

# ATTACHMENT A





Presentation to Metro Technical Advisory Committee

# 2012 Metropolitan Wastewater Plan

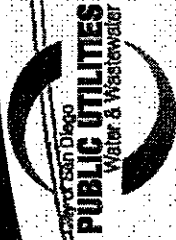
By Public Utilities, Engineering & Program Management Division

June 20, 2012



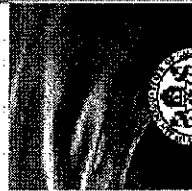
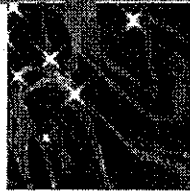
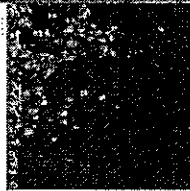
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## Presentation Outline

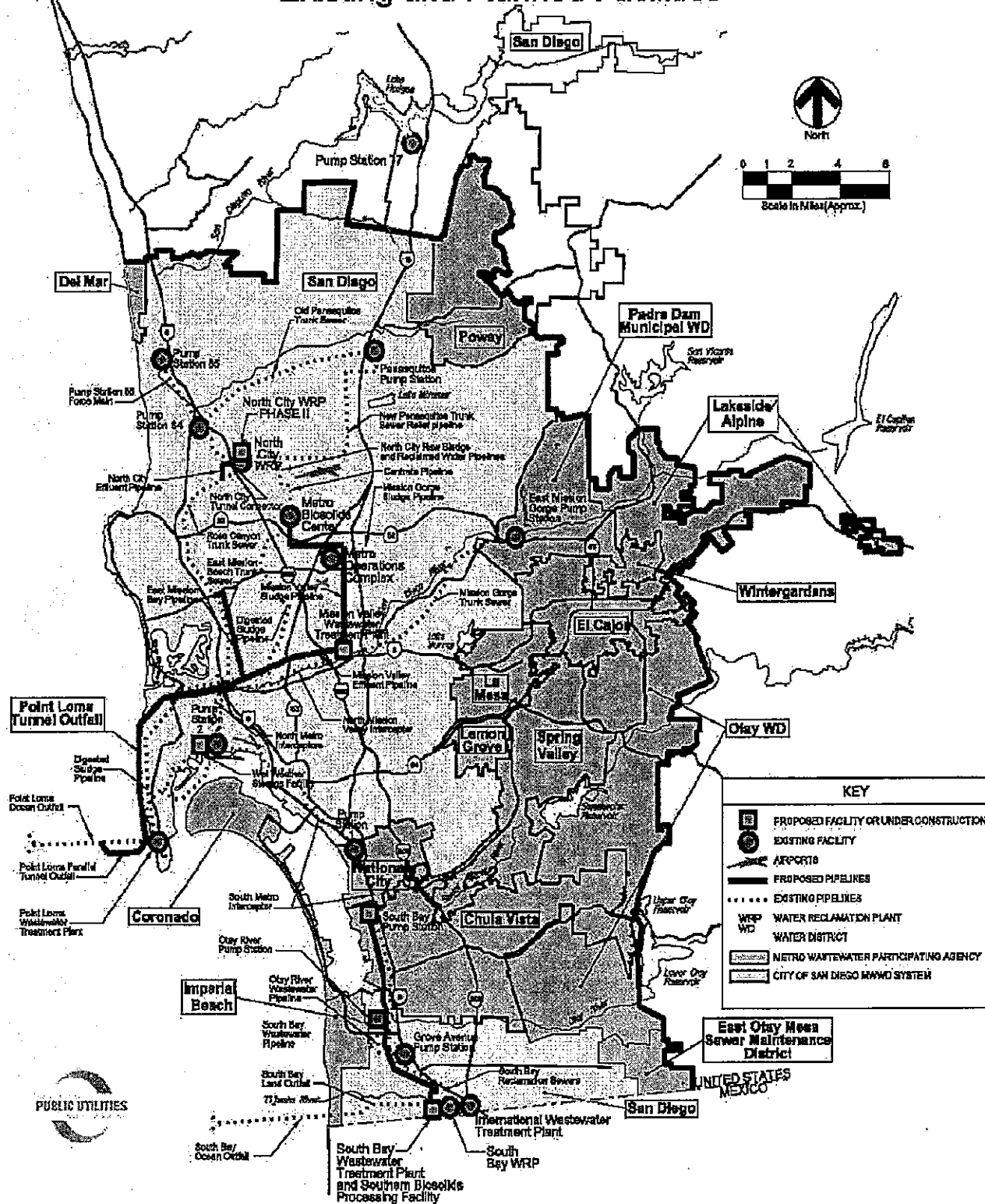
- Background and Objectives
- Metro Wastewater Plan (MWP) Update Cycle
- Changes to Previous 2003 MWP
- Metro Wastewater Plan Approach
- Proposed Wastewater Metro Facilities
- Stakeholder Involvement
- Next Step
- Q & A

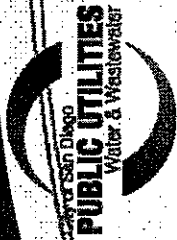


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# The City of San Diego Metropolitan Wastewater Plan-2012 Existing and Planned Facilities





# Background

## Metropolitan Sewage System:

- Treats Wastewater from the City of San Diego and 12 Municipalities and Agencies
- Treatment Facilities: PLWTP, SBWRP, NCWRP and MBC
- Pump Stations: PS1, PS2, GAPS, ORPS

## Point Loma Wastewater Treatment Plant (PLWTP):

- Began operation in 1963
- 240 mgd advanced primary treatment plant or Chemically Enhance Primary Treatment (CEPT)
- Treated wastewater discharged to the ocean through the 4.5 miles ocean outfall at 320 foot depth
- Plant operates with modified NPDES Permit "Waiver"
  - Does not require full secondary treatment
  - Requirements in accordance with federal Clean Water Act, Section 301(h)
  - Modified by Ocean Pollution Reduction Act (OPRA) of 1994

## Background (cont'd)

### OPRA Requirements:

- No negative impact on receiving water environment
- 45 mgd water reclamation capacity by 2010
- 80% TSS removal; 58% BOD removal
- Reduce the amount of solids discharge over time
- Permit renewed 5 years after permit issued
- Historical Context - PLWTP "Waiver"
  - 1995 - 1<sup>st</sup> Waiver Approved
  - 2002 – Renewed Permit
  - 2010 – Current Approved Permit
  - 2015 – Permit will Expire
- Current PLWTP Performance:
  - Total Suspended Solid (TSS) Removal = 88% (2010 Permit Limit: 80%)
  - Mass Emission (year 2010) = 8,006 metric tons (2010 Permit Limit: 13,598 mt/yr)





## Objectives

- Update 2003 Metro Wastewater Plan
- Meet Long-Term Regulatory Requirement for TSS and BOD Removal Rates
- Plan Metro Facilities based on Condition Assessments
- Relieve Peak Wet Weather Flow
- Maintain PLWTP as CEPT
- Base on 2050 Planning Horizon



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## Update Cycle

- MWP will be updated every five years or sooner upon considering following factors:
  - New SANDAG Population and Employment growth projection
  - Wastewater flows and Load trends within the Metro Service Area
  - Regulations imposed by federal and state agencies
  - Reclaimed water markets
  - Various local issues important to the City and the participating agencies served by Metro



## Changes to Previous Metro Wastewater Plan

- 2003 - Previous Metro Wastewater Plan Update (2003 MWP)
  - Accepted by Metro JPA
- 2003 MWP and 2012 MWP Changes
  - Decline in UGR, SANDAG Forecast, and Flow Projection
  - Deter Future Metro Facilities
  - Comply with the 2010 Modified NPDES Permit for Mass Emission Limit
  - Include Wet Weather Storages under Emergency Stream Discharge Condition
- Include Metro CIP Projects Expenditure Forecast (FY2012 – 2016)
- Include Prioritized CIP Projects based on Council Policy 800-14 (Citywide CIP Prioritization Policy)



## Metro Wastewater Plan Approach

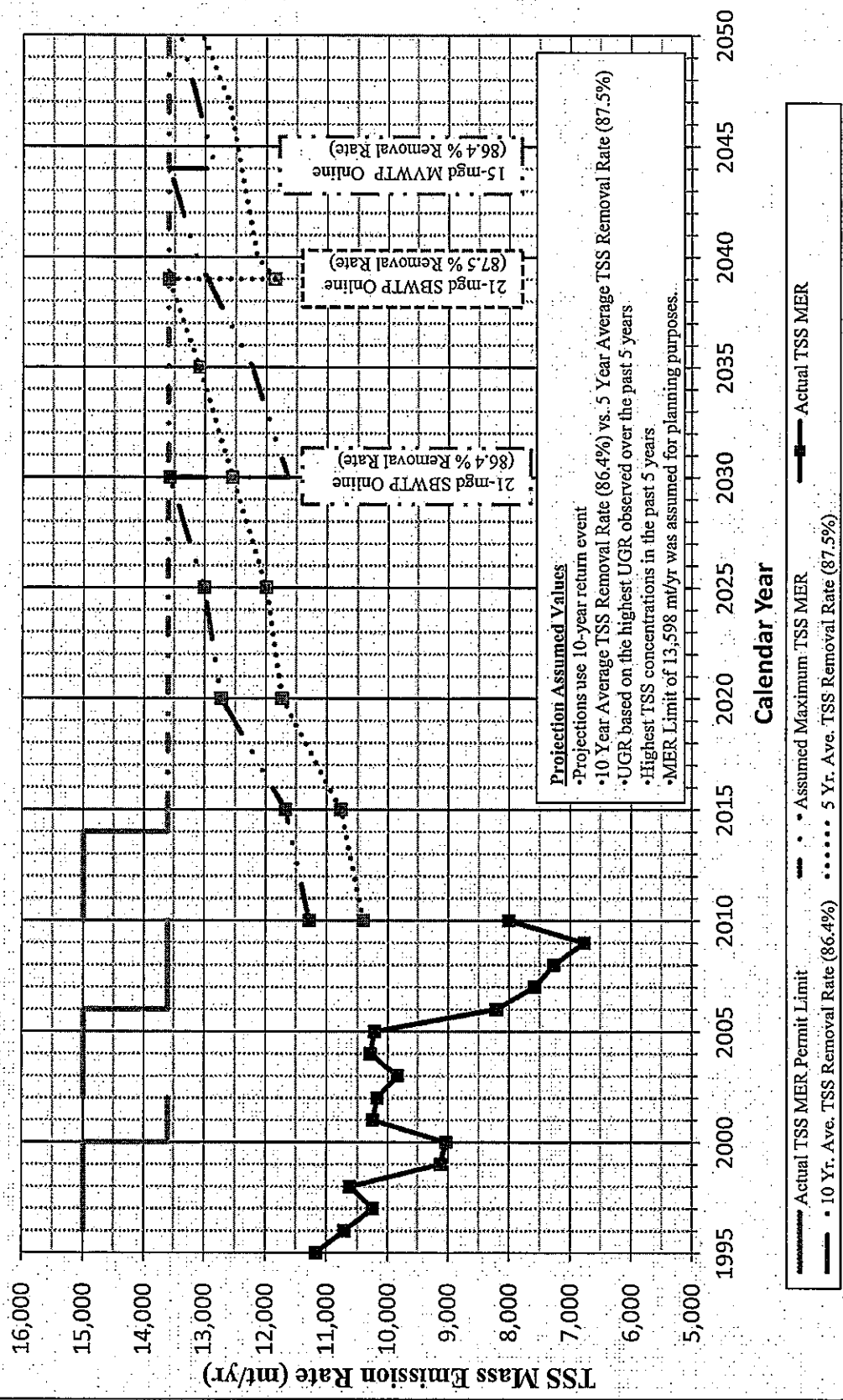
- Evaluated Metropolitan Wastewater System Flow
  - Evaluate based on projected total average daily flow up to 2050
  - Identify conveyance and treatment facilities needed to reduce the Mass Emission Discharge at PLWTP when the limit is exceeded
  - Identify Storage needed for flow approach or exceed PS2 capacity
- Utilized Computer Models
  - Metropolitan Wastewater mass-balance model
    - To determine total suspended discharge at PLWTP
  - Hydrologic model
    - To determine the frequency, duration, and volume of peak wet weather flows at PS2

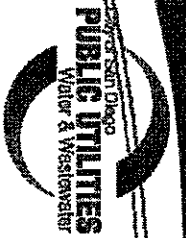




# Projected Mass Emission Rate

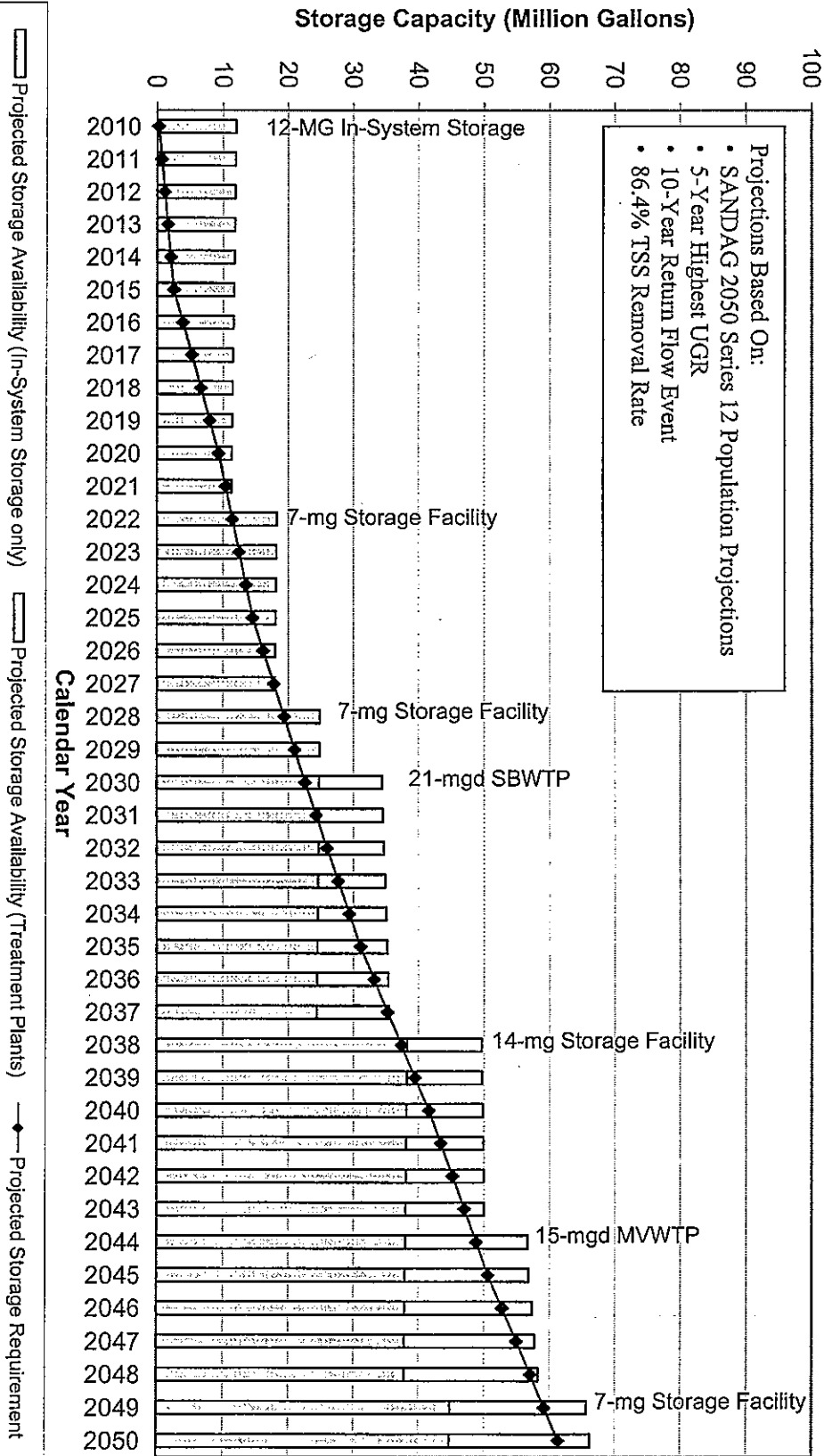
TSS MASS EMISSION RATE (MER)  
WITH PLANNED TREATMENT FACILITIES

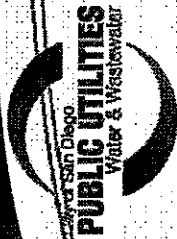




# Wet Weather Facility Storage Staging

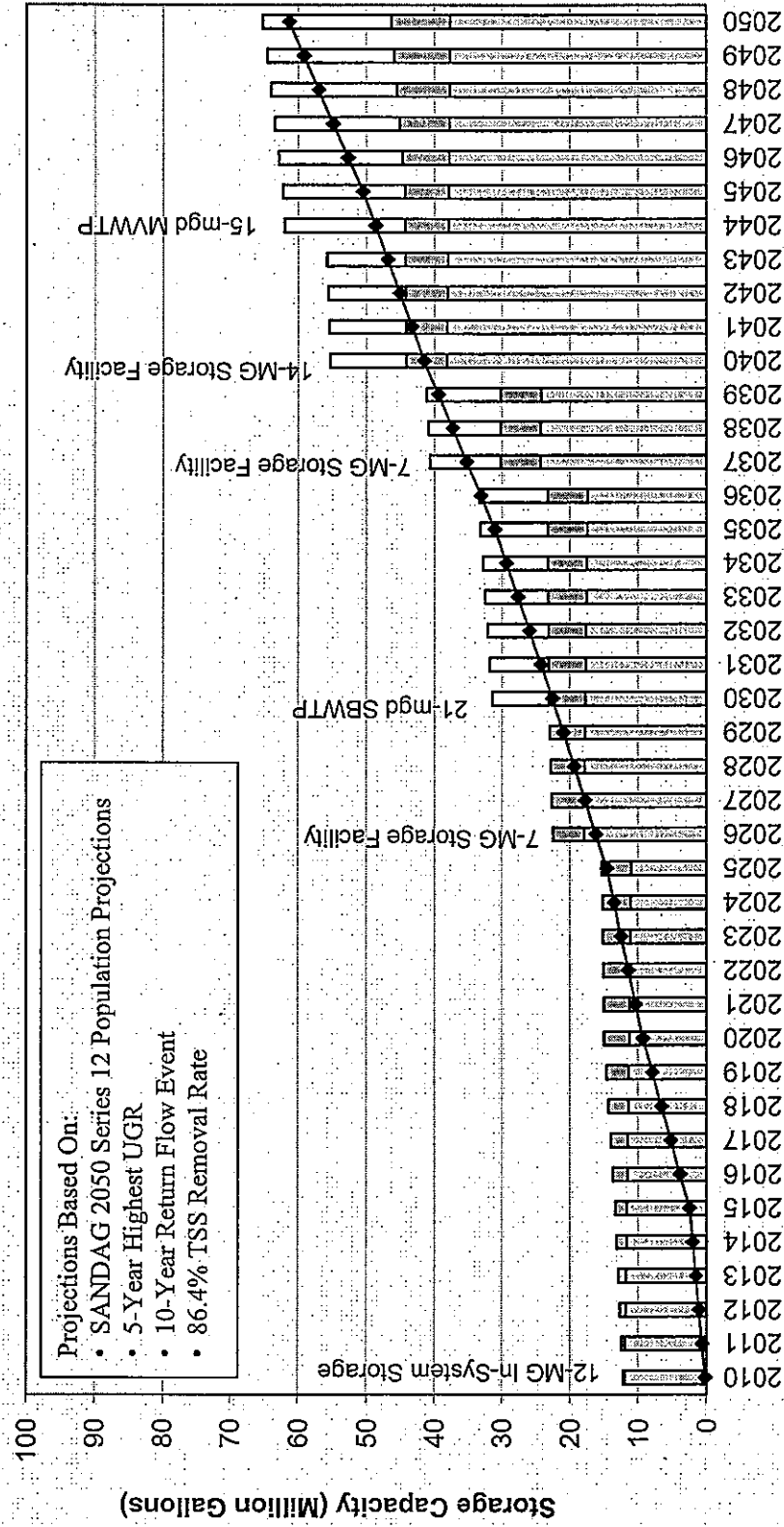
Wet Weather Storage Requirement  
12 MG In-System Storage





# ESD: Facility Storage Staging

Wet Weather Storage Requirement  
12 MG In-System Storage & 16 MGD Emergency Stream Discharge(ESD)



Projected Storage Availability (In-System Storage only)

Projected Storage Availability (Emergency Stream Discharge)

Projected Storage Requirement



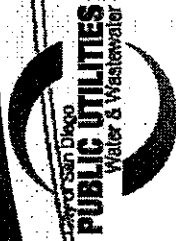
# Proposed CIP Metro Facilities

| FACILITY                                     | PROPOSED CAPACITY                              | ONLINE BY (2003 MWFP) | ONLINE BY (2012 MWFP)                |                                     | Estimated Total Project Cost (\$ Millions) |
|----------------------------------------------|------------------------------------------------|-----------------------|--------------------------------------|-------------------------------------|--------------------------------------------|
|                                              |                                                |                       | w/o Emergency Stream Discharge (ESD) | w/ Emergency Stream Discharge (ESD) |                                            |
| Wet Weather Storage Facility Phase I         | 3@7 MG <sup>(1)</sup><br>2@7 MG <sup>(2)</sup> | 2011                  | 2022, 2028, and 2049 <sup>(1)</sup>  | 2026 and 2037 <sup>(2)</sup>        | 276 <sup>(1)</sup><br>184 <sup>(2)</sup>   |
| Wet Weather Storage Facility Phase II        | 14 MG                                          | 2014                  | 2038                                 | 2040                                | 235                                        |
| South Bay Wastewater Treatment Plant Phase I | 21 mgd                                         | 2018                  | 2030                                 | 2030                                | 373                                        |
| South Bay Pump Station Phase I               | 21 mgd                                         | 2018                  | 2030                                 | 2030                                | 189                                        |
| South Bay Conveyance System Phase I          | 103 mgd                                        | 2018                  | 2030                                 | 2030                                |                                            |
| Point Loma Tunnel Outfall                    | 162 mgd                                        | 2030                  | 2044                                 | 2044                                | 361                                        |
| Mission Valley Wastewater Treatment Plant    | 15 mgd                                         | 2030                  | 2044                                 | 2044                                | 237                                        |
| Mission Valley Effluent Pipeline             | 24 mgd                                         | 2030                  | 2044                                 | 2044                                | 59                                         |
| Mission Valley Sludge Pipeline               | 2.1 mgd                                        | 2030                  | 2044                                 | 2044                                | 28                                         |
| North City Water Reclamation Plant Phase II  | 10 mgd                                         | 2033                  | TBD <sup>(3)</sup>                   | TBD <sup>(3)</sup>                  | -                                          |
| East Mission Bay Pipeline                    | 90 mgd                                         | 2033                  | TBD <sup>(3)</sup>                   | TBD <sup>(3)</sup>                  | -                                          |
| North City Effluent Pipeline                 | 90 mgd                                         | 2033                  | TBD <sup>(3)</sup>                   | TBD <sup>(3)</sup>                  | -                                          |
| Point Loma Parallel Outfall                  | -                                              | TBD <sup>(3)</sup>    | TBD <sup>(3)</sup>                   | TBD <sup>(3)</sup>                  | -                                          |

Note:

- (1) Without ESD, three (3) separate 7 MG facilities and one (1) single 14 MG facility would be needed in each of the given years.
- (2) With ESD, two (2) separate 7 MG facilities and one (1) single 14 MG facility would be needed in each of the given years.
- (3) Facility is not required within the planning horizon of this report.





## Stakeholders and Participation

### Stakeholders:

- PAs: Represented by Rod Posada, Otay Water District (OWD) and Jim Peasley, Padre Dam Municipal Water District (PDMWD)
- City of San Diego

### Participations:

- PAs provided comments to the Draft MWP dated May 2011
- Review PAs comments meeting on June 23, 2011

### Comment Response and Report Finalizing :

- Reconcile the Flow Projections between Recycled Water Study and MWP

## Next Step

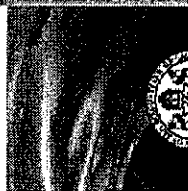
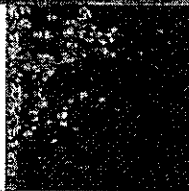
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- Finalize 2012 MWP
- Await Decision on Recycled Water Study Implementation
- Continue to evaluate alternatives as new information available or other City/PAs wastewater master planning efforts





# Q & A



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