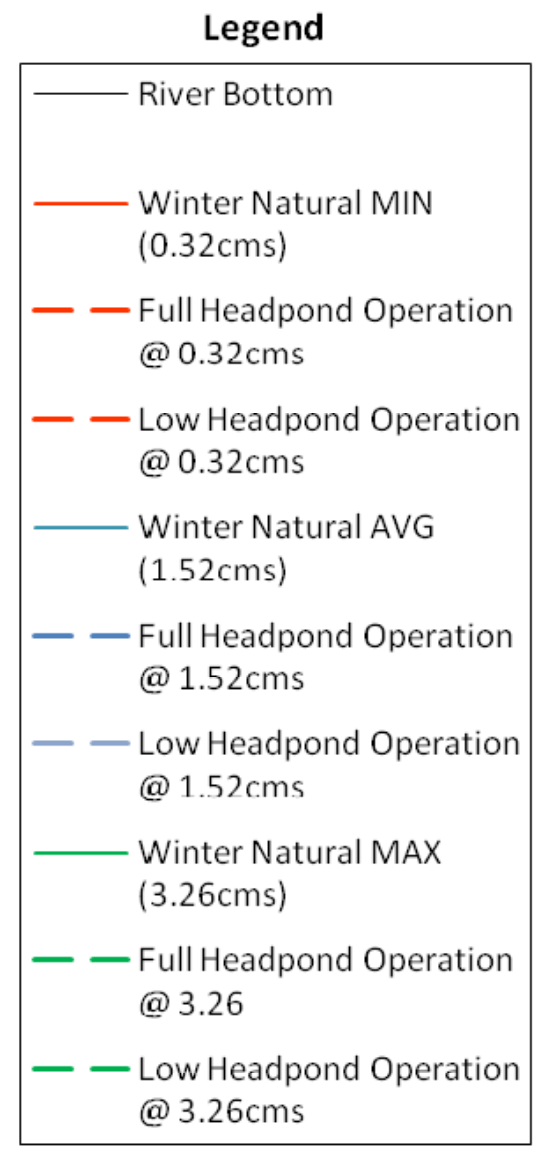
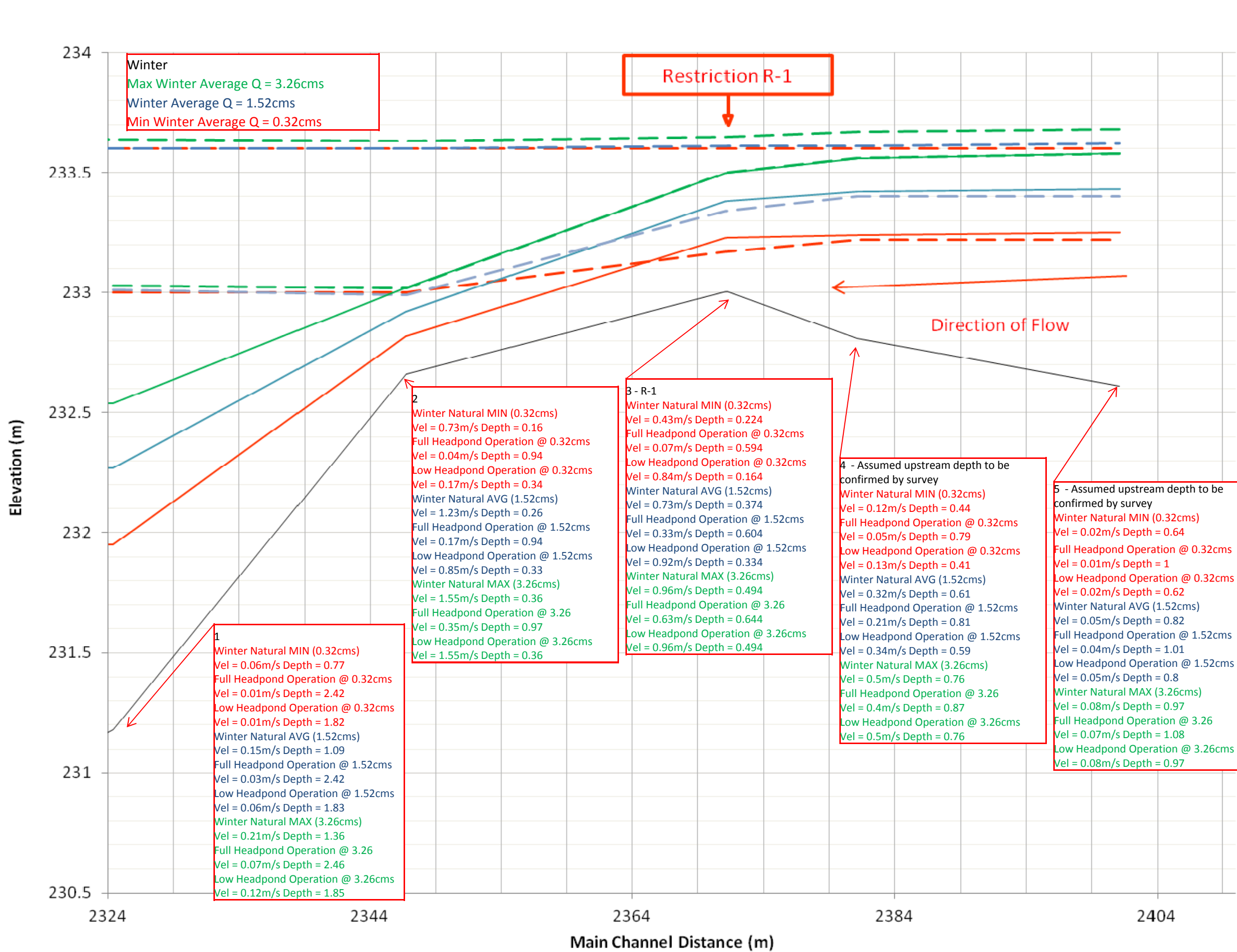


Model with Weir set at 233.6m - Revision 2 2012-08-03  
(LOL/fill headpond set to 233.0m)

# WINTER - Natural Condition vs Operation (Weir @ 233.6m)

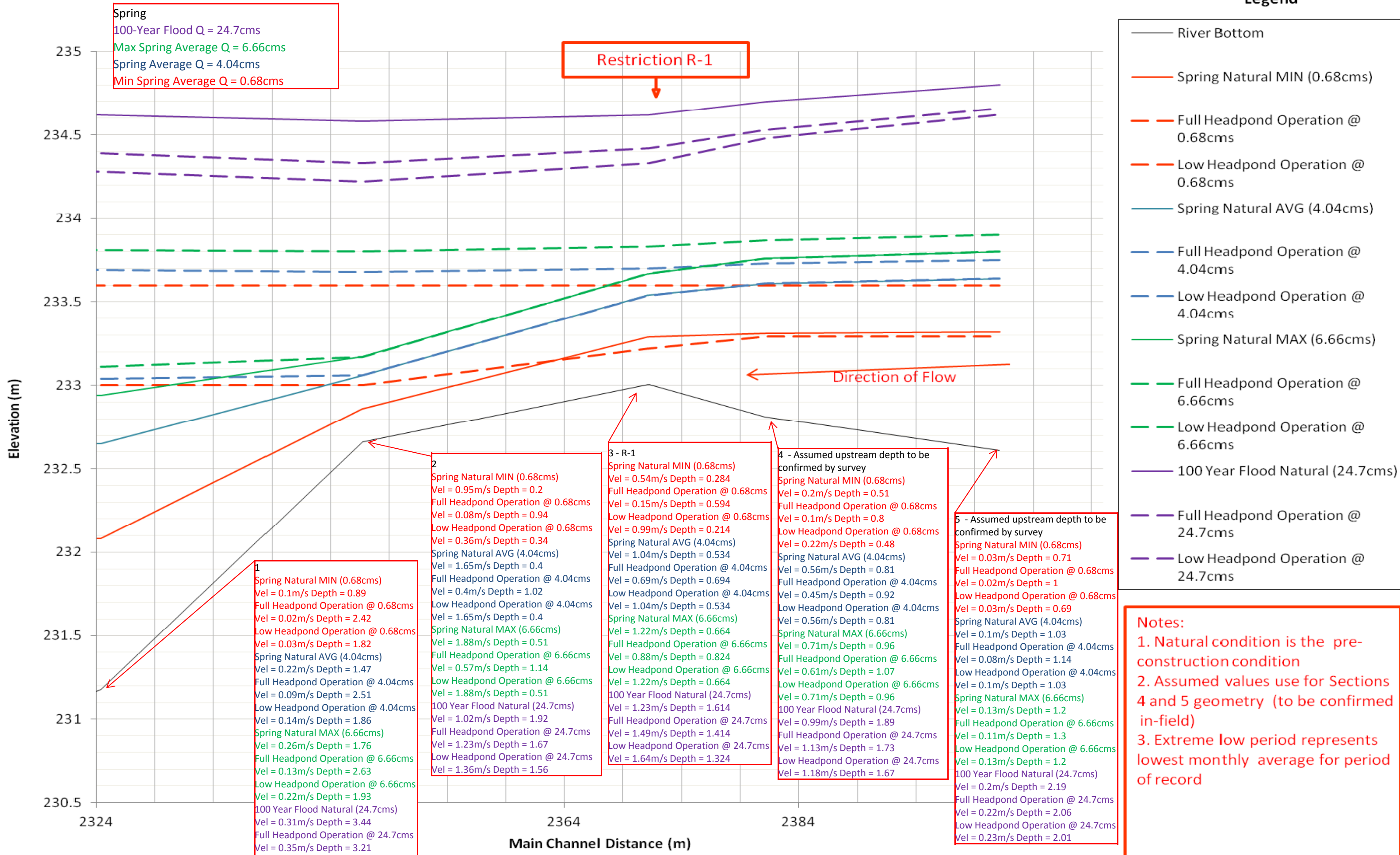


**Notes:**

- Natural condition is the pre-construction condition
- Assumed values use for Sections 4 and 5 geometry (to be confirmed in-field)
- Extreme low period represents lowest monthly average for period of record

# SPRING - Natural Condition vs Operation (Weir @ 233.6m)

## Legend



**1**

Spring Natural MIN (0.68cms)  
 Vel = 0.1m/s Depth = 0.89  
 Full Headpond Operation @ 0.68cms  
 Vel = 0.02m/s Depth = 2.42  
 Low Headpond Operation @ 0.68cms  
 Vel = 0.03m/s Depth = 1.82  
 Spring Natural AVG (4.04cms)  
 Vel = 0.22m/s Depth = 1.47  
 Full Headpond Operation @ 4.04cms  
 Vel = 0.09m/s Depth = 2.51  
 Low Headpond Operation @ 4.04cms  
 Vel = 0.14m/s Depth = 1.86  
 Spring Natural MAX (6.66cms)  
 Vel = 0.26m/s Depth = 1.76  
 Full Headpond Operation @ 6.66cms  
 Vel = 0.13m/s Depth = 2.63  
 Low Headpond Operation @ 6.66cms  
 Vel = 0.22m/s Depth = 1.93  
 100 Year Flood Natural (24.7cms)  
 Vel = 0.31m/s Depth = 3.44  
 Full Headpond Operation @ 24.7cms  
 Vel = 0.35m/s Depth = 3.21  
 Low Headpond Operation @ 24.7cms  
 Vel = 0.37m/s Depth = 3.1

**2**

Spring Natural MIN (0.68cms)  
 Vel = 0.95m/s Depth = 0.2  
 Full Headpond Operation @ 0.68cms  
 Vel = 0.08m/s Depth = 0.94  
 Low Headpond Operation @ 0.68cms  
 Vel = 0.36m/s Depth = 0.34  
 Spring Natural AVG (4.04cms)  
 Vel = 1.65m/s Depth = 0.4  
 Full Headpond Operation @ 4.04cms  
 Vel = 0.4m/s Depth = 1.02  
 Low Headpond Operation @ 4.04cms  
 Vel = 1.65m/s Depth = 0.4  
 Spring Natural MAX (6.66cms)  
 Vel = 1.88m/s Depth = 0.51  
 Full Headpond Operation @ 6.66cms  
 Vel = 0.57m/s Depth = 1.14  
 Low Headpond Operation @ 6.66cms  
 Vel = 1.88m/s Depth = 0.51  
 100 Year Flood Natural (24.7cms)  
 Vel = 1.02m/s Depth = 1.92  
 Full Headpond Operation @ 24.7cms  
 Vel = 1.23m/s Depth = 1.67  
 Low Headpond Operation @ 24.7cms  
 Vel = 1.36m/s Depth = 1.56

**3 - R-1**

Spring Natural MIN (0.68cms)  
 Vel = 0.54m/s Depth = 0.284  
 Full Headpond Operation @ 0.68cms  
 Vel = 0.15m/s Depth = 0.594  
 Low Headpond Operation @ 0.68cms  
 Vel = 0.99m/s Depth = 0.214  
 Spring Natural AVG (4.04cms)  
 Vel = 1.04m/s Depth = 0.534  
 Full Headpond Operation @ 4.04cms  
 Vel = 0.69m/s Depth = 0.694  
 Low Headpond Operation @ 4.04cms  
 Vel = 1.04m/s Depth = 0.534  
 Spring Natural MAX (6.66cms)  
 Vel = 1.22m/s Depth = 0.664  
 Full Headpond Operation @ 6.66cms  
 Vel = 0.88m/s Depth = 0.824  
 Low Headpond Operation @ 6.66cms  
 Vel = 1.22m/s Depth = 0.664  
 100 Year Flood Natural (24.7cms)  
 Vel = 1.23m/s Depth = 1.614  
 Full Headpond Operation @ 24.7cms  
 Vel = 1.49m/s Depth = 1.414  
 Low Headpond Operation @ 24.7cms  
 Vel = 1.64m/s Depth = 1.324

**4 - Assumed upstream depth to be confirmed by survey**

Spring Natural MIN (0.68cms)  
 Vel = 0.2m/s Depth = 0.51  
 Full Headpond Operation @ 0.68cms  
 Vel = 0.1m/s Depth = 0.8  
 Low Headpond Operation @ 0.68cms  
 Vel = 0.22m/s Depth = 0.48  
 Spring Natural AVG (4.04cms)  
 Vel = 0.56m/s Depth = 0.81  
 Full Headpond Operation @ 4.04cms  
 Vel = 0.45m/s Depth = 0.92  
 Low Headpond Operation @ 4.04cms  
 Vel = 0.56m/s Depth = 0.81  
 Spring Natural MAX (6.66cms)  
 Vel = 0.71m/s Depth = 0.96  
 Full Headpond Operation @ 6.66cms  
 Vel = 0.61m/s Depth = 1.07  
 Low Headpond Operation @ 6.66cms  
 Vel = 0.71m/s Depth = 0.96  
 100 Year Flood Natural (24.7cms)  
 Vel = 0.99m/s Depth = 1.89  
 Full Headpond Operation @ 24.7cms  
 Vel = 1.13m/s Depth = 1.73  
 Low Headpond Operation @ 24.7cms  
 Vel = 1.18m/s Depth = 1.67

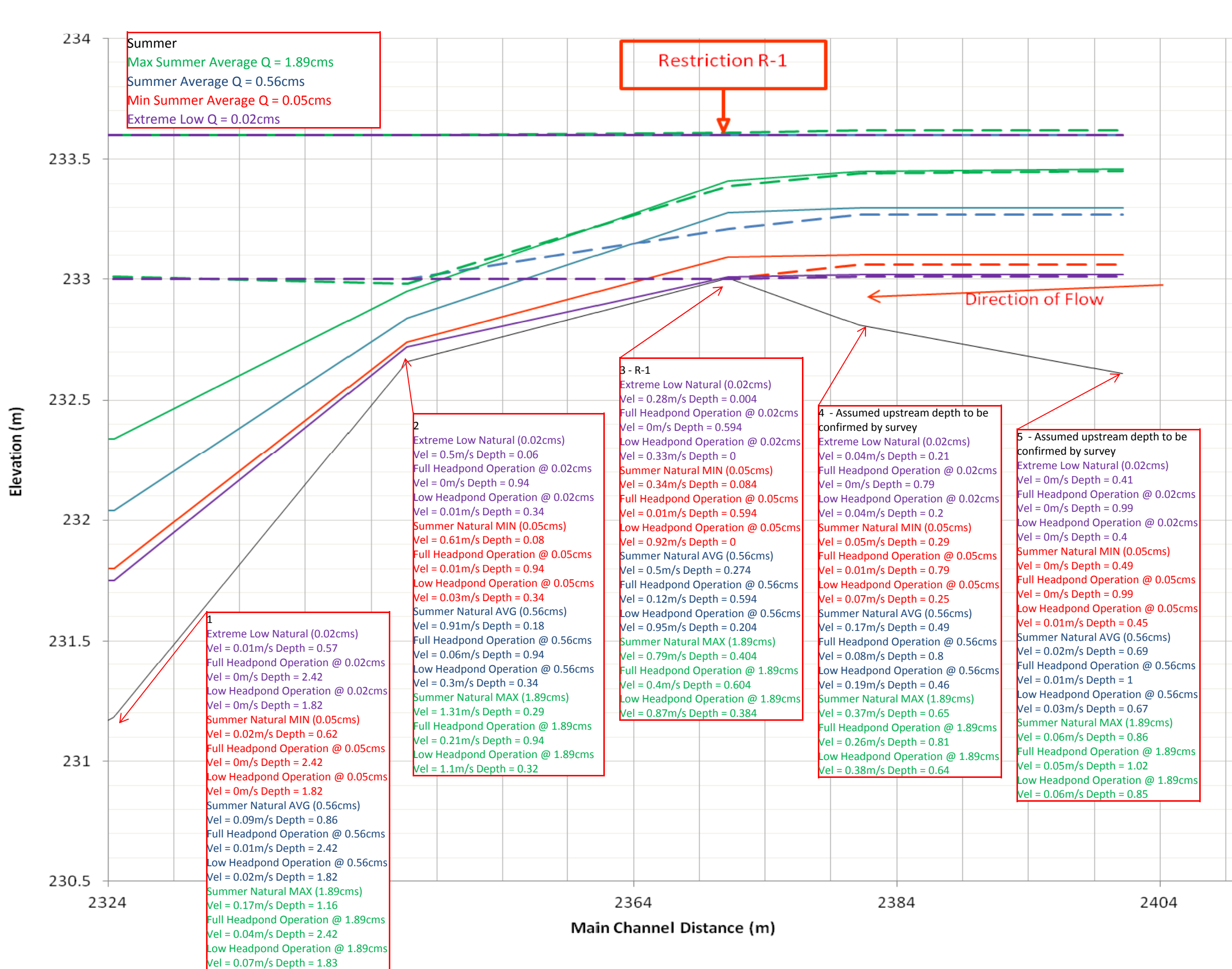
**5 - Assumed upstream depth to be confirmed by survey**

Spring Natural MIN (0.68cms)  
 Vel = 0.03m/s Depth = 0.71  
 Full Headpond Operation @ 0.68cms  
 Vel = 0.02m/s Depth = 1  
 Low Headpond Operation @ 0.68cms  
 Vel = 0.03m/s Depth = 0.69  
 Spring Natural AVG (4.04cms)  
 Vel = 0.1m/s Depth = 1.03  
 Full Headpond Operation @ 4.04cms  
 Vel = 0.08m/s Depth = 1.14  
 Low Headpond Operation @ 4.04cms  
 Vel = 0.1m/s Depth = 1.03  
 Spring Natural MAX (6.66cms)  
 Vel = 0.13m/s Depth = 1.2  
 Full Headpond Operation @ 6.66cms  
 Vel = 0.11m/s Depth = 1.3  
 Low Headpond Operation @ 6.66cms  
 Vel = 0.13m/s Depth = 1.2  
 100 Year Flood Natural (24.7cms)  
 Vel = 0.2m/s Depth = 2.19  
 Full Headpond Operation @ 24.7cms  
 Vel = 0.22m/s Depth = 2.06  
 Low Headpond Operation @ 24.7cms  
 Vel = 0.23m/s Depth = 2.01



# SUMMER - Natural Condition vs Operation (Weir @ 233.6m)

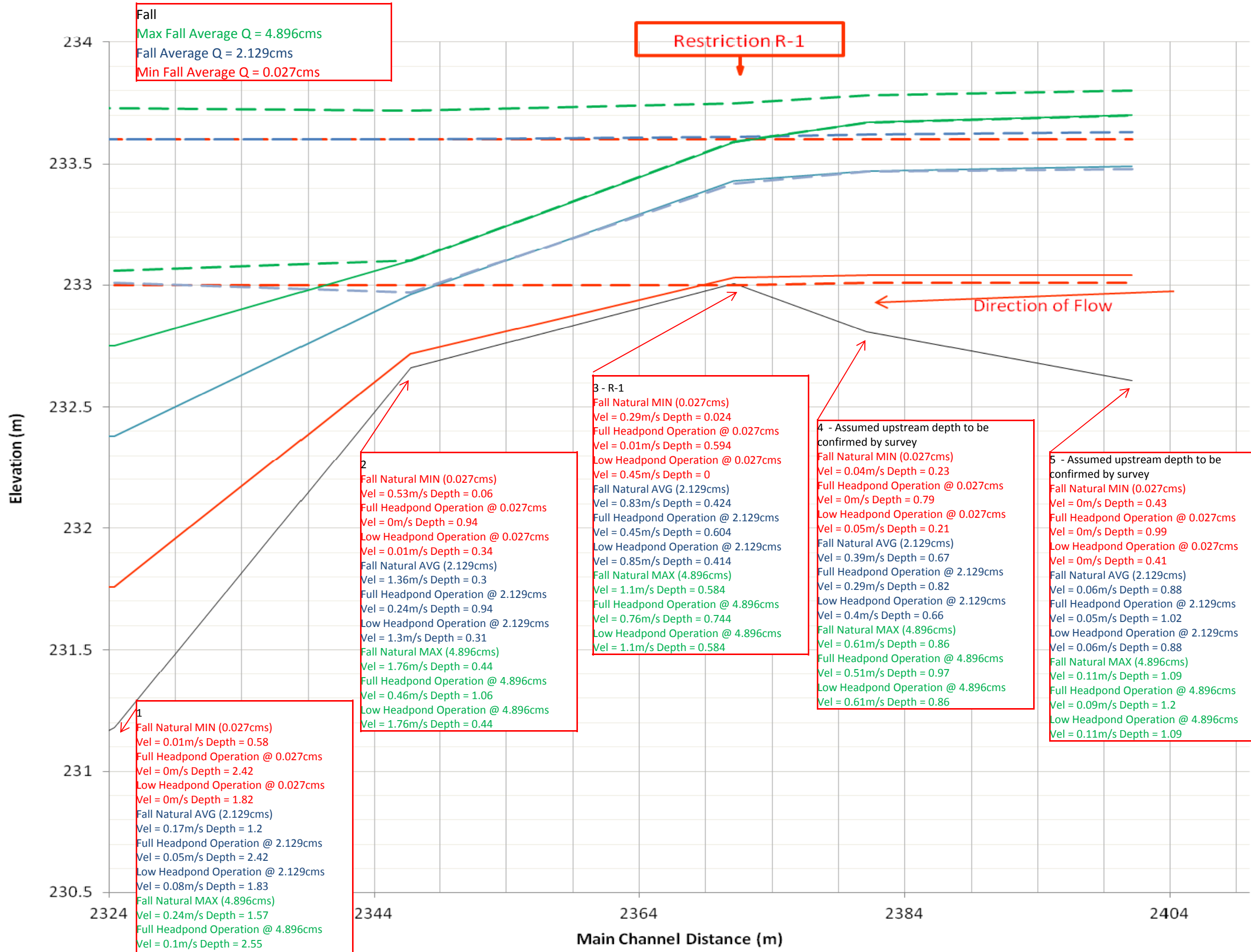
## Legend



**Notes:**  
 1. Natural condition is the pre-construction condition  
 2. Assumed values use for Sections 4 and 5 geometry (to be confirmed in-field)  
 3. Extreme low period represents lowest monthly average for period of record

# FALL - Natural Condition vs Operation (Weir @ 233.6m)

## Legend



**Legend**

- River Bottom
- Fall Natural MIN (0.027cms)
- Full Headpond Operation @ 0.027cms
- Low Headpond Operation @ 0.027cms
- Fall Natural AVG (2.129cms)
- Full Headpond Operation @ 2.129cms
- Low Headpond Operation @ 2.129cms
- Fall Natural MAX (4.896cms)
- Full Headpond Operation @ 4.896cms
- Low Headpond Operation @ 4.896cms

**Notes:**

- Natural condition is the pre-construction condition
- Assumed values use for Sections 4 and 5 geometry (to be confirmed in-field)
- Extreme low period represents lowest monthly average for period of record

**Fall**  
 Max Fall Average Q = 4.896cms  
 Fall Average Q = 2.129cms  
 Min Fall Average Q = 0.027cms

**Restriction R-1**

**Direction of Flow**

**2**

Fall Natural MIN (0.027cms)  
 Vel = 0.53m/s Depth = 0.06  
 Full Headpond Operation @ 0.027cms  
 Vel = 0m/s Depth = 0.94  
 Low Headpond Operation @ 0.027cms  
 Vel = 0.01m/s Depth = 0.34  
 Fall Natural AVG (2.129cms)  
 Vel = 1.36m/s Depth = 0.3  
 Full Headpond Operation @ 2.129cms  
 Vel = 0.24m/s Depth = 0.94  
 Low Headpond Operation @ 2.129cms  
 Vel = 1.3m/s Depth = 0.31  
 Fall Natural MAX (4.896cms)  
 Vel = 1.76m/s Depth = 0.44  
 Full Headpond Operation @ 4.896cms  
 Vel = 0.46m/s Depth = 1.06  
 Low Headpond Operation @ 4.896cms  
 Vel = 1.76m/s Depth = 0.44

**3 - R-1**

Fall Natural MIN (0.027cms)  
 Vel = 0.29m/s Depth = 0.024  
 Full Headpond Operation @ 0.027cms  
 Vel = 0.01m/s Depth = 0.594  
 Low Headpond Operation @ 0.027cms  
 Vel = 0.45m/s Depth = 0  
 Full Headpond Operation @ 2.129cms  
 Vel = 0.45m/s Depth = 0.604  
 Low Headpond Operation @ 2.129cms  
 Vel = 0.85m/s Depth = 0.414  
 Fall Natural AVG (2.129cms)  
 Vel = 0.83m/s Depth = 0.424  
 Full Headpond Operation @ 2.129cms  
 Vel = 0.45m/s Depth = 0.604  
 Low Headpond Operation @ 2.129cms  
 Vel = 0.85m/s Depth = 0.414  
 Fall Natural MAX (4.896cms)  
 Vel = 1.1m/s Depth = 0.584  
 Full Headpond Operation @ 4.896cms  
 Vel = 0.76m/s Depth = 0.744  
 Low Headpond Operation @ 4.896cms  
 Vel = 1.1m/s Depth = 0.584

**4 - Assumed upstream depth to be confirmed by survey**

Fall Natural MIN (0.027cms)  
 Vel = 0.04m/s Depth = 0.23  
 Full Headpond Operation @ 0.027cms  
 Vel = 0m/s Depth = 0.79  
 Low Headpond Operation @ 0.027cms  
 Vel = 0.05m/s Depth = 0.21  
 Fall Natural AVG (2.129cms)  
 Vel = 0.39m/s Depth = 0.67  
 Full Headpond Operation @ 2.129cms  
 Vel = 0.29m/s Depth = 0.82  
 Low Headpond Operation @ 2.129cms  
 Vel = 0.4m/s Depth = 0.66  
 Fall Natural MAX (4.896cms)  
 Vel = 0.61m/s Depth = 0.86  
 Full Headpond Operation @ 4.896cms  
 Vel = 0.51m/s Depth = 0.97  
 Low Headpond Operation @ 4.896cms  
 Vel = 0.61m/s Depth = 0.86

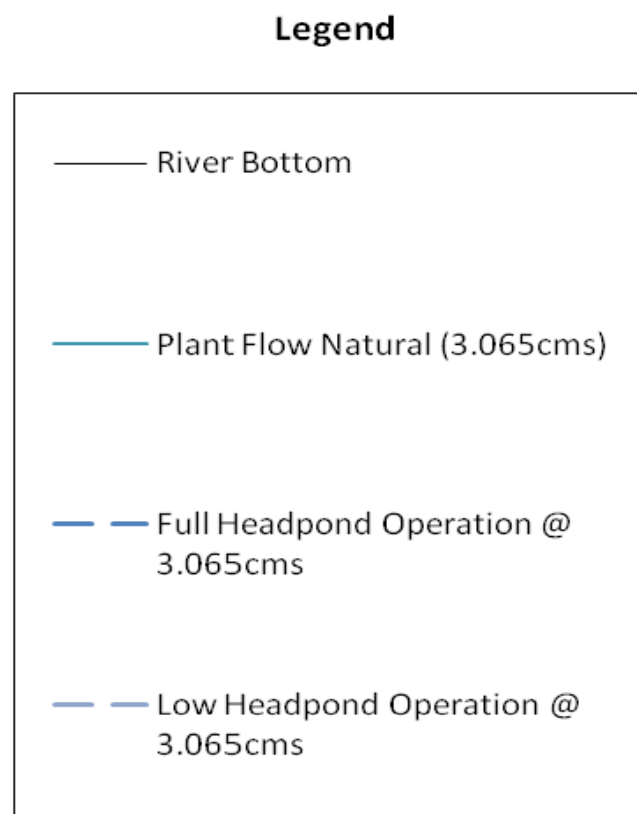
**5 - Assumed upstream depth to be confirmed by survey**

Fall Natural MIN (0.027cms)  
 Vel = 0m/s Depth = 0.43  
 Full Headpond Operation @ 0.027cms  
 Vel = 0m/s Depth = 0.99  
 Low Headpond Operation @ 0.027cms  
 Vel = 0m/s Depth = 0.41  
 Fall Natural AVG (2.129cms)  
 Vel = 0.06m/s Depth = 0.88  
 Full Headpond Operation @ 2.129cms  
 Vel = 0.05m/s Depth = 1.02  
 Low Headpond Operation @ 2.129cms  
 Vel = 0.06m/s Depth = 0.88  
 Fall Natural MAX (4.896cms)  
 Vel = 0.11m/s Depth = 1.09  
 Full Headpond Operation @ 4.896cms  
 Vel = 0.09m/s Depth = 1.2  
 Low Headpond Operation @ 4.896cms  
 Vel = 0.11m/s Depth = 1.09

**1**

Fall Natural MIN (0.027cms)  
 Vel = 0.01m/s Depth = 0.58  
 Full Headpond Operation @ 0.027cms  
 Vel = 0m/s Depth = 2.42  
 Low Headpond Operation @ 0.027cms  
 Vel = 0m/s Depth = 1.82  
 Fall Natural AVG (2.129cms)  
 Vel = 0.17m/s Depth = 1.2  
 Full Headpond Operation @ 2.129cms  
 Vel = 0.05m/s Depth = 2.42  
 Low Headpond Operation @ 2.129cms  
 Vel = 0.08m/s Depth = 1.83  
 Fall Natural MAX (4.896cms)  
 Vel = 0.24m/s Depth = 1.57  
 Full Headpond Operation @ 4.896cms  
 Vel = 0.1m/s Depth = 2.55  
 Low Headpond Operation @ 4.896cms  
 Vel = 0.17m/s Depth = 1.88

# PLANT FLOW + ECO-FLOW - Natural Condition vs Operation (Weir @ 233.6m)



**Notes:**

- Natural condition is the pre-construction condition
- Assumed values use for Sections 4 and 5 geometry (to be confirmed in-field)
- Extreme low period represents lowest monthly average for period of record