114	0.082	0.36	0.082	0.123	15PSI_RENT_NRC_100	0.007	0.012	0.112				0.282	0.36	0.082	0.221	0.230	0.059	0.059	0.139	0.066	0.128	0.123	0.0064	0.014	0.003	0.008	0.008	0.002	0.002	0.009	0.006	0.007	0.006
2021-3-15_test004	0.109	0.078	0.32	0.078	0.117	15PSI_NRC_100	0.006	0.012					0.282	0.32	0.078	0.204	0.213	0.058	0.057	0.130	0.055	0.120	0.117	0.0063	0.011	0.003	0.007	0.006	0.002	0.002	0.008	0.005	0.006	0.005
2021-3-15_test005	0.093	0.067	0.20	0.067	0.100	11PSI	0.005	0.011					0.217	0.20	0.067	0.149	0.153	0.052	0.052	0.106	0.039	0.103	0.100	0.0049	0.005	0.003	0.003	0.003	0.002	0.002	0.007	0.003	0.005	0.004
2021-3-15_test006	0.083	0.059	0.13	0.059	0.090	8PSI	0.004	0.009					0.151	0.13	0.059	0.115	0.116	0.048	0.048	0.095	0.030	0.092	0.090	0.0040	0.002	0.002	0.001	0.001	0.002	0.001	0.005	0.003	0.003	0.003
2021-3-15_test007	0.076	0.053	0.10	0.053	0.083	7PSI	0.003	0.008					0.121	0.10	0.053	0.097	0.098	0.045	0.045	0.089	0.027	0.087	0.083	0.0034	0.001	0.002	0.001	0.001	0.001	0.001	0.003	0.002	0.003	0.002
2021-3-15_test008	0.041	0.031	0.04	0.031	0.047	6PSI_50	0.001	0.005					0.0474	0.04	0.031	0.049	0.049	0.032	0.031	0.069	0.008	0.057	0.047	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-15_test009	0.032	0.020	0.02	0.020	0.038	6PSI_35	0.001	0.004	0.031				0.0236	0.02	0.020	0.028	0.028	0.023	0.023	0.045	0.003	0.038	0.038	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test010	0.024	0.010	0.01	0.010	0.030	6PSI_25	0.001	0.003					0.0119	0.01	0.010	0.015	0.015	0.015	0.015	0.033	-0.006	0.032	0.030	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test008A	0.037	0.028	0.03	0.028	0.043	6PSI_50	0.001	0.005					0.0409	0.03	0.028	0.043	0.043	0.030	0.029	0.064	-0.006	0.052	0.043	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-15_test011	0.018	0.0041	0.00	0.003	0.023	6PSI_15	0.001	0.0002				1.7E-04	0.0043	0.00	0.003	0.005	0.005	0.007	0.007	0.026	-0.006	0.007	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test012	0.013	0.0021	0.00	0.001	0.018	6PSI_10	0.001	0.0002	0.012			0.0E+00	0.0021	0.00	0.001	0.002	0.002	0.005	0.005	0.025	-0.006	0.019	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-15_test013	0.011	0.0008	0.00	0.000	0.016	6PSI_02	0.001	0.0002	0.008			0.0E+00	0.0008	0.00	0.000	0.001	0.001	0.004	0.003	0.018	-0.006	0.017	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.35: Catch Basin cover #3, Grade 5.0%, Cross slope 4.0%

Grade 5.0%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-12_test014	0.065	0.047	0.08	0.047	0.071	6PSI_100	0.003	0.007	0.064				0.0967	0.08	0.047	0.083	0.083	0.042	0.041	0.069	-0.004	0.074	0.071	0.0029	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.002	0.002
2021-3-12_test015	0.093	0.068	0.26	0.068	0.099	15PSI	0.006	0.010	0.090				0.288	0.26	0.068	0.179	0.187	0.053	0.053	0.099	0.022	0.104	0.099	0.0051	0.008	0.002	0.004	0.006	0.002	0.001	0.006	0.006	0.006	0.005
2021-3-12_test016	0.106	0.076	0.36	0.076	0.113	15PSI_RENT_NRC_100	0.007	0.011	0.102				0.286	0.36	0.076	0.222	0.232	0.056	0.057	0.113	0.030	0.121	0.113	0.0072	0.015	0.003	0.008	0.008	0.002	0.002	0.008	0.006	0.008	0.006
2021-3-12_test017	0.101	0.073	0.32	0.073	0.108	15PSI_NRC_100	0.007	0.011					0.287	0.32	0.073	0.206	0.215	0.054	0.055	0.108	0.025	0.112	0.108	0.0057	0.012	0.003	0.007	0.007	0.002	0.002	0.007	0.006	0.007	0.006
2021-3-12_test018	0.085	0.064	0.20	0.064	0.091	11PSI	0.006	0.010					0.223	0.20	0.064	0.151	0.157	0.051	0.050	0.091	0.021	0.094	0.091	0.0050	0.004	0.002	0.003	0.003	0.002	0.001	0.006	0.006	0.005	0.005
2021-3-12_test019	0.076	0.058	0.14	0.058	0.082	8PSI	0.004	0.009					0.158	0.14	0.058	0.120	0.122	0.047	0.047	0.081	0.005	0.085	0.082	0.0044	0.002	0.002	0.001	0.001	0.002	0.001	0.004	0.004	0.004	0.003
2021-3-12_test020	0.072	0.054	0.11	0.054	0.078	7PSI	0.004	0.009					0.130	0.11	0.054	0.104	0.105	0.046	0.045	0.076	-0.003	0.080	0.078	0.0038	0.001	0.002	0.001	0.001	0.002	0.001	0.003	0.002	0.003	0.003
2021-3-12_test021	0.050	0.034	0.04	0.034	0.055	6PSI_50	0.002	0.005					0.0552	0.04	0.034	0.056	0.056	0.033	0.033	0.066	-0.006	0.062	0.055	0.0024	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001
2021-3-12_test022	0.034	0.020	0.02	0.020	0.039	6PSI_35	0.002	0.004	0.030				0.0271	0.02	0.020	0.032	0.032	0.024	0.024	0.050	-0.006	0.043	0.039	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2021-3-12_test023	0.026	0.0133	0.01	0.012	0.030	6PSI_25	0.001	0.0002				1.6E-03	0.0149	0.01	0.012	0.019	0.019	0.016	0.017	0.037	-0.006	0.033	0.030	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-12_test024	0.019	0.0058	0.00	0.005	0.023	6PSI_15	0.001	0.0002				4.6E-04	0.0062	0.00	0.005	0.008	0.008	0.009	0.009	0.026	-0.006	0.024	0.023	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-12_test025	0.016	0.0035	0.00	0.002	0.020	6PSI_10	0.001	0.0002	0.013			2.5E-04	0.0037	0.00	0.002	0.005	0.005	0.006	0.006	0.028	-0.006	0.020	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-12_test026	0.011	0.0010	0.00	0.000	0.015	6PSI_02	0.001	0.0002	0.007			0.0E+00	0.0010	0.00	0.000	0.002	0.002	0.004	0.004	0.016	-0.006	0.016	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.36: Catch Basin cover #3, Grade 7.5%, Cross slope 4.0%

Grade 7.5%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-12_test001	0.060	0.043	0.08	0.043	0.066	6PSI_100	0.003	0.006	0.058				0.0944	0.08	0.043	0.082	0.082	0.039	0.039	0.060	-0.004	0.069	0.066	0.0029	0.00	0.001	0.001	0.000	0.001	0.000	0.002	0.002	0.003	0.002
2021-3-12_test002B	0.087	0.063	0.26	0.063	0.094	15PSI	0.006	0.009	0.081				0.286	0.26	0.063	0.178	0.186	0.050	0.050	0.090	0.015	0.096	0.094	0.0058	0.01	0.002	0.004	0.006	0.001	0.001	0.006	0.006	0.006	0.005
2021-3-12_test003	0.099	0.070	0.37	0.070	0.107	15PSI_RENT_NRC_100	0.007	0.010	0.095				0.285	0.37	0.070	0.221	0.234	0.054	0.054	0.104	0.026	0.109	0.107	0.0052	0.01	0.002	0.008	0.008	0.002	0.001	0.008	0.006	0.007	0.006
2021-3-12_test004	0.093	0.068	0.32	0.068	0.101	15PSI_NRC_100	0.006	0.010					0.286	0.32	0.068	0.206	0.215	0.052	0.053	0.098	0.024	0.104	0.101	0.0060	0.01	0.002	0.007	0.006	0.002	0.001	0.007	0.006	0.006	0.005
2021-3-12_test005	0.078	0.058	0.20	0.058	0.085	11PSI	0.006	0.008					0.223	0.20	0.058	0.151	0.156	0.048	0.047	0.082	0.019	0.087	0.085	0.0056	0.00	0.002	0.003	0.003	0.001	0.001	0.005	0.006	0.005	0.005
2021-3-12_test006	0.069	0.052	0.14	0.052	0.076	8PSI	0.005	0.007					0.158	0.14	0.052	0.119	0.121	0.045	0.044	0.073	0.015	0.078	0.076	0.0045	0.00	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.004
2021-3-12_test007	0.008	0.0008	0.00	0.000	0.013	6PSI_02	0.001	0.0002	0.006			0.0E+00	0.0008	0.00	0.000	0.002	0.002	0.003	0.004	0.015	-0.006	0.017	0.013	0.0002	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-12_test008	0.016	0.0028	0.00	0.000	0.021	6PSI_10	0.001	0.0002	0.010			0.0E+00	0.0028	0.00	0.000	0.003	0.003	0.004	0.004	0.026	-0.006	0.018	0.021	0.0001	0.00	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-12_test009	0.017	0.0044	0.00	0.002	0.022	6PSI_15	0.001	0.0002				4.3E-04	0.0048	0.00	0.002	0.006	0.006	0.006	0.006	0.028	-0.006	0.021	0.022	0.0001	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-12_test010	0.024	0.009	0.01	0.009	0.029	6PSI_25	0.001	0.003					0.0126	0.01	0.009	0.015	0.016	0.013	0.014	0.034	-0.006	0.031	0.029	0.0004	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-12_test011	0.033	0.017	0.02	0.017	0.039	6PSI_35	0.002	0.004	0.030				0.0253	0.02	0.017	0.030	0.030	0.021	0.022	0.046	-0.006	0.042	0.039	0.0006	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-12_test012	0.045	0.029	0.04	0.029	0.051	6PSI_50	0.002	0.005					0.0495	0.04	0.029	0.050	0.050	0.030	0.030	0.055	-0.001	0.056	0.051	0.0020	0.00	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
2021-3-12_test013	0.065	0.048	0.11	0.048	0.072	7PSI	0.004	0.007					0.130	0.11	0.048	0.103	0.104	0.042	0.042	0.069	0.010	0.073	0.072	0.0038	0.00	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.004	0.003
2021-3-16_test014	0.057	0.042	0.07	0.042	0.063	6PSI_100	0.003	0.006	0.056				0.091	0.07	0.042	0.079	0.079	0.039	0.038	0.060	0.018	0.067	0.063	0.0029	0.00	0.001	0.001	0.001	0.001	0.000	0.002	0.002	0.003	0.002
2021-3-16_test015	0.085	0.063	0.26	0.063	0.092	15PSI	0.006	0.009	0.083				0.286	0.26	0.063	0.177	0.185	0.051	0.050	0.090	0.037	0.094	0.092	0.0059	0.01	0.002	0.004	0.005	0.002	0.001	0.005	0.004	0.006	0.005
2021-3-16_test016	0.099	0.071	0.36	0.071	0.107	15PSI_RENT_NRC_100	0.008	0.011	0.097				0.284	0.36	0.071	0.221	0.231	0.055	0.053	0.103	0.049	0.108	0.107	0.0064	0.01	0.003	0.008	0.008	0.002	0.001	0.007	0.004	0.007	0.007
2021-3-16_test017	0.093	0.068	0.32	0.068	0.101	15PSI_NRC_100	0.007	0.011					0.283	0.32	0.068	0.204	0.214	0.053	0.053	0.098	0.045	0.103	0.101	0.0063	0.01	0.003	0.007	0.007	0.002	0.002	0.007	0.004	0.007	0.006
2021-3-16_test018	0.077	0.059	0.20	0.059	0.085	11PSI	0.006	0.009					0.221	0.20	0.059	0.150	0.154	0.048	0.048	0.082	0.030	0.086	0.085	0.0050	0.00	0.002	0.003	0.003	0.002	0.001	0.005	0.003	0.005	0.005
2021-3-16_test019	0.069	0.052	0.14	0.052	0.076	8PSI	0.004	0.007					0.157	0.14	0.052	0.118	0.120	0.044	0.044	0.073	0.023	0.077	0.076	0.0040	0.00	0.001	0.001	0.002	0.001	0.001	0.004	0.003	0.004	0.003
2021-3-16_test020	0.065	0.048	0.11	0.048	0.071	7PSI	0.004	0.007					0.128	0.11	0.048	0.101	0.102	0.043	0.042	0.068	0.020	0.072	0.071	0.0036	0.00	0.001	0.001	0.001	0.001	0.000	0.003	0.002	0.003	0.003
2021-3-16_test021	0.049	0.033	0.04	0.033	0.055	6PSI_50	0.002	0.005					0.056	0.04	0.033	0.056	0.056	0.033	0.033	0.056	0.010	0.060	0.055	0.0010	0.00	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.001
erroneous data																																		

Table B.37: Catch Basin cover #3, Grade 10.0%, Cross slope 4.0%

Grade 10.0%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-11_test001	0.054	0.041	0.08	0.041	0.063	6PSI_100	0.004	0.006	0.052				0.0968	0.08	0.041	0.083	0.084	0.037	0.038	0.053	0.003	0.063	0.063	0.0028	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.003	0.003	0.003
2021-3-11_test002	0.078	0.061	0.26	0.061	0.088	15PSI	0.006	0.008	0.078				0.287	0.26	0.061	0.178	0.186	0.049	0.049	0.084	0.018	0.092	0.088	0.0062	0.008	0.001	0.004	0.006	0.001	0.001	0.005	0.005	0.006	0.005
2021-3-11_test003	0.089	0.069	0.36	0.069	0.100	15PSI_RENT_NRC_100	0.007	0.009	0.090				0.285	0.36	0.069	0.222	0.233	0.053	0.053	0.098	0.028	0.104	0.100	0.0064	0.015	0.001	0.008	0.008	0.001	0.001	0.008	0.005	0.007	0.006
2021-3-11_test004	0.085	0.066	0.32	0.066	0.096	15PSI_NRC_100	0.007	0.009					0.287	0.32	0.066	0.206	0.215	0.052	0.051	0.093	0.029	0.100	0.096	0.0060	0.011	0.002	0.007	0.006	0.001	0.001	0.007	0.005	0.007	0.006
2021-3-11_test005	0.071	0.057	0.20	0.057	0.081	11PSI	0.006	0.008					0.221	0.20	0.057	0.152	0.156	0.047	0.047	0.076	0.029	0.084	0.081	0.0045	0.004	0.001	0.003	0.003	0.001	0.001	0.005	0.003	0.006	0.005
2021-3-11_test006	0.063	0.051	0.14	0.051	0.072	8PSI	0.005	0.007					0.158	0.14	0.051	0.120	0.122	0.044	0.044	0.067	0.024	0.075	0.072	0.0041	0.002	0.001	0.001	0.002	0.001	0.000	0.004	0.002	0.004	0.004
2021-3-11_test007	0.059	0.047	0.11	0.047	0.068	7PSI	0.004	0.006					0.131	0.11	0.047	0.104	0.105	0.041	0.042	0.061	0.018	0.069	0.068	0.0039	0.001	0.001	0.001	0.001	0.001	0.000	0.003	0.002	0.004	0.003
2021-3-11_test008	0.045	0.032	0.04	0.032	0.052	6PSI_50	0.003	0.005					0.0557	0.04	0.032	0.055	0.055	0.031	0.033	0.049	0.007	0.055	0.052	0.0023	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.002
2021-3-11_test009	0.034	0.019	0.02	0.019	0.041	6PSI_35	0.002	0.004	0.030				0.0275	0.02	0.019	0.033	0.033	0.022	0.024	0.042	-0.002	0.043	0.041	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-11_test010	0.026	0.010	0.01	0.010	0.032	6PSI_35	0.002	0.003	0.022				0.0136	0.01	0.010	0.017	0.017	0.014	0.015	0.032	-0.006	0.032	0.032	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-11_test010A	0.026	0.011	0.01	0.011	0.032	6PSI_25	0.002	0.003					0.0136	0.01	0.011	0.018	0.018	0.015	0.015	0.033	-0.006	0.032	0.032	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-11_test009A	0.033	0.019	0.02	0.019	0.039	6PSI_35	0.002	0.004	0.028				0.0250	0.02	0.019	0.029	0.029	0.022	0.022	0.041	-0.005	0.041	0.039	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-11_test011	0.019	0.0053	0.00	0.005	0.025	6PSI_15	0.001	0.0002				8.0E-04	0.0061	0.00	0.005	0.008	0.008	0.010	0.009	0.030	-0.006	0.024	0.025	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-11_test012	0.017	0.0025	0.00	0.002	0.022	6PSI_10	0.001	0.0002	0.010			0.0E+00	0.0025	0.00	0.002	0.004	0.004	0.006	0.006	0.021	-0.006	0.019	0.022	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-11_test013	0.010	0.0010	0.00	0.001	0.014	6PSI_02	0.001	0.0002	0.007			0.0E+00	0.0010	0.00	0.001	0.002	0.002	0.005	0.004	0.014	-0.006	0.019	0.014	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.38: Catch Basin cover #4, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross slope 2.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-18_test001	0.064	0.045	0.07	0.045	0.068	6PSI_100	0.004	0.006	0.070				0.0911	0.07	0.045	0.079	0.079	0.040	0.040	0.070	0.051	0.067	0.068	0.0031	0.001	0.001	0.001	0.000	0.001	0.000	0.003	0.002	0.003	0.003
2021-3-18_test002	0.098	0.106	0.26	0.106	0.103	15PSI	0.008	0.014	0.102				0.286	0.26	0.106	0.177	0.185	0.070	0.069	0.108	0.084	0.101	0.103	0.0064	0.008	0.004	0.005	0.006	0.002	0.001	0.008	0.006	0.008	0.007
2021-3-18_test003	0.118	0.149	0.36	0.149	0.123	15PSI_RENT_NRC_100	0.011	0.021	0.120				0.284	0.36	0.149	0.221	0.232	0.089	0.082	0.126	0.105	0.120	0.123	0.0060	0.015	0.007	0.008	0.008	0.004	0.003	0.011	0.008	0.009	0.010
2021-3-18_test004	0.111	0.129	0.32	0.129	0.116	15PSI_NRC_100	0.010	0.017					0.284	0.32	0.129	0.205	0.214	0.080	0.077	0.117	0.099	0.114	0.116	0.0061	0.011	0.005	0.007	0.006	0.003	0.002	0.010	0.008	0.008	0.009
2021-3-18_test005	0.089	0.087	0.20	0.087	0.094	11PSI	0.008	0.012					0.222	0.20	0.087	0.151	0.155	0.061	0.061	0.097	0.073	0.090	0.094	0.0052	0.004	0.003	0.003	0.003	0.002	0.002	0.008	0.005	0.007	0.007
2021-3-18_test006	0.079	0.066	0.14	0.066	0.083	8PSI	0.006	0.009					0.158	0.14	0.066	0.119	0.120	0.052	0.052	0.084	0.063	0.077	0.083	0.0045	0.002	0.002	0.001	0.001	0.001	0.001	0.006	0.005	0.005	0.005
2021-3-18_test007	0.074	0.058	0.11	0.058	0.078	7PSI	0.005	0.008					0.128	0.11	0.058	0.102	0.103	0.047	0.047	0.078	0.059	0.072	0.078	0.0035	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.004	0.004	0.004
2021-3-18_test008A	0.055	0.031	0.04	0.031	0.058	6PSI_50	0.002	0.005					0.0516	0.04	0.031	0.053	0.053	0.031	0.032	0.061	0.034	0.057	0.058	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.001
2021-3-18_test009	0.043	0.021	0.02	0.021	0.046	6PSI_35	0.002	0.004	0.046				0.0275	0.02	0.021	0.031	0.031	0.024	0.025	0.050	0.026	0.044	0.046	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.001
2021-3-18_test010	0.035	0.0145	0.01	0.013	0.038	6PSI_25	0.001	0.0002				1.0E-03	0.0155	0.01	0.013	0.019	0.019	0.017	0.018	0.041	0.015	0.035	0.038	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-18_test011	0.025	0.0059	0.00	0.004	0.027	6PSI_15	0.001	0.0002				0.0E+00	0.0059	0.00	0.004	0.007	0.007	0.009	0.009	0.031	0.010	0.023	0.027	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-18_test012	0.020	0.0029	0.00	0.001	0.022	6PSI_10	0.001	0.0002	0.021			0.0E+00	0.0029	0.00	0.001	0.004	0.003	0.005	0.006	0.026	0.007	0.019	0.022	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-18_test013	0.013	0.0007	0.00	0.000	0.015	6PSI_02	0.001	0.0002	0.015			0.0E+00	0.0007	0.00	0.000	0.001	0.001	0.003	0.004	0.020	0.007	0.016	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-18_test004A	0.112	0.132	0.32	0.132	0.117	15PSI_NRC_100	0.010	0.017					0.286	0.32	0.132	0.205	0.213	0.081	0.077	0.117	0.100	0.115	0.117	0.0061	0.012	0.005	0.007	0.007	0.003	0.002	0.009	0.008	0.008	0.009
erroneous data																																		

Table B.39: Catch Basin cover #4, Grade 1.0%, Cross slope 2.0%

Grade 1.0%, Cross slope 2.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-19_test001	0.051	0.041	0.07	0.041	0.054	6PSI_100	0.003	0.006	0.050				0.0809	0.07	0.041	0.072	0.072	0.038	0.038	0.064	0.036	0.060	0.054	0.0023	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.002	0.002
2021-3-19_test002	0.088	0.096	0.26	0.096	0.093	15PSI	0.008	0.013	0.089				0.283	0.26	0.096	0.176	0.185	0.066	0.065	0.101	0.070	0.092	0.093	0.0057	0.008	0.003	0.004	0.006	0.002	0.001	0.008	0.005	0.006	0.007
2021-3-19_test003	0.105	0.121	0.36	0.121	0.112	15PSI_RENT_NRC_100	0.010	0.017	0.108				0.281	0.36	0.121	0.220	0.231	0.076	0.075	0.121	0.085	0.111	0.112	0.0059	0.014	0.005	0.008	0.008	0.003	0.002	0.010	0.006	0.008	0.009
2021-3-19_test004	0.099	0.113	0.32	0.113	0.105	15PSI_NRC_100	0.009	0.015					0.282	0.32	0.113	0.205	0.213	0.073	0.071	0.113	0.079	0.103	0.105	0.0057	0.012	0.004	0.007	0.007	0.003	0.002	0.009	0.006	0.007	0.008
2021-3-19_test005	0.078	0.083	0.20	0.083	0.083	11PSI	0.007	0.012					0.219	0.20	0.083	0.149	0.153	0.060	0.059	0.089	0.060	0.083	0.083	0.0055	0.004	0.003	0.003	0.003	0.002	0.001	0.007	0.004	0.006	0.006
2021-3-19_test006	0.066	0.065	0.13	0.065	0.070	8PSI	0.005	0.010					0.151	0.13	0.065	0.115	0.116	0.051	0.051	0.078	0.049	0.073	0.070	0.0042	0.002	0.002	0.001	0.001	0.002	0.001	0.005	0.003	0.004	0.004
2021-3-19_test007	0.060	0.056	0.10	0.056	0.065	7PSI	0.004	0.008					0.121	0.10	0.056	0.098	0.098	0.046	0.046	0.073	0.046	0.069	0.065	0.0038	0.001	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.003	0.003
2021-3-19_test008	0.040	0.029	0.04	0.029	0.043	6PSI_50	0.001	0.005					0.0459	0.04	0.029	0.048	0.048	0.030	0.030	0.056	0.036	0.049	0.043	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000
2021-3-19_test009	0.033	0.018	0.02	0.018	0.036	6PSI_35	0.001	0.004	0.034				0.0250	0.02	0.018	0.029	0.029	0.022	0.022	0.044	0.018	0.037	0.036	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-19_test010	0.025	0.011	0.01	0.011	0.027	6PSI_25	0.001	0.003					0.0132	0.01	0.011	0.016	0.016	0.015	0.016	0.033	0.009	0.030	0.027	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-19_test011	0.018	0.0053	0.00	0.004	0.020	6PSI_15	0.001	0.0002				0.0E+00	0.0053	0.00	0.004	0.007	0.006	0.008	0.008	0.026	0.008	0.020	0.020	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-19_test012	0.015	0.0024	0.00	0.001	0.016	6PSI_10	0.001	0.0002	0.020			0.0E+00	0.0024	0.00	0.001	0.003	0.003	0.005	0.005	0.023	0.006	0.018	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-19_test013	0.011	0.0008	0.00	0.000	0.012	6PSI_02	0.001	0.0002	0.012			0.0E+00	0.0008	0.00	0.000	0.001	0.001	0.003	0.003	0.019	0.006	0.016	0.012	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.40: Catch Basin cover #4, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-22_test001	0.045	0.049	0.05	0.049	0.052	6PSI_100	0.002	0.007	0.046				0.0839	0.07	0.049	0.074	0.074	0.043	0.042	0.054	0.030	0.050	0.052	0.0028	0.001	0.001	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.001
2021-3-22_test002	0.073	0.097	0.10	0.097	0.080	15PSI	0.006	0.012	0.075				0.285	0.26	0.097	0.177	0.185	0.067	0.065	0.088	0.056	0.080	0.080	0.0061	0.009	0.003	0.005	0.006	0.002	0.001	0.006	0.004	0.005	0.005
2021-3-22_test006	0.056	0.071	0.07	0.071	0.062	8PSI	0.004	0.010					0.154	0.13	0.071	0.116	0.118	0.055	0.053	0.067	0.041	0.063	0.062	0.0047	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.003
2021-3-22_test007	0.051	0.063	0.06	0.063	0.058	7PSI	0.003	0.009					0.123	0.11	0.063	0.099	0.100	0.051	0.050	0.061	0.037	0.057	0.058	0.0043	0.001	0.002	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.002
2021-3-22_test008	0.035	0.034	0.03	0.034	0.041	6PSI_50	0.001	0.005					0.0489	0.04	0.034	0.050	0.050	0.033	0.033	0.047	0.020	0.042	0.041	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000
2021-3-22_test009	0.025	0.020	0.02	0.020	0.031	6PSI_35	0.001	0.004	0.028				0.0265	0.02	0.020	0.030	0.030	0.023	0.024	0.038	0.014	0.034	0.031	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test010	0.020	0.0142	0.01	0.012	0.025	6PSI_25	0.001	0.0002				9.5E-04	0.0151	0.01	0.012	0.019	0.019	0.017	0.017	0.032	0.009	0.026	0.025	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test011	0.014	0.0053	0.00	0.004	0.019	6PSI_15	0.001	0.0002				0.0E+00	0.0053	0.00	0.004	0.006	0.006	0.008	0.008	0.025	0.006	0.018	0.019	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test012	0.011	0.0027	0.00	0.001	0.016	6PSI_10	0.001	0.0002	0.012			0.0E+00	0.0027	0.00	0.001	0.003	0.003	0.005	0.005	0.023	0.006	0.017	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test013	0.006	0.0007	0.00	0.000	0.011	6PSI_02	0.001	0.0002	0.008			0.0E+00	0.0007	0.00	0.000	0.001	0.001	0.004	0.003	0.017	0.006	0.016	0.011	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test005A	0.065	0.085	0.09	0.085	0.071	11PSI	0.006	0.011					0.221	0.20	0.085	0.150	0.154	0.061	0.060	0.078	0.049	0.072	0.071	0.0056	0.004	0.002	0.003	0.003	0.002	0.001	0.006	0.004	0.005	0.005
2021-3-22_test003A	0.089	0.116	0.12	0.116	0.096	15PSI_RENT_NRC_100	0.008	0.014					0.284	0.36	0.116	0.221	0.231	0.075	0.071	0.110	0.077	0.096	0.096	0.0058	0.015	0.004	0.008	0.008	0.002	0.002	0.008	0.005	0.007	0.007
2021-3-22_test004A	0.082	0.108	0.11	0.108	0.090	15PSI_NRC_100	0.007	0.014					0.285	0.32	0.108	0.204	0.213	0.072	0.069	0.104	0.069	0.090	0.090	0.0059	0.012	0.003	0.007	0.007	0.002	0.002	0.008	0.005	0.006	0.006
erroneous data																																		

Table B.41: Catch Basin cover #4, Grade 5.0%, Cross slope 2.0%

Grade 5.0%, Cross slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-22_test014	0.040	0.049	0.08	0.049	0.044	6PSI_100	0.003	0.007	0.042				0.0915	0.08	0.049	0.080	0.080	0.043	0.042	0.045	0.028	0.046	0.044	0.0031	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.002	0.002	0.002
2021-3-22_test015	0.065	0.096	0.26	0.096	0.071	15PSI	0.007	0.012					0.286	0.26	0.096	0.177	0.185	0.066	0.065	0.075	0.049	0.073	0.071	0.0056	0.008	0.003	0.004	0.005	0.002	0.002	0.005	0.004	0.005	0.006
2021-3-22_test016	0.079	0.119	0.36	0.119	0.086	15PSI_RENT_NRC_100	0.008	0.016	0.079				0.284	0.36	0.119	0.221	0.233	0.078	0.072	0.090	0.063	0.089	0.086	0.0062	0.015	0.004	0.008	0.008	0.003	0.002	0.007	0.005	0.007	0.007
2021-3-22_test017	0.074	0.110	0.32	0.110	0.079	15PSI_NRC_100	0.007	0.015					0.285	0.32	0.110	0.205	0.213	0.072	0.070	0.084	0.057	0.082	0.079	0.0062	0.012	0.004	0.007	0.007	0.002	0.002	0.006	0.004	0.006	0.006
2021-3-22_test018	0.057	0.080	0.20	0.080	0.062	11PSI	0.006	0.011					0.220	0.20	0.080	0.151	0.156	0.058	0.058	0.067	0.043	0.065	0.062	0.0058	0.005	0.002	0.003	0.003	0.001	0.002	0.005	0.003	0.004	0.005
2021-3-22_test019	0.049	0.068	0.14	0.068	0.054	8PSI	0.004	0.009	0.051				0.157	0.14	0.068	0.119	0.120	0.053	0.053	0.059	0.036	0.056	0.054	0.0040	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.003	0.003
2021-3-22_test020	0.045	0.060	0.11	0.060	0.050	7PSI	0.004	0.009	0.046				0.128	0.11	0.060	0.102	0.103	0.049	0.048	0.054	0.032	0.052	0.050	0.0042	0.002	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.003	0.003
2021-3-22_test021	0.032	0.034	0.04	0.034	0.036	6PSI_50	0.002	0.005					0.0514	0.04	0.034	0.053	0.053	0.033	0.033	0.039	0.021	0.040	0.036	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001
2021-3-22_test022	0.025	0.021	0.02	0.021	0.029	6PSI_35	0.001	0.004	0.026				0.0276	0.02	0.021	0.032	0.032	0.024	0.024	0.032	0.015	0.031	0.029	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test023	0.020	0.013	0.01	0.013	0.024	6PSI_25	0.001	0.003					0.0162	0.01	0.013	0.021	0.021	0.018	0.018	0.028	0.013	0.026	0.024	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test024A	0.013	0.0060	0.00	0.004	0.017	6PSI_15	0.001	0.0002				0.0E+00	0.0060	0.00	0.004	0.008	0.008	0.009	0.009	0.024	0.008	0.019	0.017	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-22_test025	0.012	0.0026	0.00	0.001	0.016	6PSI_10	0.001	0.0002	0.011			0.0E+00	0.0026	0.00	0.001	0.004	0.004	0.005	0.005	0.017	0.008	0.018	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-22_test026	0.006	0.0006	0.00	0.000	0.010	6PSI_02	0.001	0.0002	0.007			0.0E+00	0.0006	0.00	0.000	0.001	0.001	0.004	0.004	0.017	0.008	0.014	0.010	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.42: Catch Basin cover #4, Grade 7.5%, Cross slope 2.0%

Grade 7.5%, Cross slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-23_test001	0.035	0.043	0.07	0.043	0.040	6PSI_100	0.003	0.006	0.037				0.0853	0.07	0.043	0.076	0.076	0.039	0.039	0.041	0.026	0.042	0.040	0.0024	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.002	0.002	0.002
2021-3-23_test002	0.058	0.084	0.26	0.084	0.065	15PSI	0.006	0.011	0.060				0.285	0.26	0.084	0.178	0.185	0.059	0.061	0.068	0.046	0.069	0.065	0.0062	0.008	0.003	0.005	0.006	0.001	0.002	0.005	0.004	0.005	0.005
2021-3-23_test003	0.071	0.101	0.36	0.101	0.078	15PSI_RENT_NRC_100	0.007	0.014	0.071				0.283	0.36	0.101	0.221	0.232	0.066	0.068	0.080	0.059	0.082	0.078	0.0054	0.014	0.004	0.008	0.008	0.001	0.003	0.007	0.004	0.007	0.006
2021-3-23_test004	0.066	0.095	0.32	0.095	0.073	15PSI_NRC_100	0.007	0.013					0.283	0.32	0.095	0.206	0.214	0.064	0.066	0.075	0.054	0.077	0.073	0.0064	0.011	0.003	0.007	0.006	0.001	0.002	0.006	0.004	0.006	0.006
2021-3-23_test005	0.052	0.075	0.20	0.075	0.058	11PSI	0.005	0.010					0.220	0.20	0.075	0.151	0.155	0.055	0.057	0.061	0.040	0.062	0.058	0.0048	0.005	0.002	0.003	0.003	0.001	0.002	0.005	0.003	0.005	0.004
2021-3-23_test006	0.044	0.063	0.14	0.063	0.050	8PSI	0.004	0.009					0.155	0.14	0.063	0.118	0.119	0.049	0.051	0.053	0.033	0.053	0.050	0.0046	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.003
2021-3-23_test007	0.041	0.057	0.11	0.057	0.046	7PSI	0.004	0.008	0.045				0.125	0.11	0.057	0.101	0.102	0.046	0.047	0.049	0.031	0.049	0.046	0.0037	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.003	0.003
2021-3-23_test008	0.030	0.031	0.04	0.031	0.035	6PSI_50	0.002	0.005					0.0514	0.04	0.031	0.053	0.053	0.032	0.032	0.037	0.021	0.037	0.035	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
2021-3-23_test009	0.022	0.017	0.02	0.017	0.027	6PSI_35	0.002	0.004	0.024				0.0249	0.02	0.017	0.030	0.030	0.021	0.022	0.029	0.017	0.030	0.027	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-23_test010	0.017	0.011	0.01	0.011	0.022	6PSI_25	0.001	0.003					0.0146	0.01	0.011	0.019	0.019	0.016	0.015	0.031	0.014	0.024	0.022	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000
2021-3-23_test011A	0.012	0.0055	0.00	0.004	0.017	6PSI_15	0.001	0.0002				3.4E-04	0.0058	0.00	0.004	0.008	0.008	0.008	0.008	0.019	0.008	0.020	0.017	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-23_test012	0.009	0.0023	0.00	0.001	0.014	6PSI_10	0.001	0.0002	0.009			0.0E+00	0.0023	0.00	0.001	0.003	0.003	0.004	0.004	0.016	0.007	0.019	0.014	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-23_test013	0.005	0.0007	0.00	0.000	0.009	6PSI_02	0.001	0.0002	0.006			0.0E+00	0.0007	0.00	0.000	0.001	0.001	0.003	0.003	0.015	0.008	0.012	0.009	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.43: Catch Basin cover #4, Grade 10.0%, Cross slope 2.0%

Grade 10.0%, Cross slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-23_test014	0.032	0.041	0.07	0.041	0.039	6PSI_100	0.004	0.006	0.035				0.0900	0.07	0.041	0.079	0.079	0.038	0.037	0.038	0.026	0.041	0.039	0.0030	0.001	0.000	0.001	0.000	0.000	0.000	0.001	0.002	0.003	0.003
2021-3-23_test015	0.054	0.078	0.26	0.078	0.063	15PSI	0.006	0.010	0.056				0.284	0.26	0.078	0.178	0.186	0.058	0.057	0.063	0.045	0.067	0.063	0.0065	0.008	0.002	0.004	0.006	0.001	0.001	0.005	0.004	0.006	0.005
2021-3-23_test016	0.065	0.093	0.36	0.093	0.074	15PSI_RENT_NRC_100	0.008	0.014	0.068				0.284	0.36	0.093	0.222	0.233	0.064	0.064	0.073	0.058	0.079	0.074	0.0062	0.015	0.004	0.009	0.008	0.002	0.003	0.007	0.005	0.007	0.007
2021-3-23_test017	0.061	0.089	0.32	0.089	0.070	15PSI_NRC_100	0.007	0.013					0.284	0.32	0.089	0.205	0.215	0.062	0.063	0.070	0.053	0.074	0.070	0.0057	0.011	0.004	0.007	0.006	0.001	0.003	0.006	0.004	0.006	0.006
2021-3-23_test018	0.049	0.072	0.20	0.072	0.056	11PSI	0.006	0.011					0.220	0.20	0.072	0.151	0.155	0.055	0.054	0.056	0.039	0.060	0.056	0.0048	0.005	0.003	0.003	0.003	0.001	0.002	0.005	0.003	0.005	0.005
2021-3-23_test019	0.042	0.060	0.14	0.060	0.049	8PSI	0.005	0.009					0.156	0.14	0.060	0.119	0.120	0.049	0.048	0.048	0.032	0.051	0.049	0.0039	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.004
2021-3-23_test020	0.038	0.053	0.11	0.053	0.045	7PSI	0.004	0.007					0.126	0.11	0.053	0.102	0.103	0.046	0.044	0.044	0.030	0.047	0.045	0.0043	0.001	0.001	0.001	0.001	0.001	0.000	0.003	0.002	0.003	0.003
2021-3-23_test021	0.027	0.028	0.04	0.028	0.033	6PSI_50	0.003	0.004					0.0470	0.04	0.028	0.050	0.050	0.030	0.029	0.035	0.021	0.035	0.033	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.002
2021-3-23_test022	0.022	0.018	0.02	0.018	0.027	6PSI_35	0.002	0.004	0.023				0.0279	0.02	0.018	0.033	0.032	0.022	0.022	0.031	0.018	0.030	0.027	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
2021-3-23_test023	0.016	0.010	0.01	0.010	0.021	6PSI_25	0.001	0.003					0.0151	0.01	0.010	0.020	0.019	0.015	0.015	0.035	0.015	0.025	0.021	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000
2021-3-23_test024	0.014	0.0051	0.00	0.003	0.019	6PSI_15	0.001	0.0002				7.0E-04	0.0058	0.00	0.003	0.008	0.008	0.008	0.008	0.016	0.008	0.019	0.019	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-23_test025	0.009	0.0029	0.00	0.001	0.013	6PSI_10	0.002	0.0002	0.009			0.0E+00	0.0029	0.00	0.001	0.005	0.004	0.005	0.005	0.016	0.007	0.019	0.013	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2021-3-23_test026	0.005	0.0011	0.00	0.000	0.009	6PSI_05	0.001	0.0002	0.006			0.0E+00	0.0011	0.00	0.000	0.002	0.002	0.004	0.004	0.015	0.007	0.014	0.009	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.44: Catch Basin cover #4, Grade 0.5%, Cross slope 4.0%

Grade 0.5%, Cross slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-26_test008	0.089	0.068	0.09	0.068	0.094	6PSI_100	0.004	0.010	0.094	0.097			0.1055	0.09	0.068	0.089	0.089	0.053	0.052	0.094	0.047	0.085	0.094	0.003	0.001	0.002	0.001	0.001	0.002	0.001	0.004	0.004	0.003	0.003
2021-3-26_test009	0.121	0.133	0.27	0.133	0.127	15PSI	0.008	0.018	0.123	0.122			0.291	0.27	0.133	0.180	0.189	0.083	0.077	0.131	0.087	0.124	0.127	0.006	0.009	0.006	0.005	0.006	0.003	0.003	0.008	0.007	0.007	0.007
2021-3-26_test010	0.14	0.166	0.37	0.166	0.144	15PSI_RENT_NRC_100	0.009	0.024	0.139	0.142			0.289	0.37	0.166	0.224	0.236	0.094	0.089	0.151	0.110	0.144	0.144	0.006	0.014	0.009	0.008	0.008	0.004	0.004	0.010	0.009	0.008	0.008
2021-3-26_test011	0.13	0.156	0.33	0.156	0.140	15PSI_NRC_100	0.008	0.022		0.135			0.289	0.33	0.156	0.208	0.218	0.091	0.085	0.142	0.102	0.137	0.140	0.006	0.011	0.007	0.007	0.006	0.003	0.003	0.009	0.008	0.007	0.007
2021-3-26_test012	0.112	0.115	0.21	0.115	0.117	11PSI	0.007	0.015		0.112			0.229	0.21	0.115	0.155	0.159	0.075	0.072	0.119	0.074	0.114	0.117	0.006	0.004	0.004	0.003	0.003	0.003	0.002	0.008	0.006	0.006	0.006
2021-3-26_test013	0.099	0.093	0.15	0.093	0.104	8PSI	0.006	0.013		0.103			0.166	0.15	0.093	0.124	0.126	0.065	0.063	0.106	0.064	0.101	0.104	0.005	0.002	0.003	0.001	0.002	0.002	0.001	0.006	0.006	0.005	0.005
2021-3-26_test014	0.094	0.082	0.12	0.082	0.099	7PSI	0.005	0.011		0.101			0.139	0.12	0.082	0.109	0.110	0.060	0.059	0.102	0.062	0.095	0.099	0.004	0.001	0.002	0.001	0.001	0.002	0.001	0.005	0.005	0.004	0.004
2021-3-26_test015	0.075	0.049	0.05	0.049	0.079	6PSI_50	0.003	0.007		0.079			0.0623	0.05	0.049	0.062	0.062	0.043	0.042	0.082	0.038	0.076	0.079	0.001	0.000	0.001	0.000	0.000	0.001	0.001	0.002	0.002	0.002	0.002
2021-3-26_test016	0.057	0.028	0.02	0.028	0.061	6PSI_35	0.002	0.005	0.058	0.062			0.0316	0.02	0.028	0.036	0.036	0.029	0.030	0.063	0.015	0.056	0.061	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001
2021-3-26_test017	0.049	0.017	0.01	0.017	0.052	6PSI_25	0.002	0.004		0.044			0.0188	0.01	0.017	0.024	0.023	0.021	0.022	0.054	0.010	0.045	0.052	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.001
2021-3-26_test018	0.033	0.0074	0.00	0.006	0.035	6PSI_15	0.001	0.0002		0.031		0.0E+00	0.0074	0.00	0.006	0.010	0.010	0.011	0.011	0.040	0.008	0.032	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-26_test019	0.025	0.0032	0.00	0.002	0.028	6PSI_10	0.001	0.0002	0.032	0.021		0.0E+00	0.0032	0.00	0.002	0.005	0.005	0.006	0.006	0.030	0.008	0.022	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-26_test020	0.017	0.0008	0.00	0.000	0.019	6PSI_05	0.001	0.0002	0.018	0.013		0.0E+00	0.0008	0.00	0.000	0.002	0.001	0.004	0.004	0.022	0.008	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.45: Catch Basin cover #4, Grade 1.0%, Cross slope 4.0%

Grade 1.0%, Cross slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-25_test020	0.071	0.064	0.08	0.064	0.076	6PSI_100	0.003	0.009	0.072				0.0974	0.08	0.064	0.084	0.084	0.051	0.050	0.093	0.043	0.085	0.076	0.0033	0.001	0.002	0.001	0.001	0.002	0.001	0.003	0.004	0.002	0.002
2021-3-25_test021	0.114	0.136	0.26	0.136	0.122	15PSI	0.007	0.019	0.116				0.286	0.26	0.136	0.179	0.187	0.083	0.079	0.126	0.072	0.119	0.122	0.0061	0.008	0.006	0.005	0.006	0.003	0.003	0.008	0.006	0.006	0.006
2021-3-25_test023	0.056	0.045	0.04	0.045	0.060	6PSI_50	0.002	0.006					0.0546	0.04	0.045	0.056	0.056	0.041	0.040	0.079	0.018	0.067	0.060	0.0010	0.000	0.001	0.000	0.000	0.001	0.000	0.002	0.002	0.001	0.001
2021-3-25_test024	0.046	0.025	0.02	0.025	0.049	6PSI_35	0.001	0.004	0.048				0.0282	0.02	0.025	0.033	0.033	0.027	0.027	0.056	0.009	0.052	0.049	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test025	0.039	0.014	0.01	0.014	0.042	6PSI_25	0.001	0.003					0.0164	0.01	0.014	0.021	0.021	0.018	0.019	0.048	0.008	0.042	0.042	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test026	0.027	0.0069	0.00	0.005	0.029	6PSI_15	0.001	0.0002				0.0E+00	0.0069	0.00	0.005	0.010	0.009	0.010	0.010	0.037	0.007	0.032	0.029	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test027	0.019	0.0027	0.00	0.001	0.021	6PSI_10	0.001	0.0002	0.018			0.0E+00	0.0027	0.00	0.001	0.005	0.004	0.005	0.005	0.025	0.006	0.022	0.021	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test028	0.015	0.0010	0.00	0.000	0.017	6PSI_05	0.001	0.0002	0.019			0.0E+00	0.0010	0.00	0.000	0.002	0.002	0.003	0.003	0.022	0.004	0.018	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-26_test001	0.075	0.068	0.09	0.068	0.080	6PSI_100	0.003	0.010	0.075				0.106	0.09	0.068	0.089	0.089	0.053	0.052	0.095	0.043	0.087	0.080	0.0034	0.001	0.002	0.001	0.001	0.002	0.001	0.004	0.004	0.003	0.002
2021-3-26_test002	0.114	0.137	0.27	0.137	0.122	15PSI	0.007	0.019	0.116				0.291	0.27	0.137	0.179	0.188	0.084	0.078	0.126	0.072	0.120	0.122	0.0063	0.009	0.006	0.004	0.006	0.003	0.003	0.008	0.005	0.006	0.006
2021-3-26_test003	0.133	0.16	0.37	0.164	0.141	15PSI_RENT_NRC_100	0.009	0.02	0.135				0.288	0.37	0.164	0.224	0.236	0.093	0.089	0.145	0.090	0.135	0.141	0.0058	0.013	0.009	0.008	0.007	0.004	0.004	0.010	0.006	0.007	0.008
2021-3-26_test004	0.125	0.16	0.33	0.160	0.133	15PSI_NRC_100	0.008	0.02					0.288	0.33	0.160	0.208	0.217	0.092	0.087	0.137	0.083	0.127	0.133	0.0058	0.012	0.008	0.007	0.007	0.004	0.004	0.009	0.006	0.007	0.007
2021-3-26_test005	0.105	0.118	0.21	0.118	0.112	11PSI	0.007	0.017					0.227	0.21	0.118	0.154	0.158	0.077	0.072	0.116	0.063	0.112	0.112	0.0053	0.004	0.005	0.003	0.003	0.003	0.002	0.007	0.005	0.006	0.006
2021-3-26_test006	0.094	0.094	0.15	0.094	0.100	8PSI	0.005	0.012					0.164	0.15	0.094	0.123	0.125	0.066	0.064	0.106	0.055	0.102	0.100	0.0052	0.002	0.003	0.001	0.002	0.002	0.001	0.006	0.004	0.005	0.004
2021-3-26_test007	0.085	0.082	0.12	0.082	0.091	7PSI	0.004	0.011					0.135	0.12	0.082	0.108	0.109	0.060	0.059	0.101	0.050	0.097	0.091	0.0038	0.001	0.003	0.001	0.001	0.002	0.001	0.005	0.004	0.004	0.003
erroneous data																																		

Table B.46: Catch Basin cover #4, Grade 2.5%, Cross slope 4.0%

Grade 2.5%, Cross slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-25_test007	0.068	0.068	0.08	0.068	0.075	6PSI_100	0.003	0.009	0.068				0.0968	0.08	0.068	0.084	0.084	0.053	0.053	0.082	0.026	0.078	0.075	0.0028	0.001	0.002	0.001	0.001	0.002	0.001	0.003	0.002	0.002	0.002
2021-3-25_test008A	0.100	0.127	0.26	0.127	0.108	15PSI	0.006	0.019	0.100				0.287	0.26	0.127	0.179	0.187	0.079	0.076	0.114	0.052	0.107	0.108	0.0060	0.008	0.006	0.005	0.005	0.004	0.003	0.007	0.004	0.005	0.005
2021-3-25_test009	0.116	0.149	0.37	0.149	0.125	15PSI_RENT_NRC_100	0.008	0.02	0.115				0.287	0.37	0.149	0.224	0.235	0.089	0.083	0.134	0.072	0.121	0.125	0.0058	0.014	0.008	0.008	0.007	0.004	0.003	0.009	0.006	0.007	0.007
2021-3-25_test010	0.109	0.142	0.33	0.142	0.118	15PSI_NRC_100	0.007	0.021					0.287	0.33	0.142	0.207	0.217	0.087	0.080	0.126	0.064	0.115	0.118	0.0061	0.012	0.007	0.007	0.007	0.004	0.003	0.008	0.005	0.006	0.006
2021-3-25_test011	0.092	0.117	0.20	0.117	0.099	11PSI	0.006	0.016					0.225	0.20	0.117	0.153	0.157	0.076	0.072	0.103	0.044	0.099	0.099	0.0052	0.005	0.005	0.003	0.003	0.003	0.002	0.006	0.003	0.005	0.005
2021-3-25_test012	0.083	0.098	0.14	0.098	0.091	8PSI	0.005	0.013					0.160	0.14	0.098	0.121	0.122	0.067	0.066	0.093	0.036	0.089	0.091	0.0038	0.002	0.003	0.002	0.001	0.002	0.002	0.005	0.003	0.004	0.004
2021-3-25_test013	0.078	0.087	0.11	0.087	0.086	7PSI	0.004	0.012					0.132	0.11	0.087	0.105	0.105	0.062	0.061	0.089	0.032	0.085	0.086	0.0040	0.001	0.003	0.001	0.001	0.002	0.001	0.004	0.002	0.003	0.003
2021-3-25_test014	0.046	0.044	0.04	0.044	0.053	6PSI_50	0.001	0.006					0.0540	0.04	0.044	0.056	0.056	0.039	0.040	0.072	0.015	0.062	0.053	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000
2021-3-25_test015	0.034	0.026	0.02	0.026	0.039	6PSI_35	0.001	0.004	0.036				0.0283	0.02	0.026	0.033	0.033	0.027	0.028	0.052	0.008	0.042	0.039	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test016A	0.028	0.014	0.01	0.014	0.033	6PSI_25	0.001	0.003					0.0151	0.01	0.014	0.020	0.020	0.018	0.019	0.038	0.008	0.034	0.033	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test017A	0.020	0.0066	0.00	0.005	0.025	6PSI_15	0.001	0.0002				0.0E+00	0.0066	0.00	0.005	0.009	0.009	0.010	0.010	0.029	0.008	0.027	0.025	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test018	0.014	0.0029	0.00	0.002	0.020	6PSI_10	0.001	0.0002	0.017			0.0E+00	0.0029	0.00	0.002	0.005	0.005	0.006	0.006	0.026	0.007	0.021	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test019	0.011	0.0010	0.00	0.000	0.016	6PSI_05	0.001	0.0002	0.012			0.0E+00	0.0010	0.00	0.000	0.002	0.002	0.004	0.004	0.020	0.007	0.019	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.47: Catch Basin cover #4, Grade 5.0%, Cross slope 4.0%

Grade 5.0%, Cross slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-24_test027	0.063	0.069	0.08	0.069	0.068	6PSI_100	0.003	0.010					0.0931	0.08	0.069	0.081	0.081	0.053	0.053	0.066	0.025	0.070	0.068	0.0030	0.001	0.002	0.001	0.000	0.001	0.001	0.002	0.002	0.002	0.002
2021-3-24_test028	0.091	0.138	0.26	0.138	0.098	15PSI	0.007	0.020	0.092				0.287	0.26	0.138	0.178	0.187	0.084	0.080	0.097	0.049	0.099	0.098	0.0058	0.008	0.007	0.004	0.006	0.003	0.004	0.006	0.004	0.006	0.006
2021-3-24_test029A	0.11	0.157	0.37	0.157	0.112	15PSI_RENT_NRC_100	0.008	0.02	0.105				0.287	0.37	0.157	0.223	0.234	0.091	0.086	0.112	0.071	0.115	0.112	0.0062	0.015	0.010	0.008	0.008	0.005	0.004	0.008	0.003	0.007	0.007
2021-3-24_test030	0.10	0.146	0.32	0.146	0.106	15PSI_NRC_100	0.007	0.02					0.287	0.32	0.146	0.206	0.215	0.087	0.082	0.108	0.067	0.106	0.106	0.0055	0.011	0.008	0.007	0.006	0.004	0.004	0.007	0.002	0.006	0.006
2021-3-24_test031	0.083	0.121	0.20	0.121	0.089	11PSI	0.006	0.016					0.223	0.20	0.121	0.152	0.156	0.077	0.074	0.089	0.041	0.089	0.089	0.0054	0.005	0.004	0.003	0.003	0.002	0.002	0.006	0.003	0.005	0.005
2021-3-24_test032	0.073	0.101	0.14	0.101	0.079	8PSI	0.005	0.014					0.158	0.14	0.101	0.119	0.121	0.067	0.068	0.079	0.033	0.081	0.079	0.0041	0.002	0.004	0.002	0.002	0.002	0.003	0.004	0.003	0.004	0.004
2021-3-24_test033	0.069	0.088	0.11	0.088	0.075	7PSI	0.004	0.011	0.072				0.130	0.11	0.088	0.104	0.105	0.062	0.062	0.074	0.029	0.076	0.075	0.0042	0.001	0.002	0.001	0.001	0.001	0.002	0.003	0.002	0.003	0.003
2021-3-25_test000	0.064	0.071	0.08	0.071	0.070	6PSI_100	0.003	0.010	0.065				0.0978	0.08	0.071	0.084	0.084	0.053	0.054	0.067	0.025	0.071	0.070	0.0029	0.001	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002
2021-3-25_test001	0.050	0.044	0.04	0.044	0.055	6PSI_50	0.002	0.007					0.0538	0.04	0.044	0.056	0.055	0.040	0.040	0.063	0.017	0.060	0.055	0.0010	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001
2021-3-25_test002	0.035	0.025	0.02	0.025	0.040	6PSI_35	0.002	0.004	0.036				0.0297	0.02	0.025	0.034	0.034	0.027	0.028	0.053	0.008	0.045	0.040	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-25_test003A	0.027	0.014	0.01	0.014	0.031	6PSI_25	0.001	0.003					0.0169	0.01	0.014	0.021	0.021	0.018	0.018	0.041	0.008	0.035	0.031	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-25_test004	0.018	0.0067	0.00	0.005	0.022	6PSI_15	0.001	0.0002				0.0E+00	0.0067	0.00	0.005	0.009	0.009	0.009	0.009	0.028	0.008	0.026	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
2021-3-25_test005	0.014	0.0031	0.00	0.001	0.017	6PSI_10	0.001	0.0002	0.015			0.0E+00	0.0031	0.00	0.001	0.005	0.005	0.005	0.005	0.029	0.007	0.020	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-25_test006	0.012	0.0010	0.00	0.000	0.015	6PSI_05	0.001	0.0002	0.010			0.0E+00	0.0010	0.00	0.000	0.002	0.002	0.003	0.003	0.016	0.007	0.020	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.48: Catch Basin cover #4, Grade 7.5%, Cross slope 4.0%

Grade 7.5%, Cross slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-24_test014	0.057	0.064	0.08	0.064	0.063	6PSI_100	0.004	0.010	0.059				0.0940	0.08	0.064	0.082	0.081	0.051	0.050	0.058	0.025	0.065	0.063	0.0036	0.001	0.002	0.001	0.001	0.002	0.001	0.002	0.002	0.003	0.003
2021-3-24_test015	0.083	0.110	0.26	0.110	0.090	15PSI_100	0.007	0.017	0.085				0.287	0.26	0.110	0.178	0.186	0.070	0.072	0.087	0.045	0.092	0.090	0.0064	0.008	0.005	0.004	0.006	0.002	0.004	0.006	0.004	0.006	0.006
2021-3-24_test016	0.097	0.129	0.37	0.129	0.105	15PSI_RENT_NRC_100	0.008	0.020	0.098				0.287	0.37	0.129	0.223	0.233	0.079	0.077	0.102	0.060	0.105	0.105	0.0064	0.015	0.007	0.008	0.008	0.004	0.004	0.008	0.005	0.007	0.007
2021-3-24_test017	0.089	0.121	0.33	0.121	0.097	15PSI_NRC_100	0.007	0.019					0.287	0.33	0.121	0.207	0.215	0.076	0.075	0.097	0.054	0.100	0.097	0.0069	0.012	0.006	0.007	0.007	0.003	0.003	0.007	0.004	0.006	0.006
2021-3-24_test018	0.075	0.102	0.20	0.102	0.082	11PSI	0.006	0.015					0.222	0.20	0.102	0.152	0.157	0.068	0.068	0.080	0.038	0.084	0.082	0.0052	0.005	0.004	0.003	0.003	0.003	0.003	0.005	0.003	0.005	0.005
2021-3-24_test019	0.067	0.089	0.14	0.089	0.073	8PSI	0.005	0.013					0.158	0.14	0.089	0.119	0.121	0.063	0.062	0.071	0.032	0.075	0.073	0.0039	0.002	0.004	0.001	0.001	0.003	0.002	0.004	0.003	0.004	0.004
2021-3-24_test020	0.063	0.081	0.11	0.081	0.070	7PSI	0.004	0.012					0.128	0.11	0.081	0.103	0.104	0.058	0.059	0.066	0.029	0.070	0.070	0.0041	0.001	0.003	0.001	0.001	0.002	0.002	0.003	0.002	0.003	0.003
2021-3-24_test021	0.046	0.044	0.04	0.044	0.052	6PSI_50	0.003	0.006					0.0515	0.04	0.044	0.053	0.053	0.040	0.039	0.054	0.019	0.057	0.052	0.0010	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.002	0.002
2021-3-24_test022	0.034	0.024	0.02	0.024	0.039	6PSI_35	0.002	0.004	0.035				0.0283	0.02	0.024	0.033	0.033	0.027	0.027	0.047	0.012	0.044	0.039	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
2021-3-24_test023	0.025	0.012	0.01	0.012	0.030	6PSI_25	0.002	0.003					0.0147	0.01	0.012	0.019	0.019	0.017	0.017	0.038	0.007	0.034	0.030	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-24_test024	0.017	0.0056	0.00	0.004	0.022	6PSI_15	0.001	0.0002				2.8E-04	0.0059	0.00	0.004	0.008	0.008	0.009	0.009	0.028	0.006	0.025	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-24_test025	0.014	0.0026	0.00	0.001	0.018	6PSI_10	0.001	0.0002	0.013			0.0E+00	0.0026	0.00	0.001	0.004	0.004	0.005	0.005	0.024	0.006	0.021	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-24_test026	0.009	0.0007	0.00	0.000	0.013	6PSI_05	0.001	0.0002	0.009			0.0E+00	0.0007	0.00	0.000	0.001	0.001	0.004	0.004	0.017	0.006	0.017	0.013	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.49: Catch Basin cover #4, Grade 10.0%, Cross slope 4.0%

Grade 10.0%, Cross slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-24_test001	0.050	0.056	0.07	0.056	0.058	6PSI_100	0.004	0.008	0.049				0.0896	0.07	0.056	0.079	0.078	0.047	0.046	0.051	0.025	0.059	0.058	0.0028	0.001	0.001	0.001	0.000	0.001	0.001	0.002	0.002	0.003	0.003
2021-3-24_test002	0.075	0.100	0.26	0.100	0.085	15PSI	0.007	0.015	0.077				0.286	0.26	0.100	0.177	0.186	0.067	0.067	0.080	0.044	0.088	0.085	0.0057	0.009	0.005	0.005	0.006	0.002	0.004	0.006	0.003	0.006	0.006
2021-3-24_test003	0.087	0.114	0.36	0.114	0.098	15PSI_RENT_NRC_100	0.008	0.017	0.088				0.284	0.36	0.114	0.222	0.232	0.074	0.071	0.094	0.057	0.100	0.098	0.0058	0.014	0.005	0.008	0.008	0.002	0.003	0.007	0.005	0.007	0.007
2021-3-24_test004	0.083	0.110	0.32	0.110	0.093	15PSI_NRC_100	0.007	0.017					0.286	0.32	0.110	0.205	0.213	0.071	0.071	0.089	0.052	0.095	0.093	0.0057	0.011	0.006	0.007	0.006	0.002	0.004	0.006	0.004	0.006	0.006
2021-3-24_test005	0.068	0.091	0.20	0.091	0.077	11PSI	0.006	0.014					0.222	0.20	0.091	0.151	0.155	0.063	0.063	0.073	0.038	0.080	0.077	0.0055	0.005	0.004	0.003	0.003	0.002	0.003	0.005	0.003	0.005	0.005
2021-3-24_test006	0.059	0.077	0.14	0.077	0.068	8PSI	0.005	0.012					0.157	0.14	0.077	0.119	0.121	0.058	0.057	0.064	0.031	0.071	0.068	0.0042	0.002	0.003	0.001	0.002	0.002	0.002	0.004	0.003	0.004	0.004
2021-3-24_test007	0.055	0.069	0.11	0.069	0.063	7PSI	0.004	0.010					0.129	0.11	0.069	0.103	0.103	0.054	0.052	0.059	0.029	0.066	0.063	0.0042	0.001	0.003	0.001	0.001	0.001	0.002	0.003	0.002	0.004	0.003
2021-3-24_test008	0.043	0.040	0.04	0.040	0.050	6PSI_50	0.003	0.006					0.0525	0.04	0.040	0.054	0.054	0.038	0.037	0.048	0.020	0.053	0.050	0.0010	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.002	0.002
2021-3-24_test009	0.032	0.021	0.02	0.021	0.038	6PSI_35	0.002	0.004	0.032				0.0264	0.02	0.021	0.031	0.031	0.024	0.024	0.042	0.014	0.042	0.038	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
2021-3-24_test010	0.025	0.0135	0.01	0.010	0.031	6PSI_25	0.002	0.0002				9.4E-04	0.0144	0.01	0.010	0.018	0.018	0.015	0.015	0.035	0.008	0.034	0.031	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-24_test011	0.016	0.0046	0.00	0.002	0.021	6PSI_15	0.001	0.0002				3.0E-04	0.0049	0.00	0.002	0.007	0.007	0.007	0.006	0.036	0.007	0.024	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000
2021-3-24_test012A	0.014	0.0024	0.00	0.000	0.019	6PSI_10	0.001	0.0002	0.013			0.0E+00	0.0024	0.00	0.000	0.004	0.003	0.004	0.003	0.020	0.007	0.020	0.019	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-24_test013	0.008	0.0009	0.00	-0.001	0.012	6PSI_05	0.001	0.0002	0.009			0.0E+00	0.0009	0.00	-0.001	0.002	0.001	0.003	0.002	0.016	0.006	0.020	0.012	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-24_test009A	0.032	0.021	0.02	0.021	0.038	6PSI_35	0.002	0.004					0.0265	0.02	0.021	0.031	0.031	0.024	0.024	0.042	0.014	0.042	0.038	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
erroneous data																																		

Table B.50: Catch Basin cover #5, Grade 0.5%, Cross slope 2.0%

Slope 0.5%, Cross-slope 2.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-4_test001	0.064	0.027	0.06	0.0274	0.068	6PSI_100	0.003	0.005	0.063				0.0686	0.06	0.027	0.071	0.071	0.029	0.029	0.063	0.039	0.063	0.068	0.0021	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002	0.002
2021-3-4_test002	0.099	0.057	0.26	0.0572	0.103	15PSI	0.008	0.009	0.096				0.269	0.26	0.057	0.178	0.185	0.047	0.047	0.105	0.083	0.098	0.103	0.0054	0.007	0.002	0.004	0.005	0.002	0.001	0.009	0.007	0.008	0.007
2021-3-4_test003	0.117	0.072	0.37	0.0722	0.123	15PSI_RENT_NRC_100	0.010	0.011	0.114				0.269	0.37	0.072	0.223	0.235	0.055	0.054	0.122	0.109	0.118	0.123	0.0056	0.014	0.003	0.008	0.008	0.002	0.002	0.010	0.008	0.009	0.009
2021-3-4_test004	0.112	0.066	0.33	0.0662	0.117	15PSI_NRC_100	0.009	0.011					0.270	0.33	0.066	0.206	0.216	0.052	0.052	0.114	0.101	0.111	0.117	0.0058	0.011	0.003	0.006	0.006	0.002	0.002	0.010	0.008	0.008	0.008
2021-3-4_test005	0.092	0.052	0.21	0.0525	0.097	11PSI	0.007	0.009					0.219	0.21	0.052	0.156	0.163	0.045	0.044	0.096	0.073	0.089	0.097	0.0051	0.004	0.002	0.003	0.003	0.002	0.002	0.008	0.005	0.007	0.006
2021-3-4_test006	0.082	0.045	0.15	0.0448	0.087	8PSI	0.006	0.008					0.153	0.15	0.045	0.123	0.124	0.040	0.040	0.083	0.066	0.077	0.087	0.0043	0.002	0.002	0.001	0.001	0.001	0.001	0.006	0.005	0.005	0.005
2021-3-4_test007	0.078	0.040	0.11	0.0398	0.082	7PSI	0.005	0.006					0.121	0.11	0.040	0.104	0.105	0.037	0.037	0.076	0.055	0.072	0.082	0.0036	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.003	0.004	0.004
2021-3-4_test008	0.058	0.021	0.05	0.0212	0.062	6PSI_50	0.002	0.004					0.0501	0.05	0.021	0.058	0.057	0.024	0.025	0.059	0.039	0.057	0.062	0.0020	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001
2021-3-4_test009	0.047	0.013	0.02	0.0133	0.050	6PSI_35	0.001	0.003	0.045				0.0266	0.02	0.013	0.038	0.038	0.018	0.018	0.049	0.027	0.045	0.050	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
2021-3-4_test010	0.037	0.006	0.01	0.0062	0.040	6PSI_25	0.001	0.003					0.0128	0.01	0.006	0.022	0.022	0.011	0.011	0.038	0.015	0.035	0.040	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-4_test011	0.028	0.0049	0.00	0.0010	0.031	6PSI_15	0.001	0.0002				0.0E+00	0.0049	0.00	0.001	0.013	0.013	0.005	0.005	0.029	0.007	0.026	0.031	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-4_test012	0.022	0.0021	0.00	-0.0017	0.024	6PSI_10	0.001	0.0002	0.021			0.0E+00	0.0021	0.00	-0.002	0.009	0.009	0.002	0.001	0.024	0.006	0.021	0.024	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-4_test013	0.020	0.0009	0.00	-0.0019	0.022	6PSI_02	0.001	0.0002	0.013			0.0E+00	0.0009	0.00	-0.002	0.008	0.007	0.001	0.001	0.018	0.006	0.018	0.022	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-4_test015	0.027	0.0040	0.00	0.0005	0.029	6PSI_18	0.001	0.0002	0.013			2.1E-04	0.0042	0.00	0.000	0.012	0.012	0.004	0.004	0.027	0.007	0.024	0.029	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-4_test016	0.030	0.0064	0.01	0.0020	0.033	6PSI_20	0.001	0.0002	0.013			5.4E-04	0.0069	0.01	0.002	0.014	0.014	0.006	0.006	0.031	0.008	0.028	0.033	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-4_test016A	0.030	0.0061	0.01	0.0023	0.033	6PSI_20	0.001	0.0002	0.013			5.4E-04	0.0066	0.01	0.002	0.014	0.015	0.007	0.007	0.031	0.008	0.029	0.033	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.51: Catch Basin cover #5, Grade 1.0%, Cross slope 2.0%

Slope 1.0%, Cross-slope 2.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-3_test014	0.058	0.040	0.09	0.040	0.062	6PSI_100	0.003	0.006	0.057				0.0921	0.09	0.040	0.087	0.087	0.037	0.037	0.066	0.039	0.062	0.062	0.0028	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.002
2021-3-3_test015	0.089	0.063	0.26	0.063	0.095	15PSI	0.007	0.009	0.087				0.272	0.26	0.063	0.178	0.187	0.050	0.050	0.097	0.071	0.091	0.095	0.0058	0.008	0.002	0.004	0.006	0.001	0.001	0.008	0.005	0.006	0.006
2021-3-3_test016	0.105	0.076	0.38	0.076	0.112	15PSI_RENT_NRC_100	0.009	0.011	0.105				0.271	0.38	0.076	0.226	0.238	0.057	0.056	0.118	0.084	0.110	0.112	0.0063	0.014	0.003	0.008	0.008	0.002	0.001	0.010	0.006	0.008	0.008
2021-3-3_test017	0.100	0.071	0.33	0.071	0.106	15PSI_NRC_100	0.008	0.011					0.271	0.33	0.071	0.207	0.218	0.054	0.054	0.110	0.078	0.103	0.106	0.0064	0.012	0.003	0.006	0.007	0.002	0.002	0.008	0.006	0.007	0.007
2021-3-3_test018	0.082	0.059	0.21	0.059	0.088	11PSI	0.007	0.009					0.222	0.21	0.059	0.157	0.162	0.048	0.048	0.088	0.062	0.084	0.088	0.0058	0.004	0.002	0.003	0.003	0.001	0.001	0.007	0.004	0.006	0.006
2021-3-3_test019	0.072	0.051	0.15	0.051	0.077	8PSI	0.005	0.008					0.158	0.15	0.051	0.125	0.127	0.044	0.044	0.078	0.052	0.075	0.077	0.0036	0.002	0.001	0.001	0.001	0.001	0.001	0.006	0.004	0.005	0.004
2021-3-3_test020	0.068	0.047	0.12	0.047	0.072	7PSI	0.004	0.007					0.128	0.12	0.047	0.109	0.110	0.042	0.041	0.074	0.050	0.071	0.072	0.0039	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.003	0.004	0.003
2021-3-3_test021	0.049	0.030	0.05	0.030	0.052	6PSI_50	0.002	0.005					0.0534	0.05	0.030	0.060	0.060	0.031	0.031	0.057	0.032	0.052	0.052	0.0020	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.001
2021-3-3_test025	0.021	0.0030	0.00	0.003	0.022	6PSI_10	0.001	0.0002	0.018			0.0E+00	0.0030	0.00	0.003	0.010	0.010	0.007	0.007	0.026	0.007	0.019	0.022	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test026	0.016	0.0009	0.00	0.001	0.018	6PSI_02	0.001	0.0002	0.015			0.0E+00	0.0009	0.00	0.001	0.008	0.008	0.005	0.005	0.017	0.007	0.016	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test022A	0.037	0.016	0.02	0.016	0.039	6PSI_35	0.001	0.004	0.032				0.0228	0.02	0.016	0.033	0.033	0.020	0.020	0.044	0.018	0.036	0.039	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test023A	0.032	0.011	0.01	0.011	0.034	6PSI_25	0.001	0.003					0.0137	0.01	0.011	0.023	0.023	0.015	0.016	0.036	0.011	0.030	0.034	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test024A	0.024	0.0056	0.01	0.005	0.026	6PSI_15	0.001	0.0002				0.0E+00	0.0056	0.01	0.005	0.014	0.014	0.010	0.010	0.030	0.007	0.022	0.026	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.52: Catch Basin cover #5, Grade 2.5%, Cross slope 2.0%

Slope 2.5%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-3_test001	0.050	0.040	0.08	0.040	0.056	6PSI_100	0.003	0.006	0.047				0.0901	0.08	0.040	0.085	0.085	0.038	0.037	0.056	0.031	0.055	0.056	0.0028	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002
2021-3-3_test002	0.075	0.061	0.26	0.061	0.082	15PSI	0.006	0.009	0.075				0.271	0.26	0.061	0.179	0.187	0.050	0.049	0.090	0.055	0.082	0.082	0.0055	0.008	0.002	0.004	0.005	0.001	0.001	0.007	0.004	0.006	0.005
2021-3-3_test003	0.091	0.070	0.37	0.070	0.099	15PSI_RENT_NRC_100	0.007	0.010	0.088				0.272	0.37	0.070	0.225	0.236	0.054	0.053	0.113	0.077	0.098	0.099	0.0063	0.014	0.002	0.008	0.008	0.001	0.001	0.009	0.005	0.007	0.006
2021-3-3_test004	0.084	0.067	0.33	0.067	0.091	15PSI_NRC_100	0.006	0.009					0.272	0.33	0.067	0.206	0.217	0.053	0.052	0.102	0.071	0.091	0.091	0.0058	0.011	0.002	0.006	0.007	0.001	0.001	0.008	0.005	0.006	0.005
2021-3-3_test005	0.068	0.058	0.21	0.058	0.076	11PSI	0.005	0.008					0.220	0.21	0.058	0.157	0.162	0.048	0.047	0.080	0.049	0.076	0.076	0.0055	0.005	0.001	0.003	0.004	0.001	0.001	0.006	0.004	0.005	0.004
2021-3-3_test006	0.060	0.052	0.15	0.052	0.067	8PSI	0.004	0.008	0.058				0.156	0.15	0.052	0.125	0.126	0.044	0.046	0.068	0.041	0.067	0.067	0.0042	0.002	0.002	0.001	0.002	0.001	0.001	0.005	0.003	0.004	0.003
2021-3-3_test007	0.056	0.048	0.12	0.048	0.062	7PSI	0.004	0.007					0.129	0.12	0.048	0.109	0.110	0.042	0.046	0.063	0.038	0.062	0.062	0.0041	0.001	0.001	0.001	0.001	0.001	0.000	0.004	0.002	0.003	0.003
2021-3-3_test008	0.012	0.0026	0.00	0.002	0.017	6PSI_10	0.001	0.0002	0.011			0.0E+00	0.0026	0.00	0.002	0.010	0.010	0.006	0.006	0.019	0.010	0.016	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test009	0.015	0.0045	0.00	0.004	0.020	6PSI_15	0.001	0.0002				0.0E+00	0.0045	0.00	0.004	0.012	0.011	0.008	0.007	0.023	0.010	0.018	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test010	0.019	0.0130	0.01	0.011	0.025	6PSI_25	0.001	0.0002				0.0E+00	0.0130	0.01	0.011	0.022	0.022	0.015	0.014	0.029	0.011	0.025	0.025	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test011	0.026	0.018	0.02	0.018	0.031	6PSI_35	0.001	0.004	0.026				0.0241	0.02	0.018	0.034	0.034	0.022	0.020	0.036	0.013	0.033	0.031	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-3_test012	0.037	0.030	0.04	0.030	0.043	6PSI_50	0.001	0.005	0.036				0.0492	0.04	0.030	0.056	0.056	0.031	0.029	0.047	0.021	0.044	0.043	0.0022	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-3_test013	0.011	0.0011	0.00	0.001	0.016	6PSI_02	0.001	0.0002	0.009			0.0E+00	0.0011	0.00	0.001	0.008	0.008	0.005	0.001	0.013	0.010	0.016	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.53: Catch Basin cover #5, Grade 5.0%, Cross slope 2.0%

Slope 5.0%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-2_test014	0.043	0.036	0.07	0.036	0.048	6PSI_100	0.003	0.005	0.038				0.0805	0.07	0.036	0.078	0.078	0.035	0.035	0.044	0.026	0.049	0.048	0.0028	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.002	0.002
2021-3-2_test015	0.070	0.055	0.26	0.055	0.076	15PSI	0.006	0.008					0.271	0.26	0.055	0.178	0.185	0.047	0.045	0.077	0.050	0.076	0.076	0.0060	0.007	0.001	0.004	0.005	0.001	0.001	0.006	0.004	0.005	0.005
2021-3-2_test016	0.084	0.063	0.37	0.063	0.091	15PSI_RENT_NRC_100	0.007	0.008					0.269	0.37	0.063	0.225	0.236	0.050	0.050	0.093	0.065	0.096	0.091	0.0060	0.014	0.001	0.007	0.008	0.001	0.001	0.008	0.004	0.007	0.006
2021-3-2_test017	0.078	0.060	0.32	0.060	0.084	15PSI_NRC_100	0.006	0.008	0.075				0.270	0.32	0.060	0.206	0.215	0.049	0.048	0.088	0.059	0.086	0.084	0.0057	0.011	0.001	0.006	0.007	0.001	0.001	0.006	0.004	0.006	0.005
2021-3-2_test018	0.064	0.052	0.21	0.052	0.070	11PSI	0.006	0.007	0.063				0.219	0.21	0.052	0.156	0.160	0.045	0.043	0.071	0.044	0.070	0.070	0.0049	0.005	0.001	0.003	0.003	0.001	0.000	0.005	0.003	0.005	0.005
2021-3-2_test019	0.055	0.046	0.15	0.046	0.060	8PSI	0.004	0.006	0.053				0.152	0.15	0.046	0.123	0.124	0.042	0.040	0.063	0.037	0.061	0.060	0.0041	0.002	0.001	0.001	0.001	0.001	0.000	0.004	0.002	0.003	0.003
2021-3-2_test022	0.028	0.019	0.02	0.019	0.033	6PSI_35	0.001	0.004					0.0249	0.02	0.019	0.036	0.036	0.023	0.023	0.033	0.015	0.032	0.033	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-2_test023	0.018	0.007	0.01	0.007	0.021	6PSI_20	0.001	0.003	0.016				0.0081	0.01	0.007	0.017	0.017	0.012	0.012	0.025	0.011	0.021	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-2_test024	0.014	0.004	0.00	0.004	0.018	6PSI_15	0.001	0.002					0.0052	0.00	0.004	0.013	0.013	0.009	0.009	0.027	0.011	0.019	0.018	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-3-2_test025	0.013	0.0027	0.00	0.002	0.016	6PSI_10	0.001	0.0002	0.011			0.0E+00	0.0027	0.00	0.002	0.010	0.010	0.006	0.006	0.017	0.010	0.017	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-2_test026	0.012	0.0008	0.00	0.001	0.015	6PSI_02	0.001	0.0002	0.007			0.0E+00	0.0008	0.00	0.001	0.007	0.007	0.005	0.004	0.014	0.010	0.015	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-2_test021A	0.034	0.027	0.04	0.027	0.038	6PSI_50	0.001	0.005	0.032				0.0433	0.04	0.027	0.052	0.052	0.029	0.029	0.038	0.020	0.039	0.038	0.0018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.54: Catch Basin cover #5, Grade 7.5%, Cross slope 2.0%

Slope 7.5%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-2_test001	0.039	0.032	0.07	0.032	0.045	6PSI_100	0.003	0.005	0.038				0.0755	0.07	0.033	0.075	0.075	0.033	0.032	0.040	0.024	0.043	0.045	0.0025	0.001	0.000	0.000	0.001	0.000	0.000	0.001	0.002	0.002	0.002
2021-3-2_test002	0.062	0.050	0.26	0.050	0.069	15PSI	0.006	0.007	0.059				0.269	0.26	0.051	0.177	0.184	0.045	0.043	0.072	0.045	0.071	0.069	0.0071	0.007	0.001	0.004	0.005	0.001	0.000	0.006	0.003	0.006	0.005
2021-3-2_test003	0.076	0.057	0.37	0.057	0.083	15PSI_RENT_NRC_100	0.007	0.008	0.074				0.270	0.37	0.058	0.224	0.236	0.048	0.047	0.085	0.060	0.086	0.083	0.0064	0.015	0.001	0.008	0.008	0.001	0.001	0.007	0.004	0.007	0.006
2021-3-2_test004	0.070	0.054	0.33	0.054	0.077	15PSI_NRC_100	0.006	0.008					0.268	0.33	0.056	0.206	0.216	0.047	0.045	0.081	0.055	0.080	0.077	0.0060	0.010	0.001	0.006	0.006	0.001	0.000	0.006	0.004	0.006	0.005
2021-3-2_test005	0.057	0.046	0.21	0.046	0.064	11PSI	0.005	0.007					0.218	0.21	0.048	0.155	0.160	0.043	0.041	0.065	0.040	0.065	0.064	0.0059	0.005	0.001	0.003	0.003	0.001	0.000	0.006	0.003	0.005	0.004
2021-3-2_test006	0.050	0.040	0.14	0.040	0.056	8PSI	0.004	0.006					0.150	0.14	0.042	0.122	0.123	0.039	0.038	0.055	0.033	0.056	0.056	0.0039	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.004	0.003
2021-3-2_test007	0.046	0.038	0.11	0.038	0.052	7PSI	0.004	0.006					0.120	0.11	0.039	0.104	0.105	0.037	0.036	0.049	0.030	0.051	0.052	0.0038	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003
2021-3-2_test008	0.035	0.026	0.04	0.026	0.040	6PS_50	0.002	0.005					0.0479	0.04	0.027	0.056	0.055	0.029	0.029	0.037	0.020	0.038	0.040	0.0020	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
2021-3-2_test009	0.029	0.020	0.03	0.020	0.034	6PSI_40	0.002	0.004					0.0301	0.03	0.021	0.040	0.040	0.024	0.024	0.031	0.016	0.033	0.034	0.0014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-3-2_test010	0.017	0.007	0.01	0.007	0.022	6PSI_20	0.001	0.0027	0.014				0.0084	0.01	0.008	0.017	0.017	0.012	0.013	0.030	0.011	0.022	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000
2021-3-2_test011	0.014	0.004	0.00	0.004	0.018	6PSI_15	0.001	0.0024					0.0048	0.00	0.004	0.013	0.013	0.009	0.009	0.017	0.008	0.019	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-2_test012	0.012	0.0028	0.00	0.002	0.017	6PSI_10	0.001	0.0002	0.009			0.0E+00	0.0028	0.00	0.002	0.010	0.010	0.006	0.006	0.014	0.008	0.017	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-3-2_test013	0.010	0.0007	0.00	0.001	0.015	6PSI_02	0.001	0.0002	0.006			0.0E+00	0.0007	0.00	0.001	0.007	0.007	0.005	0.005	0.014	0.007	0.012	0.015	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.55: Catch Basin cover #5, Grade 10.0%, Cross slope 2.0%

Slope 10.0%, Cross-slope 2.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-25_test001	0.037	0.029	0.08	0.029	0.044	6PSI_100	0.003	0.005	0.035				0.0886	0.08	0.029	0.081	0.081	0.030	0.030	0.038	0.026	0.041	0.044	0.0026	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002
2021-2-25_test003	0.028	0.018	0.03	0.018	0.034	6PSI_40	0.002	0.004	0.025				0.0342	0.03	0.018	0.041	0.041	0.022	0.022	0.030	0.017	0.032	0.034	0.0016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
2021-2-25_test004	0.016	0.0073	0.01	0.026	0.021	6PSI_20	0.001	0.0002				1.1E-03	0.0085	0.01	0.026	0.014	0.014	0.029	0.028	0.020	0.011	0.020	0.021	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-2-25_test005	0.013	0.0043	0.00	0.016	0.017	6PSI_15	0.001	0.0002	0.010			6.3E-04	0.0049	0.00	0.016	0.010	0.009	0.020	0.020	0.014	0.009	0.017	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-25_test006	0.009	0.0007	0.00	0.002	0.013	6PSI_2	0.001	0.0002	0.005			2.0E-04	0.0009	0.00	0.002	0.005	0.004	0.007	0.007	0.013	0.007	0.012	0.013	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-25_test007	0.012	0.0018	0.00	0.006	0.016	6PSI_10	0.001	0.0002				3.3E-04	0.0022	0.00	0.006	0.006	0.005	0.011	0.011	0.013	0.008	0.017	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
2021-3-1_test009	0.042	0.036	0.12	0.036	0.049	7PSI	0.004	0.006	0.041				0.127	0.12	0.036	0.108	0.109	0.035	0.034	0.044	0.029	0.048	0.049	0.0038	0.001	0.000	0.001	0.001	0.001	0.001	0.003	0.002	0.004	0.003
2021-3-1_test009A	0.043	0.037	0.12	0.037	0.050	7PSI	0.004	0.007					0.130	0.12	0.037	0.110	0.111	0.036	0.035	0.045	0.030	0.049	0.050	0.0036	0.001	0.000	0.001	0.001	0.001	0.001	0.003	0.002	0.004	0.003
2021-3-1_test010	0.058	0.048	0.26	0.048	0.067	15PSI	0.006	0.013	0.058				0.272	0.26	0.048	0.179	0.187	0.043	0.041	0.065	0.044	0.067	0.067	0.0070	0.008	0.001	0.004	0.004	0.004	0.004	0.006	0.004	0.006	0.005
2021-3-1_test011	0.069	0.054	0.37	0.054	0.079	15PSI_RENT_NRC_100	0.007	0.021	0.067				0.272	0.37	0.054	0.225	0.236	0.046	0.044	0.080	0.058	0.080	0.079	0.0061	0.014	0.001	0.008	0.008	0.008	0.008	0.007	0.004	0.007	0.006
2021-3-1_test012	0.065	0.052	0.33	0.052	0.074	15PSI_NRC_100	0.006	0.018					0.271	0.33	0.052	0.208	0.218	0.046	0.043	0.075	0.053	0.075	0.074	0.0064	0.012	0.001	0.006	0.006	0.006	0.006	0.006	0.004	0.006	0.005
2021-3-1_test013	0.054	0.045	0.22	0.045	0.062	11PSI	0.006	0.010					0.224	0.22	0.045	0.158	0.162	0.041	0.039	0.061	0.039	0.062	0.062	0.0050	0.004	0.001	0.003	0.003	0.003	0.003	0.005	0.003	0.005	0.005
2021-3-1_test014	0.047	0.040	0.15	0.040	0.055	8PSI	0.005	0.007					0.159	0.15	0.040	0.126	0.128	0.038	0.036	0.052	0.033	0.053	0.055	0.0042	0.002	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.004
erroneous data																																		

Table B.56: Catch Basin cover #5, Grade 0.5%, Cross slope 4.0%

Slope 0.5%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-17_test001_2	0.082	0.039	0.07	0.039	0.086	6PSI_100	0.003	0.006					0.0740	0.07	0.039	0.072	0.072	0.037	0.036	0.089	0.048	0.082	0.086	0.0033	0.001	0.001	0.000	0.000	0.001	0.001	0.003	0.004	0.002	0.002
2021-2-17_test002_2	0.125	0.066	0.25	0.066	0.131	15PSI	0.007	0.010					0.264	0.25	0.066	0.175	0.183	0.052	0.052	0.132	0.081	0.125	0.131	0.0040	0.008	0.002	0.004	0.005	0.002	0.002	0.009	0.007	0.007	0.006
2021-2-17_test003_2	0.145	0.080	0.36	0.080	0.151	15PSI_RENT_NRC_100	0.008	0.012					0.262	0.36	0.080	0.222	0.232	0.058	0.058	0.156	0.108	0.148	0.151	0.0037	0.013	0.002	0.007	0.007	0.002	0.002	0.009	0.008	0.008	0.007
2021-2-17_test004_2	0.138	0.076	0.32	0.076	0.144	15PSI_NRC_100	0.008	0.011					0.263	0.32	0.076	0.203	0.212	0.056	0.057	0.146	0.099	0.139	0.144	0.0038	0.011	0.002	0.006	0.006	0.002	0.002	0.008	0.007	0.007	0.007
2021-2-17_test005_2	0.117	0.063	0.20	0.063	0.122	11PSI	0.006	0.010					0.212	0.20	0.063	0.152	0.156	0.050	0.050	0.122	0.077	0.116	0.122	0.0034	0.004	0.002	0.002	0.003	0.002	0.002	0.008	0.007	0.006	0.005
2021-2-17_test006_2	0.104	0.056	0.14	0.056	0.109	8PSI	0.005	0.008					0.145	0.14	0.056	0.118	0.120	0.045	0.047	0.109	0.058	0.102	0.109	0.0032	0.002	0.001	0.001	0.001	0.001	0.001	0.006	0.004	0.005	0.004
2021-2-17_test007_2	0.098	0.053	0.11	0.053	0.102	7PSI	0.004	0.008					0.116	0.11	0.053	0.101	0.101	0.043	0.046	0.102	0.051	0.094	0.102	0.0031	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.004	0.004	0.003
2021-2-17_test007_2A	0.098	0.053	0.11	0.053	0.102	7PSI	0.004	0.008					0.116	0.11	0.053	0.100	0.101	0.043	0.046	0.102	0.051	0.094	0.102	0.0032	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.004	0.004	0.003
2021-2-17_test008_2	0.069	0.032	0.04	0.032	0.073	6PSI_50	0.002	0.005		1.75			0.0464	0.04	0.032	0.051	0.051	0.031	0.033	0.076	0.027	0.066	0.073	0.0021	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.001	0.001
2021-2-17_test009_2	0.056	0.0220	0.02	0.020	0.060	6PSI_35	0.0018	0.0002		1.45		2.0E-03	0.0240	0.02	0.020	0.032	0.032	0.022	0.024	0.061	0.011	0.053	0.060	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001
2021-2-17_test010_2	0.041	0.00698	0.01	0.007	0.044	6PSI_20	0.0015	0.00004	0.040	1.05	6.98E-03	0.0E+00	0.0079	0.01	0.007	0.014	0.014	0.011	0.012	0.042	0.008	0.035	0.044	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-2-18_test001	0.026	0.00152	0.00	-0.001	0.028	6PSI_10	0.0011	0.00001	0.024	0.58	1.52E-03	0.0E+00	0.0018	0.00	-0.001	0.005	0.005	0.002	0.002	0.025	0.000	0.024	0.028	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-18_test002	0.050	0.01289	0.01	0.013	0.053	6PSI_35	0.0015	0.00008		1.23	1.29E-02	6.7E-04	0.0169	0.01	0.013	0.025	0.025	0.018	0.018	0.054	0.003	0.049	0.053	0.0005	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.001
2021-2-18_test003	0.060	0.01849	0.02	0.027	0.063	6PSI_45	0.0018	0.00011		1.43	1.85E-02		0.0270	0.02	0.027	0.034	0.034	0.034	0.024	0.064	0.013	0.059	0.063	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001
2021-2-18_test004	0.021	0.00079	0.00	-0.002	0.023	6PSI_2	0.0010	0.00001	0.020	0.50	7.90E-04	0.0E+00	0.0008	0.00	-0.002	0.005	0.005	0.002	0.001	0.021	0.006	0.022	0.023	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-18_test005	0.018	0.00040	0.00	-0.001	0.020	6PSI_1	0.0010	0.00001	0.016	0.42	4.00E-04	0.0E+00	0.0003	0.00	-0.001	0.003	0.003	0.002	0.002	0.018	0.005	0.018	0.020	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-18_test006	0.066	0.02410	0.03	0.032	0.070	6PSI_50	0.0016	0.00015			2.41E-02		0.0362	0.03	0.032	0.042	0.042	0.039	0.032	0.071	0.021	0.065	0.070	0.0016	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
2021-2-18_test007	0.128	0.073	0.25	0.073	0.133	15PSI	0.007	0.011					0.261	0.25	0.073	0.175	0.183	0.062	0.055	0.132	0.082	0.126	0.133	0.0043	0.007	0.003	0.004	0.005	0.002	0.002	0.009	0.007	0.007	0.006
2021-2-19_test001	0.084	0.042	0.07	0.042	0.088	6PSI_100	0.003	0.006					0.0752	0.07	0.042	0.073	0.073	0.039	0.038	0.089	0.051	0.084	0.088	0.0030	0.000	0.001	0.000	0.000	0.001	0.001	0.003	0.004	0.002	0.002
2021-2-19_test002	0.127	0.070	0.25	0.070	0.133	15PSI	0.007	0.011					0.264	0.25	0.070	0.175	0.183	0.053	0.054	0.133	0.081	0.126	0.133	0.0035	0.008	0.002	0.004	0.005	0.002	0.002	0.008	0.006	0.007	0.006
2021-2-19_test003	0.147	0.083	0.36	0.083	0.154	15PSI_RENT_NRC_100	0.008	0.012					0.261	0.36	0.083	0.221	0.230	0.059	0.061	0.156	0.109	0.148	0.154	0.0037	0.013	0.002	0.007	0.008	0.002	0.002	0.009	0.008	0.008	0.007
2021-2-19_test004	0.118	0.066	0.21	0.066	0.123	11PSI	0.007	0.010					0.212	0.21	0.066	0.153	0.157	0.051	0.053	0.123	0.077	0.117	0.123	0.0032	0.004	0.002	0.003	0.003	0.001	0.001	0.008	0.007	0.007	0.006
2021-2-19_test005	0.062	0.028	0.03	0.028	0.066	6PSI_40	0.002	0.005					0.0338	0.03	0.028	0.040	0.040	0.029	0.031	0.071	0.016	0.059	0.066	0.0015	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.001	0.001	0.001
2021-2-19_test006	0.034	0.009	0.00	0.009	0.037	6PSI_15	0.001	0.004					0.0049	0.00	0.009	0.010	0.010	0.027	0.014	0.038	0.006	0.031	0.037	0.0002	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.000
2021-2-19_test007	0.062	0.02351	0.03	0.026	0.065	NRC_31	0.002	0.00015			2.35E-02		0.0000	0.03	0.026	0.040	0.040	0.027	0.030	0.067	0.016	0.058	0.065	0.0000	0.001	0.000	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001
2021-2-19_test008	0.051	0.01471	0.01	0.018	0.054	NRC_19	0.002	0.00009			1.47E-02		0.0000	0.01	0.018	0.026	0.026	0.019	0.025	0.055	0.007	0.048	0.054	0.0000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.000	0.001	0.001
2021-2-9_test008	0.071	0.028	0.04	0.028	0.075	6PSI_50	0.002	0.005		1.75			0.0478	0.04	0.028	0.052	0.053	0.029	0.029	0.077	0.025	0.068	0.075	0.0018	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.002	0.001	0.001
2021-2-9_test009	0.055	0.018	0.02	0.018	0.058	6PSI_35	0.002	0.005		1.45			0.0265	0.02	0.018	0.035	0.035	0.022	0.022	0.062	0.012	0.054	0.058	0.0010	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001
2021-2-9_test010	0.035	0.00522	0.00	0.002	0.038	6PSI_20	0.001	0.00003		0.83	5.22E-03		0.0061	0.00	0.002	0.010	0.011	0.006	0.007	0.037	0.008	0.032	0.038	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-9_test011	0.025	0.00178	0.00	-0.002	0.027	6PSI_10	0.001	0.00001	0.026	0.60	1.78E-03	0.0E+00	0.0020	0.00	-0.002	0.005	0.005	0.001	0.001	0.027	0.009	0.025	0.027	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-9_test012	0.023	0.00138	0.00	-0.001	0.026	6PSI_5	0.001	0.00001	0.023	0.60	1.38E-03	0.0E+00	0.0014	0.00	-0.001	0.006	0.006	0.002	0.002	0.025	0.009	0.024	0.026	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-9_test013	0.012	0.00013	0.00	-0.002	0.014	6PSI_1	0.001	0.00001	0.011	0.30	1.33E-04	0.0E+00	0.0000	0.00	-0.002	0.002	0.002	0.000	0.001	0.018	0.009	0.011	0.014	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

erroneous data

Table B.57: Catch Basin cover #5, Grade 1.0%, Cross slope 4.0%

Slope 1.0%, Cross-slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-22_test001	0.066	0.039	0.07	0.039	0.071	6PSI_100	0.002	0.006					0.0769	0.07	0.039	0.074	0.074	0.037	0.036	0.090	0.035	0.076	0.071	0.0031	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.004	0.002	0.001
2021-2-22_test002	0.082	0.046	0.11	0.046	0.087	7PSI	0.004	0.007					0.116	0.11	0.046	0.100	0.101	0.041	0.041	0.101	0.048	0.093	0.087	0.0034	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.003	0.003
2021-2-22_test003	0.093	0.053	0.14	0.053	0.099	8PSI	0.005	0.008					0.148	0.14	0.053	0.119	0.121	0.044	0.046	0.107	0.057	0.102	0.099	0.0041	0.002	0.001	0.001	0.001	0.001	0.001	0.006	0.005	0.005	0.004
2021-2-22_test004	0.106	0.063	0.20	0.063	0.113	11PSI	0.006	0.009					0.212	0.20	0.063	0.152	0.157	0.049	0.051	0.120	0.066	0.114	0.113	0.0040	0.004	0.001	0.003	0.003	0.001	0.001	0.008	0.005	0.006	0.005
2021-2-22_test005	0.115	0.069	0.25	0.069	0.123	15PSI	0.007	0.010					0.264	0.25	0.069	0.175	0.183	0.052	0.054	0.129	0.074	0.124	0.123	0.0045	0.007	0.002	0.004	0.005	0.002	0.002	0.008	0.005	0.007	0.006
2021-2-22_test006	0.123	0.074	0.32	0.074	0.131	15PSI_NRC_100	0.007	0.011					0.262	0.32	0.074	0.204	0.214	0.055	0.057	0.139	0.085	0.131	0.131	0.0037	0.011	0.003	0.006	0.006	0.002	0.001	0.009	0.006	0.007	0.006
2021-2-22_test007	0.131	0.078	0.36	0.078	0.140	15PSI_RENT_NRC_100	0.008	0.012					0.264	0.36	0.078	0.222	0.233	0.057	0.060	0.148	0.094	0.137	0.140	0.0044	0.013	0.003	0.007	0.007	0.002	0.002	0.009	0.007	0.008	0.007
2021-2-22_test008	0.063	0.034	0.04	0.034	0.068	6PSI_50	0.002	0.006					0.0541	0.04	0.034	0.056	0.056	0.033	0.036	0.079	0.019	0.065	0.068	0.0024	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.002	0.001	0.001
2021-2-22_test008A	0.065	0.034	0.04	0.034	0.069	6PSI_50	0.002	0.006					0.0540	0.04	0.034	0.056	0.056	0.033	0.033	0.079	0.021	0.065	0.069	0.0024	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.002	0.001	0.001
2021-2-22_test009	0.054	0.021	0.02	0.021	0.058	6PSI_35	0.001	0.004					0.0279	0.02	0.021	0.035	0.035	0.025	0.025	0.062	0.008	0.051	0.058	0.0012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test013	0.022	0.0014	0.00	-0.001	0.024	6PSI_05	0.001	0.0002	0.021			0.0E+00	0.0014	0.00	-0.001	0.005	0.005	0.003	0.002	0.023	0.005	0.019	0.024	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test014	0.015	0.0001	0.00	-0.002	0.016	6PSI_01	0.001	0.0002	0.012			0.0E+00	0.0001	0.00	-0.002	0.002	0.002	0.002	0.000	0.017	0.005	0.014	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test011A	0.030	0.0044	0.00	-0.002	0.032	6PSI_15	0.001	0.0002				0.0E+00	0.0044	0.00	-0.002	0.008	0.008	0.001	0.002	0.031	0.005	0.026	0.032	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test010A	0.035	0.0082	0.00	0.001	0.037	6PSI_20	0.001	0.0002				0.0E+00	0.0082	0.00	0.001	0.013	0.013	0.005	0.005	0.035	0.005	0.033	0.037	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test015	0.018	0.0005	0.00	-0.003	0.020	6PSI_02	0.001	0.0002	0.017			0.0E+00	0.0005	0.00	-0.003	0.004	0.004	-0.001	0.000	0.019	0.005	0.019	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-16_test011	0.021	0.0014	0.00	0.004	0.023	6PSI_10	0.001	0.0002	0.024	0.65		0.0E+00	0.0014	0.00	0.004	0.005	0.005	0.012	0.006	0.024	0.000	0.019	0.023	0.0001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
2021-2-16_test012	0.021	0.00126	0.00	0.004	0.023	6PSI_5	0.001	0.00001	0.020	0.52	1.26E-03		0.0014	0.00	0.004	0.005	0.005	0.012	0.006	0.024	0.000	0.019	0.023	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-16_test012A	0.021	0.00126	0.00	0.012	0.023	6PSI_5	0.001	0.00001	0.020	0.52	1.26E-03		0.0014	0.00	0.012	0.005	0.005	0.018	0.016	0.025	0.000	0.020	0.023	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.58: Catch Basin cover #5, Grade 2.5%, Cross slope 4.0%

Slope 2.5%, Cross-slope 4.0%													eta											Sigma										
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-22_test016	0.067	0.040	0.08	0.040	0.074	6PSI_100	0.002	0.006					0.0892	0.08	0.040	0.083	0.084	0.037	0.037	0.080	0.025	0.081	0.074	0.0030	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.001
2021-2-22_test017	0.079	0.049	0.12	0.049	0.087	7PSI	0.003	0.007					0.127	0.12	0.049	0.107	0.108	0.042	0.042	0.090	0.032	0.090	0.087	0.0035	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.003	0.002
2021-2-22_test018	0.084	0.054	0.15	0.054	0.092	8PSI	0.004	0.008					0.155	0.15	0.054	0.123	0.125	0.045	0.045	0.095	0.036	0.094	0.092	0.0043	0.002	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.004	0.003
2021-2-22_test019	0.093	0.062	0.21	0.062	0.101	11PSI	0.005	0.009					0.216	0.21	0.062	0.154	0.159	0.049	0.050	0.106	0.044	0.104	0.101	0.0035	0.005	0.001	0.003	0.004	0.001	0.001	0.006	0.003	0.005	0.004
2021-2-22_test020	0.099	0.066	0.26	0.066	0.107	15PSI	0.006	0.010					0.265	0.26	0.066	0.176	0.184	0.051	0.052	0.116	0.051	0.112	0.107	0.0042	0.008	0.002	0.004	0.005	0.001	0.001	0.007	0.004	0.006	0.005
2021-2-22_test021	0.109	0.072	0.32	0.072	0.117	15PSI_NRC_100	0.006	0.010					0.264	0.32	0.072	0.204	0.214	0.054	0.055	0.127	0.063	0.120	0.117	0.0037	0.011	0.002	0.006	0.007	0.002	0.001	0.008	0.005	0.006	0.005
2021-2-22_test022	0.116	0.075	0.37	0.075	0.124	15PSI_RENT_NRC_100	0.007	0.012					0.265	0.37	0.075	0.223	0.234	0.056	0.059	0.138	0.070	0.128	0.124	0.0040	0.014	0.003	0.008	0.008	0.002	0.002	0.009	0.005	0.007	0.006
2021-2-22_test023	0.046	0.032	0.05	0.032	0.053	6PSI_50	0.001	0.005					0.0583	0.05	0.032	0.060	0.059	0.032	0.032	0.074	0.014	0.062	0.053	0.0025	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-2-22_test024	0.035	0.022	0.02	0.022	0.041	6PSI_35	0.001	0.004					0.0296	0.02	0.022	0.037	0.037	0.025	0.025	0.050	0.007	0.042	0.041	0.0012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test025	0.024	0.0109	0.01	0.007	0.029	6PSI_20	0.001	0.0002	0.026			0.0E+00	0.0109	0.01	0.007	0.017	0.017	0.013	0.011	0.032	0.007	0.030	0.029	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test026	0.021	0.0066	0.00	0.003	0.027	6PSI_15	0.001	0.0002	0.023			0.0E+00	0.0066	0.00	0.003	0.012	0.011	0.008	0.006	0.028	0.007	0.025	0.027	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test027	0.019	0.0032	0.00	-0.001	0.024	6PSI_10	0.001	0.0002	0.018			0.0E+00	0.0032	0.00	-0.001	0.007	0.007	0.004	0.002	0.024	0.007	0.021	0.024	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-22_test028	0.015	0.0009	0.00	-0.004	0.020	6PSI_2	0.001	0.0002	0.012			0.0E+00	0.0009	0.00	-0.004	0.005	0.004	0.000	-0.002	0.017	0.007	0.017	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.59: Catch Basin cover #5, Grade 5.0%, Cross slope 4.0%

Slope 5.0%, Cross-slope 4.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-23_test001	0.063	0.041	0.08	0.041	0.069	6PSI_100	0.003	0.006					0.0885	0.08	0.041	0.081	0.082	0.038	0.038	0.065	0.023	0.072	0.069	0.0041	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002
2021-2-23_test002	0.092	0.062	0.26	0.062	0.098	15PSI_100	0.006	0.009					0.271	0.26	0.062	0.176	0.184	0.049	0.050	0.098	0.046	0.103	0.098	0.0069	0.008	0.001	0.004	0.006	0.001	0.001	0.007	0.004	0.006	0.005
2021-2-23_test003	0.107	0.070	0.36	0.070	0.114	15PSI_RENT_NRC_100	0.007	0.010					0.268	0.36	0.070	0.222	0.232	0.053	0.054	0.114	0.063	0.120	0.114	0.0063	0.013	0.002	0.007	0.007	0.002	0.001	0.008	0.004	0.007	0.006
2021-2-23_test004	0.102	0.067	0.33	0.067	0.109	15PSI_NRC_100	0.007	0.010					0.265	0.33	0.067	0.206	0.216	0.052	0.052	0.109	0.057	0.112	0.109	0.0053	0.011	0.002	0.006	0.007	0.002	0.001	0.007	0.004	0.007	0.006
2021-2-23_test005	0.087	0.059	0.21	0.059	0.093	11PSI	0.006	0.009					0.217	0.21	0.059	0.155	0.160	0.048	0.048	0.092	0.041	0.096	0.093	0.0050	0.004	0.001	0.003	0.003	0.001	0.001	0.006	0.003	0.005	0.005
2021-2-23_test006	0.078	0.053	0.15	0.053	0.084	8PSI	0.004	0.008					0.155	0.15	0.053	0.123	0.125	0.045	0.045	0.081	0.033	0.087	0.084	0.0043	0.002	0.001	0.001	0.001	0.001	0.001	0.005	0.003	0.004	0.003
2021-2-23_test007	0.074	0.049	0.12	0.049	0.080	7PSI	0.004	0.008					0.127	0.12	0.049	0.108	0.109	0.043	0.043	0.076	0.030	0.082	0.080	0.0033	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.003	0.003
2021-2-23_test008	0.053	0.032	0.05	0.032	0.058	6PSI_50	0.002	0.005					0.0568	0.05	0.032	0.059	0.059	0.032	0.032	0.065	0.017	0.063	0.058	0.0029	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.001
2021-2-23_test009	0.040	0.024	0.03	0.024	0.045	6PSI_40	0.002	0.004					0.0386	0.03	0.024	0.043	0.043	0.027	0.027	0.057	0.011	0.049	0.045	0.0022	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001
2021-2-23_test010	0.024	0.0102	0.01	0.008	0.028	6PSI_20	0.001	0.0002	0.023			0.0E+00	0.0102	0.01	0.008	0.016	0.016	0.012	0.013	0.031	0.008	0.029	0.028	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-23_test011	0.020	0.0063	0.00	0.004	0.024	6PSI_15	0.001	0.0002	0.019			0.0E+00	0.0063	0.00	0.004	0.011	0.011	0.008	0.008	0.026	0.007	0.024	0.024	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-23_test012	0.015	0.0030	0.00	0.001	0.019	6PSI_10	0.001	0.0002	0.015			0.0E+00	0.0030	0.00	0.001	0.007	0.007	0.004	0.005	0.028	0.007	0.020	0.019	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-2-23_test013	0.014	0.0010	0.00	-0.001	0.018	6PSI_02	0.001	0.0002	0.011			0.0E+00	0.0010	0.00	-0.001	0.005	0.005	0.002	0.002	0.016	0.007	0.017	0.018	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-23_test010_MT	0.021	0.00686	0.00	0.004	0.026	6PSI_20	0.001	0.00004	0.020		6.86E-03		0.0079	0.00	0.004	0.013	0.013	0.008	0.009	0.028	0.007	0.026	0.026	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.60: Catch Basin cover #5, Grade 7.5%, Cross slope 4.0%

Slope 7.5%, Cross-slope 4.0%													eta											Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-23_test014	0.061	0.041	0.09	0.041	0.068	6PSI_100	0.004	0.006					0.0969	0.09	0.041	0.087	0.087	0.038	0.038	0.059	0.026	0.069	0.068	0.0039	0.001	0.001	0.001	0.000	0.001	0.001	0.002	0.002	0.003	0.003
2021-2-23_test015	0.086	0.058	0.26	0.058	0.094	15PSI	0.006	0.009					0.272	0.26	0.058	0.177	0.184	0.048	0.047	0.091	0.043	0.094	0.094	0.0063	0.008	0.002	0.004	0.005	0.002	0.001	0.006	0.003	0.006	0.005
2021-2-23_test016	0.101	0.065	0.37	0.065	0.109	15PSI_RENT_NRC_100	0.007	0.010					0.268	0.37	0.065	0.223	0.234	0.052	0.051	0.107	0.058	0.110	0.109	0.0057	0.014	0.002	0.007	0.008	0.002	0.001	0.008	0.004	0.007	0.006
2021-2-23_test017	0.097	0.063	0.33	0.063	0.105	15PSI_RENT_NRC_25	0.007	0.009					0.267	0.33	0.063	0.208	0.214	0.050	0.050	0.102	0.053	0.104	0.105	0.0038	0.014	0.001	0.007	0.009	0.001	0.001	0.007	0.004	0.006	0.006
2021-2-23_test018	0.094	0.063	0.32	0.063	0.102	15PSI_NRC_100	0.006	0.009					0.271	0.32	0.063	0.206	0.215	0.050	0.049	0.103	0.053	0.103	0.102	0.0040	0.011	0.001	0.006	0.007	0.001	0.001	0.007	0.004	0.006	0.005
2021-2-23_test019	0.081	0.055	0.21	0.055	0.089	11PSI	0.006	0.008					0.223	0.21	0.055	0.156	0.160	0.046	0.046	0.085	0.039	0.088	0.089	0.0061	0.005	0.001	0.003	0.003	0.001	0.001	0.006	0.003	0.005	0.005
2021-2-23_test020	0.073	0.050	0.15	0.050	0.080	8PSI	0.005	0.008					0.160	0.15	0.050	0.124	0.126	0.043	0.043	0.076	0.033	0.081	0.080	0.0043	0.002	0.001	0.002	0.002	0.001	0.001	0.005	0.003	0.004	0.004
2021-2-23_test021	0.071	0.047	0.12	0.047	0.078	7PSI	0.004	0.007					0.135	0.12	0.047	0.110	0.111	0.042	0.041	0.072	0.030	0.076	0.078	0.0052	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.003	0.003
2021-2-23_test022	0.053	0.033	0.05	0.033	0.059	6PSI_50	0.002	0.005					0.0614	0.05	0.033	0.061	0.061	0.033	0.033	0.058	0.019	0.062	0.059	0.0028	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.001	0.001
2021-2-23_test023	0.044	0.026	0.03	0.026	0.050	6PSI_40	0.002	0.005					0.0420	0.03	0.026	0.047	0.047	0.028	0.028	0.053	0.014	0.054	0.050	0.0023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-2-23_test024	0.030	0.0131	0.01	0.012	0.035	6PSI_25	0.002	0.0001	0.028		1.31E-02	1.1E-03	0.0158	0.01	0.012	0.023	0.023	0.016	0.017	0.039	0.008	0.037	0.035	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-2-23_test025	0.026	0.0068	0.00	0.005	0.031	6PSI_15	0.001	0.0002	0.018			0.0E+00	0.0068	0.00	0.005	0.012	0.012	0.010	0.010	0.028	0.008	0.030	0.031	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
2021-2-23_test026	0.017	0.0011	0.00	0.000	0.021	6PSI_2	0.001	0.0002	0.011			0.0E+00	0.0011	0.00	0.000	0.005	0.005	0.003	0.003	0.016	0.007	0.026	0.021	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-23_test027	0.017	0.0037	0.00	0.001	0.022	6PSI_10	0.001	0.0002	0.015			0.0E+00	0.0037	0.00	0.001	0.008	0.008	0.006	0.006	0.030	0.007	0.038	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.005	0.000
2021-2-23_test026A	0.012	0.0010	0.00	-0.001	0.017	6PSI_2	0.001	0.0002	0.010			0.0E+00	0.0010	0.00	-0.001	0.005	0.004	0.003	0.003	0.015	0.007	0.024	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
erroneous data																																		

Table B.61: Catch Basin cover #5, Grade 10.0%, Cross slope 4.0%

Slope 10.0%, Cross-slope 4.0%													eta										Sigma									
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	spread	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-2-24_test001	0.055	0.037	0.08	0.037	0.064	6PSI_100	0.004	0.006					0.0951	0.08	0.037	0.085	0.085	0.036	0.035	0.054	0.026	0.063	0.064	0.0030	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003
2021-2-24_test002	0.078	0.053	0.26	0.053	0.089	15PSI	0.006	0.008					0.273	0.26	0.053	0.177	0.184	0.045	0.045	0.085	0.043	0.091	0.089	0.0062	0.008	0.001	0.004	0.005	0.001	0.001	0.006	0.003	0.006	0.005
2021-2-24_test003	0.091	0.060	0.36	0.060	0.102	15PSI_RENT_NRC_100	0.007	0.009					0.270	0.36	0.060	0.221	0.232	0.049	0.048	0.098	0.055	0.104	0.102	0.0063	0.013	0.002	0.007	0.007	0.001	0.002	0.007	0.004	0.007	0.006
2021-2-24_test004	0.085	0.057	0.32	0.057	0.096	15PSI_NRC_100	0.007	0.009					0.270	0.32	0.057	0.203	0.213	0.047	0.047	0.093	0.052	0.098	0.096	0.0059	0.012	0.002	0.006	0.007	0.001	0.002	0.006	0.004	0.006	0.006
2021-2-24_test005	0.080	0.054	0.27	0.054	0.090	11PSI_NRC_100	0.006	0.009					0.219	0.27	0.054	0.185	0.192	0.046	0.045	0.089	0.047	0.092	0.090	0.0057	0.007	0.001	0.004	0.005	0.001	0.001	0.006	0.004	0.006	0.005
2021-2-24_test006	0.073	0.051	0.22	0.051	0.083	8PSI_NRC_100	0.006	0.008					0.156	0.22	0.051	0.159	0.162	0.044	0.044	0.082	0.040	0.085	0.083	0.0047	0.005	0.001	0.003	0.003	0.001	0.001	0.006	0.003	0.005	0.005
2021-2-24_test007	0.070	0.049	0.19	0.049	0.079	7PSI_NRC_100	0.006	0.007					0.128	0.19	0.049	0.146	0.148	0.043	0.042	0.078	0.037	0.081	0.079	0.0033	0.004	0.001	0.002	0.003	0.001	0.001	0.005	0.003	0.005	0.005
2021-2-24_test008	0.046	0.029	0.05	0.029	0.053	6PSI_50	0.003	0.005	0.044				0.0543	0.05	0.029	0.058	0.058	0.030	0.030	0.052	0.019	0.056	0.053	0.0022	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002
2021-2-24_test009	0.039	0.022	0.03	0.022	0.046	6PSI_40	0.002	0.004	0.036				0.0356	0.03	0.022	0.042	0.042	0.025	0.025	0.047	0.014	0.050	0.046	0.0016	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001
2021-2-24_test010	0.023	0.0100	0.01	0.007	0.029	6PSI_20	0.001	0.0002	0.023			0.0E+00	0.0100	0.01	0.007	0.016	0.016	0.012	0.012	0.031	0.007	0.032	0.029	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-24_test011	0.020	0.0060	0.00	0.004	0.025	6PSI_15	0.001	0.0002	0.018			0.0E+00	0.0060	0.00	0.004	0.011	0.011	0.009	0.008	0.029	0.007	0.037	0.025	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
2021-2-24_test012	0.015	0.0030	0.00	0.001	0.020	6PSI_10	0.001	0.0002	0.013			0.0E+00	0.0030	0.00	0.001	0.007	0.007	0.005	0.005	0.024	0.006	0.030	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.000
2021-2-24_test013	0.012	0.0010	0.00	-0.001	0.017	6PSI_2	0.001	0.0002	0.010			0.0E+00	0.0010	0.00	-0.001	0.005	0.005	0.003	0.002	0.015	0.006	0.019	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-24_test014	0.011	0.0010	0.00	-0.001	0.016	6PSI_2	0.001	0.0002	0.009			0.0E+00	0.0010	0.00	-0.001	0.004	0.004	0.002	0.003	0.016	0.005	0.017	0.016	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-24_test015	0.013	0.0024	0.00	0.000	0.017	6PSI_10	0.001	0.0002	0.012			0.0E+00	0.0024	0.00	0.000	0.006	0.006	0.004	0.004	0.018	0.005	0.018	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-24_test016	0.016	0.0044	0.00	0.001	0.021	6PSI_15	0.001	0.0002	0.016			0.0E+00	0.0044	0.00	0.001	0.008	0.008	0.005	0.005	0.033	0.005	0.021	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-2-24_test017	0.022	0.0081	0.01	0.005	0.027	6PSI_20	0.001	0.0002	0.021			0.0E+00	0.0081	0.01	0.005	0.013	0.013	0.010	0.009	0.029	0.008	0.027	0.027	0.0003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021-2-24_test018A	0.034	0.0176	0.02	0.017	0.040	6PSI_35	0.002	0.0001	0.031		1.76E-02		0.0247	0.02	0.017	0.032	0.032	0.021	0.021	0.041	0.012	0.041	0.040	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
2021-2-24_test019	0.045	0.028	0.04	0.028	0.052	6PSI_50	0.003	0.005	0.044				0.0514	0.04	0.028	0.056	0.056	0.030	0.029	0.050	0.019	0.054	0.052	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002
2021-2-24_test020	0.052	0.036	0.08	0.036	0.060	6PSI_80	0.004	0.006	0.051				0.0847	0.08	0.036	0.079	0.079	0.035	0.034	0.054	0.025	0.060	0.060	0.0031	0.000	0.001	0.000	0.000	0.001	0.001	0.002	0.002	0.003	0.003
2021-2-24_test021	0.059	0.042	0.12	0.042	0.068	7PSI	0.004	0.007	0.060				0.132	0.12	0.042	0.108	0.109	0.038	0.038	0.065	0.029	0.069	0.068	0.0038	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.004	0.003
2021-2-24_test022	0.063	0.045	0.15	0.045	0.072	8PSI	0.005	0.007	0.063				0.160	0.15	0.045	0.124	0.126	0.040	0.040	0.071	0.032	0.074	0.072	0.0045	0.002	0.001	0.001	0.002	0.001	0.001	0.005	0.003	0.004	0.004
2021-2-24_test023	0.070	0.050	0.21	0.050	0.080	11PSI	0.006	0.008	0.073				0.224	0.21	0.050	0.155	0.160	0.043	0.043	0.080	0.038	0.083	0.080	0.0046	0.004	0.001	0.003	0.003	0.001	0.001	0.006	0.003	0.006	0.005
2021-2-24_test024	0.076	0.053	0.26	0.053	0.086	15PSI	0.006	0.008	0.078				0.274	0.26	0.053	0.176	0.184	0.045	0.045	0.086	0.043	0.090	0.086	0.0051	0.008	0.001	0.004	0.005	0.001	0.001	0.006	0.003	0.006	0.005
2021-2-24_test025	0.083	0.057	0.32	0.057	0.094	15PSI_NRC_100	0.007	0.009	0.085				0.273	0.32	0.057	0.205	0.215	0.047	0.047	0.093	0.052	0.098	0.094	0.0070	0.011	0.002	0.006	0.007	0.001	0.001	0.006	0.004	0.007	0.006
2021-2-24_test026	0.089	0.060	0.37	0.060	0.100	15PSI_RENT_NRC_100	0.007	0.009	0.092				0.272	0.37	0.060	0.223	0.235	0.048	0.048	0.098	0.056	0.102	0.100	0.0059	0.015	0.002	0.008	0.008	0.001	0.002	0.007	0.004	0.007	0.006
erroneous data																																		

Table B.62: Catch Basin cover #6, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-30_test001	0.067	0.049	0.07	0.049	0.071	6PSI_100	0.004	0.008	0.074	0.069			0.0878	0.07	0.049	0.077	0.077	0.043	0.042	0.071	0.049	0.062	0.071	0.003	0.001	0.002	0.001	0.000	0.002	0.001	0.003	0.003	0.003	0.003	0.066	0.002
2021-3-30_test002	0.098	0.133	0.26	0.133	0.103	15PSI	0.008	0.021	0.098	0.100			0.286	0.26	0.133	0.177	0.187	0.080	0.080	0.109	0.088	0.103	0.103	0.006	0.009	0.007	0.004	0.006	0.004	0.004	0.009	0.006	0.007	0.007	0.098	0.005
2021-3-30_test003	0.117	0.20	0.37	0.20	0.122	15PSI_RENT_NRC_100	0.010	0.03	0.117	0.121			0.283	0.37	0.195	0.222	0.233	0.101	0.100	0.126	0.110	0.121	0.122	0.007	0.014	0.013	0.008	0.008	0.005	0.006	0.010	0.009	0.008	0.009	0.119	0.007
2021-3-30_test004	0.111	0.17	0.32	0.17	0.117	15PSI_NRC_100	0.009	0.03		0.112			0.284	0.32	0.173	0.206	0.215	0.094	0.093	0.118	0.102	0.116	0.117	0.006	0.011	0.010	0.006	0.006	0.005	0.004	0.009	0.008	0.008	0.008	0.110	0.006
2021-3-30_test005	0.088	0.107	0.20	0.107	0.092	11PSI	0.007	0.015		0.087			0.221	0.20	0.107	0.150	0.155	0.068	0.072	0.098	0.074	0.091	0.092	0.006	0.004	0.004	0.003	0.003	0.003	0.002	0.008	0.005	0.006	0.006	0.085	0.005
2021-3-30_test006	0.076	0.082	0.14	0.082	0.080	8PSI	0.006	0.014		0.081			0.155	0.14	0.082	0.117	0.119	0.057	0.061	0.084	0.064	0.078	0.080	0.004	0.002	0.004	0.001	0.001	0.002	0.003	0.006	0.004	0.005	0.005	0.079	0.004
2021-3-30_test007	0.073	0.065	0.11	0.065	0.077	7PSI	0.004	0.010		0.080			0.126	0.11	0.065	0.102	0.102	0.051	0.051	0.079	0.061	0.072	0.077	0.004	0.001	0.003	0.001	0.001	0.002	0.002	0.005	0.004	0.004	0.003	0.077	0.003
2021-3-30_test008	0.057	0.033	0.04	0.033	0.060	6PSI_50	0.002	0.006		0.056			0.0500	0.04	0.033	0.052	0.052	0.033	0.032	0.061	0.035	0.054	0.060	0.001	0.000	0.001	0.000	0.000	0.001	0.001	0.002	0.002	0.001	0.001	0.054	0.002
2021-3-30_test009A	0.045	0.019	0.02	0.019	0.048	6PSI_35	0.001	0.004	0.048	0.042			0.0267	0.02	0.019	0.031	0.031	0.023	0.023	0.050	0.023	0.041	0.048	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.036	0.001
2021-3-30_test010A	0.036	0.0145	0.01	0.011	0.038	6PSI_25	0.001	0.0002		0.036		5.0E-04	0.0150	0.01	0.011	0.019	0.019	0.016	0.015	0.040	0.016	0.033	0.038	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.001
2021-3-30_test011	0.025	0.0050	0.00	0.002	0.027	6PSI_15	0.001	0.0002		0.026		0.0E+00	0.0050	0.00	0.002	0.007	0.007	0.007	0.006	0.030	0.009	0.023	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.020	0.001
2021-3-30_test012	0.020	0.0025	0.00	0.000	0.022	6PSI_10	0.001	0.0002	0.021	0.019		0.0E+00	0.0025	0.00	0.000	0.004	0.004	0.004	0.003	0.025	0.008	0.020	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000
2021-3-30_test013	0.014	0.0008	0.00	-0.001	0.016	6PSI_05	0.001	0.0002	0.015	0.014		0.0E+00	0.0008	0.00	-0.001	0.002	0.001	0.003	0.001	0.020	0.008	0.018	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000
erroneous data																																				

Table B.63: Catch Basin cover #6, Grade 1.0%, Cross slope 2.0%

Grade 1.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-30_test014	0.056	0.056	0.08	0.056	0.060	6PSI_100	0.003	0.009	0.057	0.056			0.093	0.08	0.056	0.081	0.081	0.046	0.046	0.069	0.041	0.065	0.0605	0.0035	0.001	0.002	0.001	0.000	0.002	0.001	0.003	0.002	0.002	0.002	0.056	0.002
2021-3-30_test015	0.090	0.138	0.26	0.138	0.096	15PSI	0.008	0.020	0.089	0.093			0.287	0.26	0.138	0.178	0.186	0.081	0.083	0.102	0.073	0.093	0.0961	0.0058	0.008	0.007	0.004	0.005	0.003	0.004	0.008	0.005	0.006	0.007	0.093	0.005
2021-3-30_test016	0.106	0.20	0.37	0.20	0.113	15PSI_RENT_NRC_100	0.009	0.03	0.108	0.105			0.287	0.37	0.198	0.224	0.234	0.101	0.102	0.122	0.089	0.113	0.1130	0.0059	0.013	0.011	0.008	0.007	0.004	0.005	0.010	0.006	0.007	0.008	0.105	0.006
2021-3-30_test017	0.100	0.18	0.33	0.18	0.107	15PSI_NRC_100	0.008	0.03		0.099			0.286	0.33	0.177	0.207	0.216	0.094	0.095	0.114	0.083	0.105	0.1067	0.0066	0.011	0.010	0.007	0.006	0.004	0.004	0.009	0.006	0.006	0.007	0.099	0.006
2021-3-30_test018	0.080	0.113	0.20	0.113	0.086	11PSI	0.007	0.016		0.080			0.223	0.20	0.113	0.151	0.156	0.071	0.073	0.091	0.062	0.085	0.0859	0.0058	0.004	0.005	0.003	0.003	0.003	0.003	0.007	0.004	0.005	0.006	0.080	0.004
2021-3-30_test019	0.069	0.085	0.14	0.085	0.074	8PSI	0.005	0.013		0.071			0.157	0.14	0.085	0.119	0.120	0.060	0.061	0.080	0.050	0.076	0.0741	0.0048	0.002	0.003	0.001	0.001	0.002	0.002	0.006	0.003	0.004	0.004	0.071	0.003
2021-3-30_test020	0.064	0.072	0.11	0.072	0.069	7PSI	0.004	0.011		0.066			0.129	0.11	0.072	0.103	0.104	0.054	0.055	0.076	0.046	0.072	0.0690	0.0037	0.001	0.002	0.001	0.001	0.002	0.001	0.004	0.003	0.003	0.003	0.066	0.003
2021-3-30_test021	0.046	0.039	0.04	0.039	0.049	6PSI_50	0.002	0.006		0.046			0.0545	0.04	0.039	0.056	0.056	0.036	0.036	0.060	0.036	0.055	0.0492	0.0011	0.000	0.001	0.000	0.000	0.001	0.001	0.002	0.002	0.001	0.001	0.046	0.001
2021-3-30_test022A	0.034	0.022	0.02	0.022	0.037	6PSI_35	0.001	0.004	0.034	0.033			0.0268	0.02	0.022	0.032	0.032	0.024	0.025	0.047	0.020	0.038	0.0369	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.033	0.001
2021-3-30_test023	0.030	0.0153	0.01	0.014	0.033	6PSI_25	0.001	0.0002		0.029		5.37E-04	0.0158	0.01	0.014	0.020	0.020	0.018	0.018	0.036	0.012	0.032	0.0328	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.029	0.001
2021-3-30_test024	0.021	0.0061	0.00	0.004	0.023	6PSI_15	0.001	0.0002		0.019		0.00E+00	0.0061	0.00	0.004	0.009	0.008	0.009	0.009	0.031	0.008	0.024	0.0230	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.000
2021-3-30_test025	0.016	0.0027	0.00	0.001	0.018	6PSI_10	0.001	0.0002	0.015	0.012		0.00E+00	0.0027	0.00	0.001	0.004	0.004	0.005	0.005	0.023	0.008	0.018	0.0175	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000
2021-3-30_test026	0.014	0.0010	0.00	0.000	0.016	6PSI_05	0.001	0.0002	0.013	0.009		0.00E+00	0.0010	0.00	0.000	0.002	0.002	0.003	0.003	0.020	0.008	0.017	0.0158	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
erroneous data																																				

Table B.64: Catch Basin cover #6, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-31_test001	0.050	0.064	0.08	0.064	0.057	6PSI_100	0.003	0.010	0.051	0.052			0.0990	0.08	0.064	0.085	0.085	0.051	0.051	0.061	0.034	0.054	0.057	0.0031	0.001	0.002	0.001	0.000	0.002	0.001	0.003	0.002	0.002	0.002	0.052	0.002
2021-3-31_test002	0.077	0.15	0.26	0.15	0.084	15PSI	0.006	0.02	0.077	0.076			0.288	0.26	0.145	0.178	0.187	0.085	0.083	0.093	0.059	0.082	0.084	0.0066	0.009	0.008	0.004	0.006	0.004	0.003	0.007	0.004	0.005	0.005	0.076	0.004
2021-3-31_test003	0.093	0.20	0.37	0.20	0.101	15PSI_RENT_NRC_100	0.008	0.03	0.094	0.089			0.286	0.37	0.204	0.223	0.234	0.100	0.107	0.113	0.079	0.097	0.101	0.0052	0.013	0.012	0.008	0.007	0.004	0.006	0.009	0.005	0.006	0.007	0.089	0.005
2021-3-31_test004	0.086	0.18	0.33	0.18	0.094	15PSI_NRC_100	0.007	0.03		0.083			0.286	0.33	0.184	0.207	0.216	0.092	0.101	0.105	0.072	0.091	0.094	0.0066	0.011	0.010	0.007	0.006	0.003	0.005	0.008	0.005	0.005	0.006	0.083	0.005
2021-3-31_test005	0.068	0.124	0.20	0.124	0.075	11PSI	0.006	0.017		0.067			0.222	0.20	0.124	0.152	0.157	0.074	0.079	0.081	0.051	0.073	0.075	0.0053	0.005	0.005	0.003	0.003	0.003	0.003	0.006	0.004	0.004	0.005	0.067	0.004
2021-3-31_test006	0.059	0.096	0.14	0.096	0.066	8PSI	0.005	0.014		0.057			0.158	0.14	0.096	0.120	0.122	0.064	0.067	0.071	0.043	0.065	0.066	0.0046	0.002	0.004	0.002	0.002	0.002	0.003	0.005	0.003	0.004	0.004	0.057	0.003
2021-3-31_test007	0.055	0.082	0.11	0.082	0.062	7PSI	0.004	0.012		0.054			0.131	0.11	0.082	0.105	0.105	0.059	0.060	0.067	0.039	0.060	0.062	0.0042	0.001	0.003	0.001	0.001	0.002	0.002	0.004	0.003	0.003	0.003	0.054	0.003
2021-3-31_test008	0.039	0.041	0.04	0.041	0.045	6PSI_50	0.001	0.007		0.039			0.0522	0.04	0.041	0.054	0.054	0.038	0.038	0.052	0.024	0.044	0.045	0.0010	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.039	0.001
2021-3-31_test009	0.028	0.023	0.02	0.023	0.033	6PSI_35	0.001	0.004	0.024	0.029			0.0288	0.02	0.023	0.033	0.033	0.025	0.026	0.043	0.016	0.035	0.033	0.0007	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.029	0.001
2021-3-31_test010	0.021	0.013	0.01	0.013	0.027	6PSI_25	0.001	0.003		0.023			0.0164	0.01	0.013	0.021	0.021	0.017	0.018	0.035	0.010	0.026	0.027	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.001
2021-3-31_test011	0.015	0.0062	0.00	0.004	0.021	6PSI_15	0.001	0.0002		0.014		0.0E+00	0.0062	0.00	0.004	0.009	0.008	0.009	0.009	0.027	0.008	0.020	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.000
2021-3-31_test012	0.011	0.0028	0.00	0.001	0.017	6PSI_10	0.001	0.0002	0.013	0.010		0.0E+00	0.0028	0.00	0.001	0.004	0.004	0.005	0.005	0.024	0.008	0.018	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
2021-3-31_test013	0.010	0.0011	0.00	-0.001	0.015	6PSI_05	0.001	0.0002	0.010	0.006		0.0E+00	0.0011	0.00	-0.001	0.002	0.002	0.003	0.003	0.019	0.008	0.017	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
erroneous data																																				

Table B.65: Catch Basin cover #6, Grade 5.0%, Cross slope 2.0%

Grade 5.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-3-31_test014	0.045	0.067	0.08	0.067	0.050	6PSI_100	0.003	0.011	0.047	0.042			0.101	0.08	0.067	0.086	0.086	0.051	0.053	0.051	0.030	0.051	0.050	0.0031	0.001	0.003	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.042	0.002
2021-3-31_test015	0.070	0.15	0.26	0.15	0.076	15PSI	0.006	0.02	0.071	0.067			0.289	0.26	0.155	0.179	0.187	0.083	0.092	0.079	0.052	0.077	0.076	0.0064	0.008	0.009	0.005	0.006	0.004	0.004	0.006	0.004	0.005	0.005	0.067	0.004
2021-3-31_test016	0.084	0.21	0.37	0.21	0.090	15PSI_RENT_NRC_100	0.008	0.03	0.084	0.081			0.287	0.37	0.206	0.223	0.235	0.098	0.110	0.095	0.067	0.094	0.090	0.0063	0.013	0.014	0.008	0.008	0.005	0.006	0.007	0.005	0.006	0.007	0.081	0.005
2021-3-31_test017	0.078	0.18	0.33	0.18	0.085	15PSI_NRC_100	0.007	0.03		0.074			0.287	0.33	0.178	0.207	0.217	0.090	0.100	0.089	0.061	0.086	0.085	0.0066	0.011	0.011	0.007	0.006	0.005	0.005	0.007	0.004	0.006	0.006	0.074	0.005
2021-3-31_test018	0.062	0.129	0.20	0.129	0.068	11PSI	0.006	0.019		0.058			0.223	0.20	0.129	0.152	0.157	0.075	0.082	0.072	0.044	0.069	0.068	0.0054	0.005	0.006	0.003	0.003	0.003	0.003	0.005	0.003	0.004	0.005	0.058	0.004
2021-3-31_test019	0.054	0.100	0.14	0.100	0.059	8PSI	0.005	0.015		0.050			0.159	0.14	0.100	0.120	0.122	0.065	0.069	0.063	0.037	0.060	0.059	0.0045	0.002	0.004	0.002	0.001	0.002	0.003	0.004	0.003	0.003	0.004	0.050	0.003
2021-3-31_test020	0.050	0.085	0.11	0.085	0.055	7PSI	0.004	0.012		0.046			0.132	0.11	0.085	0.105	0.106	0.060	0.061	0.058	0.034	0.056	0.055	0.0038	0.002	0.003	0.001	0.001	0.002	0.002	0.003	0.002	0.003	0.003	0.046	0.003
2021-3-31_test021	0.037	0.044	0.05	0.044	0.041	6PSI_50	0.002	0.007		0.031			0.0556	0.05	0.044	0.057	0.056	0.040	0.040	0.044	0.024	0.043	0.041	0.0008	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.031	0.001
2021-3-31_test022B	0.028	0.025	0.02	0.025	0.032	6PSI_35	0.001	0.005	0.029	0.022			0.0295	0.02	0.025	0.034	0.034	0.026	0.028	0.037	0.017	0.035	0.032	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.001
2021-3-31_test023	0.021	0.013	0.01	0.013	0.025	6PSI_25	0.001	0.003		0.015			0.0154	0.01	0.013	0.020	0.020	0.017	0.018	0.032	0.012	0.027	0.025	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.001
2021-3-31_test024A	0.017	0.0062	0.00	0.005	0.021	6PSI_15	0.001	0.0002		0.009		0.0E+00	0.0062	0.00	0.005	0.009	0.008	0.009	0.010	0.032	0.009	0.020	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.009	0.001
2021-3-31_test025	0.013	0.0033	0.00	0.002	0.017	6PSI_10	0.001	0.0002	0.012	0.008		0.0E+00	0.0033	0.00	0.002	0.005	0.005	0.005	0.006	0.021	0.009	0.021	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.001
2021-3-31_test026	0.007	0.0008	0.00	0.000	0.011	6PSI_5	0.001	0.0002	0.008	0.002		0.0E+00	0.0008	0.00	0.000	0.001	0.001	0.003	0.004	0.016	0.009	0.013	0.011	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
erroneous data																																				

Table B.66: Catch Basin cover #6, Grade 7.5%, Cross slope 2.0%

Grade 7.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-1_test001	0.039	0.059	0.07	0.059	0.045	6PSI_100	0.003	0.009	0.041	0.035			0.0897	0.07	0.059	0.078	0.078	0.048	0.048	0.044	0.027	0.045	0.045	0.0032	0.001	0.002	0.001	0.000	0.001	0.001	0.002	0.002	0.002	0.002	0.033	0.002
2021-4-1_test002	0.062	0.150	0.26	0.150	0.069	15PSI	0.006	0.020	0.063	0.060			0.288	0.26	0.150	0.178	0.187	0.083	0.089	0.072	0.048	0.071	0.069	0.0061	0.009	0.006	0.005	0.006	0.002	0.004	0.005	0.004	0.005	0.005	0.058	0.004
2021-4-1_test003	0.077	0.20	0.37	0.20	0.084	15PSI_RENT_NRC_100	0.007	0.03	0.075	0.072			0.286	0.37	0.199	0.223	0.234	0.099	0.104	0.085	0.062	0.085	0.084	0.0064	0.014	0.013	0.008	0.008	0.005	0.006	0.007	0.004	0.006	0.006	0.070	0.005
2021-4-1_test004	0.070	0.17	0.32	0.17	0.077	15PSI_NRC_100	0.007	0.02		0.067			0.287	0.32	0.172	0.206	0.214	0.092	0.094	0.081	0.057	0.080	0.077	0.0064	0.012	0.008	0.007	0.006	0.004	0.003	0.006	0.004	0.005	0.006	0.065	0.005
2021-4-1_test005	0.055	0.121	0.20	0.121	0.062	11PSI	0.005	0.016		0.053			0.221	0.20	0.121	0.150	0.156	0.073	0.078	0.065	0.041	0.064	0.062	0.0062	0.004	0.005	0.003	0.003	0.002	0.003	0.005	0.003	0.004	0.004	0.051	0.004
2021-4-1_test006	0.048	0.093	0.14	0.093	0.054	8PSI	0.004	0.013		0.045			0.157	0.14	0.093	0.118	0.120	0.062	0.066	0.056	0.035	0.056	0.054	0.0048	0.002	0.004	0.001	0.001	0.001	0.003	0.004	0.003	0.003	0.003	0.043	0.003
2021-4-1_test007	0.044	0.078	0.11	0.078	0.050	7PSI	0.004	0.012		0.042			0.126	0.11	0.078	0.101	0.102	0.056	0.059	0.052	0.032	0.052	0.050	0.0040	0.001	0.003	0.001	0.001	0.001	0.003	0.003	0.002	0.003	0.003	0.039	0.003
2021-4-1_test008A	0.033	0.038	0.04	0.038	0.038	6PSI_50	0.002	0.005		0.029			0.0493	0.04	0.038	0.052	0.051	0.036	0.036	0.039	0.022	0.040	0.038	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.026	0.002
2021-4-1_test009	0.025	0.022	0.02	0.022	0.031	6PSI_35	0.002	0.004	0.027	0.022			0.0274	0.02	0.022	0.032	0.032	0.025	0.025	0.033	0.019	0.032	0.031	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.020	0.001
2021-4-1_test010	0.019	0.0136	0.01	0.012	0.024	6PSI_25	0.001	0.0002		0.015		5.65E-04	0.0142	0.01	0.012	0.019	0.019	0.017	0.016	0.030	0.014	0.025	0.024	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.013	0.001
2021-4-1_test011	0.015	0.0055	0.00	0.004	0.020	6PSI_15	0.001	0.0002		0.009		0.00E+00	0.0055	0.00	0.004	0.008	0.008	0.008	0.008	0.020	0.010	0.022	0.020	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.001
2021-4-1_test012	0.012	0.0026	0.00	0.001	0.016	6PSI_10	0.001	0.0002	0.010	0.006		0.00E+00	0.0026	0.00	0.001	0.004	0.004	0.005	0.005	0.017	0.010	0.024	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.004	0.000
2021-4-1_test013	0.006	0.0015	0.00	0.000	0.011	6PSI_05	0.001	0.0002	0.008			0.00E+00	0.0015	0.00	0.000	0.002	0.002	0.004	0.004	0.017	0.009	0.012	0.011	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001
erroneous data																																				

Table B.67: Catch Basin cover #6, Grade 10.0%, Cross slope 2.0%

Grade 10.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-1_test014A	0.035	0.054	0.07	0.054	0.041	6PSI_100	0.003	0.008	0.0359	0.027			0.0866	0.07	0.054	0.077	0.076	0.045	0.046	0.041	0.027	0.042	0.041	0.0028	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.002	0.002	0.002	0.027	0.003
2021-4-1_test015	0.059	0.145	0.26	0.145	0.067	15PSI	0.006	0.021	0.0594	0.054			0.286	0.26	0.145	0.178	0.187	0.082	0.086	0.067	0.047	0.068	0.067	0.0066	0.008	0.008	0.004	0.006	0.003	0.004	0.006	0.004	0.005	0.005	0.054	0.007
2021-4-1_test016	0.071	0.20	0.37	0.20	0.081	15PSI_RENT_NRC_100	0.007	0.03	0.0704	0.069			0.284	0.37	0.195	0.223	0.235	0.098	0.103	0.079	0.060	0.080	0.081	0.0054	0.014	0.012	0.008	0.007	0.005	0.006	0.007	0.005	0.006	0.006	0.069	0.007
2021-4-1_test017	0.066	0.18	0.33	0.18	0.075	15PSI_NRC_100	0.006	0.03		0.062			0.285	0.33	0.178	0.207	0.216	0.092	0.098	0.075	0.055	0.075	0.075	0.0063	0.011	0.010	0.006	0.007	0.004	0.004	0.006	0.004	0.005	0.005	0.062	0.007
2021-4-1_test018	0.052	0.116	0.20	0.116	0.060	11PSI	0.005	0.016		0.046			0.221	0.20	0.116	0.150	0.155	0.071	0.075	0.060	0.041	0.061	0.060	0.0052	0.005	0.004	0.003	0.004	0.002	0.003	0.005	0.003	0.004	0.004	0.046	0.006
2021-4-1_test019	0.045	0.092	0.14	0.092	0.052	8PSI	0.005	0.012		0.038			0.157	0.14	0.092	0.118	0.120	0.061	0.066	0.051	0.034	0.052	0.052	0.0041	0.002	0.003	0.001	0.001	0.001	0.002	0.004	0.003	0.003	0.004	0.038	0.005
2021-4-1_test020	0.041	0.077	0.11	0.077	0.048	7PSI	0.004	0.010		0.034			0.129	0.11	0.077	0.102	0.103	0.055	0.059	0.047	0.032	0.048	0.048	0.0044	0.001	0.002	0.001	0.001	0.001	0.002	0.003	0.002	0.003	0.003	0.034	0.003
2021-4-1_test021	0.031	0.039	0.04	0.039	0.037	6PSI_50	0.003	0.006		0.023			0.0529	0.04	0.039	0.054	0.054	0.036	0.037	0.038	0.024	0.038	0.037	0.0009	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.001	0.002	0.023	0.002
2021-4-1_test022	0.024	0.021	0.02	0.021	0.030	6PSI_35	0.002	0.004	0.0254	0.017			0.0273	0.02	0.021	0.032	0.032	0.024	0.024	0.032	0.021	0.031	0.030	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.017	0.002
2021-4-1_test023	0.018	0.012	0.01	0.012	0.024	6PSI_25	0.001	0.003		0.012			0.0154	0.01	0.012	0.020	0.020	0.017	0.017	0.036	0.016	0.026	0.024	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.012	0.001
2021-4-1_test024	0.015	0.0055	0.00	0.004	0.020	6PSI_15	0.001	0.0002		0.006		3.12E-04	0.0058	0.00	0.004	0.008	0.008	0.008	0.008	0.019	0.010	0.024	0.020	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.006	0.001
2021-4-1_test025	0.008	0.0028	0.00	0.001	0.013	6PSI_10	0.002	0.0002	0.0094			0.00E+00	0.0028	0.00	0.001	0.004	0.004	0.005	0.005	0.017	0.010	0.018	0.013	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.004	0.000
2021-4-1_test026A	0.004	0.0009	0.00	0.000	0.008	6PSI_05	0.001	0.0002	0.0059			0.00E+00	0.0009	0.00	0.000	0.002	0.002	0.003	0.003	0.017	0.009	0.010	0.008	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
erroneous data																																				

Table B.68: Catch Basin cover #6, Grade 0.5%, Cross slope 4.0%

Grade 0.5%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-15_test001	0.090	0.074	0.08	0.074	0.095	06PSI_100	0.003	0.010	0.091	0.083			0.0968	0.08	0.074	0.084	0.084	0.056	0.055	0.096	0.047	0.085	0.095	0.0031	0.001	0.002	0.001	0.001	0.001	0.001	0.003	0.004	0.002	0.002	0.083	0.002
2021-4-15_test002	0.125	0.17	0.27	0.17	0.130	15PSI	0.008	0.03	0.125	0.116			0.290	0.27	0.168	0.180	0.188	0.093	0.091	0.136	0.087	0.127	0.130	0.0056	0.009	0.009	0.005	0.006	0.004	0.004	0.008	0.007	0.006	0.007	0.116	0.005
2021-4-15_test003	0.145	0.22	0.37	0.23	0.151	15PSI_RENT_NRC_100	0.009	0.03	0.146	0.136			0.288	0.37	0.226	0.224	0.235	0.110	0.109	0.159	0.114	0.149	0.151	0.0061	0.013	0.016	0.008	0.007	0.006	0.006	0.009	0.008	0.007	0.008	0.136	0.006
2021-4-15_test004	0.139	0.21	0.33	0.21	0.145	15PSI_NRC_100	0.009	0.03		0.128			0.288	0.33	0.207	0.208	0.217	0.105	0.103	0.149	0.106	0.141	0.145	0.0067	0.011	0.013	0.007	0.006	0.006	0.005	0.009	0.008	0.007	0.008	0.128	0.006
2021-4-15_test005	0.114	0.138	0.21	0.138	0.119	11PSI	0.007	0.020		0.105			0.225	0.21	0.138	0.153	0.158	0.082	0.082	0.124	0.076	0.116	0.119	0.0054	0.004	0.006	0.003	0.003	0.003	0.003	0.008	0.006	0.006	0.006	0.105	0.004
2021-4-15_test006	0.103	0.110	0.14	0.110	0.108	08PSI	0.005	0.015		0.097			0.161	0.14	0.110	0.121	0.123	0.071	0.071	0.111	0.068	0.102	0.108	0.0046	0.002	0.004	0.002	0.001	0.002	0.002	0.006	0.006	0.004	0.004	0.097	0.004
2021-4-15_test007	0.098	0.097	0.12	0.097	0.103	07PSI	0.005	0.013		0.095			0.133	0.12	0.097	0.106	0.107	0.066	0.065	0.106	0.055	0.095	0.103	0.0048	0.001	0.003	0.001	0.001	0.002	0.002	0.005	0.004	0.004	0.004	0.095	0.003
2021-4-15_test008	0.075	0.051	0.05	0.051	0.079	06PSI_50	0.002	0.007		0.066			0.056	0.05	0.051	0.058	0.057	0.044	0.044	0.084	0.033	0.073	0.079	0.0011	0.000	0.001	0.000	0.000	0.000	0.001	0.002	0.002	0.001	0.001	0.066	0.002
2021-4-15_test007A	0.099	0.095	0.12	0.095	0.103	07PSI	0.005	0.013		0.096			0.133	0.12	0.095	0.106	0.106	0.065	0.065	0.106	0.055	0.096	0.103	0.0045	0.001	0.003	0.001	0.001	0.002	0.002	0.005	0.004	0.004	0.004	0.096	0.003
2021-4-15_test009	0.059	0.0291	0.02	0.029	0.063	06PSI_35	0.002	0.0002	0.062	0.049		0.0E+00	0.0291	0.02	0.029	0.034	0.034	0.030	0.031	0.065	0.014	0.053	0.063	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.049	0.001
2021-4-15_test010	0.048	0.0160	0.01	0.016	0.052	06PSI_25	0.001	0.0002		0.032		0.0E+00	0.0160	0.01	0.016	0.021	0.021	0.020	0.021	0.055	0.008	0.043	0.052	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.032	0.001
2021-4-15_test011	0.032	0.0057	0.00	0.006	0.034	06PSI_15	0.001	0.0002		0.019		0.0E+00	0.0057	0.00	0.006	0.008	0.008	0.011	0.010	0.037	0.008	0.027	0.034	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.001
2021-4-15_test012	0.026	0.0028	0.00	0.002	0.029	06PSI_10	0.001	0.0002	0.026	0.013		0.0E+00	0.0028	0.00	0.002	0.004	0.004	0.007	0.007	0.032	0.008	0.020	0.029	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000
2021-4-15_test013	0.021	0.0009	0.00	0.001	0.023	06PSI_05	0.001	0.0002	0.018	0.005		0.0E+00	0.0009	0.00	0.001	0.002	0.002	0.005	0.005	0.024	0.008	0.018	0.023	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000
erroneous data																																				

Table B.69: Catch Basin cover #6, Grade 1.0%, Cross slope 4.0%

Grade 1.0%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-14_test014	0.071	0.074	0.08	0.074	0.076	06PSI_100	0.002	0.010	0.069	0.062			0.0946	0.08	0.074	0.083	0.083	0.055	0.056	0.096	0.039	0.083	0.076	0.003	0.001	0.002	0.001	0.001	0.001	0.001	0.003	0.004	0.002	0.001	0.062	0.002
2021-4-14_test015	0.117	0.18	0.26	0.18	0.125	15PSI	0.007	0.03	0.118	0.109			0.287	0.26	0.180	0.179	0.187	0.095	0.096	0.131	0.076	0.124	0.125	0.006	0.008	0.010	0.004	0.005	0.004	0.005	0.008	0.005	0.006	0.006	0.109	0.005
2021-4-14_test016	0.135	0.24	0.37	0.24	0.144	15PSI_RENT_NRC_100	0.009	0.03	0.133	0.124			0.286	0.37	0.244	0.224	0.235	0.113	0.117	0.151	0.095	0.136	0.144	0.006	0.014	0.015	0.008	0.008	0.006	0.006	0.010	0.007	0.007	0.008	0.124	0.006
2021-4-14_test017	0.126	0.22	0.33	0.22	0.135	15PSI_NRC_100	0.008	0.03		0.120			0.286	0.33	0.220	0.207	0.218	0.107	0.109	0.143	0.087	0.129	0.135	0.006	0.012	0.014	0.007	0.006	0.005	0.006	0.009	0.006	0.006	0.007	0.120	0.005
2021-4-14_test018	0.106	0.145	0.20	0.145	0.113	11PSI	0.006	0.020		0.098			0.222	0.20	0.145	0.152	0.157	0.083	0.085	0.122	0.067	0.114	0.113	0.006	0.004	0.006	0.003	0.003	0.003	0.004	0.007	0.005	0.005	0.005	0.098	0.004
2021-4-14_test019	0.093	0.111	0.14	0.111	0.100	08PSI	0.005	0.014		0.084			0.158	0.14	0.111	0.120	0.122	0.071	0.072	0.110	0.058	0.103	0.100	0.004	0.002	0.003	0.001	0.001	0.002	0.002	0.005	0.005	0.004	0.004	0.084	0.003
2021-4-14_test020	0.084	0.096	0.11	0.096	0.090	07PSI	0.004	0.012		0.073			0.129	0.11	0.096	0.104	0.105	0.065	0.065	0.104	0.051	0.095	0.090	0.004	0.001	0.003	0.001	0.001	0.001	0.002	0.004	0.004	0.003	0.003	0.073	0.003
2021-4-14_test021	0.050	0.050	0.05	0.050	0.054	06PSI_50	0.001	0.007		0.038			0.0549	0.05	0.050	0.057	0.056	0.043	0.043	0.077	0.016	0.061	0.054	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.001	0.000	0.038	0.001
2021-4-14_test022A	0.046	0.029	0.02	0.029	0.050	06PSI_35	0.001	0.005	0.046	0.036			0.0285	0.02	0.029	0.033	0.033	0.030	0.030	0.058	0.011	0.052	0.050	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.001
2021-4-14_test023	0.037	0.0161	0.01	0.017	0.040	06PSI_25	0.001	0.0002		0.027		0.0E+00	0.0161	0.01	0.017	0.021	0.021	0.021	0.021	0.051	0.008	0.043	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.001
2021-4-14_test024	0.025	0.0059	0.00	0.006	0.027	06PSI_15	0.001	0.0002		0.015		0.0E+00	0.0059	0.00	0.006	0.008	0.008	0.011	0.011	0.036	0.008	0.030	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000
2021-4-14_test025A	0.021	0.0026	0.00	0.002	0.023	06PSI_10	0.001	0.0002	0.023	0.010		0.0E+00	0.0026	0.00	0.002	0.004	0.004	0.007	0.006	0.028	0.008	0.019	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
2021-4-14_test026	0.019	0.0010	0.00	0.001	0.021	06PSI_05	0.001	0.0002	0.015	0.004		0.0E+00	0.0010	0.00	0.001	0.002	0.002	0.005	0.005	0.026	0.008	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
erroneous data																																				

Table B.70: Catch Basin cover #6, Grade 2.5%, Cross slope 4.0%

Grade 2.5%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-14_test001	0.068	0.077	0.08	0.077	0.075	06PSI_100	0.003	0.010	0.066	0.060			0.0933	0.08	0.077	0.081	0.081	0.057	0.058	0.084	0.026	0.080	0.075	0.0029	0.001	0.002	0.001	0.000	0.001	0.002	0.002	0.002	0.002	0.002	0.060	0.002
2021-4-14_test006	0.087	0.133	0.14	0.133	0.095	08PSI	0.004	0.018		0.076			0.157	0.14	0.133	0.119	0.121	0.076	0.083	0.098	0.038	0.092	0.095	0.0047	0.002	0.006	0.001	0.001	0.002	0.004	0.005	0.003	0.003	0.003	0.076	0.003
2021-4-14_test007	0.081	0.110	0.11	0.110	0.088	07PSI	0.004	0.014		0.068			0.129	0.11	0.110	0.104	0.104	0.069	0.074	0.094	0.034	0.088	0.088	0.0041	0.001	0.004	0.001	0.001	0.001	0.003	0.004	0.002	0.003	0.003	0.068	0.003
2021-4-14_test008	0.047	0.050	0.05	0.050	0.054	06PSI_50	0.001	0.006		0.038			0.055	0.05	0.050	0.057	0.056	0.043	0.043	0.077	0.016	0.061	0.054	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.038	0.001
2021-4-14_test009	0.036	0.027	0.02	0.027	0.041	06PSI_35	0.001	0.004	0.036	0.029			0.028	0.02	0.027	0.033	0.033	0.028	0.029	0.052	0.010	0.039	0.041	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.029	0.001
2021-4-14_test005A	0.096	0.17	0.20	0.17	0.104	11PSI_100	0.006	0.03		0.087			0.221	0.20	0.17	0.152	0.157	0.091	0.096	0.107	0.046	0.102	0.104	0.0050	0.005	0.010	0.003	0.003	0.004	0.005	0.006	0.003	0.005	0.005	0.087	0.004
2021-4-14_test002A	0.104	0.21	0.26	0.21	0.112	15PSI_100	0.006	0.03		0.098			0.287	0.26	0.21	0.179	0.187	0.102	0.110	0.119	0.054	0.111	0.112	0.0060	0.008	0.014	0.004	0.005	0.005	0.006	0.007	0.004	0.005	0.005	0.098	0.005
2021-4-14_test003A	0.120	0.25	0.37	0.25	0.129	15PSI_RENT_NRC_100	0.008	0.03	0.116	0.115			0.285	0.37	0.25	0.224	0.235	0.114	0.123	0.140	0.073	0.126	0.129	0.0066	0.014	0.018	0.008	0.008	0.007	0.006	0.009	0.005	0.006	0.007	0.115	0.006
2021-4-14_test004A	0.113	0.23	0.33	0.23	0.122	15PSI_NRC_100	0.007	0.03		0.109			0.287	0.33	0.23	0.208	0.216	0.111	0.118	0.131	0.066	0.119	0.122	0.0059	0.011	0.016	0.006	0.006	0.006	0.006	0.008	0.005	0.006	0.006	0.109	0.005
2021-4-14_test010	0.028	0.015	0.01	0.017	0.034	06PSI_25	0.001	0.0002		0.021		0.0E+00	0.0154	0.01	0.017	0.020	0.020	0.021	0.021	0.039	0.010	0.034	0.034	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.001
2021-4-14_test008A	0.042	0.043	0.04	0.043	0.048	06PSI_50	0.001	0.006		0.034			0.0459	0.04	0.043	0.049	0.049	0.039	0.040	0.071	0.011	0.053	0.048	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.034	0.001
2021-4-14_test011	0.021	0.007	0.00	0.007	0.026	06PSI_15	0.001	0.0002		0.012		0.0E+00	0.0066	0.00	0.007	0.009	0.009	0.012	0.011	0.030	0.009	0.025	0.026	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000
2021-4-14_test012A	0.015	0.003	0.00	0.002	0.020	06PSI_10	0.001	0.0002	0.014	0.006		0.0E+00	0.0029	0.00	0.002	0.005	0.005	0.007	0.006	0.027	0.009	0.019	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
2021-4-14_test013	0.011	0.001	0.00	0.001	0.016	06PSI_05	0.001	0.0002	0.009	0.000		0.0E+00	0.0010	0.00	0.001	0.002	0.002	0.005	0.004	0.022	0.009	0.018	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
erroneous data																																				

Table B.71: Catch Basin cover #6, Grade 5.0%, Cross slope 4.0%

Grade 5.0%, Cross-slope 4.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-13_test014A	0.067	0.087	0.08	0.087	0.072	6PSI_100	0.003	0.012	0.065	0.052			0.0920	0.08	0.087	0.080	0.080	0.060	0.063	0.069	0.026	0.071	0.072	0.0030	0.001	0.003	0.001	0.001	0.001	0.002	0.002	0.001	0.002	0.002	0.052	0.003
2021-4-13_test015	0.095	0.21	0.26	0.21	0.101	15PSI	0.007	0.03	0.094	0.088			0.288	0.26	0.21	0.178	0.187	0.106	0.108	0.101	0.050	0.102	0.101	0.0065	0.008	0.013	0.004	0.005	0.006	0.005	0.006	0.004	0.005	0.006	0.088	0.005
2021-4-13_test016	0.109	0.26	0.37	0.26	0.116	15PSI_RENT_NRC_100	0.008	0.04	0.106	0.103			0.286	0.37	0.26	0.223	0.234	0.117	0.128	0.118	0.067	0.118	0.116	0.0063	0.014	0.023	0.008	0.008	0.009	0.007	0.008	0.004	0.007	0.007	0.103	0.005
2021-4-13_test017	0.104	0.24	0.33	0.24	0.111	15PSI_NRC_100	0.007	0.03		0.096			0.287	0.33	0.24	0.206	0.216	0.111	0.123	0.112	0.061	0.109	0.111	0.0070	0.013	0.020	0.007	0.007	0.008	0.007	0.007	0.004	0.006	0.006	0.096	0.005
2021-4-13_test018	0.087	0.19	0.20	0.19	0.093	11PSI	0.006	0.03		0.079			0.222	0.20	0.19	0.151	0.156	0.097	0.099	0.093	0.042	0.092	0.093	0.0061	0.004	0.010	0.003	0.003	0.005	0.005	0.006	0.003	0.004	0.005	0.079	0.004
2021-4-13_test019	0.078	0.15	0.14	0.15	0.084	8PSI	0.005	0.02		0.069			0.157	0.14	0.15	0.119	0.120	0.081	0.088	0.083	0.034	0.083	0.084	0.0048	0.002	0.008	0.001	0.001	0.003	0.004	0.004	0.003	0.003	0.004	0.069	0.003
2021-4-13_test020	0.074	0.123	0.11	0.123	0.080	7PSI	0.004	0.017		0.061			0.130	0.11	0.123	0.103	0.104	0.073	0.079	0.077	0.031	0.078	0.080	0.0037	0.001	0.006	0.001	0.001	0.002	0.004	0.003	0.002	0.003	0.003	0.061	0.003
2021-4-13_test021	0.052	0.050	0.04	0.050	0.057	6PSI_50	0.002	0.006		0.034			0.0531	0.04	0.050	0.055	0.054	0.043	0.043	0.066	0.019	0.059	0.057	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.034	0.002
2021-4-13_test022	0.035	0.027	0.02	0.027	0.040	6PSI_35	0.001	0.004	0.034	0.021			0.0283	0.02	0.027	0.033	0.033	0.028	0.029	0.053	0.009	0.042	0.040	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.001
2021-4-13_test023	0.027	0.016	0.01	0.014	0.031	6PSI_25	0.001	0.0002		0.016		0.0E+00	0.0155	0.01	0.014	0.020	0.020	0.019	0.019	0.040	0.009	0.033	0.031	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.001
2021-4-13_test024	0.018	0.005	0.00	0.005	0.022	6PSI_15	0.001	0.0002		0.007		0.0E+00	0.0055	0.00	0.005	0.008	0.008	0.010	0.009	0.030	0.009	0.023	0.022	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.001
2021-4-13_test025A	0.015	0.003	0.00	0.002	0.019	6PSI_10	0.001	0.0002	0.012	0.005		0.0E+00	0.0029	0.00	0.002	0.004	0.004	0.006	0.006	0.028	0.009	0.020	0.019	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000
2021-4-13_test026	0.012	0.001	0.00	0.000	0.016	6PSI_05	0.001	0.0002	0.008	0.000		0.0E+00	0.0009	0.00	0.000	0.002	0.002	0.004	0.004	0.021	0.008	0.017	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
erroneous data																																				

Table B.72: Catch Basin cover #6, Grade 7.5%, Cross slope 4.0%

Grade 7.5%, Cross-slope 4.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-13_test001	0.060	0.088	0.08	0.088	0.066	6PSI_100	0.003	0.011	0.059	0.050			0.0927	0.08	0.088	0.081	0.081	0.061	0.063	0.060	0.027	0.067	0.066	0.003	0.001	0.002	0.000	0.000	0.001	0.001	0.002	0.002	0.002	0.002	0.050	0.003
2021-4-13_test002	0.088	0.21	0.26	0.21	0.096	15PSI	0.006	0.03	0.084	0.073			0.287	0.26	0.21	0.178	0.186	0.103	0.105	0.092	0.046	0.094	0.096	0.007	0.007	0.012	0.004	0.005	0.006	0.005	0.006	0.003	0.005	0.005	0.073	0.004
2021-4-13_test003	0.103	0.26	0.36	0.26	0.111	15PSI_RENT_NRC_100	0.008	0.04	0.099	0.085			0.285	0.36	0.26	0.222	0.233	0.119	0.130	0.109	0.062	0.107	0.111	0.006	0.014	0.023	0.008	0.008	0.009	0.008	0.008	0.004	0.006	0.007	0.085	0.005
2021-4-13_test004	0.096	0.24	0.32	0.24	0.104	15PSI_NRC_100	0.007	0.03		0.080			0.286	0.32	0.24	0.206	0.215	0.112	0.123	0.103	0.056	0.101	0.104	0.006	0.011	0.019	0.007	0.007	0.008	0.006	0.008	0.004	0.005	0.006	0.080	0.005
2021-4-13_test005	0.080	0.18	0.20	0.18	0.087	11PSI	0.006	0.03		0.067			0.222	0.20	0.18	0.152	0.157	0.096	0.095	0.085	0.040	0.085	0.087	0.006	0.005	0.009	0.003	0.003	0.004	0.004	0.006	0.003	0.005	0.005	0.067	0.004
2021-4-13_test006	0.071	0.142	0.14	0.142	0.078	8PSI	0.005	0.019		0.060			0.156	0.14	0.142	0.119	0.120	0.084	0.082	0.074	0.033	0.076	0.078	0.004	0.002	0.006	0.001	0.001	0.003	0.003	0.004	0.002	0.004	0.004	0.060	0.004
2021-4-13_test007	0.066	0.120	0.11	0.120	0.073	7PSI	0.004	0.016		0.057			0.127	0.11	0.120	0.102	0.103	0.076	0.074	0.068	0.030	0.072	0.073	0.004	0.001	0.004	0.001	0.001	0.003	0.002	0.004	0.002	0.003	0.003	0.057	0.004
2021-4-13_test008	0.048	0.051	0.04	0.051	0.054	6PSI_50	0.002	0.007		0.035			0.051	0.04	0.051	0.053	0.053	0.044	0.044	0.057	0.021	0.057	0.054	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.035	0.002
2021-4-13_test009	0.035	0.027	0.02	0.027	0.041	6PSI_35	0.002	0.004	0.033	0.023			0.027	0.02	0.027	0.032	0.032	0.028	0.028	0.049	0.011	0.042	0.041	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.023	0.002
2021-4-13_test010	0.026	0.0150	0.01	0.015	0.032	6PSI_25	0.001	0.0002		0.015		0.0E+00	0.015	0.01	0.015	0.019	0.019	0.019	0.019	0.040	0.010	0.034	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.001
2021-4-13_test011	0.018	0.0061	0.00	0.006	0.023	6PSI_15	0.001	0.0002		0.008		0.0E+00	0.006	0.00	0.006	0.009	0.008	0.011	0.010	0.030	0.010	0.025	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.001
2021-4-13_test012	0.015	0.0030	0.00	0.002	0.020	6PSI_10	0.001	0.0002	0.011	0.004		0.0E+00	0.003	0.00	0.002	0.005	0.004	0.007	0.007	0.028	0.009	0.022	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.004	0.000
2021-4-13_test013	0.009	0.0008	0.00	0.001	0.013	6PSI_05	0.001	0.0002	0.007	0.002		0.0E+00	0.001	0.00	0.001	0.002	0.002	0.005	0.005	0.016	0.009	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.002	0.000
erroneous data																																				

Table B.73: Catch Basin cover #6, Grade 10.0%, Cross slope 4.0%

Grade 10.0%, Cross-slope 4.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-6_test008	0.045	0.044	0.04	0.044	0.052	6PSI_50	0.003	0.007		0.031			0.0509	0.04	0.044	0.053	0.053	0.041	0.039	0.051	0.022	0.054	0.052	0.0010	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.002	0.002	0.031	0.004
2021-4-6_test009	0.034	0.023	0.02	0.023	0.040	6PSI_35	0.002	0.004		0.019			0.0278	0.02	0.023	0.032	0.032	0.027	0.024	0.045	0.016	0.043	0.040	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.019	0.001
2021-4-6_test010	0.027	0.0145	0.01	0.011	0.033	6PSI_25	0.002	0.0002		0.012		0.00E+00	0.0145	0.01	0.011	0.018	0.019	0.017	0.014	0.036	0.010	0.034	0.033	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.012	0.001
2021-4-6_test011A	0.018	0.0055	0.00	0.002	0.023	6PSI_15	0.001	0.0002	0.017	0.004		0.00E+00	0.0055	0.00	0.002	0.007	0.008	0.008	0.005	0.032	0.009	0.025	0.023	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.004	0.001
2021-4-6_test012	0.015	0.0027	0.00	-0.001	0.019	6PSI_10	0.001	0.0002	0.010	0.000		0.00E+00	0.0027	0.00	-0.001	0.004	0.004	0.004	0.001	0.023	0.009	0.022	0.019	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
2021-4-6_test013	0.010	0.0010	0.00	-0.002	0.015	6PSI_05	0.001	0.0002	0.007	0.000		0.00E+00	0.0010	0.00	-0.002	0.002	0.002	0.003	0.000	0.017	0.009	0.015	0.015	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2021-4-12_test007	0.080	0.20	0.26	0.20	0.0901542	15PSI	0.006	0.03	0.079	0.071			0.289	0.26	0.20	0.178	0.188	0.104	0.103	0.086	0.045	0.089	0.090	0.0057	0.008	0.013	0.005	0.006	0.006	0.006	0.006	0.003	0.005	0.005	0.071	0.006
2021-4-12_test008	0.093	0.26	0.37	0.26	0.104421	15PSI_RENT_NRC_100	0.007	0.04	0.090	0.084			0.288	0.37	0.26	0.224	0.236	0.124	0.125	0.103	0.058	0.101	0.104	0.0056	0.013	0.027	0.008	0.007	0.010	0.009	0.008	0.005	0.006	0.006	0.084	0.007
2021-4-12_test009	0.088	0.23	0.33	0.23	0.0984655	15PSI_NRC_100	0.006	0.03		0.078			0.287	0.33	0.23	0.207	0.216	0.113	0.116	0.097	0.054	0.096	0.098	0.0060	0.011	0.019	0.007	0.006	0.007	0.007	0.007	0.004	0.006	0.005	0.078	0.007
2021-4-12_test010	0.072	0.17	0.21	0.17	0.0816665	11PSI	0.006	0.03		0.063			0.223	0.21	0.17	0.152	0.158	0.092	0.093	0.078	0.039	0.081	0.082	0.0046	0.005	0.009	0.003	0.003	0.005	0.004	0.006	0.003	0.005	0.005	0.063	0.006
2021-4-12_test011	0.063	0.133	0.14	0.132545	0.0722513	8PSI	0.005	0.018		0.053			0.159	0.14	0.133	0.120	0.122	0.080	0.079	0.068	0.033	0.072	0.072	0.0043	0.002	0.005	0.001	0.001	0.003	0.002	0.005	0.003	0.004	0.004	0.053	0.005
2021-4-12_test012	0.059	0.111	0.11	0.111343	0.0680257	7PSI	0.004	0.014		0.049			0.133	0.11	0.111	0.105	0.106	0.072	0.071	0.062	0.031	0.068	0.068	0.0039	0.001	0.003	0.001	0.001	0.002	0.002	0.004	0.002	0.003	0.003	0.049	0.004
2021-4-12_test013A	0.046	0.051	0.05	0.0513849	0.0530731	6PSI_50	0.003	0.006		0.031			0.0551	0.05	0.051	0.056	0.056	0.045	0.043	0.050	0.022	0.054	0.053	0.0011	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.002	0.031	0.003
2021-4-12_test014	0.035	0.028	0.02	0.0276267	0.0413593	6PSI_35	0.002	0.004	0.033	0.019			0.0298	0.02	0.028	0.034	0.034	0.030	0.028	0.044	0.015	0.043	0.041	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.001	0.019	0.002
2021-4-12_test015A	0.028	0.016	0.01	0.015523	0.034324	6PSI_25	0.002	0.003		0.013			0.0166	0.01	0.016	0.021	0.022	0.021	0.019	0.037	0.009	0.035	0.034	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.013	0.001
erroneous data																																				

Table B.74: Catch Basin cover #7, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-16_test001	0.069	0.025	0.09	0.025	0.073	6PSI_100	0.004	0.004	0.074	0.074			0.1015	0.09	0.025	0.086	0.086	0.027	0.028	0.073	0.051	0.065	0.073	0.003	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.122	0.003
2021-4-16_test002	0.099	0.038	0.26	0.038	0.104	15PSI	0.008	0.006	0.098	0.096			0.289	0.26	0.038	0.180	0.188	0.036	0.036	0.109	0.089	0.104	0.104	0.006	0.008	0.001	0.005	0.006	0.000	0.001	0.008	0.007	0.007	0.007	-0.100	0.005
2021-4-16_test003	0.119	0.044	0.37	0.044	0.124	15PSI_RENT_NRC_100	0.011	0.006	0.119	0.118			0.287	0.37	0.044	0.225	0.235	0.040	0.040	0.127	0.109	0.123	0.124	0.006	0.015	0.000	0.008	0.008	0.000	0.000	0.011	0.009	0.008	0.010	-0.078	0.006
2021-4-16_test004	0.112	0.043	0.33	0.043	0.117	15PSI_NRC_100	0.010	0.006		0.109			0.289	0.33	0.043	0.208	0.217	0.039	0.039	0.119	0.102	0.117	0.117	0.006	0.012	0.001	0.007	0.007	0.000	0.001	0.009	0.008	0.008	0.009	-0.087	0.006
2021-4-16_test005	0.088	0.036	0.21	0.036	0.093	11PSI	0.007	0.006		0.085			0.225	0.21	0.036	0.153	0.158	0.034	0.035	0.099	0.075	0.092	0.093	0.005	0.004	0.001	0.003	0.003	0.000	0.001	0.008	0.006	0.006	0.006	-0.111	0.005
2021-4-16_test006	0.078	0.031	0.14	0.031	0.082	8PSI	0.006	0.005		0.079			0.161	0.14	0.031	0.122	0.123	0.032	0.032	0.085	0.064	0.079	0.082	0.005	0.002	0.000	0.001	0.001	0.000	0.000	0.006	0.004	0.005	0.005	-0.117	0.004
2021-4-16_test007	0.075	0.029	0.12	0.029	0.079	7PSI	0.005	0.005		0.077			0.135	0.12	0.029	0.106	0.107	0.030	0.031	0.080	0.062	0.074	0.079	0.004	0.001	0.000	0.001	0.001	0.000	0.000	0.005	0.004	0.004	0.004	-0.119	0.003
2021-4-16_test008	0.060	0.023	0.05	0.023	0.064	6PSI_50	0.002	0.004		0.060			0.057	0.05	0.023	0.058	0.058	0.026	0.026	0.064	0.040	0.057	0.064	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.001	-0.136	0.002
2021-4-16_test009	0.047	0.017	0.02	0.017	0.050	6PSI_35	0.001	0.004	0.051	0.037			0.030	0.02	0.017	0.035	0.035	0.021	0.021	0.052	0.024	0.043	0.050	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.159	0.001
2021-4-16_test010	0.037	0.012	0.01	0.012	0.040	6PSI_25	0.001	0.003		0.036			0.016	0.01	0.012	0.021	0.021	0.016	0.016	0.043	0.016	0.033	0.040	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.160	0.001
2021-4-16_test011	0.027	0.0050	0.00	0.004	0.029	6PSI_15	0.001	0.0002		0.021		6.7E-04	0.006	0.00	0.004	0.008	0.008	0.009	0.009	0.031	0.010	0.024	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.175	0.001
2021-4-16_test001A	0.071	0.025	0.08	0.025	0.075	6PSI_100	0.004	0.004		0.072			0.100	0.08	0.025	0.086	0.086	0.027	0.028	0.074	0.051	0.066	0.075	0.003	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.124	0.003
2021-4-16_test012A	0.022	0.0027	0.00	0.002	0.025	6PSI_10	0.001	0.0002	0.025	0.015		1.8E-04	0.003	0.00	0.002	0.005	0.005	0.006	0.006	0.028	0.007	0.021	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.181	0.000
2021-4-16_test013	0.018	0.0007	0.00	0.001	0.020	6PSI_05	0.001	0.0002	0.016	0.009		0.0E+00	0.001	0.00	0.001	0.002	0.002	0.005	0.004	0.020	0.007	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.187	0.000
erroneous data																																				

Table B.75: Catch Basin cover #7, Grade 1.0%, Cross slope 2.0%

Grade 1.0%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-19_test001	0.057	0.025	0.08	0.025	0.061	6PSI_100	0.003	0.004	0.058	0.055			0.0995	0.08	0.025	0.085	0.085	0.027	0.027	0.071	0.042	0.068	0.061	0.004	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.002	0.002	-0.141	0.002
2021-4-19_test002	0.091	0.036	0.26	0.036	0.097	15PSI	0.008	0.005	0.091	0.091			0.289	0.26	0.036	0.179	0.188	0.034	0.035	0.103	0.072	0.095	0.097	0.007	0.008	0.000	0.005	0.005	0.000	0.000	0.008	0.005	0.006	0.007	-0.105	0.006
2021-4-19_test003	0.108	0.041	0.37	0.041	0.116	15PSI_RENT_NRC_100	0.009	0.006	0.110	0.103			0.289	0.37	0.041	0.223	0.235	0.038	0.038	0.123	0.088	0.114	0.116	0.007	0.016	0.000	0.009	0.008	0.000	0.000	0.010	0.006	0.007	0.008	-0.093	0.006
2021-4-19_test004	0.102	0.040	0.33	0.040	0.109	15PSI_NRC_100	0.009	0.006		0.098			0.289	0.33	0.040	0.207	0.217	0.037	0.037	0.114	0.081	0.106	0.109	0.006	0.011	0.001	0.007	0.007	0.000	0.001	0.009	0.006	0.006	0.008	-0.098	0.006
2021-4-19_test005	0.081	0.033	0.21	0.033	0.086	11PSI	0.007	0.005		0.078			0.226	0.21	0.033	0.153	0.157	0.033	0.033	0.092	0.061	0.087	0.086	0.006	0.005	0.000	0.003	0.003	0.000	0.000	0.007	0.004	0.005	0.006	-0.118	0.004
2021-4-19_test006	0.070	0.029	0.14	0.029	0.075	8PSI	0.005	0.005		0.069			0.163	0.14	0.029	0.122	0.123	0.030	0.031	0.081	0.051	0.078	0.075	0.005	0.002	0.000	0.001	0.001	0.000	0.000	0.006	0.003	0.004	0.004	-0.127	0.003
2021-4-19_test007	0.065	0.028	0.12	0.028	0.069	7PSI	0.004	0.005		0.064			0.133	0.12	0.028	0.106	0.107	0.029	0.030	0.077	0.047	0.074	0.069	0.004	0.001	0.000	0.001	0.001	0.000	0.000	0.005	0.003	0.003	0.003	-0.132	0.003
2021-4-19_test008	0.046	0.021	0.05	0.021	0.049	6PSI_50	0.002	0.004		0.044			0.0580	0.05	0.021	0.059	0.059	0.025	0.024	0.062	0.036	0.056	0.049	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001	-0.152	0.001
2021-4-19_test009	0.034	0.016	0.02	0.016	0.037	6PSI_35	0.001	0.004	0.036	0.034			0.0303	0.02	0.016	0.035	0.035	0.020	0.020	0.050	0.021	0.043	0.037	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.162	0.001
2021-4-19_test010	0.030	0.011	0.01	0.011	0.032	6PSI_25	0.001	0.003		0.027			0.0161	0.01	0.011	0.021	0.021	0.016	0.015	0.038	0.014	0.034	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.169	0.001
2021-4-19_test011	0.023	0.0053	0.00	0.004	0.024	6PSI_15	0.001	0.0002		0.019		8.4E-04	0.0061	0.00	0.004	0.009	0.009	0.009	0.008	0.032	0.010	0.024	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.177	0.000
2021-4-19_test012	0.019	0.0025	0.00	0.001	0.021	6PSI_10	0.001	0.0002	0.023	0.013		2.9E-04	0.0028	0.00	0.001	0.005	0.005	0.005	0.005	0.027	0.010	0.022	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.183	0.001
2021-4-19_test013	0.016	0.0007	0.00	0.000	0.017	6PSI_05	0.001	0.0002		0.007		0.0E+00	0.0007	0.00	0.000	0.002	0.002	0.004	0.004	0.020	0.009	0.019	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.189	0.000
erroneous data																																				

In Table B.76 there is more data for cover #7 at a grade of 2.5% and a cross slope of 2.0% than any other configuration. During the subsequent testing at 5.0% some of the tar paper was damaged and lifted affecting the test results. The paper was reattached and testing continued. After those tests there were concerns that it may have been damaged and affected the previous tests, specifically those at a grade of 2.5% included in Table B.76. For this reason those tests were repeated to ensure confidence but all of the data was consistent and all of the data was retained.

Table B.76: Catch Basin cover #7, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-22_test014	0.050	0.024	0.08	0.024	0.056	6PSI_100	0.003	0.004	0.051	0.049			0.0955	0.08	0.024	0.083	0.082	0.026	0.026	0.062	0.031	0.056	0.056	0.0031	0.001	0.000	0.001	0.000	0.000	0.000	0.003	0.002	0.002	0.002	-0.147	0.002
2021-4-22_test015	0.077	0.033	0.26	0.033	0.084	15PSI	0.007	0.005	0.077	0.075			0.289	0.26	0.033	0.179	0.187	0.032	0.033	0.097	0.057	0.084	0.084	0.0062	0.008	0.000	0.005	0.005	0.000	0.000	0.008	0.004	0.005	0.006	-0.121	0.004
2021-4-22_test016	0.094	0.037	0.37	0.037	0.102	15PSI_RENT_NRC_100	0.008	0.005		0.087			0.288	0.37	0.037	0.224	0.235	0.035	0.036	0.119	0.079	0.100	0.102	0.0066	0.014	0.000	0.008	0.008	0.000	0.000	0.010	0.005	0.006	0.007	-0.109	0.005
2021-4-22_test017	0.087	0.036	0.33	0.036	0.094	15PSI_NRC_100	0.007	0.005	0.087	0.081			0.287	0.33	0.036	0.208	0.217	0.034	0.035	0.110	0.071	0.093	0.094	0.0077	0.011	0.000	0.007	0.007	0.000	0.000	0.009	0.005	0.005	0.006	-0.115	0.004
2021-4-22_test018	0.068	0.031	0.21	0.031	0.075	11PSI	0.006	0.005		0.067			0.226	0.21	0.031	0.153	0.158	0.031	0.032	0.085	0.049	0.077	0.075	0.0055	0.005	0.000	0.003	0.003	0.000	0.000	0.007	0.004	0.004	0.005	-0.129	0.004
2021-4-22_test019	0.060	0.028	0.14	0.028	0.067	8PSI	0.005	0.005		0.057			0.162	0.14	0.028	0.122	0.124	0.029	0.030	0.075	0.041	0.068	0.067	0.0049	0.002	0.000	0.001	0.001	0.000	0.000	0.005	0.003	0.004	0.004	-0.139	0.003
2021-4-22_test020	0.056	0.027	0.12	0.027	0.063	7PSI	0.004	0.005		0.055			0.134	0.12	0.027	0.106	0.107	0.028	0.029	0.070	0.037	0.063	0.063	0.0043	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.141	0.003
2021-4-22_test021	0.042	0.021	0.05	0.021	0.048	6PSI_50	0.002	0.004		0.042			0.0599	0.05	0.021	0.060	0.060	0.024	0.024	0.055	0.025	0.050	0.048	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.154	0.001
2021-4-22_test022	0.029	0.015	0.02	0.015	0.034	6PSI_35	0.001	0.003	0.029	0.027			0.0294	0.02	0.015	0.034	0.034	0.019	0.020	0.044	0.015	0.038	0.034	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.169	0.001
2021-4-22_test023	0.022	0.011	0.01	0.011	0.027	6PSI_25	0.001	0.003		0.021			0.0168	0.01	0.011	0.022	0.022	0.016	0.016	0.037	0.008	0.029	0.027	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.175	0.001
2021-4-22_test024	0.016	0.0055	0.00	0.004	0.021	6PSI_15	0.001	0.0002		0.013		6.9E-04	0.0061	0.00	0.004	0.009	0.009	0.009	0.008	0.028	0.008	0.022	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.183	0.000
2021-4-23_test025Y	0.011	0.0020	0.00	0.000	0.016	6PSI_10	0.001	0.0002	0.011	0.007		0.0E+00	0.0020	0.00	0.000	0.003	0.003	0.004	0.003	0.023	0.005	0.021	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.189	0.000
2021-4-23_test026Y	0.009	0.0008	0.00	0.000	0.014	6PSI_05	0.001	0.0002	0.008	0.004		0.0E+00	0.0008	0.00	0.000	0.002	0.002	0.004	0.003	0.020	0.005	0.018	0.014	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.192	0.000
2021-4-19_test014	0.052	0.025	0.08	0.025	0.058	6PSI_100	0.002	0.004	0.051	0.052			0.0966	0.08	0.025	0.084	0.084	0.027	0.027	0.063	0.032	0.057	0.058	0.0030	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.002	0.001	-0.144	0.002
2021-4-19_test015	0.079	0.034	0.26	0.034	0.086	15PSI	0.007	0.005	0.079	0.075			0.2889	0.26	0.034	0.179	0.188	0.033	0.034	0.095	0.058	0.086	0.086	0.0063	0.009	0.000	0.005	0.006	0.000	0.000	0.007	0.004	0.005	0.006	-0.121	0.005
2021-4-19_test016	0.096	0.039	0.37	0.039	0.104	15PSI_RENT_NRC_100	0.008	0.006	0.096	0.089			0.2869	0.37	0.039	0.224	0.234	0.036	0.037	0.116	0.078	0.101	0.104	0.0061	0.014	0.000	0.008	0.008	0.000	0.000	0.009	0.005	0.006	0.007	-0.107	0.005
2021-4-19_test017	0.089	0.037	0.33	0.037	0.096	15PSI_NRC_100	0.007	0.005		0.083			0.2884	0.33	0.037	0.208	0.218	0.035	0.036	0.107	0.071	0.095	0.096	0.0063	0.012	0.000	0.007	0.007	0.000	0.001	0.008	0.005	0.005	0.006	-0.113	0.005
2021-4-19_test018	0.070	0.033	0.21	0.033	0.077	11PSI	0.006	0.005		0.067			0.2258	0.21	0.033	0.153	0.158	0.032	0.033	0.084	0.050	0.077	0.077	0.0057	0.004	0.000	0.003	0.003	0.000	0.000	0.006	0.004	0.005	0.005	-0.129	0.004
2021-4-19_test019	0.061	0.030	0.14	0.030	0.068	8PSI	0.004	0.005		0.058			0.1610	0.14	0.030	0.121	0.123	0.030	0.031	0.073	0.041	0.069	0.068	0.0047	0.002	0.000	0.002	0.001	0.000	0.000	0.005	0.003	0.004	0.003	-0.138	0.003
2021-4-19_test020	0.057	0.028	0.12	0.028	0.064	7PSI	0.003	0.005		0.055			0.1338	0.12	0.028	0.106	0.107	0.029	0.030	0.069	0.037	0.064	0.064	0.0039	0.001	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.002	-0.141	0.003
2021-4-19_test021	0.042	0.022	0.05	0.022	0.048	6PSI_50	0.002	0.004		0.042			0.0579	0.05	0.022	0.059	0.059	0.025	0.025	0.055	0.024	0.050	0.048	0.0009	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	-0.154	0.001
2021-4-19_test022	0.029	0.016	0.02	0.016	0.034	6PSI_35	0.001	0.003	0.030	0.028			0.0300	0.02	0.016	0.035	0.035	0.020	0.021	0.044	0.017	0.039	0.034	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.168	0.001
2021-4-19_test023	0.021	0.011	0.01	0.011	0.026	6PSI_25	0.001	0.003		0.021			0.0155	0.01	0.011	0.020	0.020	0.016	0.016	0.036	0.015	0.029	0.026	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.175	0.001
2021-4-19_test024	0.017	0.0057	0.00	0.005	0.023	6PSI_15	0.001	0.0002		0.013		7.5E-04	0.0064	0.00	0.005	0.009	0.009	0.010	0.010	0.028	0.015	0.022	0.023	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.183	0.000
2021-4-19_test025	0.015	0.0029	0.00	0.001	0.020	6PSI_10	0.001	0.0002	0.013	0.009		0.0E+00	0.0029	0.00	0.001	0.005	0.005	0.006	0.006	0.025	0.014	0.021	0.020	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.187	0.000
2021-4-19_test026	0.011	0.0009	0.00	0.001	0.016	6PSI_05	0.001	0.0002	0.009	0.004		0.0E+00	0.0009	0.00	0.001	0.002	0.002	0.005	0.005	0.018	0.014	0.017	0.016	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.192	0.000
erroneous data																																				

Table B.77: Catch Basin cover #7, Grade 5.0%, Cross slope 2.0%

Grade 5.0%, Cross-slope 2.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-21_test001	0.044	0.022	0.08	0.022	0.049	6PSI_100	0.003	0.004	0.046	0.041			0.0958	0.08	0.022	0.083	0.083	0.025	0.024	0.052	0.029	0.053	0.049	0.0029	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.002	-0.155	0.002
2021-4-21_test002	0.071	0.029	0.26	0.029	0.077	15PSI	0.006	0.004	0.070	0.065			0.289	0.26	0.029	0.179	0.187	0.031	0.030	0.081	0.052	0.079	0.077	0.0059	0.008	0.000	0.004	0.006	0.000	0.000	0.006	0.004	0.005	0.005	-0.131	0.004
2021-4-21_test003	0.085	0.033	0.37	0.033	0.091	15PSI_RENT_NRC_100	0.008	0.005	0.085	0.080			0.288	0.37	0.033	0.224	0.235	0.033	0.032	0.093	0.067	0.096	0.091	0.0071	0.014	0.000	0.008	0.008	0.000	0.000	0.007	0.005	0.006	0.007	-0.116	0.005
2021-4-21_test004	0.079	0.032	0.33	0.032	0.085	15PSI_NRC_100	0.007	0.005		0.073			0.288	0.33	0.032	0.207	0.217	0.033	0.032	0.087	0.060	0.088	0.085	0.0070	0.012	0.000	0.007	0.007	0.000	0.000	0.006	0.004	0.006	0.006	-0.123	0.005
2021-4-21_test005	0.064	0.028	0.20	0.028	0.069	11PSI	0.006	0.004		0.057			0.225	0.20	0.028	0.153	0.157	0.030	0.029	0.072	0.044	0.071	0.069	0.0061	0.004	0.000	0.003	0.003	0.000	0.000	0.005	0.003	0.004	0.005	-0.139	0.004
2021-4-21_test006	0.054	0.026	0.14	0.026	0.059	8PSI	0.005	0.004		0.049			0.159	0.14	0.026	0.120	0.122	0.028	0.028	0.063	0.037	0.062	0.059	0.0050	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.004	-0.147	0.003
2021-4-21_test007	0.050	0.024	0.11	0.024	0.055	7PSI	0.004	0.004		0.046			0.132	0.11	0.024	0.105	0.106	0.027	0.026	0.059	0.034	0.059	0.055	0.0039	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.150	0.003
2021-4-21_test008	0.037	0.019	0.05	0.019	0.041	6PSI_50	0.002	0.004		0.030			0.0552	0.05	0.019	0.057	0.057	0.023	0.022	0.045	0.023	0.046	0.041	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.166	0.001
2021-4-21_test009	0.027	0.015	0.02	0.015	0.032	6PSI_35	0.001	0.003	0.028	0.021			0.0294	0.02	0.015	0.034	0.034	0.019	0.019	0.038	0.018	0.037	0.032	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.175	0.001
2021-4-29_test014	0.045	0.023	0.09	0.023	0.050	6PSI_100	0.003	0.004	0.047	0.041			0.1033	0.09	0.023	0.088	0.088	0.026	0.026	0.053	0.030	0.054	0.050	0.0032	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.002	-0.144	0.002
2021-4-29_test022	0.027	0.016	0.02	0.016	0.032	6PSI_35	0.001	0.004	0.029	0.022			0.0297	0.02	0.016	0.035	0.035	0.020	0.020	0.036	0.018	0.037	0.032	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.163	0.001
2021-4-29_test023	0.022	0.013	0.01	0.013	0.026	6PSI_25	0.001	0.003		0.017			0.0176	0.01	0.013	0.023	0.023	0.017	0.017	0.031	0.013	0.030	0.026	0.0006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.168	0.001
2021-4-29_test024	0.015	0.0054	0.00	0.013	0.019	6PSI_15	0.001	0.00003		0.011	5.39E-03		0.0064	0.00	0.013	0.010	0.009	-0.031	-0.031	0.027	0.010	0.022	0.019	0.0002	0.000	0.000	0.000	0.000	0.022	0.022	0.000	0.000	0.000	0.000	-0.174	0.001
2021-4-29_test025	0.013	0.0025	0.00	0.013	0.017	6PSI_10	0.001	0.00002	0.012	0.008	2.48E-03		0.0028	0.00	0.013	0.005	0.005	-0.039	-0.039	0.021	0.010	0.024	0.017	0.0001	0.000	0.000	0.000	0.000	0.021	0.021	0.000	0.000	0.000	0.000	-0.177	0.001
2021-4-29_test026	0.010	0.0009	0.00	0.013	0.014	6PSI_05	0.001	0.00001	0.008	0.004	9.44E-04		0.0008	0.00	0.013	0.002	0.002	-0.040	-0.041	0.019	0.010	0.019	0.014	0.0001	0.000	0.000	0.000	0.000	0.023	0.023	0.000	0.000	0.000	0.000	-0.181	0.000
erroneous data																																				

Table B.78: Catch Basin cover #7, Grade 7.5%, Cross slope 2.0%

Grade 7.5%, Cross-slope 2.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-21_test014	0.041	0.020	0.08	0.020	0.046	6PSI_100	0.004	0.004	0.042	0.033			0.0980	0.08	0.020	0.084	0.084	0.024	0.023	0.046	0.029	0.049	0.046	0.0029	0.001	0.000	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.003	-0.163	0.003
2021-4-21_test015	0.062	0.028	0.26	0.028	0.069	15PSI	0.006	0.004	0.063	0.056			0.289	0.26	0.028	0.179	0.188	0.029	0.029	0.071	0.047	0.073	0.069	0.0063	0.009	0.000	0.005	0.006	0.000	0.000	0.006	0.004	0.005	0.005	-0.140	0.004
2021-4-21_test016	0.077	0.031	0.37	0.031	0.084	15PSI_RENT_NRC_100	0.007	0.005	0.077	0.067			0.288	0.37	0.031	0.223	0.235	0.031	0.031	0.084	0.061	0.087	0.084	0.0064	0.014	0.000	0.008	0.008	0.000	0.000	0.008	0.004	0.006	0.006	-0.129	0.006
2021-4-21_test017	0.071	0.030	0.33	0.030	0.077	15PSI_NRC_100	0.006	0.005		0.063			0.288	0.33	0.030	0.207	0.217	0.031	0.031	0.081	0.056	0.081	0.077	0.0064	0.012	0.000	0.007	0.007	0.000	0.000	0.007	0.004	0.005	0.005	-0.133	0.004
2021-4-21_test018	0.056	0.027	0.21	0.027	0.062	11PSI	0.005	0.004		0.050			0.227	0.21	0.027	0.153	0.158	0.029	0.029	0.065	0.040	0.066	0.062	0.0059	0.005	0.000	0.003	0.004	0.000	0.000	0.005	0.003	0.004	0.004	-0.146	0.004
2021-4-21_test019	0.049	0.024	0.14	0.024	0.055	8PSI	0.004	0.004		0.043			0.161	0.14	0.024	0.121	0.123	0.027	0.026	0.056	0.034	0.058	0.055	0.0045	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.003	0.003	0.003	-0.153	0.004
2021-4-21_test020	0.045	0.023	0.12	0.023	0.051	7PSI	0.004	0.004		0.039			0.133	0.12	0.023	0.106	0.107	0.026	0.025	0.052	0.032	0.054	0.051	0.0041	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.157	0.003
2021-4-21_test021	0.035	0.018	0.05	0.018	0.040	6PSI_50	0.002	0.004		0.026			0.0571	0.05	0.018	0.058	0.058	0.022	0.022	0.040	0.023	0.043	0.040	0.0008	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	-0.170	0.002
2021-4-21_test022	0.026	0.014	0.02	0.014	0.031	6PSI_35	0.001	0.003	0.028	0.019			0.0296	0.02	0.014	0.034	0.035	0.019	0.018	0.034	0.020	0.035	0.031	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	-0.177	0.001
2021-4-21_test022A	0.026	0.014	0.02	0.014	0.031	6PSI_35	0.001	0.003		0.019			0.0291	0.02	0.014	0.034	0.034	0.019	0.018	0.034	0.019	0.035	0.031	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.177	0.001
2021-4-21_test015A	0.063	0.028	0.26	0.028	0.069	15PSI	0.006	0.004		0.056			0.2902	0.26	0.028	0.179	0.188	0.030	0.029	0.073	0.047	0.073	0.069	0.0077	0.008	0.000	0.004	0.006	0.000	0.000	0.006	0.003	0.005	0.005	-0.140	0.006
2021-4-21_test023	0.021	0.010	0.01	0.010	0.026	6PSI_25	0.001	0.003		0.013			0.0162	0.01	0.010	0.021	0.021	0.016	0.015	0.030	0.015	0.029	0.026	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	-0.183	0.001
2021-4-21_test024	0.015	0.0056	0.00	0.004	0.020	6PSI_15	0.001	0.0002		0.007		7.1E-04	0.0063	0.00	0.004	0.009	0.009	0.009	0.009	0.021	0.012	0.024	0.020	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.189	0.001
2021-4-21_test025	0.012	0.0025	0.00	0.001	0.017	6PSI_10	0.001	0.0002	0.010	0.004		0.0E+00	0.0025	0.00	0.001	0.004	0.004	0.006	0.005	0.019	0.012	0.023	0.017	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	-0.192	0.000
2021-4-21_test026	0.008	0.0007	0.00	0.000	0.012	6PSI_05	0.001	0.0002	0.007	0.001		0.0E+00	0.0007	0.00	0.000	0.002	0.002	0.004	0.004	0.019	0.012	0.014	0.012	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.195	0.001
erroneous data																																				

Table B.79: Catch Basin cover #7, Grade 10.0%, Cross slope 2.0%

Grade 10.0%, Cross-slope 2.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-22_test001	0.037	0.018	0.08	0.018	0.043	6PSI_100	0.004	0.004	0.037	0.029			0.0979	0.08	0.018	0.084	0.084	0.022	0.022	0.043	0.027	0.045	0.043	0.0031	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.002	0.002	0.003	-0.167	0.003
2021-4-22_test002	0.059	0.026	0.26	0.026	0.068	15PSI	0.006	0.004	0.059	0.052			0.289	0.26	0.026	0.179	0.187	0.028	0.028	0.070	0.046	0.069	0.068	0.0064	0.008	0.000	0.005	0.006	0.000	0.000	0.006	0.004	0.005	0.005	-0.144	0.006
2021-4-22_test003	0.071	0.029	0.37	0.029	0.081	15PSI_RENT_NRC_100	0.007	0.004	0.071	0.065			0.287	0.37	0.029	0.223	0.234	0.030	0.030	0.085	0.060	0.081	0.081	0.0057	0.014	0.000	0.008	0.008	0.000	0.000	0.008	0.004	0.006	0.006	-0.131	0.006
2021-4-22_test004	0.066	0.028	0.33	0.028	0.076	15PSI_NRC_100	0.007	0.004		0.059			0.289	0.33	0.028	0.207	0.217	0.029	0.030	0.079	0.055	0.076	0.076	0.0072	0.012	0.000	0.007	0.007	0.000	0.000	0.007	0.004	0.005	0.006	-0.137	0.006
2021-4-22_test005	0.053	0.024	0.21	0.024	0.061	11PSI	0.005	0.004		0.046			0.225	0.21	0.024	0.153	0.158	0.027	0.027	0.062	0.040	0.063	0.061	0.0052	0.004	0.000	0.003	0.003	0.000	0.000	0.005	0.003	0.004	0.004	-0.150	0.005
2021-4-22_test006	0.045	0.022	0.14	0.022	0.053	8PSI	0.005	0.004		0.038			0.161	0.14	0.022	0.122	0.123	0.025	0.025	0.053	0.034	0.055	0.053	0.0046	0.002	0.000	0.001	0.001	0.000	0.000	0.004	0.002	0.004	0.004	-0.158	0.005
2021-4-22_test007	0.042	0.021	0.12	0.021	0.049	7PSI	0.004	0.004		0.035			0.134	0.12	0.021	0.106	0.107	0.024	0.024	0.049	0.031	0.051	0.049	0.0045	0.001	0.000	0.001	0.001	0.000	0.000	0.003	0.002	0.003	0.003	-0.161	0.004
2021-4-22_test008	0.031	0.016	0.05	0.016	0.038	6PSI_50	0.003	0.004		0.023			0.0577	0.05	0.016	0.059	0.059	0.021	0.021	0.038	0.023	0.040	0.038	0.0012	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	-0.173	0.002
2021-4-22_test009	0.025	0.013	0.02	0.013	0.030	6PSI_35	0.002	0.003	0.025	0.016			0.0301	0.02	0.013	0.035	0.035	0.018	0.018	0.032	0.022	0.033	0.030	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	-0.180	0.002
2021-4-22_test010	0.020	0.009	0.01	0.009	0.025	6PSI_25	0.001	0.003		0.011			0.0158	0.01	0.009	0.021	0.020	0.014	0.014	0.035	0.015	0.028	0.025	0.0004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	-0.185	0.001
2021-4-22_test011	0.016	0.0056	0.00	0.004	0.021	6PSI_15	0.001	0.0002		0.006		7.1E-04	0.0063	0.00	0.004	0.009	0.009	0.009	0.008	0.020	0.012	0.026	0.021	0.0002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	-0.190	0.001
2021-4-22_test012	0.009	0.0023	0.00	0.001	0.014	6PSI_10	0.002	0.0002		0.003		3.5E-04	0.0026	0.00	0.001	0.004	0.004	0.005	0.005	0.019	0.012	0.017	0.014	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	-0.193	0.000
2021-4-22_test013	0.006	0.0006	0.00	0.000	0.010	6PSI_05	0.001	0.0002	0.005	0.001		1.7E-04	0.0008	0.00	0.000	0.002	0.002	0.004	0.004	0.019	0.012	0.013	0.010	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.195	0.000
2021-4-22_test012A	0.008	0.0021	0.00	0.000	0.013	6PSI_10	0.001	0.0002	0.008	0.003		3.5E-04	0.0024	0.00	0.000	0.003	0.003	0.004	0.004	0.019	0.009	0.015	0.013	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.193	0.000
erroneous data																																				

Table B.80: Catch Basin cover #8, Grade 0.5%, Cross slope 2.0%

Grade 0.5%, Cross-slope 2.0%													eta											Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-26_test001	0.070	0.00164	0.08		0.074	6PSI_100	0.004	0.00001	0.075	0.070	1.64E-03		0.0919	0.08		0.081	0.081	-0.026	-0.025	0.073	0.051	0.063	0.074	0.0026	0.001	0.028	0.001	0.000	0.015	0.015	0.004	0.003	0.003	0.003	-0.126	0.003
2021-4-26_test002	0.098	0.00211	0.26		0.103	15PSI	0.008	0.00001	0.098	0.097	2.11E-03		0.286	0.26		0.179	0.187	-0.021	-0.021	0.113	0.088	0.105	0.103	0.0058	0.007	0.028	0.004	0.005	0.012	0.012	0.009	0.006	0.007	0.007	-0.099	0.006
2021-4-26_test003	0.117	0.00237	0.37		0.123	15PSI_RENT_NRC_100	0.010	0.00001	0.119	0.118	2.37E-03		0.284	0.37		0.223	0.233	-0.029	-0.029	0.131	0.110	0.125	0.123	0.0051	0.015	0.028	0.008	0.008	0.016	0.016	0.010	0.008	0.008	0.009	-0.078	0.006
2021-4-26_test004	0.111	0.00226	0.32		0.116	15PSI_NRC_100	0.009	0.00001		0.108	2.26E-03		0.287	0.32		0.206	0.215	-0.031	-0.030	0.122	0.101	0.118	0.116	0.0059	0.012	0.028	0.007	0.007	0.017	0.018	0.009	0.008	0.007	0.008	-0.088	0.005
2021-4-26_test005	0.089	0.00197	0.20		0.093	11PSI	0.008	0.00001		0.086	1.97E-03		0.224	0.20		0.151	0.156	-0.019	-0.019	0.100	0.075	0.092	0.093	0.0053	0.004	0.028	0.003	0.003	0.012	0.012	0.009	0.005	0.006	0.007	-0.110	0.005
2021-4-26_test006	0.079	0.00183	0.14		0.083	8PSI	0.006	0.00001		0.081	1.83E-03		0.156	0.14		0.120	0.121	-0.024	-0.023	0.087	0.066	0.079	0.083	0.0047	0.002	0.028	0.001	0.001	0.013	0.013	0.006	0.004	0.005	0.005	-0.115	0.004
2021-4-26_test007	0.075	0.00178	0.11		0.079	7PSI	0.005	0.00001		0.078	1.78E-03		0.127	0.11		0.102	0.103	-0.030	-0.030	0.081	0.058	0.073	0.079	0.0043	0.001	0.028	0.001	0.001	0.017	0.017	0.005	0.004	0.004	0.004	-0.118	0.003
2021-4-26_test008	0.059	0.00150	0.04		0.063	6PSI_50	0.002	0.00001		0.055	1.50E-03		0.0530	0.04		0.055	0.055	-0.028	-0.027	0.063	0.036	0.055	0.063	0.0009	0.000	0.028	0.000	0.000	0.016	0.016	0.002	0.002	0.001	0.001	-0.141	0.002
2021-4-26_test009	0.046	0.00127	0.02		0.049	6PSI_35	0.001	0.00001	0.050	0.037	1.27E-03		0.0266	0.02		0.032	0.032	-0.032	-0.032	0.051	0.023	0.041	0.049	0.0006	0.000	0.028	0.000	0.000	0.019	0.018	0.001	0.001	0.000	0.000	-0.159	0.001
2021-4-26_test010	0.036	0.00114	0.01		0.039	6PSI_25	0.001	0.00001		0.036	1.14E-03		0.0145	0.01		0.019	0.019	-0.033	-0.033	0.042	0.015	0.033	0.039	0.0004	0.000	0.028	0.000	0.000	0.019	0.019	0.000	0.000	0.000	0.000	-0.160	0.001
2021-4-26_test011	0.025	0.00105	0.00		0.028	6PSI_15	0.001	0.00001		0.021	1.05E-03		0.0052	0.00		0.008	0.008	-0.030	-0.031	0.030	0.010	0.023	0.028	0.0002	0.000	0.028	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000	-0.175	0.001
2021-4-26_test012	0.022	0.00086	0.00		0.025	6PSI_10	0.001	0.00001	0.021	0.014	8.62E-04		0.0026	0.00		0.005	0.004	-0.009	-0.008	0.027	0.010	0.022	0.025	0.0001	0.000	0.028	0.000	0.000	0.006	0.006	0.000	0.000	0.000	0.000	-0.182	0.000
2021-4-26_test013	0.017	0.00053	0.00		0.019	6PSI_05	0.001	0.00001	0.016	0.008	5.32E-04		0.0007	0.00		0.002	0.002	-0.008	-0.008	0.021	0.009	0.019	0.019	0.0001	0.000	0.028	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.000	-0.188	0.000
erroneous data																																				

Table B.81: Catch Basin cover #8, Grade 2.5%, Cross slope 2.0%

Grade 2.5%, Cross-slope 2.0%													eta										Sigma										Accoustic	Sigma
test	depth	Catchment	HT	MT	RD6	Pump_Set	D(depth)	D(flow)	man depth	Adj. WD	Q_fill	runoff	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	FM1	HT	MT	HT1	HT2	MT1	MT2	RD1	RD2	RD4	RD6	WD1	WD1
	(m)	(m3/s)	(m3/s)	(m3/s)	(m)		(m)	(m3/s)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2021-4-23_test003A	0.095	0.00145	0.37		0.103	15PSI_RENT_NRC_100	0.008	0.00001	0.096	0.088	1.45E-03		0.2866	0.37		0.226	0.233	-0.065	-0.065	0.119	0.079	0.101	0.103	0.0064	0.014	0.028	0.008	0.008	0.026	0.026	0.010	0.005	0.006	0.007	-0.108	0.005
2021-4-23_test004	0.087	0.00139	0.33		0.095	15PSI_NRC_100	0.007	0.00001		0.082	1.39E-03		0.288	0.33		0.209	0.217	-0.035	-0.035	0.110	0.072	0.094	0.095	0.0062	0.012	0.028	0.007	0.007	0.014	0.014	0.009	0.005	0.005	0.006	-0.114	0.004
2021-4-23_test002A	0.078	0.00127	0.27		0.086	15PSI	0.007	0.00001	0.078	0.076	1.27E-03		0.289	0.27		0.180	0.188	-0.029	-0.029	0.098	0.058	0.085	0.086	0.0067	0.008	0.028	0.005	0.005	0.017	0.017	0.008	0.004	0.005	0.006	-0.120	0.005
2021-4-23_test005A	0.070	0.00119	0.21		0.077	11PSI	0.006	0.00001		0.067	1.19E-03		0.226	0.21		0.153	0.158	-0.034	-0.034	0.085	0.050	0.077	0.077	0.0052	0.005	0.028	0.003	0.003	0.020	0.020	0.006	0.003	0.005	0.005	-0.129	0.004
2021-4-23_test006	0.062	0.00113	0.14		0.069	8PSI	0.005	0.00001		0.058	1.13E-03		0.160	0.14		0.122	0.123	-0.025	-0.025	0.075	0.041	0.068	0.069	0.0051	0.002	0.028	0.001	0.002	0.014	0.014	0.005	0.003	0.003	0.004	-0.138	0.003
2021-4-23_test007	0.057	0.00115	0.12		0.064	7PSI	0.004	0.00001		0.055	1.15E-03		0.132	0.12		0.106	0.107	-0.035	-0.035	0.070	0.037	0.064	0.064	0.0042	0.001	0.028	0.001	0.001	0.019	0.020	0.004	0.003	0.003	0.003	-0.141	0.003
2021-4-23_test001A	0.053	0.00113	0.09		0.060	6PSI_100	0.002	0.00001		0.051	1.13E-03		0.100	0.09		0.086	0.086	-0.029	-0.030	0.065	0.033	0.059	0.060	0.0034	0.001	0.028	0.001	0.001	0.017	0.017	0.003	0.002	0.002	0.001	-0.145	0.002
2021-4-23_test008	0.043	0.00108	0.05		0.049	6PSI_50	0.002	0.00001	0.040	0.042	1.08E-03		0.0586	0.05		0.060	0.060	-0.038	-0.038	0.056	0.025	0.051	0.049	0.0010	0.000	0.028	0.000	0.000	0.012	0.012	0.001	0.001	0.001	0.001	-0.154	0.001
2021-4-23_test009	0.029	0.00084	0.02		0.034	6PSI_35	0.001	0.00001	0.029	0.027	8.43E-04		0.0282	0.02		0.033	0.033	-0.015	-0.015	0.044	0.015	0.038	0.034	0.0006	0.000	0.028	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	-0.169	0.001
2021-4-23_test010A	0.022	0.00072	0.01		0.027	6PSI_25	0.001	0.00001		0.021	7.24E-04		0.0158	0.01		0.021	0.021	-0.012	-0.012	0.036	0.011	0.029	0.027	0.0005	0.000	0.028	0.000	0.000	0.008	0.008	0.000	0.000	0.000	0.000	-0.175	0.001
2021-4-23_test011	0.017	0.00055	0.00		0.023	6PSI_15	0.001	0.00001		0.012	5.51E-04		0.0055	0.00		0.008	0.008	-0.005	-0.006	0.027	0.011	0.023	0.023	0.0002	0.000	0.028	0.000	0.000	0.005	0.004	0.000	0.000	0.000	0.000	-0.184	0.000
2021-4-23_test012	0.013	0.00046	0.00		0.018	6PSI_10	0.001	0.00001		0.008	4.61E-04		0.0028	0.00		0.005	0.004	-0.011	-0.011	0.026	0.011	0.022	0.018	0.0001	0.000	0.028	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.000	-0.188	0.000
2021-4-23_test013	0.010	0.00038	0.00		0.015	6PSI_05	0.001	0.00001	0.008	0.004	3.82E-04		0.0008	0.00		0.002	0.002	-0.009	-0.009	0.021	0.011	0.019	0.015	0.0001	0.000	0.028	0.000	0.000	0.006	0.006	0.000	0.000	0.000	0.000	-0.192	0.000
erroneous data																																				

C. Appendix – Summary measurement data tables

This appendix includes all of the summary measurement data tables. These data table allow users to determine an expected flow for a specific catch basin cover installed in a specific configuration.

Table C.1: Catch Basin cover #1, Cross slope 2.0%

cross-slope (%)	2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.069	0.034	0.057	0.036	0.052	0.038	0.045	0.033	0.042	0.030	0.038	0.029
0.098	0.064	0.090	0.060	0.078	0.059	0.070	0.049	0.061	0.042	0.059	0.040
0.118	0.080	0.109	0.075	0.095	0.069	0.084	0.059	0.075	0.048	0.070	0.045
0.111	0.074	0.102	0.069	0.088	0.065	0.078	0.056	0.069	0.045	0.066	0.043
0.088	0.056	0.081	0.054	0.069	0.053	0.062	0.045	0.055	0.039	0.053	0.037
0.078	0.047	0.070	0.046	0.061	0.047	0.054	0.040	0.048	0.035	0.046	0.034
0.075	0.043	0.065	0.042	0.057	0.044	0.050	0.037	0.045	0.033	0.042	0.032
0.059	0.027	0.045	0.028	0.042	0.031	0.037	0.028	0.036	0.026	0.032	0.025
0.046	0.017	0.034	0.019	0.029	0.019	0.027	0.018	0.027	0.018	0.026	0.018
0.036	0.012	0.030	0.012	0.023	0.012	0.046	0.034	0.022	0.012	0.020	0.012
0.025	0.004	0.022	0.004	0.017	0.005	0.022	0.014	0.014	0.005	0.014	0.005
0.021	0.002	0.019	0.002	0.015	0.002	0.016	0.006	0.014	0.003	0.012	0.002
0.016	0.001	0.015	0.001	0.012	0.001	0.013	0.003	0.006	0.001	0.005	0.001
						0.009	0.001				

Table C.2: Catch Basin cover #1, Cross slope 4.0%

cross-slope (%)	4.0		4.0		4.0		4.0		4.0		4.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.091	0.042	0.073	0.042	0.071	0.042	0.072	0.041	0.062	0.038	0.056	0.033
0.125	0.069	0.117	0.067	0.105	0.069	0.097	0.062	0.089	0.055	0.082	0.049
0.145	0.082	0.135	0.079	0.120	0.078	0.112	0.070	0.104	0.063	0.093	0.055
0.138	0.077	0.127	0.075	0.114	0.075	0.106	0.067	0.097	0.059	0.089	0.053
0.115	0.061	0.107	0.061	0.097	0.064	0.090	0.058	0.081	0.051	0.074	0.046
0.103	0.053	0.094	0.052	0.088	0.056	0.082	0.052	0.072	0.046	0.065	0.041
0.098	0.049	0.085	0.047	0.083	0.050	0.078	0.049	0.068	0.043	0.062	0.038
0.074	0.033	0.059	0.034	0.049	0.032	0.056	0.032	0.052	0.030	0.047	0.028
0.061	0.021	0.046	0.022	0.036	0.022	0.037	0.020	0.036	0.020	0.035	0.018
0.046	0.013	0.038	0.014	0.031	0.014	0.028	0.013	0.027	0.012	0.027	0.011
0.032	0.005	0.025	0.004	0.021	0.005	0.021	0.004	0.016	0.004	0.018	0.004
0.027	0.002	0.021	0.002	0.015	0.002	0.015	0.002	0.015	0.002	0.014	0.002
0.020	0.001	0.016	0.001	0.011	0.001	0.012	0.001	0.011	0.001	0.010	0.001

Table C.3: Catch Basin cover #2, Cross slope 2.0%

cross-slope (%)		2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)		0.5		1.0		2.5		5.0		7.5		10.0
	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
	0.070	0.043	0.054	0.044	0.049	0.046	0.044	0.048	0.039	0.041	0.036	0.044
	0.098	0.100	0.091	0.097	0.077	0.090	0.069	0.095	0.047	0.056	0.058	0.081
	0.119	0.127	0.108	0.121	0.095	0.112	0.083	0.114	0.044	0.051	0.068	0.096
	0.112	0.118	0.104	0.113	0.087	0.098	0.077	0.105	0.034	0.032	0.065	0.091
	0.090	0.085	0.083	0.084	0.068	0.078	0.061	0.080	0.027	0.019	0.052	0.073
	0.081	0.064	0.072	0.068	0.060	0.066	0.052	0.065	0.020	0.011	0.045	0.060
	0.077	0.055	0.066	0.059	0.055	0.058	0.049	0.058	0.015	0.0050	0.041	0.053
	0.060	0.031	0.046	0.032	0.040	0.032	0.037	0.035	0.013	0.0025	0.031	0.033
	0.047	0.019	0.037	0.020	0.029	0.018	0.029	0.021	0.006	0.0008	0.026	0.021
	0.037	0.011	0.031	0.012	0.023	0.011	0.023	0.013	0.040	0.044	0.020	0.013
	0.026	0.0052	0.024	0.0047	0.015	0.0047	0.016	0.0049	0.074	0.098	0.015	0.0051
	0.021	0.0023	0.019	0.0023	0.012	0.0025	0.014	0.0025	0.069	0.092	0.013	0.0026
	0.015	0.0008	0.011	0.0009	0.010	0.0009	0.007	0.0008	0.054	0.075	0.006	0.0008
									0.048	0.060		
									0.061	0.085		
									0.027	0.021		

Table C.4: Catch Basin cover #2, Cross slope 4.0%

cross-slope (%)		4.0		4.0		4.0		4.0		4.0		4.0
Grade (%)		0.5		1.0		2.5		5.0		7.5		10.0
	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
	0.089	0.062	0.070	0.061	0.072	0.065	0.065	0.063	0.062	0.063	0.056	0.057
	0.125	0.121	0.117	0.130	0.106	0.119	0.096	0.112	0.088	0.106	0.079	0.094
	0.146	0.148	0.134	0.168	0.122	0.138	0.090	0.105	0.102	0.132	0.091	0.111
	0.138	0.139	0.126	0.153	0.115	0.129	0.086	0.100	0.095	0.121	0.086	0.104
	0.115	0.107	0.106	0.110	0.098	0.109	0.078	0.083	0.068	0.077	0.072	0.087
	0.103	0.090	0.093	0.087	0.089	0.094	0.036	0.024	0.052	0.043	0.064	0.076
	0.099	0.079	0.083	0.076	0.083	0.083	0.029	0.014	0.037	0.025	0.061	0.070
	0.072	0.044	0.057	0.042	0.049	0.043	0.049	0.037	0.080	0.095	0.048	0.040
	0.060	0.028	0.044	0.024	0.037	0.028	0.021	0.0056	0.072	0.084	0.036	0.023
	0.045	0.013	0.037	0.013	0.031	0.016	0.016	0.0026	0.029	0.015	0.028	0.013
	0.033	0.0048	0.024	0.0049	0.026	0.0052	0.014	0.0009	0.019	0.005	0.019	0.0053
	0.027	0.0026	0.021	0.0026	0.020	0.0024	0.066	0.064	0.015	0.002	0.015	0.0026
	0.019	0.0009	0.017	0.0008	0.011	0.0008	0.098	0.121	0.013	0.001	0.010	0.0008
							0.112	0.140				
							0.107	0.134				
							0.099	0.117				
							0.090	0.106				
							0.081	0.092				
							0.050	0.040				
							0.037	0.025				

Table C.5: Catch Basin cover #3, Cross slope 2.0%

cross-slope (%)		2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)		0.5		1.0		2.5		5.0		7.5		10.0
	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
	0.066	0.033	0.051	0.031	0.048	0.038	0.043	0.036	0.038	0.033	0.035	0.031
	0.099	0.064	0.104	0.074	0.075	0.060	0.071	0.057	0.061	0.053	0.058	0.051
	0.116	0.079	0.098	0.069	0.091	0.070	0.086	0.066	0.043	0.038	0.069	0.059
	0.111	0.074	0.080	0.056	0.084	0.066	0.080	0.062	0.032	0.026	0.065	0.056
	0.092	0.060	0.068	0.048	0.067	0.055	0.012	0.003	0.025	0.017	0.052	0.047
	0.083	0.051	0.063	0.043	0.058	0.048	0.019	0.010	0.019	0.010	0.044	0.041
	0.079	0.045	0.043	0.024	0.054	0.045	0.024	0.016	0.016	0.005	0.041	0.037
	0.059	0.026	0.038	0.016	0.037	0.028	0.033	0.026	0.010	0.003	0.030	0.025
	0.047	0.017	0.030	0.009	0.026	0.017	0.048	0.042	0.007	0.001	0.024	0.016
	0.038	0.010	0.023	0.005	0.020	0.010	0.052	0.046	0.038	0.032	0.019	0.009
	0.030	0.004	0.019	0.003	0.016	0.005	0.060	0.052	0.060	0.051	0.015	0.004
	0.024	0.003	0.015	0.001	0.014	0.003	0.016	0.005	0.073	0.059	0.008	0.002
	0.019	0.001	0.088	0.061	0.013	0.001	0.075	0.062	0.068	0.056	0.007	0.001
			0.030	0.008			0.082	0.067	0.053	0.047		
							0.069	0.058	0.046	0.041		
							0.042	0.037	0.043	0.038		
							0.009	0.001				

Table C.6: Catch Basin cover #3, Cross slope 4.0%

cross-slope (%)	4.0		4.0		4.0		4.0		4.0		4.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.084	0.044	0.065	0.042	0.060	0.041	0.065	0.047	0.060	0.043	0.054	0.041
0.123	0.072	0.114	0.072	0.099	0.073	0.093	0.068	0.087	0.063	0.078	0.061
0.142	0.086	0.132	0.084	0.114	0.082	0.106	0.076	0.099	0.070	0.089	0.069
0.136	0.081	0.123	0.080	0.109	0.078	0.101	0.073	0.093	0.068	0.085	0.066
0.112	0.065	0.103	0.065	0.093	0.067	0.085	0.064	0.078	0.058	0.071	0.057
0.101	0.057	0.090	0.056	0.083	0.059	0.076	0.058	0.069	0.052	0.063	0.051
0.096	0.052	0.080	0.051	0.076	0.053	0.072	0.054	0.008	0.001	0.059	0.047
0.069	0.032	0.055	0.032	0.041	0.031	0.050	0.034	0.016	0.003	0.045	0.032
0.055	0.021	0.044	0.020	0.032	0.020	0.034	0.020	0.017	0.004	0.034	0.019
0.045	0.013	0.035	0.012	0.024	0.010	0.026	0.013	0.024	0.009	0.026	0.010
0.033	0.005	0.024	0.004	0.037	0.028	0.019	0.006	0.033	0.017	0.026	0.011
0.027	0.003	0.021	0.003	0.018	0.004	0.016	0.003	0.045	0.029	0.033	0.019
0.020	0.001	0.017	0.001	0.013	0.002	0.011	0.001	0.065	0.048	0.019	0.005
				0.011	0.001			0.057	0.042	0.017	0.003
								0.085	0.063	0.010	0.001
								0.099	0.071		
								0.093	0.068		
								0.077	0.059		
								0.069	0.052		
								0.065	0.048		
								0.049	0.033		

Table C.7: Catch Basin cover #4, Cross slope 2.0%

cross-slope (%)	2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.064	0.045	0.051	0.041	0.045	0.049	0.040	0.049	0.035	0.043	0.032	0.041
0.098	0.106	0.088	0.096	0.073	0.097	0.065	0.096	0.058	0.084	0.054	0.078
0.118	0.149	0.105	0.121	0.056	0.071	0.079	0.119	0.071	0.101	0.065	0.093
0.111	0.129	0.099	0.113	0.051	0.063	0.074	0.110	0.066	0.095	0.061	0.089
0.089	0.087	0.078	0.083	0.035	0.034	0.057	0.080	0.052	0.075	0.049	0.072
0.079	0.066	0.066	0.065	0.025	0.020	0.049	0.068	0.044	0.063	0.042	0.060
0.074	0.058	0.060	0.056	0.020	0.014	0.045	0.060	0.041	0.057	0.038	0.053
0.055	0.031	0.040	0.029	0.014	0.005	0.032	0.034	0.030	0.031	0.027	0.028
0.043	0.021	0.033	0.018	0.011	0.003	0.025	0.021	0.022	0.017	0.022	0.018
0.035	0.014	0.025	0.011	0.006	0.001	0.020	0.013	0.017	0.011	0.016	0.010
0.025	0.006	0.018	0.005	0.065	0.085	0.013	0.006	0.012	0.005	0.014	0.005
0.020	0.003	0.015	0.002	0.089	0.116	0.012	0.003	0.009	0.002	0.009	0.003
0.013	0.001	0.011	0.001	0.082	0.108	0.006	0.001	0.005	0.001	0.005	0.001
0.112	0.132										

Table C.8: Catch Basin cover #4, Cross slope 4.0%

cross-slope (%)	4.0		4.0		4.0		4.0		4.0		4.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.089	0.068	0.071	0.064	0.068	0.068	0.063	0.069	0.057	0.064	0.050	0.056
0.121	0.133	0.114	0.136	0.100	0.127	0.091	0.138	0.083	0.110	0.075	0.100
0.138	0.166	0.056	0.045	0.116	0.149	0.105	0.157	0.097	0.129	0.087	0.114
0.134	0.156	0.046	0.025	0.109	0.142	0.099	0.146	0.089	0.121	0.083	0.110
0.112	0.115	0.039	0.014	0.092	0.117	0.083	0.121	0.075	0.102	0.068	0.091
0.099	0.093	0.027	0.007	0.083	0.098	0.073	0.101	0.067	0.089	0.059	0.077
0.094	0.082	0.019	0.003	0.078	0.087	0.069	0.088	0.063	0.081	0.055	0.069
0.075	0.049	0.015	0.001	0.046	0.044	0.064	0.071	0.046	0.044	0.043	0.040
0.057	0.028	0.075	0.068	0.034	0.026	0.050	0.044	0.034	0.024	0.032	0.021
0.049	0.017	0.114	0.137	0.028	0.014	0.035	0.025	0.025	0.012	0.025	0.013
0.033	0.007	0.133	0.164	0.020	0.007	0.027	0.014	0.017	0.006	0.016	0.005
0.025	0.003	0.125	0.160	0.014	0.003	0.018	0.007	0.014	0.003	0.014	0.002
0.017	0.001	0.105	0.118	0.011	0.001	0.014	0.003	0.009	0.001	0.008	0.001
		0.094	0.094			0.012	0.001			0.032	0.021
		0.085	0.082								

Table C.9: Catch Basin cover #5, Cross slope 2.0%

cross-slope (%)	2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.064	0.027	0.058	0.040	0.050	0.040	0.043	0.036	0.039	0.032	0.037	0.029
0.099	0.057	0.089	0.063	0.075	0.061	0.070	0.055	0.062	0.050	0.028	0.018
0.117	0.072	0.105	0.076	0.091	0.070	0.084	0.063	0.076	0.057	0.016	0.007
0.112	0.066	0.100	0.071	0.084	0.067	0.078	0.060	0.070	0.054	0.013	0.004
0.092	0.052	0.082	0.059	0.068	0.058	0.064	0.052	0.057	0.046	0.009	0.001
0.082	0.045	0.072	0.051	0.060	0.052	0.055	0.046	0.050	0.040	0.012	0.002
0.078	0.040	0.068	0.047	0.056	0.048	0.028	0.019	0.046	0.038	0.042	0.036
0.058	0.021	0.049	0.030	0.012	0.003	0.018	0.007	0.035	0.026	0.043	0.037
0.047	0.013	0.021	0.003	0.015	0.004	0.014	0.004	0.029	0.020	0.058	0.048
0.037	0.006	0.016	0.001	0.019	0.013	0.013	0.003	0.017	0.007	0.069	0.054
0.028	0.005	0.037	0.016	0.026	0.018	0.012	0.001	0.014	0.004	0.065	0.052
0.022	0.002	0.032	0.011	0.037	0.030	0.034	0.027	0.012	0.003	0.054	0.045
0.020	0.001	0.024	0.006	0.011	0.001			0.010	0.001	0.047	0.040
0.027	0.004										
0.030	0.006										
0.030	0.006										

Table C.10: Catch Basin cover #5, Cross slope 4.0%

cross-slope (%)		4.0		4.0		4.0		4.0		4.0		4.0
Grade (%)		0.5		1.0		2.5		5.0		7.5		10.0
	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
	0.082	0.039	0.066	0.039	0.067	0.040	0.063	0.041	0.061	0.041	0.055	0.037
	0.125	0.066	0.082	0.046	0.079	0.049	0.092	0.062	0.086	0.058	0.078	0.053
	0.145	0.080	0.093	0.053	0.084	0.054	0.107	0.070	0.101	0.065	0.091	0.060
	0.138	0.076	0.106	0.063	0.093	0.062	0.102	0.067	0.097	0.063	0.085	0.057
	0.117	0.063	0.115	0.069	0.099	0.066	0.087	0.059	0.094	0.063	0.080	0.054
	0.104	0.056	0.123	0.074	0.109	0.072	0.078	0.053	0.081	0.055	0.073	0.051
	0.098	0.053	0.131	0.078	0.116	0.075	0.074	0.049	0.073	0.050	0.070	0.049
	0.098	0.053	0.063	0.034	0.046	0.032	0.053	0.032	0.071	0.047	0.046	0.029
	0.069	0.032	0.065	0.034	0.035	0.022	0.040	0.024	0.053	0.033	0.039	0.022
	0.056	0.022	0.054	0.021	0.024	0.011	0.024	0.010	0.044	0.026	0.023	0.010
	0.041	0.007	0.022	0.001	0.021	0.007	0.020	0.006	0.030	0.013	0.020	0.006
	0.026	0.002	0.015	0.000	0.019	0.003	0.015	0.003	0.026	0.007	0.015	0.003
	0.050	0.013	0.030	0.004	0.015	0.001	0.014	0.001	0.017	0.001	0.012	0.001
	0.060	0.018	0.035	0.008			0.021	0.007	0.017	0.004	0.011	0.001
	0.021	0.001	0.018	0.000					0.012	0.001	0.013	0.002
	0.018	0.000	0.021	0.001							0.016	0.004
	0.066	0.024	0.021	0.001							0.022	0.008
	0.128	0.073	0.021	0.001							0.034	0.018
	0.084	0.042									0.045	0.028
	0.127	0.070									0.052	0.036
	0.147	0.083									0.059	0.042
	0.118	0.066									0.063	0.045
	0.062	0.028									0.070	0.050
	0.034	0.009									0.076	0.053
	0.062	0.024									0.083	0.057
	0.051	0.015									0.089	0.060
	0.071	0.028										
	0.055	0.018										
	0.035	0.005										
	0.025	0.002										
	0.023	0.001										
	0.012	0.000										

Table C.11: Catch Basin cover #6, Cross slope 2.0%

cross-slope (%)	2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.067	0.049	0.056	0.056	0.050	0.064	0.045	0.067	0.039	0.059	0.035	0.054
0.098	0.133	0.090	0.138	0.077	0.145	0.070	0.155	0.062	0.150	0.059	0.145
0.117	0.195	0.106	0.198	0.093	0.204	0.084	0.206	0.077	0.199	0.071	0.195
0.111	0.173	0.100	0.177	0.086	0.184	0.078	0.178	0.070	0.172	0.066	0.178
0.088	0.107	0.080	0.113	0.068	0.124	0.062	0.129	0.055	0.121	0.052	0.116
0.076	0.082	0.069	0.085	0.059	0.096	0.054	0.100	0.048	0.093	0.045	0.092
0.073	0.065	0.064	0.072	0.055	0.082	0.050	0.085	0.044	0.078	0.041	0.077
0.057	0.033	0.046	0.039	0.039	0.041	0.037	0.044	0.033	0.038	0.031	0.039
0.045	0.019	0.034	0.022	0.028	0.023	0.028	0.025	0.025	0.022	0.024	0.021
0.036	0.014	0.030	0.015	0.021	0.013	0.021	0.013	0.019	0.014	0.018	0.012
0.025	0.005	0.021	0.006	0.015	0.006	0.017	0.006	0.015	0.005	0.015	0.006
0.020	0.002	0.016	0.003	0.011	0.003	0.013	0.003	0.012	0.003	0.008	0.003
0.014	0.001	0.014	0.001	0.010	0.001	0.007	0.001	0.006	0.001	0.004	0.001

Table C.12: Catch Basin cover #6, Cross slope 4.0%

cross-slope (%)	4.0		4.0		4.0		4.0		4.0		4.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.090	0.074	0.071	0.074	0.068	0.077	0.067	0.087	0.060	0.088	0.045	0.044
0.125	0.168	0.117	0.180	0.087	0.133	0.095	0.215	0.088	0.207	0.034	0.023
0.145	0.222	0.135	0.235	0.081	0.110	0.109	0.256	0.103	0.260	0.027	0.014
0.139	0.207	0.126	0.218	0.047	0.050	0.104	0.241	0.096	0.243	0.018	0.005
0.114	0.138	0.106	0.145	0.036	0.027	0.087	0.187	0.080	0.179	0.015	0.003
0.103	0.110	0.093	0.111	0.096	0.173	0.078	0.146	0.071	0.142	0.010	0.001
0.098	0.097	0.084	0.096	0.104	0.212	0.074	0.123	0.066	0.120	0.080	0.204
0.075	0.051	0.050	0.050	0.120	0.246	0.052	0.050	0.048	0.051	0.093	0.260
0.099	0.095	0.046	0.029	0.113	0.235	0.035	0.027	0.035	0.027	0.088	0.234
0.059	0.029	0.037	0.016	0.028	0.015	0.027	0.016	0.026	0.015	0.072	0.170
0.048	0.016	0.025	0.006	0.042	0.043	0.018	0.005	0.018	0.006	0.063	0.133
0.032	0.006	0.021	0.003	0.021	0.007	0.015	0.003	0.015	0.003	0.059	0.111
0.026	0.003	0.019	0.001	0.015	0.003	0.012	0.001	0.009	0.001	0.046	0.051
0.021	0.001			0.011	0.001					0.035	0.028
										0.028	0.016

As discussed in Appendix B there are more tests for cover #7 at a grade of 2.5% and a cross slope of 2.0% than any other conditions because damage to the WeatherWatch barrier on the roadway was noticed in the following test. Once repaired the previous conditions were retested to ensure that the damage was not pre-existing. The results were consistent and as such all of the data was retained.

Table C.13: Catch Basin cover #7, Cross slope 2.0%

cross-slope (%)	2.0		2.0		2.0		2.0		2.0		2.0
Grade (%)	0.5		1.0		2.5		5.0		7.5		10.0
depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment	depth	Catchment
(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)	(m)	(m3/s)
0.069	0.025	0.057	0.025	0.050	0.024	0.044	0.022	0.041	0.020	0.037	0.018
0.099	0.038	0.091	0.036	0.077	0.033	0.071	0.029	0.062	0.028	0.059	0.026
0.119	0.044	0.108	0.041	0.094	0.037	0.085	0.033	0.077	0.031	0.071	0.029
0.112	0.043	0.102	0.040	0.087	0.036	0.079	0.032	0.071	0.030	0.066	0.028
0.088	0.036	0.081	0.033	0.068	0.031	0.064	0.028	0.056	0.027	0.053	0.024
0.078	0.031	0.070	0.029	0.060	0.028	0.054	0.026	0.049	0.024	0.045	0.022
0.075	0.029	0.065	0.028	0.056	0.027	0.050	0.024	0.045	0.023	0.042	0.021
0.060	0.023	0.046	0.021	0.042	0.021	0.037	0.019	0.035	0.018	0.031	0.016
0.047	0.017	0.034	0.016	0.029	0.015	0.027	0.015	0.026	0.014	0.025	0.013
0.037	0.012	0.030	0.011	0.022	0.011	0.045	0.023	0.026	0.014	0.020	0.009
0.027	0.005	0.023	0.005	0.016	0.005	0.027	0.016	0.063	0.028	0.016	0.006
0.071	0.025	0.019	0.002	0.011	0.002	0.022	0.013	0.021	0.010	0.009	0.002
0.022	0.003	0.016	0.001	0.009	0.001	0.015	0.005	0.015	0.006	0.006	0.001
0.018	0.001			0.052	0.025	0.013	0.002	0.012	0.003	0.008	0.002
				0.079	0.034	0.010	0.001	0.008	0.001		
				0.096	0.039						
				0.089	0.037						
				0.070	0.033						
				0.061	0.030						
				0.057	0.028						
				0.042	0.022						
				0.029	0.016						
				0.021	0.011						
				0.017	0.006						
				0.015	0.003						
				0.011	0.001						

The uncertainty analysis is covered in section 3.2 and other sources of uncertainty are discussed in section 3.3. It is because the other sources of uncertainty are not insignificant that the precision in Table C.14 does not reflect the corresponding uncertainty from Appendix B. These low flows can be measured to a high precision in the laboratory however normal variability is observed in the field. As such the reduced precision in in Table C.14 is appropriate.

Table C.14: Catch Basin cover #8, Cross slope 2.0%

cross-slope (%)		2.0		2.0
Grade (%)		0.5		2.5
	depth	Catchment	depth	Catchment
	(m)	(m3/s)	(m)	(m3/s)
	0.070	0.0016	0.095	0.0014
	0.098	0.0021	0.087	0.0014
	0.117	0.0024	0.078	0.0013
	0.111	0.0023	0.070	0.0012
	0.089	0.0020	0.062	0.0011
	0.079	0.0018	0.057	0.0012
	0.075	0.0018	0.053	0.0011
	0.059	0.0015	0.043	0.0011
	0.046	0.0013	0.029	0.0008
	0.036	0.0011	0.022	0.0007
	0.025	0.0011	0.017	0.0006
	0.022	0.0009	0.013	0.0005
	0.017	0.0005	0.010	0.0004