BCRSD
Boone County Regional Sewer District
Clean water for your future

1314 North 7th Street
Columbia, MO 65201
p: 573-443-2774
f: 573-499-0489
www.bcrsd.com

DATE: February 14, 2023

TO: Board of Trustees

FROM: Daniel Cunningham

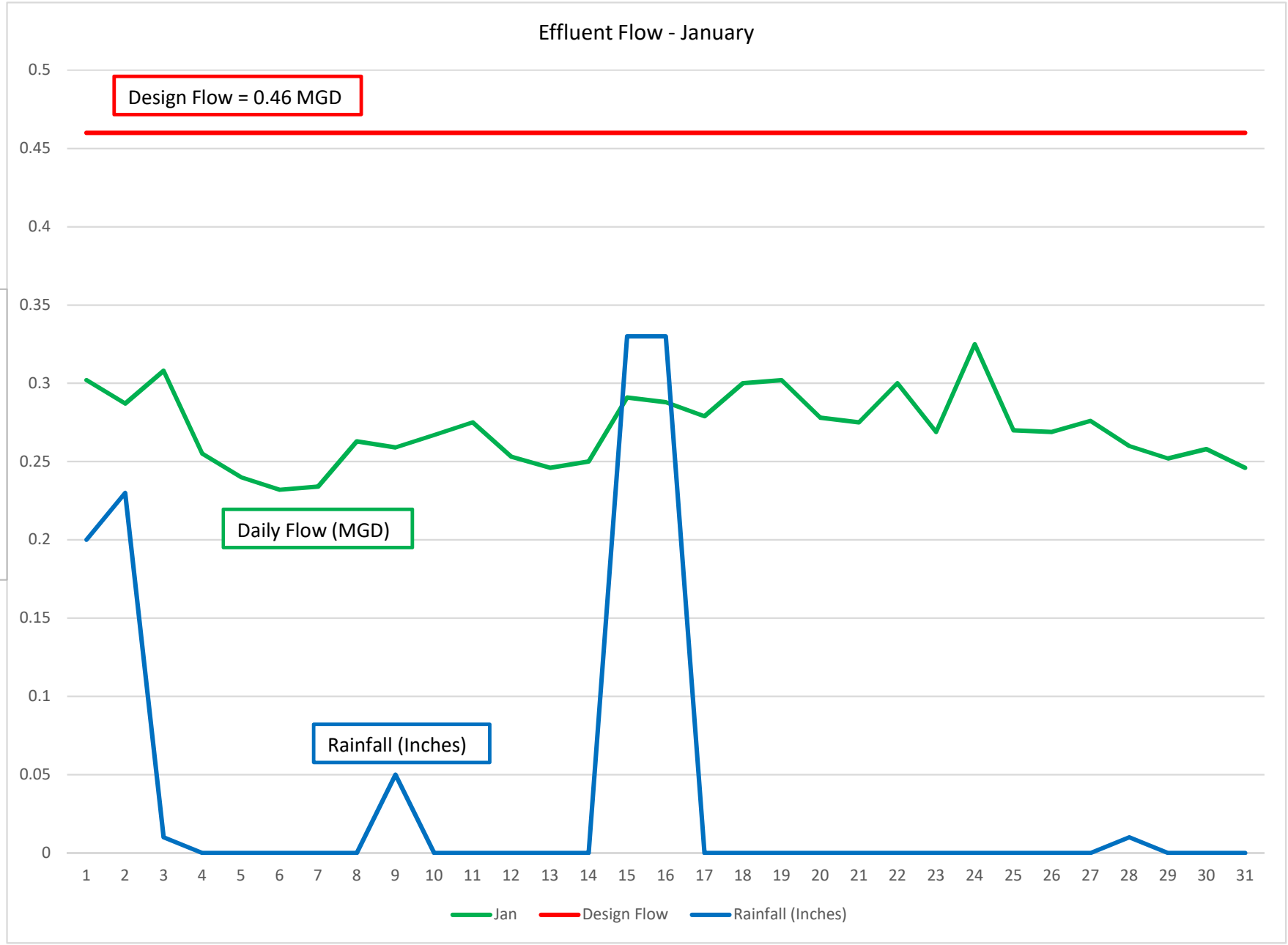
SUBJECT: Rocky Fork WWTP Effluent Flow Data

The BCRSD staff is currently monitoring effluent flow at the Rocky Fork Waste Water Treatment Plant (WWTP) at a daily scale of Million Gallons per Day (MGD) for compliance reporting to the Department of Natural Resources (DNR). The purpose of this memo is to communicate to the BCRSD Board of Trustees how the current effluent flow at the Rocky Fork WWTP relates to the design flow and capacity of the treatment plant. It is also meant to help communicate the long-term trends and trajectory of the treatment plant's capacity as the Sewer District considers future developments in Northern Boone County, Missouri.

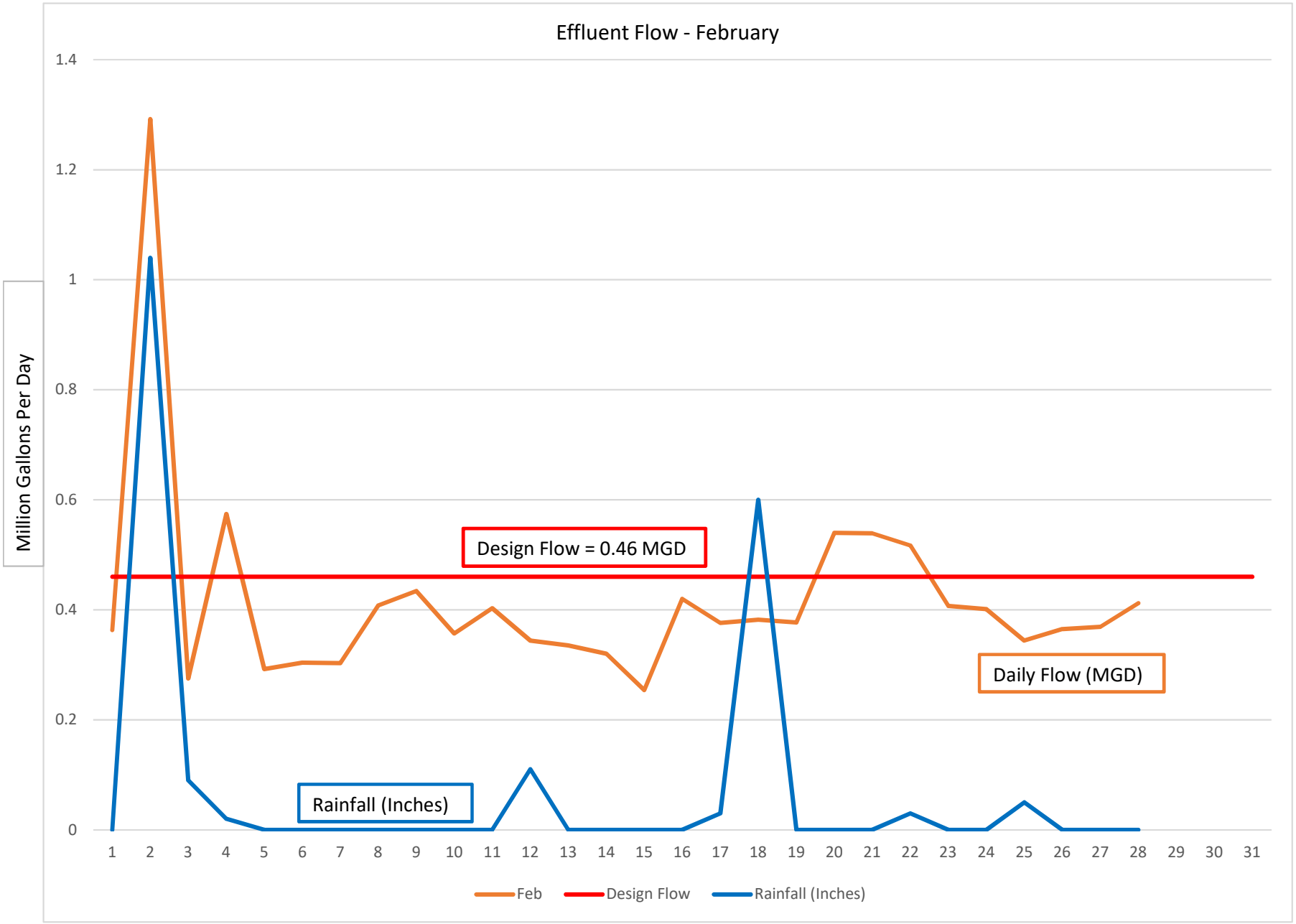
The charts that are attached to this memo show three (3) graphed lines per month (page). The “Design Flow” represents the engineered calculation of the maximum capacity that the WWTP can operate at efficiently. The “Daily Flow” line represents the 24-hour average flow that is recorded, by a flow monitoring device located above a weir, on the effluent side of the WWTP. The “Rainfall” line represents a record of the daily rainfall in the Columbia, MO area. The rainfall data potentially shows the correlation between rain events in the area to the spikes in daily average WWTP flows. This theoretical correlation is meant to point at potential issues of Inflow and Infiltration (I&I) in the treatment plants collection system.

As shown in the charts, the actual operating flow at the Rocky Fork WWTP exceeded design flow a total of 33 days in 2022. A peaking factor of 2.81 was shown in the month of February 2022, meaning the actual flow in the treatment plant reached 2.81 times the design flow of the plant for a short period of time. The peaking factor during this event can be assumed it was affected by precipitation, ground conditions, and melting snow.

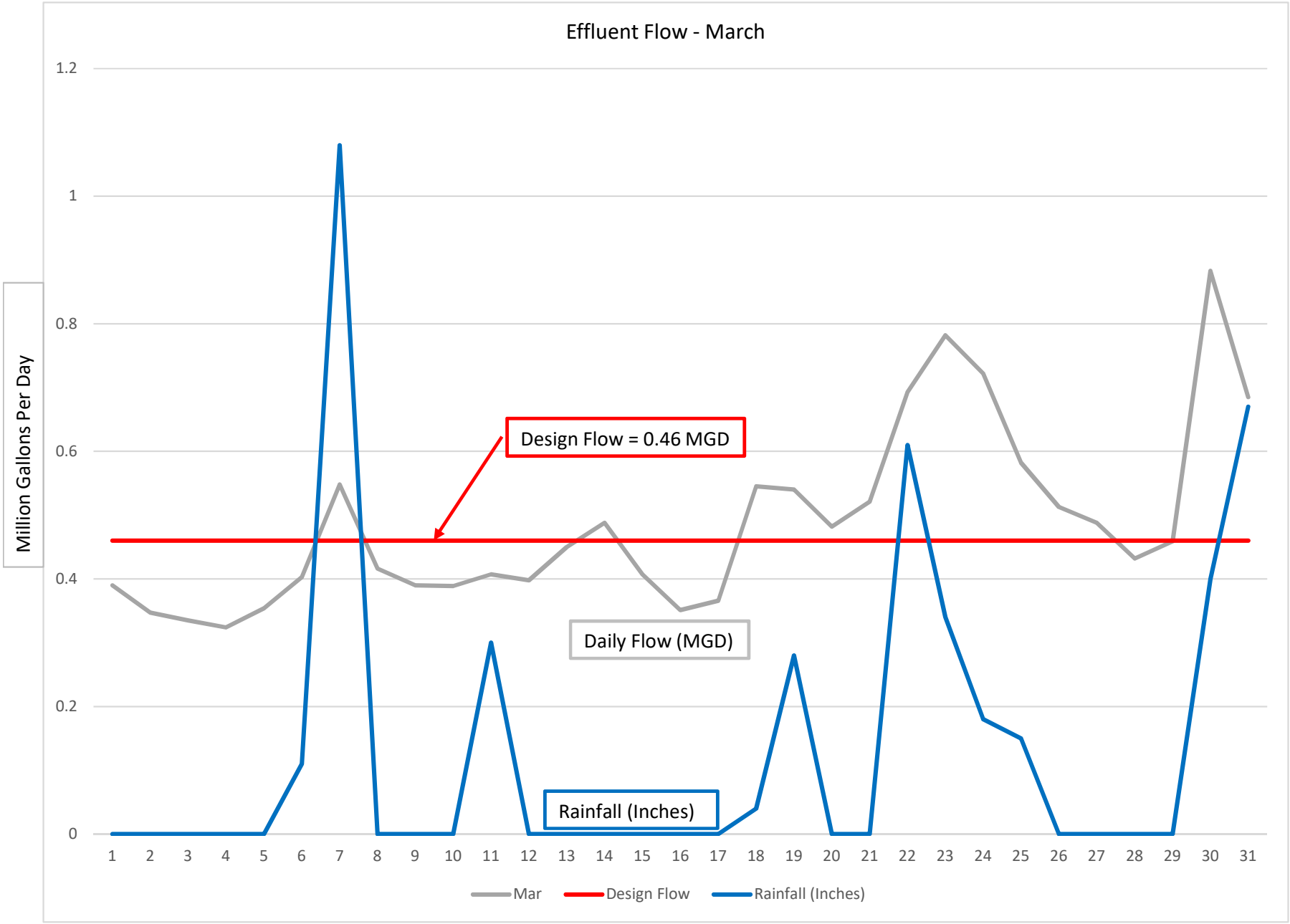
Rocky Fork Flow - Effluent MGD
2022



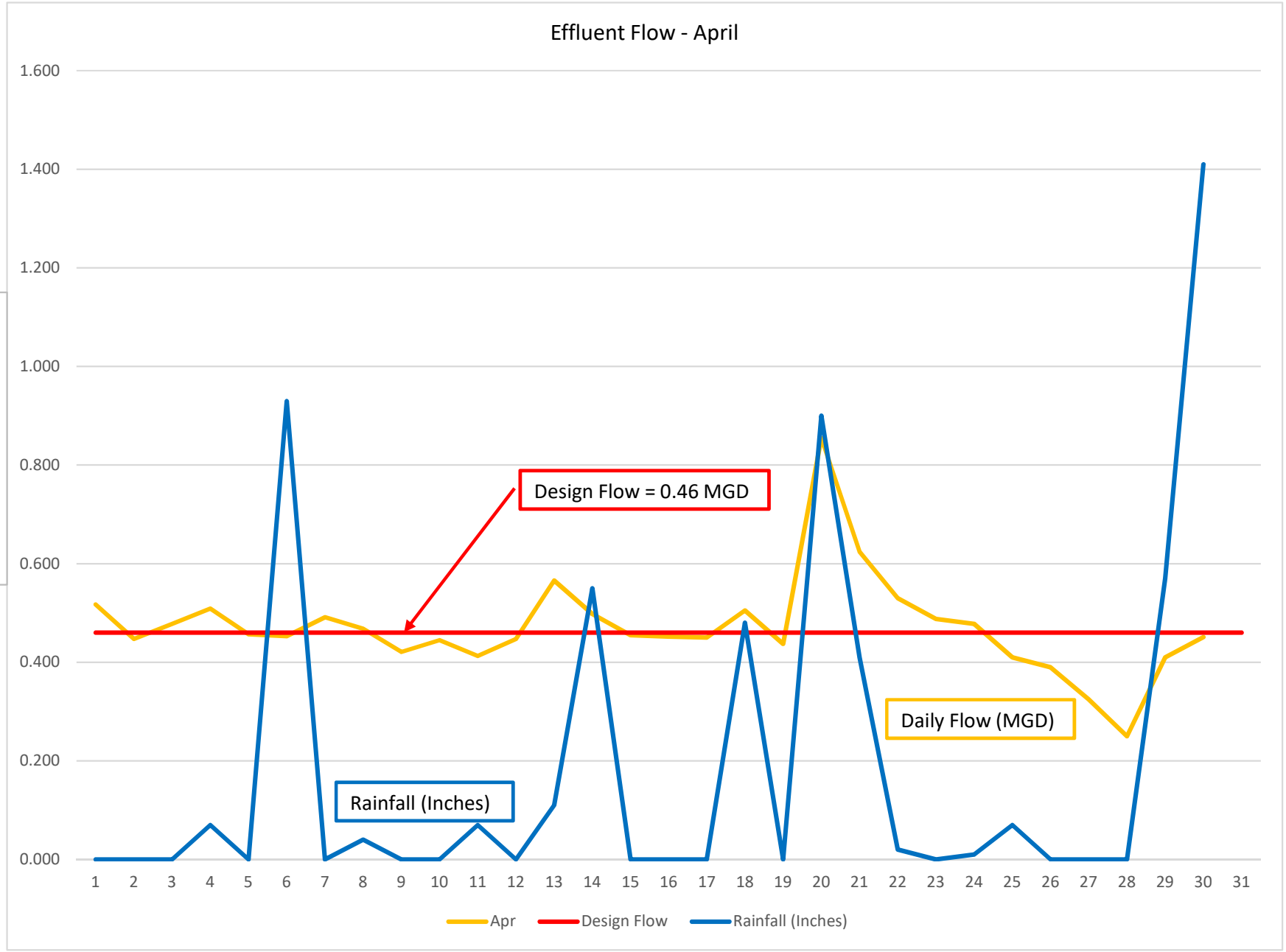
Rocky Fork Flow - Effluent MGD
2022



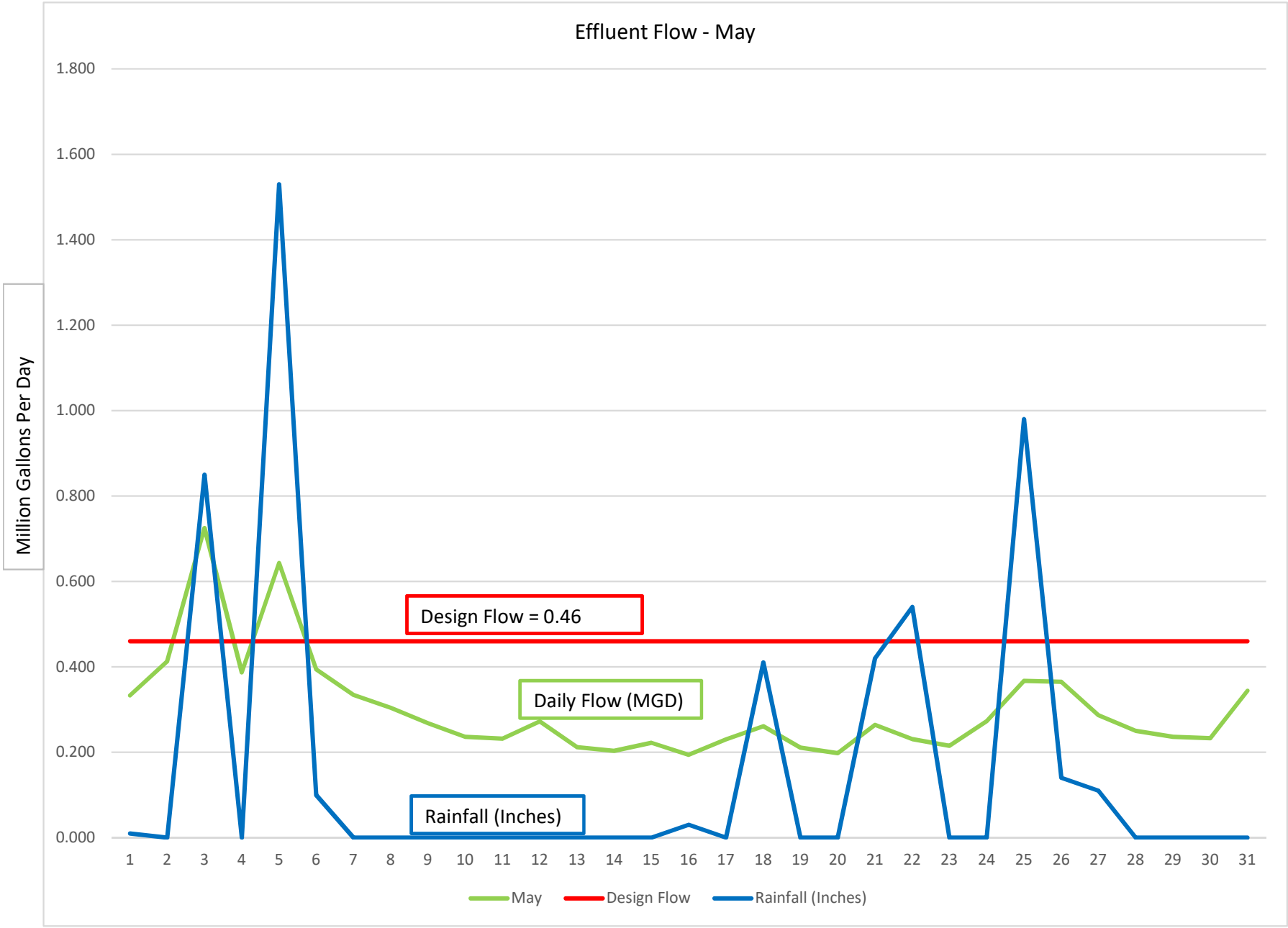
Rocky Fork Flow - Effluent MGD
2022



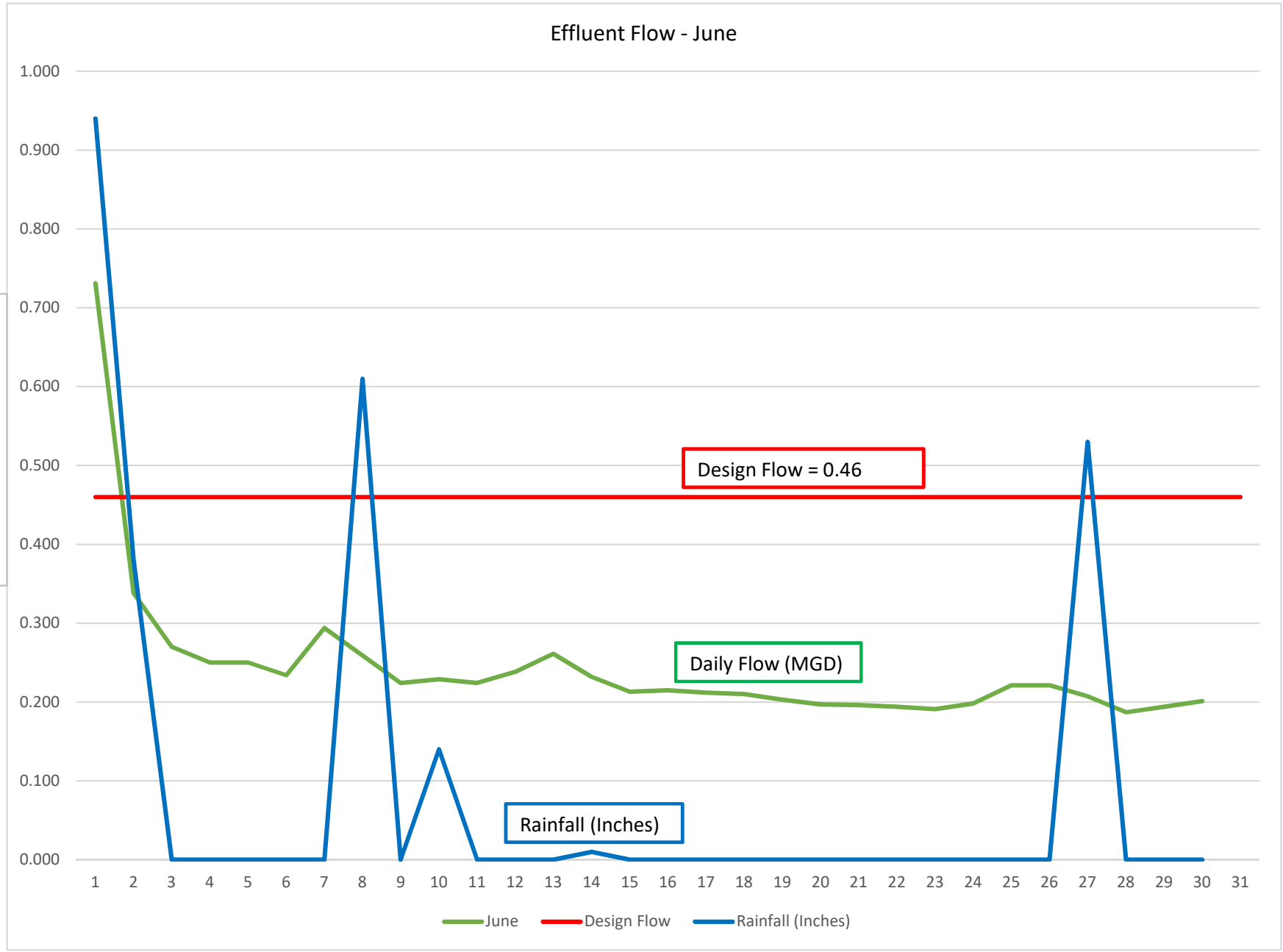
Rocky Fork Flow - Effluent MGD
2022



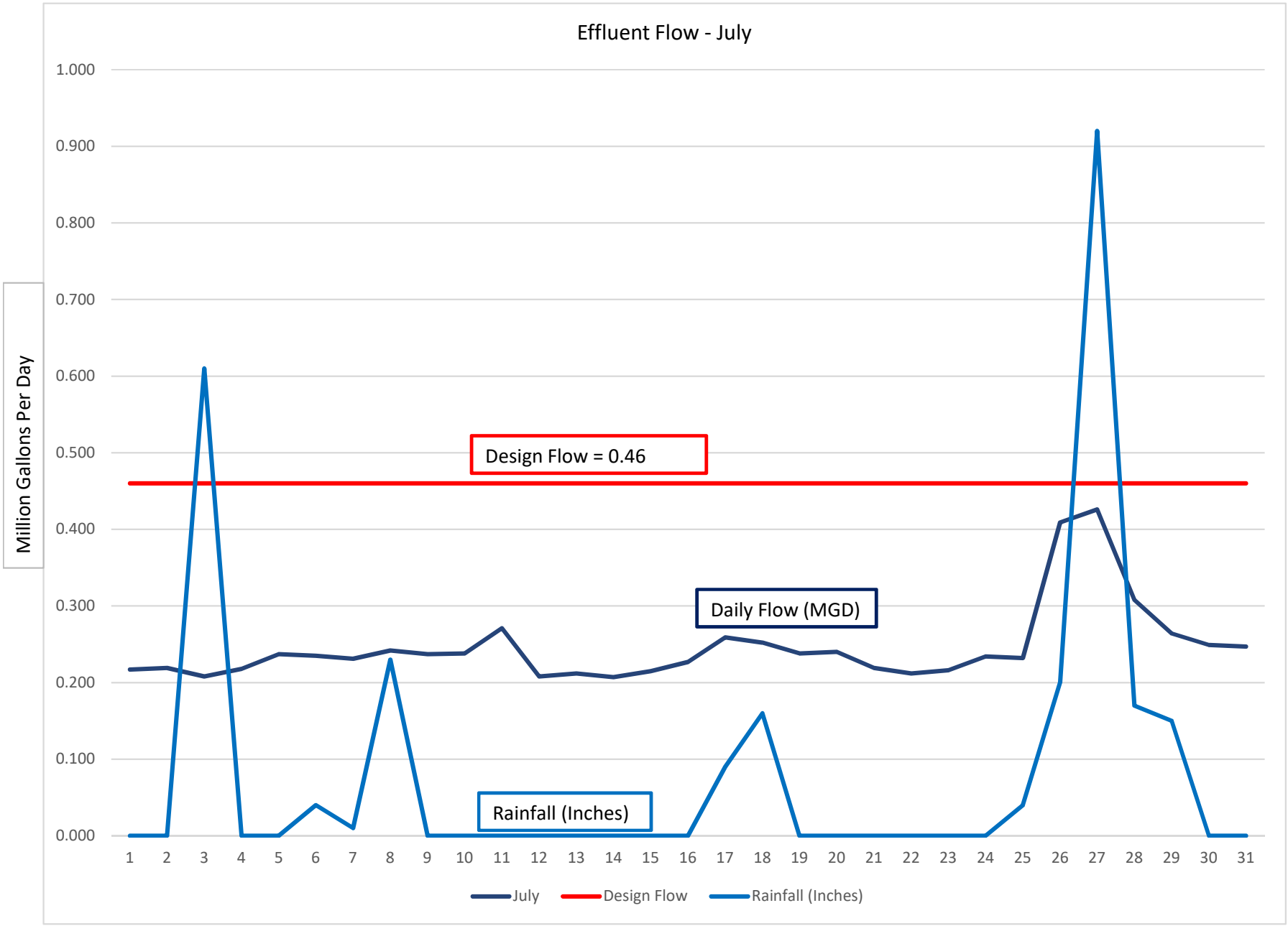
Rocky Fork Flow - Effluent MGD
2022



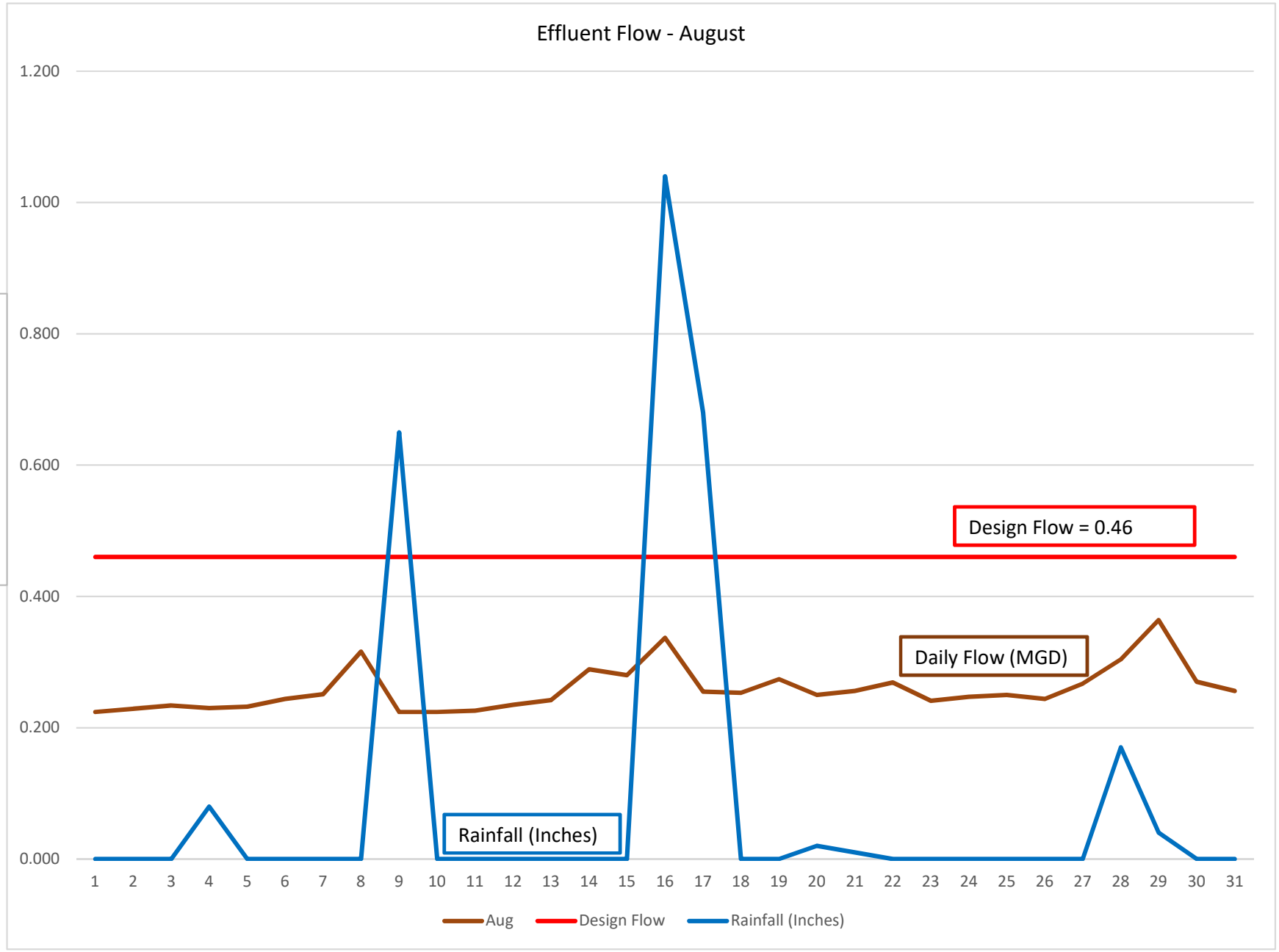
Rocky Fork Flow - Effluent MGD
2022



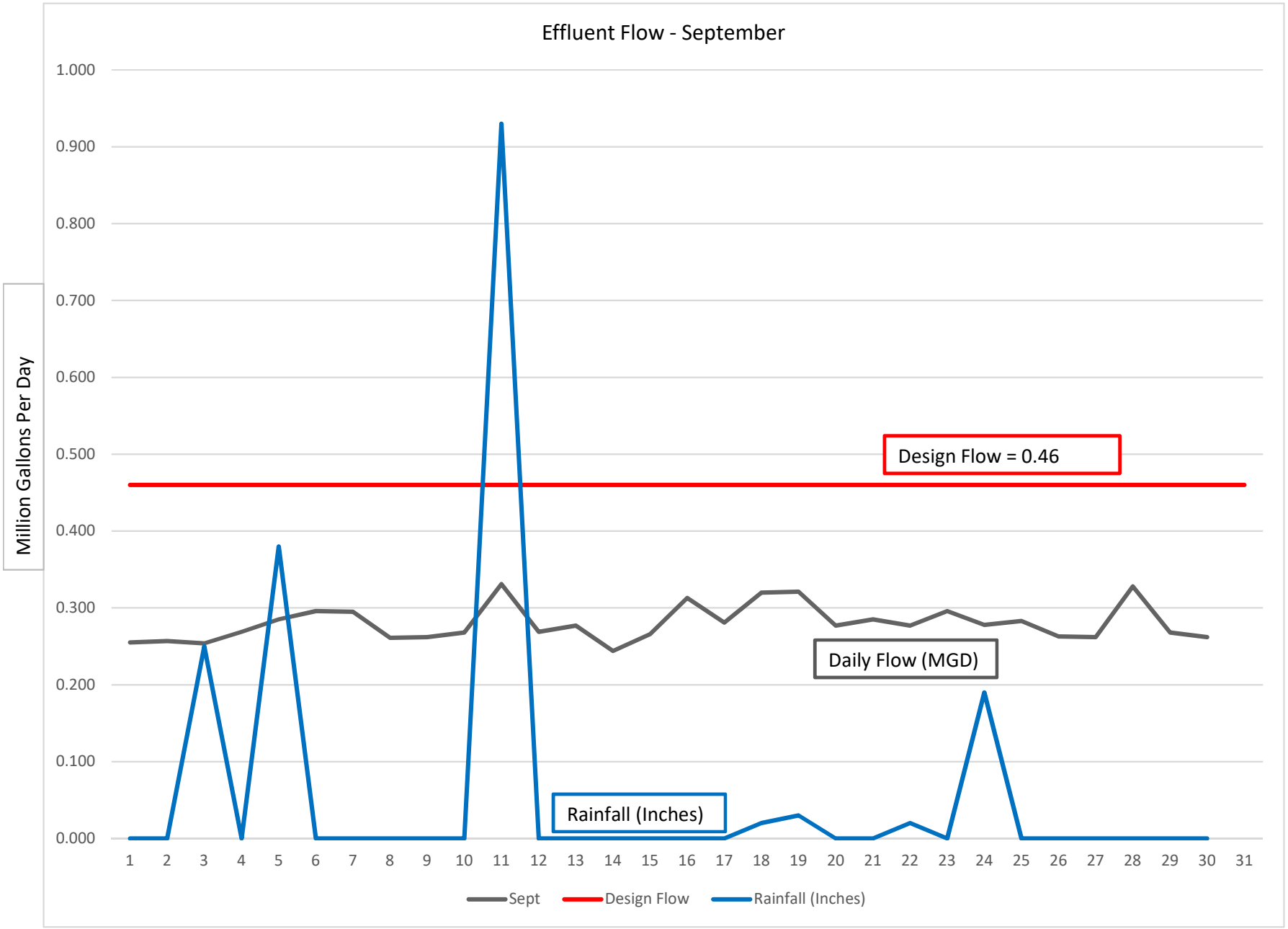
Rocky Fork Flow - Effluent MGD
2022



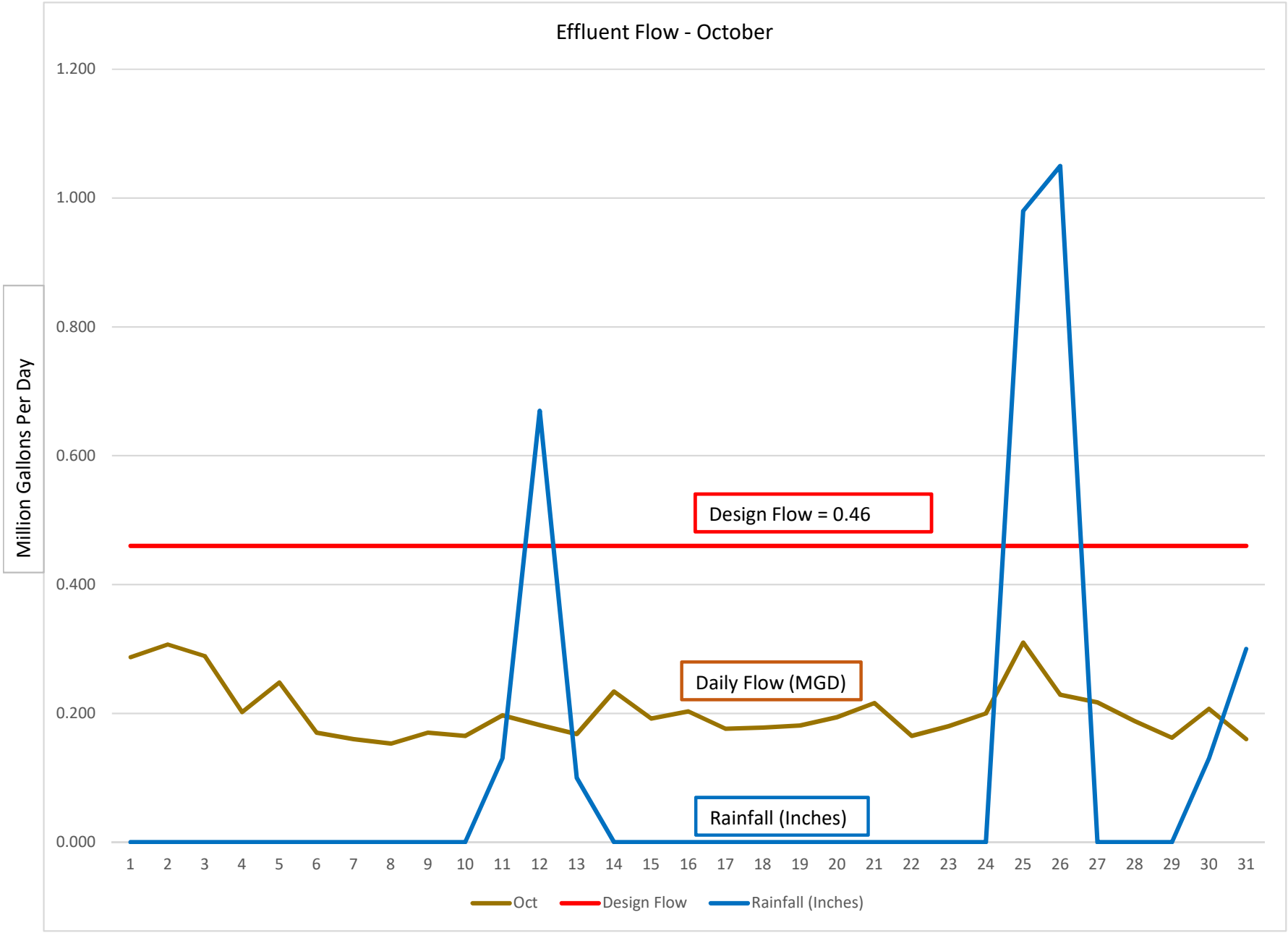
Rocky Fork Flow - Effluent MGD
2022



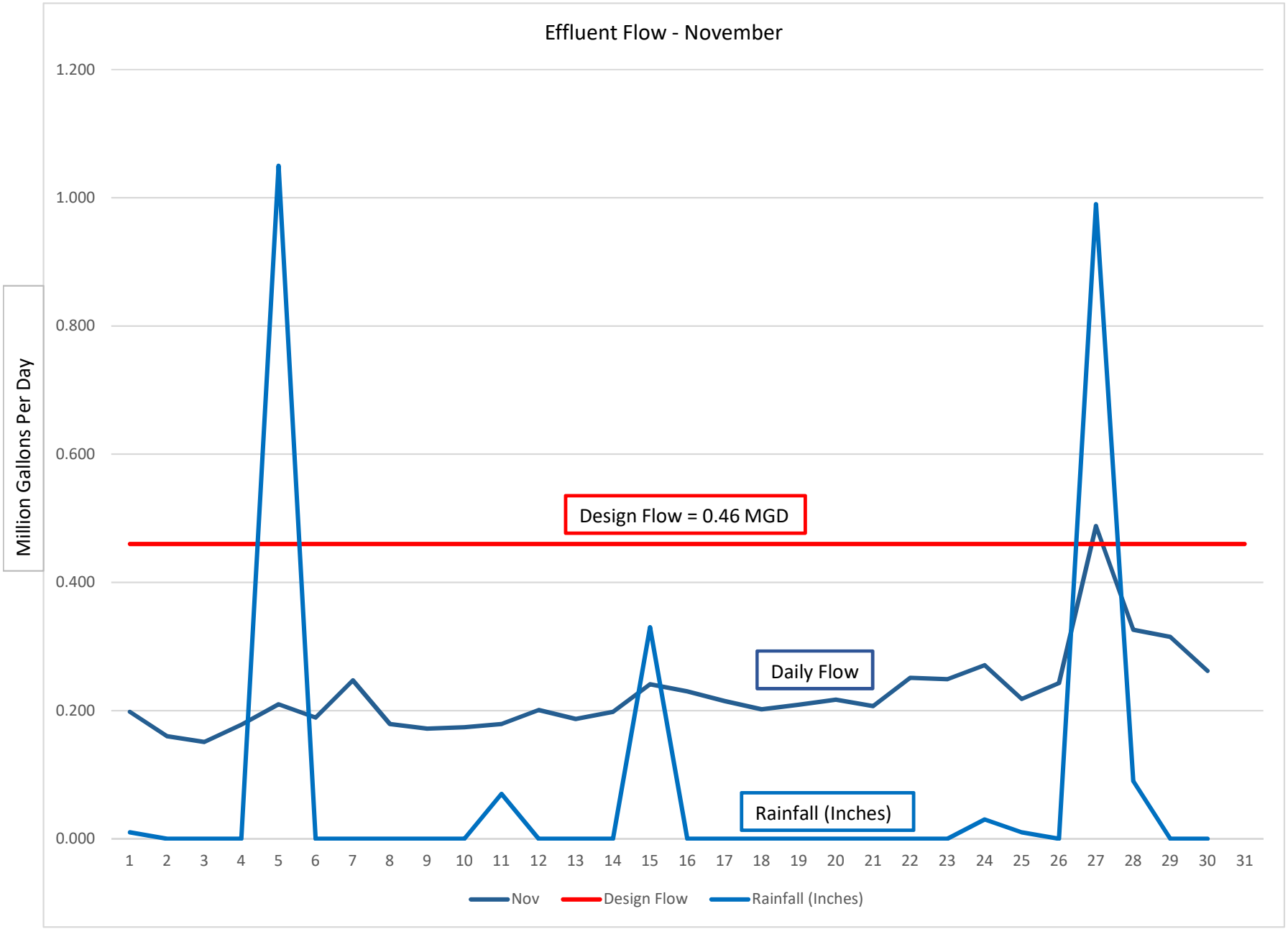
Rocky Fork Flow - Effluent MGD
2022



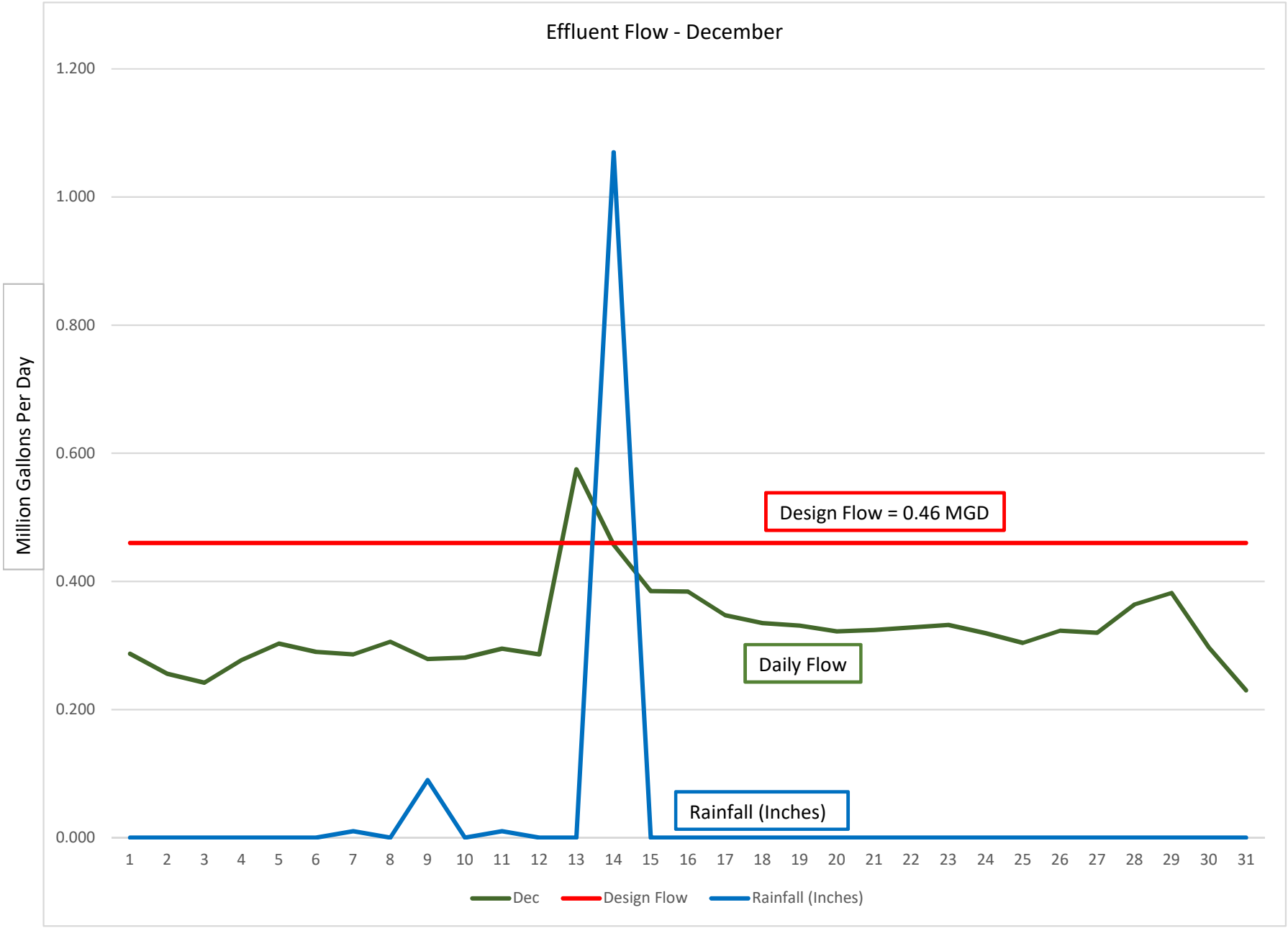
Rocky Fork Flow - Effluent MGD
2022



Rocky Fork Flow - Effluent MGD
2022



Rocky Fork Flow - Effluent MGD
2022



Rocky Fork Flow - Effluent MGD
2020 / 2021 / 2022