

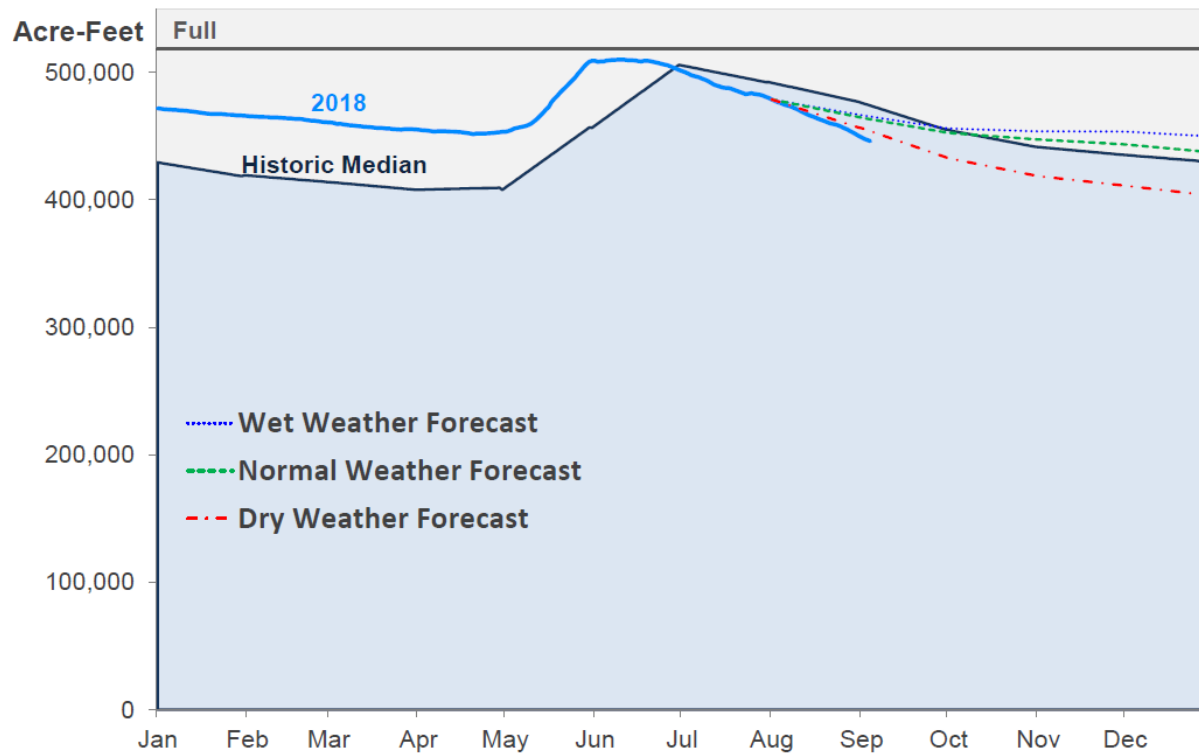
# GREEN ROOF INITIATIVE – IMPLICATIONS TO DENVER WATER



# GREEN ROOF INITIATIVE – IMPLICATIONS TO DENVER WATER

September 4, 2018

## Supply Reservoir Contents



Note: Denver Water forecasts seasonal reservoir storage contents under dry future weather, normal future weather and wet future weather scenarios.

# DATA AND ASSUMPTIONS

- Calculated Gross Floor Area (GFA)
- Green roof applied to correct roof % category based on ordinance
- All buildings have max green roof, not solar or a combination
- 1.5% growth per year
- 95% of installed green roofs will be sedum or native plant equivalent (3.12 gallons/sqft)
- 5% of installed green roofs will be agricultural or turf grass equivalent (18 gallons/sqft)

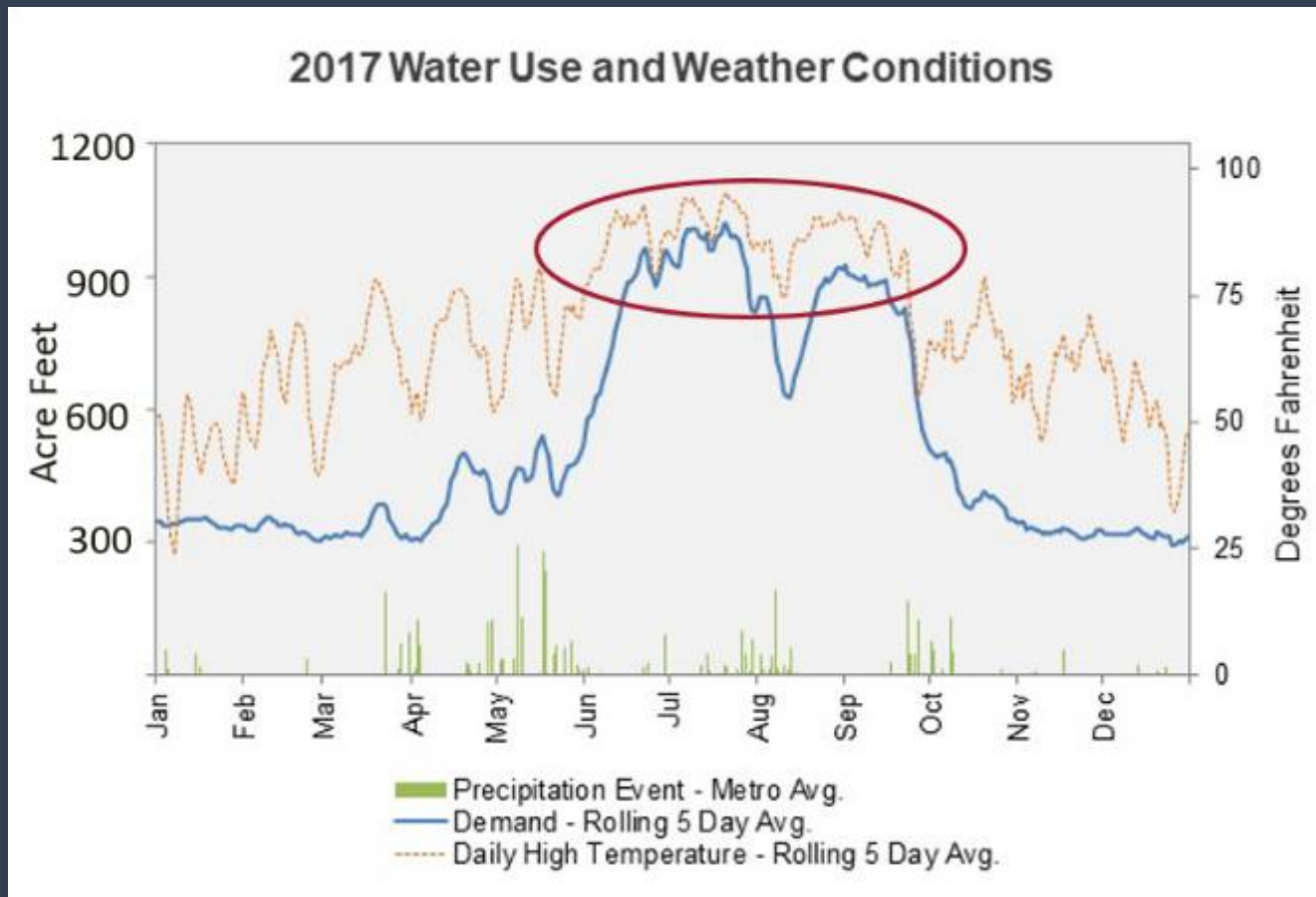


# ADDITIONAL WATER DEMAND

- Additional potable demand ranges from 576 Acre Feet – 1836 Acre Feet

	Building sqft (existing 2014)	New Water Demand AF	Building sqft 2014-2045	Future Water Demand AF	Est. Building sqft 2050	2050 Green Roof Water Demand AF
Commercial	23,841,794	258	13,983,842	151	37,825,635	409
Industrial	2,275,023	25	1,334,361	14	3,609,384	39
Residential	7,511,113	81	4,405,466	48	11,916,579	129
<b>Total</b>	<b>33,627,930</b>	<b>363</b>	<b>19,723,669</b>	<b>213</b>	<b>53,351,599</b>	<b>576</b>

# 2017 POTABLE WATER DEMAND



# POTENTIAL RISKS

- Added demand during our peak season
  - Can we increase alternative water sources?
- Drought implications
  - Change Denver Water operating rules to reflect best management practices?
- Water quality at the building level
  - Backflow preventer required for all irrigation
- Perception that green roofs are not in alignment with conservation



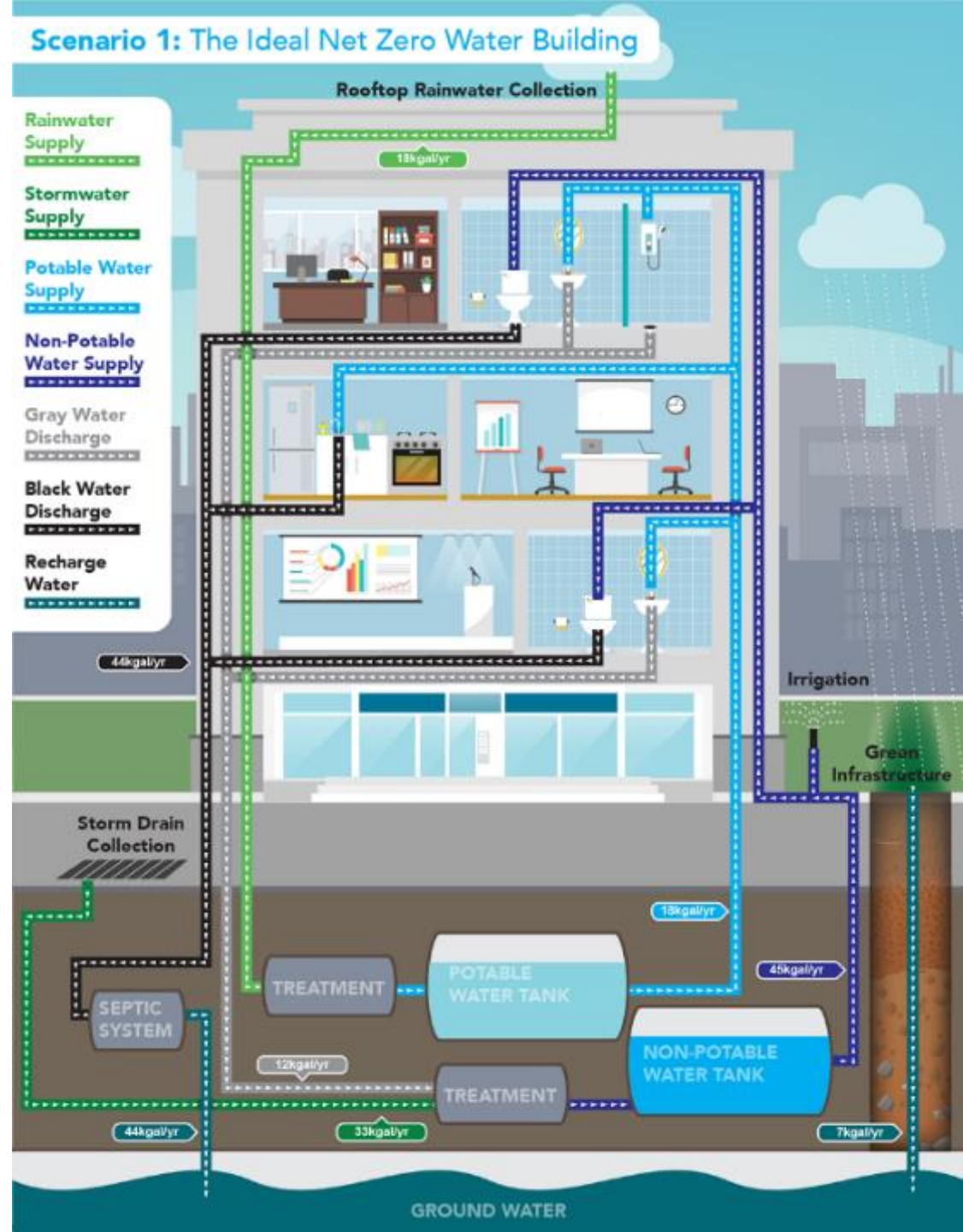
# POTENTIAL BENEFITS



- Examples of climate appropriate landscapes
- Reduction of urban heat island could reduce cooling demands for building near green roof
- Many One Water benefits on the stormwater side
- Furthers the discussion of limitations of Colorado Water law

# Strategies for getting to net zero water

- Sources
- Uses
- Re-Use
- Storage
- Filtration
- Health and Safety
- Use Awareness





# DENVER WATER'S NEW CAMPUS



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