



Town of Queen Creek
WATER MASTER PLAN
UPDATE
2017





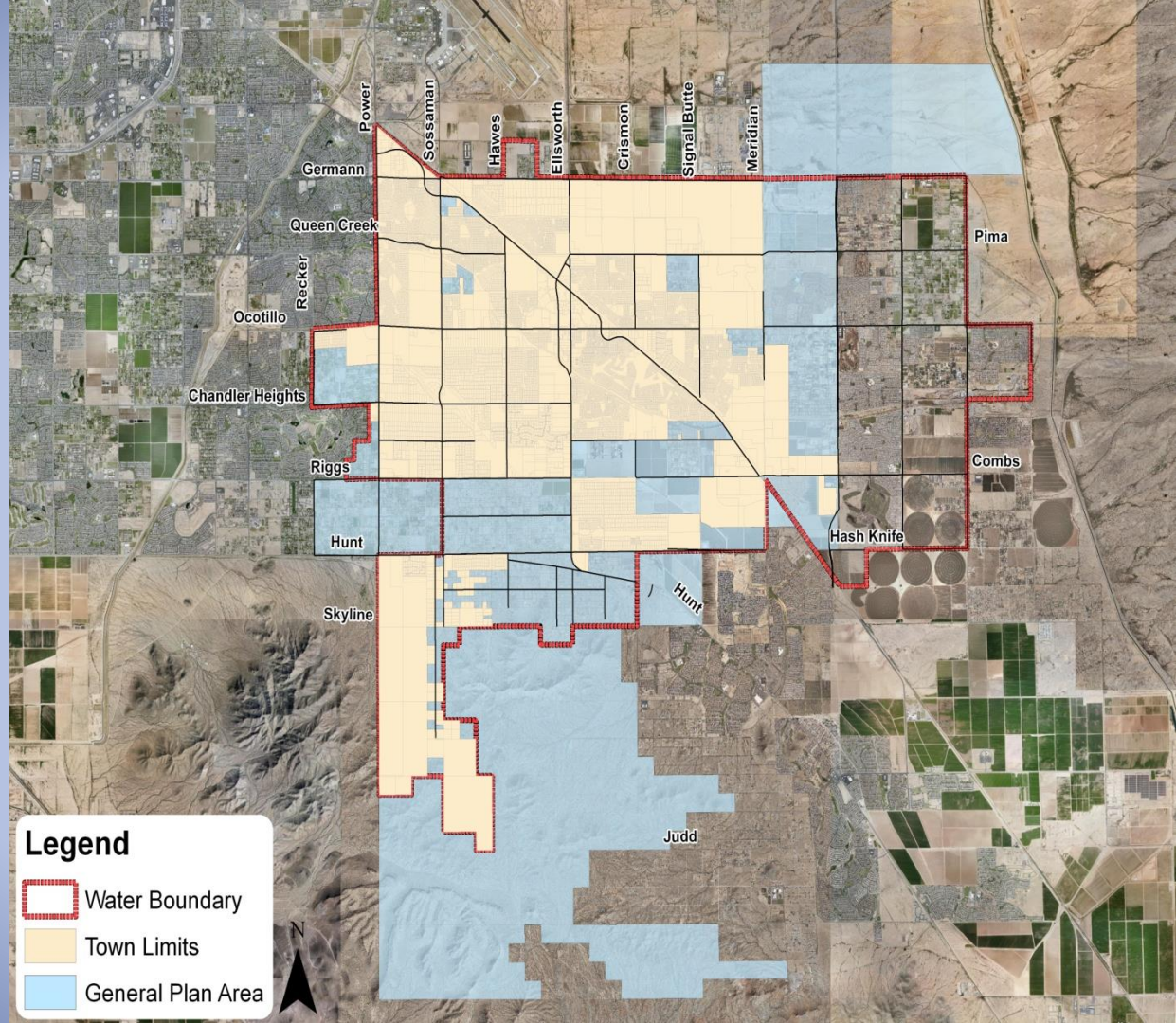
WATER MASTER PLAN UPDATE

GOALS

- UPDATE POPULATION PROJECTIONS & WATER DEMANDS
- CONVERT FROM FLAT RATE TO LAND USE BASED MODELING
- ACCOUNT APPROVED CHANGES IN LAND USE
- CIP PLANNING & COST ESTIMATING

TOWN OF QUEEN CREEK

WATER SERVICE AREA







DESIGN FLOWS

- AVERAGE DAY FLOW
- MAXIMUM DAY FLOW (1.65 X AVG DAY)
- PEAK HOUR (2.8 X AVG DAY)
- FIRE FLOW





FUTURE POPULATION

- PEOPLE PER CONNECTION = **3.1**
- CURRENT CONNECTIONS = **26,000**
- ADD ≈ 1,100 CONNECTIONS PER YEAR
- BUILD-OUT CONNECTIONS = **62, 872**





DESIGN CRITERIA

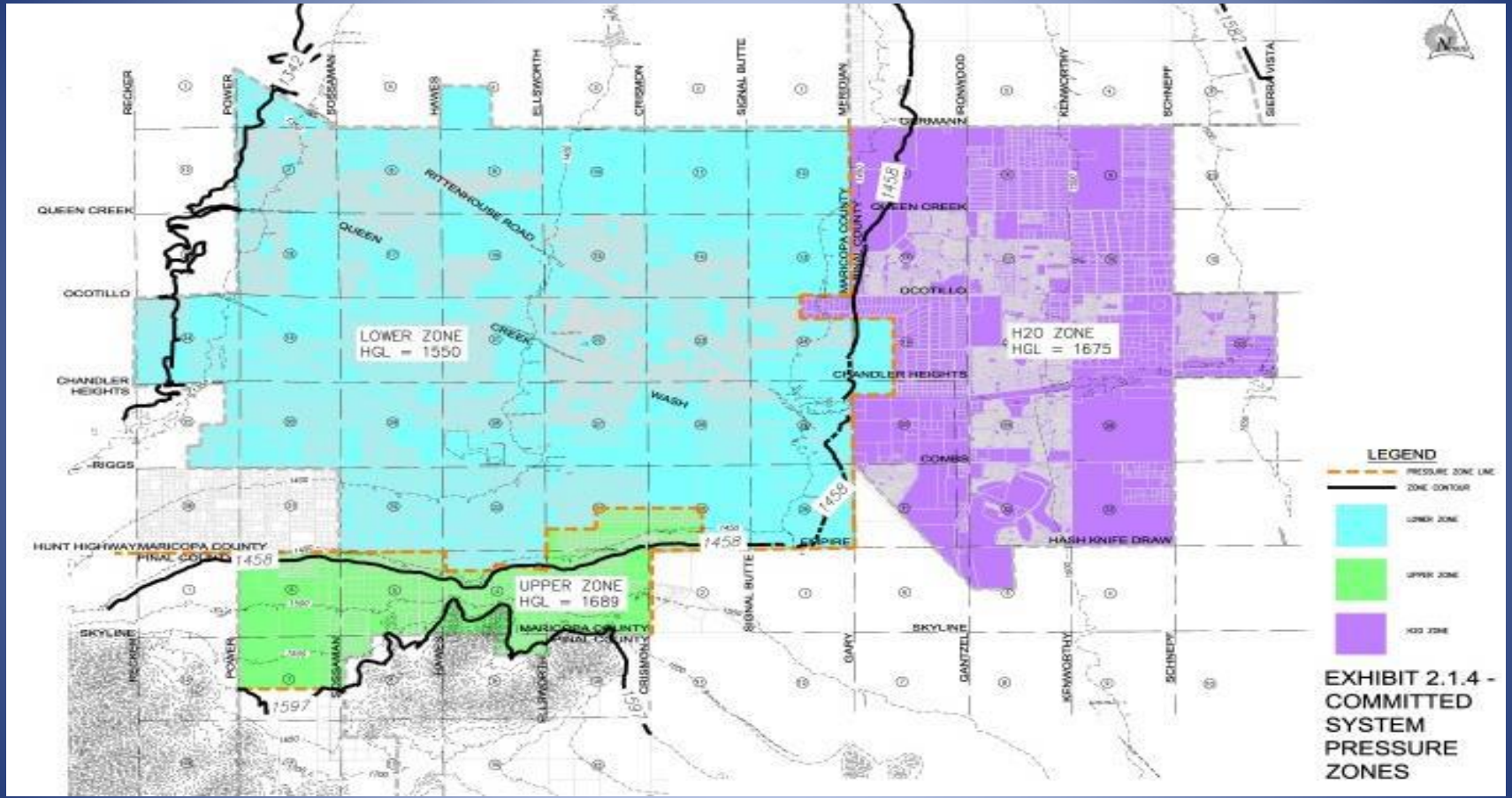
- SOURCE WATER – WELLS
  - MAX DAY FLOW BASED
- STORAGE TANKS
  - MAX DAY + EMERGENCY + FIRE
- BOOSTER PUMPS
  - PEAK HOUR



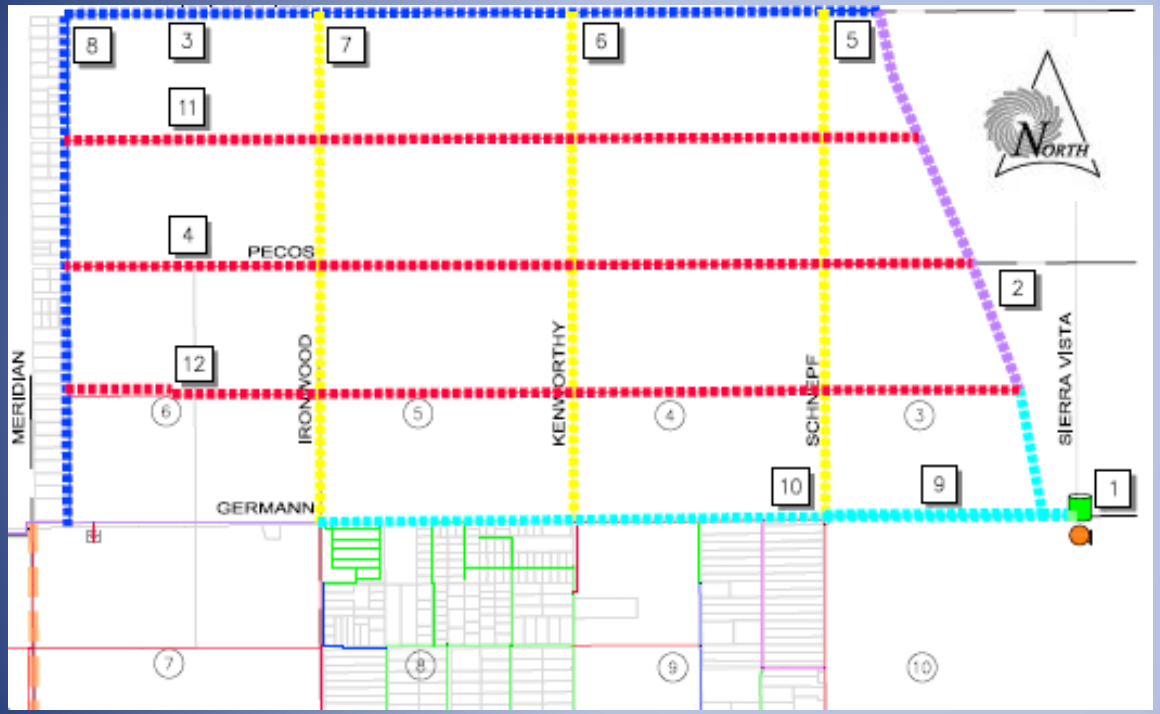

EXISTING SYSTEM EVALUATION

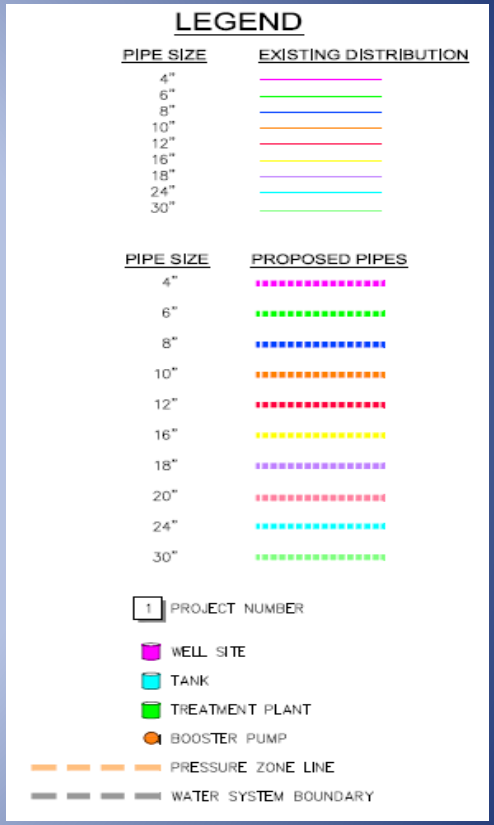
- SOURCE = ADDITIONAL REQUIRED
- STORAGE TANKS = MEETS CRITERIA
- BOOSTER PUMPS = MEETS CRITERIA
- DISTRIBUTION SYSTEM = MEETS CRITERIA

PRESSURE ZONES



EXPANDED AREA









UTILITIES ENGINEERING

INFRASTRUCTURE CONSTRUCTION SCHEDULE & ASSOCIATED COSTS

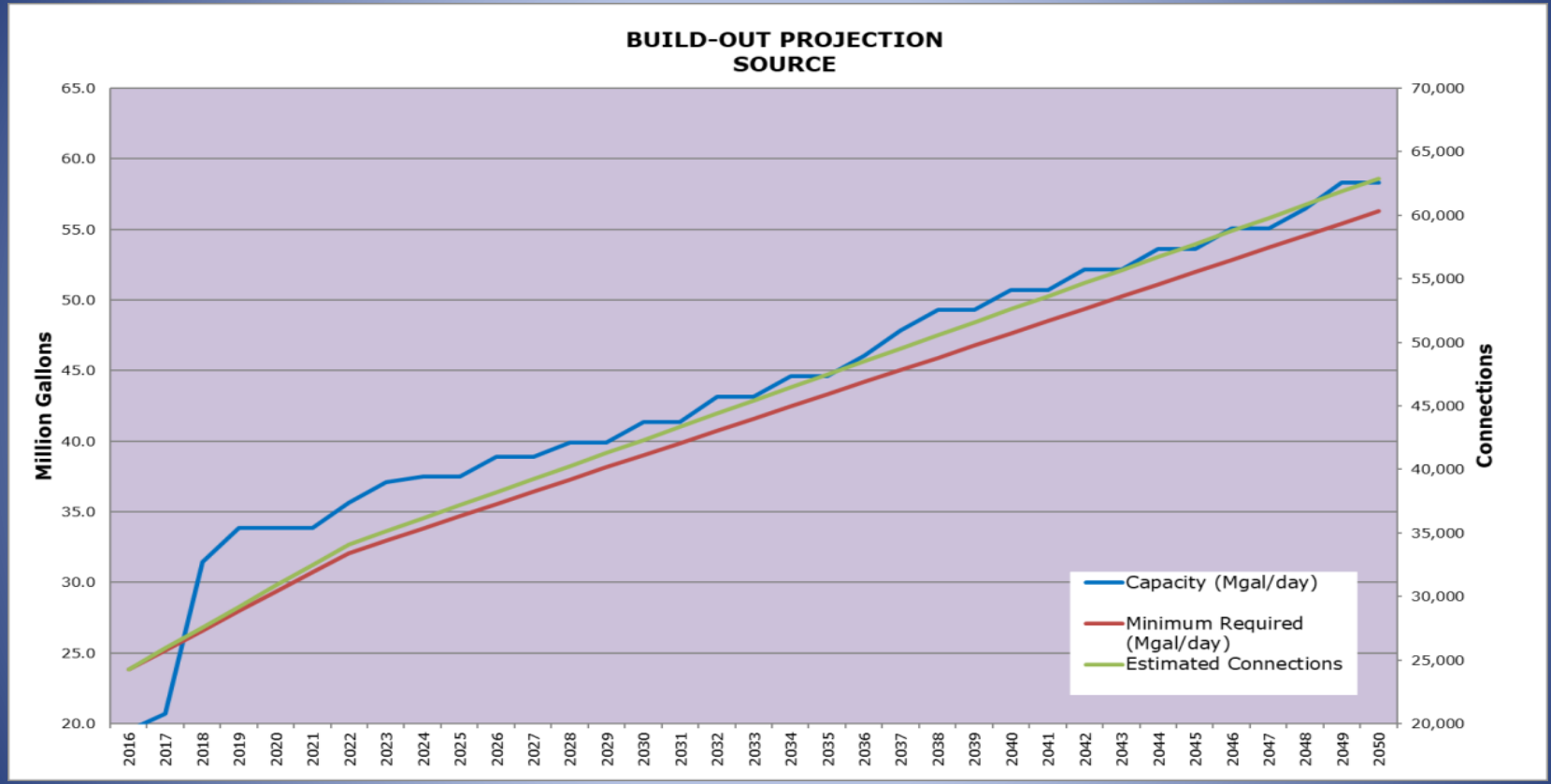
- WATER SOURCES

  (WELLS & CENTRAL ARIZONA PROJECT ALLOTMENTS)
- WATER STORAGE TANKS
- WATER BOOSTER PUMPS
- WATER MAINS

ADD 42 MG OF WELLS & 10 MG OF SURFACE WATER

	Source Required (MG)	Source Planned (MG)	FINAL (EXISTING) Source Per Max Day (MG)
Next 5-Years	32.1	16.2	**35.7 (19.5)**
System Build-Out (2050)	56.3	22.6	**58.3 (35.7)**
Expanded Area	68.7	3 WELLS 10 SWTP	**71.2 (58.2)**

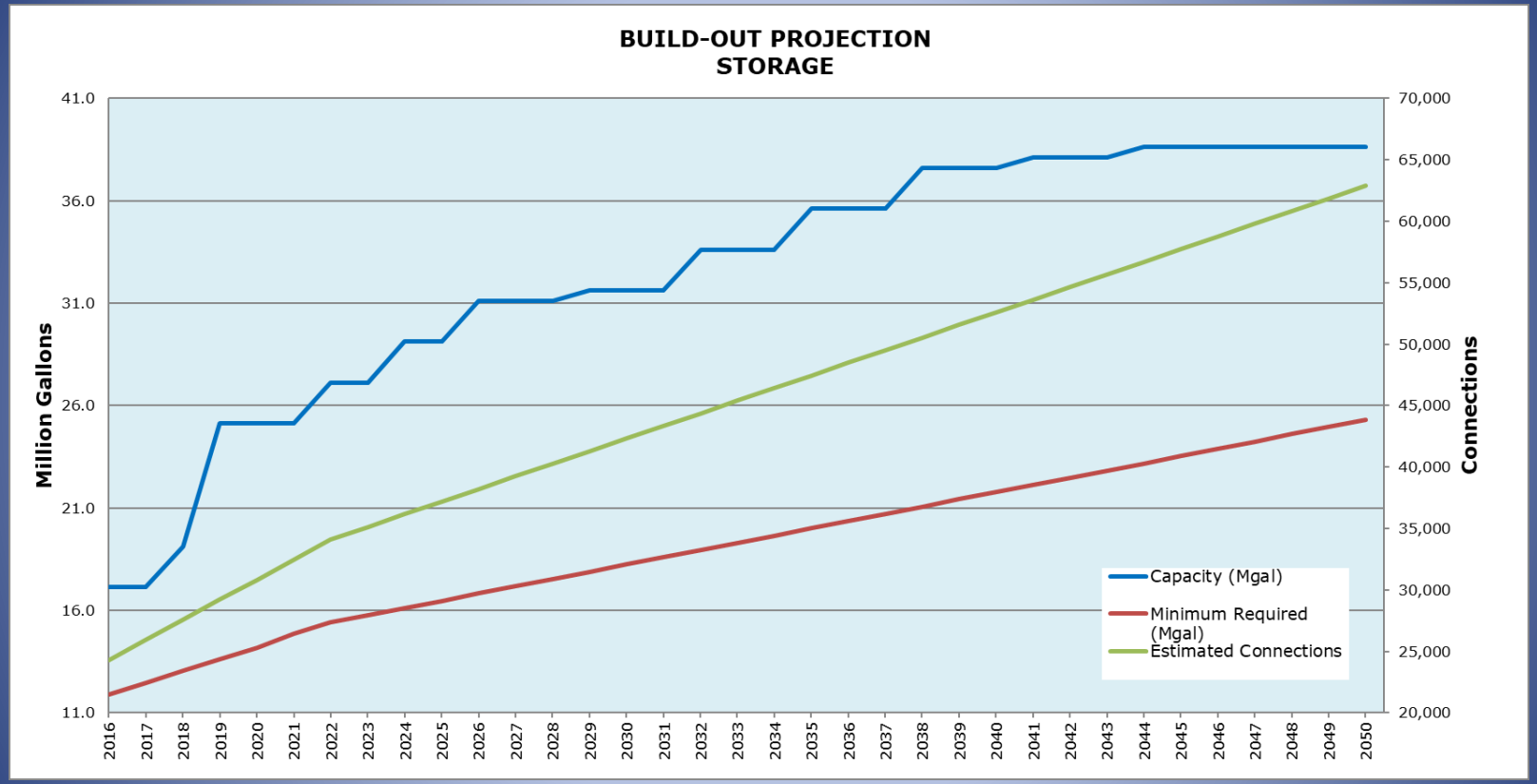
WATER SOURCE



ADD 25.5 MG OF STORAGE

	Storage Required (MG)	Storage Planned (MG)	Final (Existing) Storage (MG)
Next 5-Years	15.4	10	**27.1(17.1)**
System Build-Out (2050)	25.3	11.5	**38.6 (27.1)**
Expanded Area	30.4	4.0	**42.6 (38.6)**

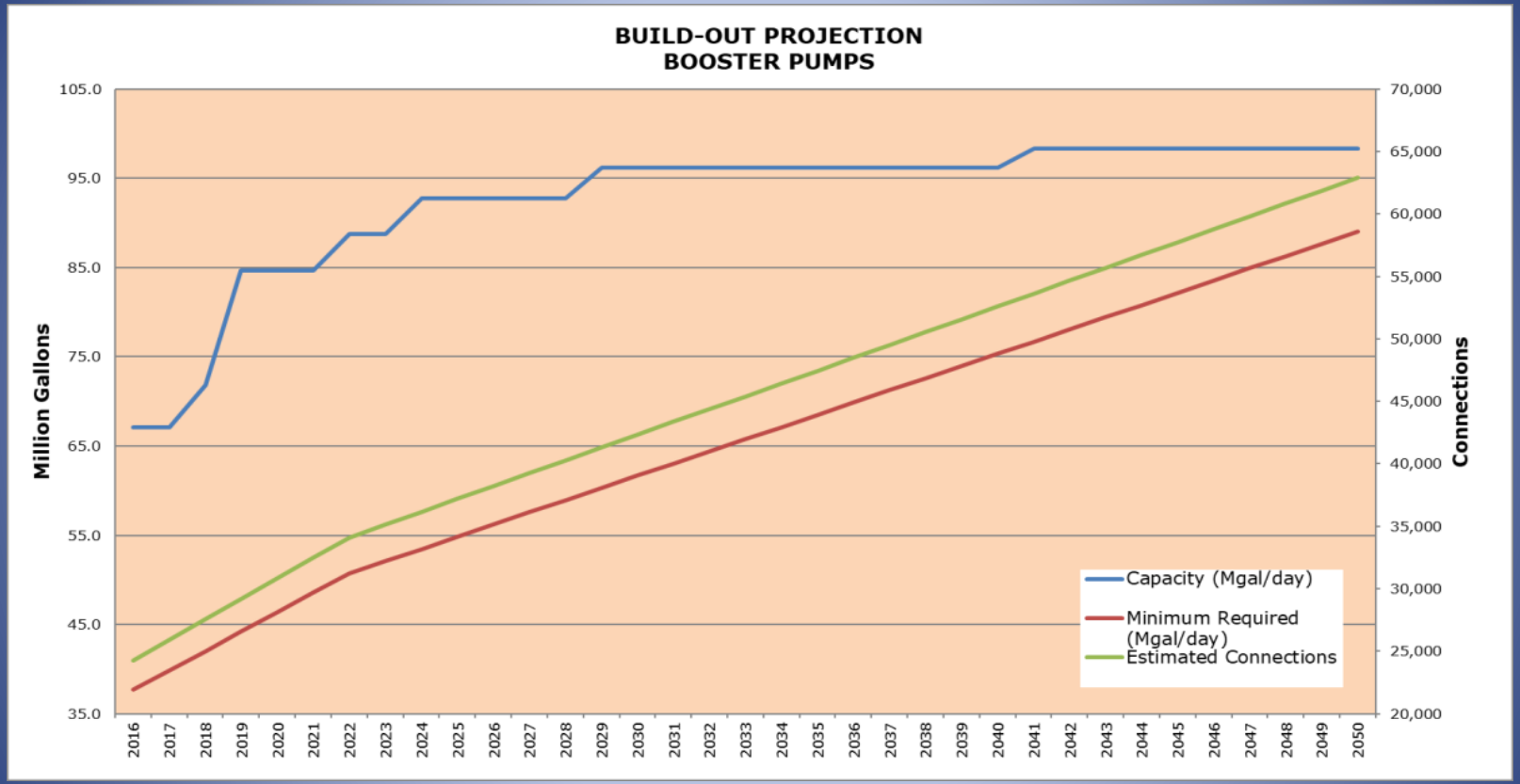
WATER STORAGE



ADD 54.3 MG OF NEW BOOSTER

	Booster Required (MG)	Booster Planned (MG)	Final (Existing) Booster (MG)
Next 5-Years	50.7	21.6	**88.7 (67.1)**
System Build-Out (2050)	89	9.7	**98.4 (88.7)**
Expanded Area	108.7	23.0	**121.4 (98.4)**

BOOSTER PUMP



ADD 113 MILES OF NEW WATER MAIN

	Total Water Line Added (Miles)
Next 5-Years	**42**
System Build-Out (2050)	**46**
Expanded Area	**25**





COST PROJECTION
(Source, Storage, Booster, Water Mains, and SWTP)

Next 5-Years	**$62,000,000.00**
Next 5-Years Surface Water	**$6,560,000.00**
System Build-Out (2050)	**$89,000,000.00**
System Build-Out(2050) Surface Water	**$20,000,000.00**
Expanded Area	**$80,000,000.00**





WHATS NEXT

- FINAL WATER MASTER PLAN TO BE PUT ON THE DECEMBER 6TH COUNCIL AGENDA FOR ADOPTION





ANY QUESTIONS?