# Example Data Summary Sheet for Wet Detention Basin Design

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| **Design Element** | | | | **Design Data** | |
| **Site assessment data: (see attached maps)** | | | | | |
| Contributing drainage area to basin (subwatershed A) | | | | 120 acres | |
| Distance to nearest private well (including off-site wells) | | | | > 100 feet | |
| Distance to municipal well (including off-site wells) | | | | > 1200 feet | |
| Ground slope at site of proposed basin | | | | average 3% | |
| Proposed outfall conveyance system/discharge (w/ distances) | | | | 35 ft. to CTH “U” Road ditch  1000 ft. to wetland | |
| Any downstream roads or other structures? (describe) | | | | Yes – 36” cmp road culvert | |
| **Soil investigation data (see attached map & soil logs):** | | | | | |
| Number of soil investigations completed | | | | 3 (in basin area) | |
| Do elevations of test holes extend 5 ft. below pond bottom? | | | | Yes (see map) | |
| Average soil texture at pond bottom elevation (USDA) | | | | Clay loam | |
| Distance from pond bottom to bedrock | | | | > 5 feet | |
| Distance from pond bottom to seasonal water table | | | | Pond bottom 2 ft below mottling  No water observed in test holes | |
| **General basin design data (see attached detailed drawings):** | | | | | |
| Permanent pool surface area | | | | 1.5 acres | |
| Design permanent pool water surface elevation | | | | elev. 900.0 | |
| Top of berm elevation (after settling) and width | | | | elev. 905.0 / 10 feet wide | |
| Length/width (dimensions/ratio) | | | | 445 ft. (L) x 145 ft. (W) = 3:1 | |
| Safety shelf design (length, grade, max. depth) | | | | 10 ft. @ 10% slope/1.5’ deepest | |
| Liner yes/no, material, thickness | | | | Not required due to clay loam soil | |
| Ave. water depth (minus safety shelf/sediment) | | | | 5 ft. (in center) | |
| Sediment forebay size & depth | | | | .16 acres (13% pool size)/5 feet | |
| Sediment storage depth & design maintenance | | | | 2 ft. depth for forebay & pool  15 year maintenance schedule | |
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| Design Basin Inflow, Outflow & Storage Data **(see attached hydrographs and detail drawings)** | | | | | |
| **Inflow Peak Flow** | MaximumOutflow Rate | **Max. Water Elevation** | **Storage Volume**  **at Max. Elev.**  (above perm. pool) | | **Outflow Control Structures\*** |
| 13 cfs  (Post 1-yr./24 hr. peak) | .7 cfs  (34 hr. drawdown) | 901.3 ft. | 2 acre feet | | #1 |
| 23 cfs  (Post 2-yr./24 hr. peak) | 11 cfs | 902.0 ft. | 3.1 acre feet | | #1 and #2 |
| 84 cfs  (Post 10-yr./24 hr. peak) | 35 cfs | 903.0 ft. | 4.5 acre feet | | #3 |
| 272 cfs  (Post 100-yr./24 hr. peak) | 123 cfs | 904.0 ft. | 6.0 acre feet | | #3 and #4 |

\* **The controlling elements are summarized below (See attached detail drawing of outlet structure):**

#1 = 6 inch orifice in water level control weir plate – flow line elev. @ 900.0 (1.3 ft. max. head)

#2 = 2 foot wide rectangular weir – flow line elev. @ 901.3 (.7 ft. hydraulic head)

#3 = 30 inch diameter smooth wall pvc pipe – flow line elev. @ 900.0 (3.0 ft. max. hydraulic head)

#4 = 30 foot wide earthen/grass emergency spillway – flow line elev. @ 903.0 (1.0 ft. max. depth)

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| **Water Quality Data** | | |
| **Parameter** | **Units** | **Removal** |
| Total Suspended Solids | Lb / year | 81% |
| Total Phosphorus | Lb / year | 77% |