

# Diamond Hills Section 5 Stormwater Management Facility Retrofit

## **Background:**

The Diamond Hills Section 5 stormwater management facility is an existing facility located off of Federal Ann Court in Westminster. This facility was targeted due to its existing condition, and the opportunity to treat additional drainage area at this location. Due to the condition of the facility, the County wanted to bring the facility up to current standards thereby ensuring that it provides stormwater control and can be easily maintained.

## **Scope of Work:**

The drainage area to the facility was analyzed by staff. Hyro-Terra Group was consulted to perform standard penetration tests in the embankment to determine the soils it was constructed with. The design for the facility included enlarging the facility to provide the necessary treatment volume, construction of a new embankment with cut-off trench and impervious core. The 60" storm drain coming from Federal Ann Court was extended sixty feet to come out level with the bottom of the facility. The bottom of the facility was excavated to the necessary elevation to allow for the HDPE type "SP" pipe to lay on top and draw any excess water off the surface. The pipe was topped with 18" of a 4:1:1 sand/soil/green wood chip mixture. All of the slopes were designed at 3:1 or greater to allow efficient machine mowing. A new emergency spillway was graded in and lined with 19" of Class I rip-rap, and packed with 3" of topsoil. The facility was designed to meet and exceed all current county and state stormwater management regulations.

## **Sequence of Construction:**

The homeowners around the facility were contacted about the retrofit in April of 2011. At that time staff members met with adjoining property owners and HOA representatives to discuss the proposed retrofit. The county worked with the HOA to revise the plat and obtain access to the facility from Gist Road. The facility went out to bid on June of 2013 with bids due back July 24, 2013.

The job was awarded to Stambaugh's, Inc. and was slated to begin over the winter. The contractor began working in January of 2014, but with inclement weather the progress was slow. The contractor completed the project in May of 2014, but had to wait until a two inch stand of grass was established before receiving a final grading and sediment control inspection. The grading completion certificate was issued on June 19, 2014, and the as-built was accepted by the County on June 27, 2014.

## **Project Details:**

Watershed:	Liberty Reservoir
Drainage Area:	51.8 acres
Impervious Surface Treated:	16.26 acres
Costs: Engineering	\$ 4,750.00
Construction	\$ 300,890.71
Time Frame:	39 Months

## **Submitted By:**

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