

Mesa Del Sol Drainage Management Plan Summary 12/09/2022

Based on limited research by Doug Hughes on 12/09/2022

Current Drainage Management Plan ⁽³⁾ ⁽⁴⁾

The Drainage Management Plan for MDS is “a Centralized System of 100-yr 10-day Retention Ponds”.

The Centralized Ponds are located in the same general locations as those in the 2008 Level B Master Plan ⁽¹⁾.

Therefore, the drainage management plan for the individual lots is “free discharge of the 100 year stormwater runoff” without any retention for first flush SWQ volume, provided that the surrounding MDS subdivision has already provided adequate downstream conveyance and retention ponds sized for the 100-year 10-day storm⁽²⁾.

Footnotes

1. Some of the Centralized Ponds are located on the individual lots, especially in the Employment Center.
2. Some other lots may develop with “temporary onsite retention ponds” until the downstream Centralized Ponds are constructed and the Engineer’s Certification is accepted by Hydrology.
3. “Public Drainage Easements” and “Agreements and Covenants” should be provided for each pond prior to Hydrology acceptance of the Engineer’s Certification, but none could be found for the centralized MDS ponds. Legal documentation should be filed with each pond’s Hydrology records.
4. This DMP only applies to the portion of MDS that drains to the Playas, not to the portion of MDS that drains to the Rio Grande.

History

The 2008 Drainage Management Plans for MDS Level B Master Plan, the MDS Residential report dated 5/19/2008, and the Montage Units 1 & 2 Drainage report dated 1/13/2011 called for Retention of the 2-yr Volume plus Detention to limit the 100-yr peak flow rate to historic rates using a network of centralized ponds.

The Montage Residential sections didn’t identify outfalls for the detention ponds, and later found those drainage structures to be more expensive than retention ponds, so the Drainage Management Plan was changed to a centralized system of 100-yr 10-day Retention Ponds with the approval of the Montage Units 3 & 4 Report dated 1/18/2019. The MDS Employment Center has been building 100 year 10 day retention ponds since the beginning of MDS.

Then the Drainage Management Plan for the City Center Bulk Plat dated 10/21/2021 was approved with a system of centralized 100-yr 10-day Retention Ponds, however several offsite basins were omitted from that report that drain into existing ponds that will need to be accounted for with the final design of the City Center 100-year 10 day retention ponds.

The ABQ Studios Expansion Drainage Management Plan Dated 11/18/2021 also uses 100-year 10-day retention ponds to prevent all runoff.

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Discussion

The original 2008 concept of detention for the portions of MDS that drain to offsite playas would have adversely impacted the offsite playas if it allowed any increased volume to the downstream playas. The classic detention scheme only controls the peak rate of runoff rather than the total volume. A modified detention design that only releases the original volume would have been possible for the portion of MDS that drains to the Playas, but retention is easier and less expensive.

This report doesn't apply to the portion of Mesa Del Sol that drains to the Rio Grande and no research was made in that area.

Following is an excerpt from page 3 of the Montage Units 3 & 4 report dated 1/19/2019

PERMANENT STORM WATER DETENTION PONDS

Originally, Ponds 1, 2A, 2B, and 3 were anticipated to be constructed as detention ponds in the future. However, it is now proposed that these ponds function as retention ponds for this project and in the future, which is consistent with the drainage concept throughout the Mesa del Sol area, both commercial and residential. Existing ponds 2B and 3 will be upsized to accept developed runoff from this project. Existing Pond 4 will remain in its current configuration, and certified as part of the Financial Guaranty Release for this project. However, it is likely that Pond 4 will be reconfigured at some time in the future to accommodate the future adjacent improvements and will need upsizing based upon future plans. Again, all permanent retention ponds (Ponds 2A, 2B, and 3) will be designed to evacuate storm water through infiltration within 96 hours, and the infiltration basins serve to infiltrate the more frequent 2-yr (90th percentile) storms.

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As of the date of this study, 12/9/22, the reports and grading plans for Montage Units 5, 6, 7, and Bobby Foster all show ponds 1 and 2A as detention ponds and nowhere is the original Montage Unit 1 & 2 design of Pond 2A changed.

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Research

A comprehensive investigation wasn't conducted for this study and the only copies of the 2008 Level B Plan that could be found were in the appendices of the MDS Residential and Montage Units 1 & 2 reports. This study focused on the MDS Residential, Montage Units 1-4 and 7, and Bobby Foster, (see attached reports). The attached reports for Bobby Foster and Montage Unit 7 (attached) continued with the original Detention Management Plan established by MDS Residential report Dated 5/19/2008 Montage Units 1 & 2, unaware that Units 3 and 4 changed to a 100-yr 10-day Retention Management Plan, but will probably be changed to Retention before the Work Order for Bobby Foster is closed out. Two developments within Bobby Foster, the school and apartments, provided First Flush SWQ volume in onsite ponds though they are redundant. The Retention Management Plans in the City Center and the Employment Center were easily identified by the attention to the 100-yr 10-day volumes in the most recent reports and one other relatively old report. The following reports are attached:

- Innovation Park II DMP dated 4/4/2008 (R16
- MDS Residential report Dated 5/19/2008 (R16D098)
- Montage Units 1 & 2 Drainage report dated 1/13/2011 (R16D003B)
- Montage Units 3 & 4 report dated 1/19/2019 (R16D006)
- Montage Unit 3B report dated 6/6/2019 (R16D006A)
- **Bobby Foster report dated 2/26/2021 (R16D100)**
- City Center Bulk Plat dated 10/21/2021 (R16D006AA)
- ABQ Studios Expansion Drainage Management Plan Dated 11/18/2021 (R16D006AA)
- **Montage Units 5 & 6 report dated 1/24/2022 (R16D003C)**
- **Montage Unit 7 report Comments 12/1/2022 (R16D100A)**

Download all reports in one PDF at:

[data.cabq.gov/government/planning/drainage/1_DrainageManagementPlans-As-Builts/Final/Mesa Del Sol Drainage Management Plan Summary.pdf](https://data.cabq.gov/government/planning/drainage/1_DrainageManagementPlans-As-Builts/Final/Mesa%20Del%20Sol%20Drainage%20Management%20Plan%20Summary.pdf)