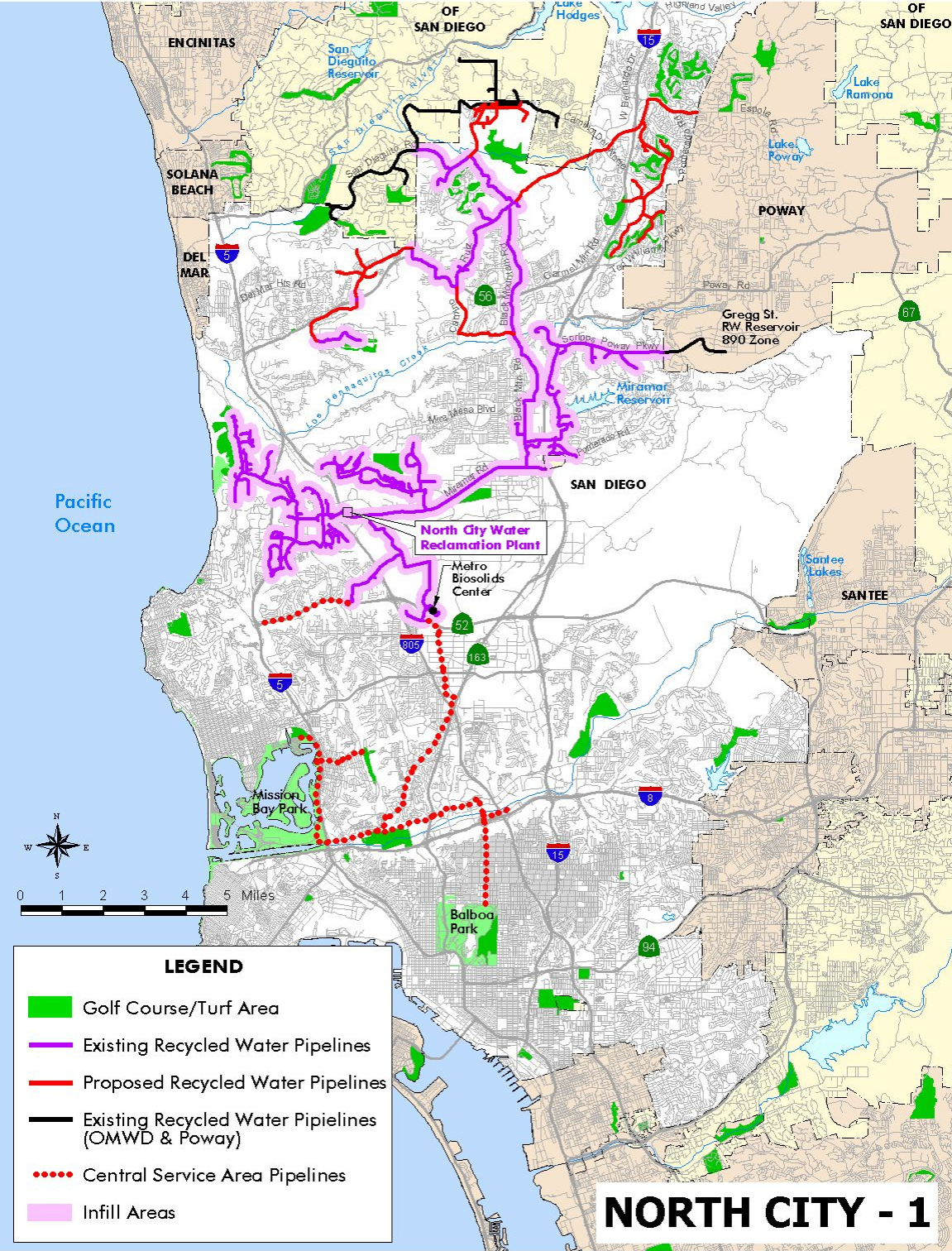


## Water Reuse Strategies Identified in Final Draft Report

**North City-1 (NC-1)**

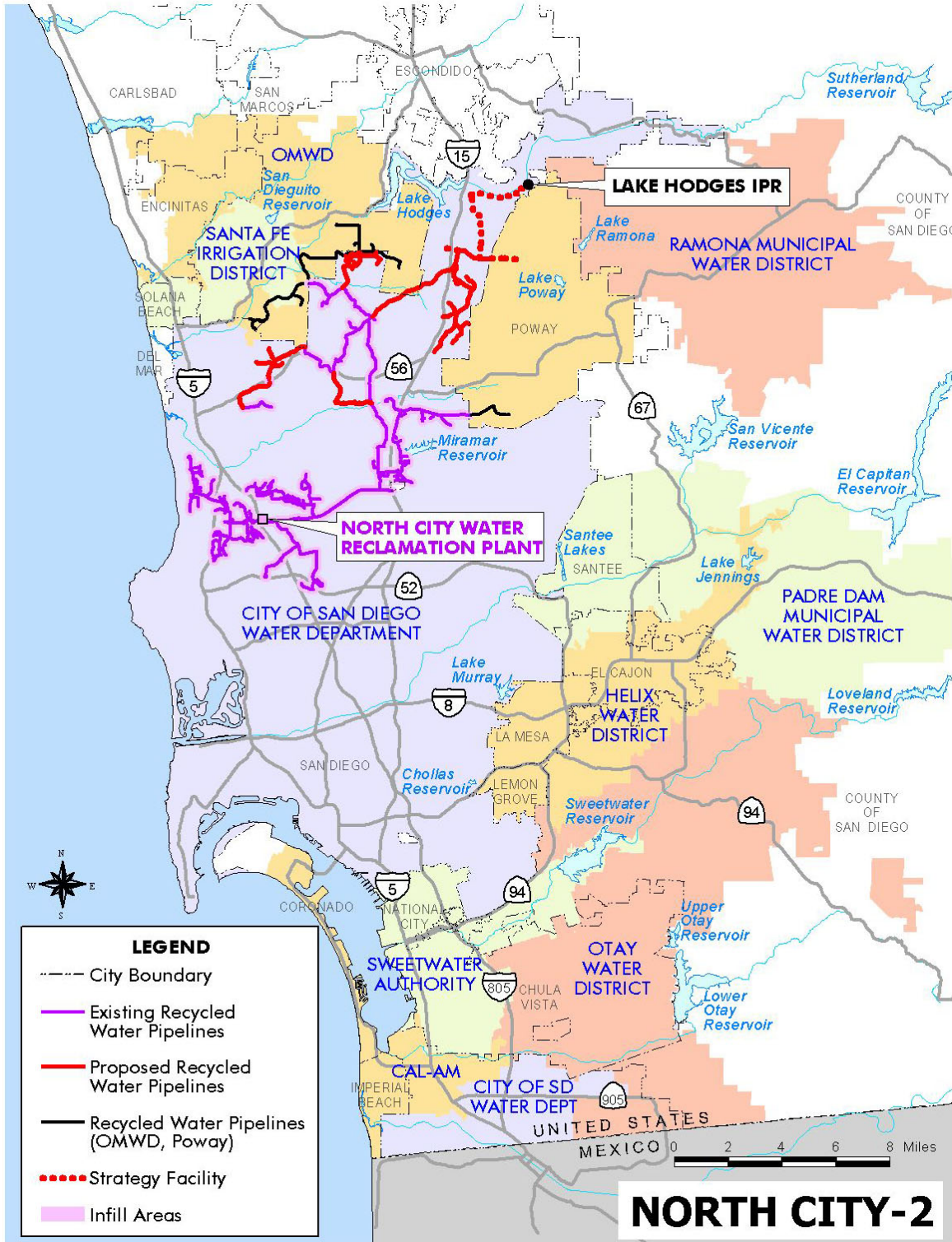
Type of Use	Non-potable
System	Expand the distribution system through infill (new customers within one-quarter mile of the existing infrastructure); construct a 17- mile distribution main with two-2 million gallon reservoirs to serve customers on the I-15 corridor including Rancho Bernardo; and, a 17- mile system expansion to the Central Service Area consisting of Balboa Park, Mission Valley, Mission Bay and a possible wetland in Rose Canyon. Seasonal storage, either an above ground reservoir or utilization of a groundwater basin, would need to be created to maximize this strategy.
Area served	Existing recycled water customers (e.g., UCSD, University Towne Center area, Mira Mesa, Poway, Black Mountain Ranch, Olivenhain Municipal Water District), I-15 corridor (e.g., Sabre Springs, Rancho Bernardo, etc.), Mission Valley, Mission Bay (including Sea World & USD), Balboa Park and Rose Canyon.
Type of Customer	Irrigation, commercial, industrial, environmental enhancement
Study options used	Expand the current distribution system, create wetlands
Amount of recycled water used	Of available 24 MGD, 17.6 MGD can be used
Total available plant utilization	73%
Total Project Cost	\$284,700,000
Cost increase estimated on monthly bill	\$2.34
Cost analysis	Distribution system installation costs initially low with lowest unit cost by maximizing current infrastructure, via infill and enforcement of Mandatory Reuse Ordinance and construction of the Phase III pipeline to Rancho Bernardo. However subsequent steps have higher costs and make this alternative comparatively more expensive overall. NOTE: These are estimated costs and do not include grants or other incentives that may be available.
Benefit	Increased beneficial reuse of available supply, locally controlled drought-proof supply, less dependence on imported water, less use of fertilizers, environmental enhancement of Rose Canyon and Mission Bay, offsets discharge of wastewater into the ocean.



**North City-2 (NC-2)**

Type of Use	Non-potable and indirect potable reuse
System	Expand the distribution system through infill (new customers within one-quarter mile of the existing infrastructure); and, construct a 17- mile distribution main with two-2 million gallon reservoirs to serve customers on the I-15 corridor including Rancho Bernardo. Construct a 2 MGD advanced water treatment facility that would discharge into wetlands above Lake Hodges where water would be stored during winter months. Blended water would be sent to the San Diego County Water Authority aqueduct which serves all water agencies adjacent to and south of Lake Hodges.
Area served	Existing recycled water customers (e.g. UCSD, Torrey Pines, Mira Mesa, Poway, Black Mountain Ranch, Olivenhain Municipal Water District), I-15 corridor (e.g. Sabre Springs, Rancho Bernardo, etc.), Rancho Bernardo, Rancho Santa Fe Irrigation District, San Dieguito, Encinitas, Leucadia, Solana Beach, Cardiff, etc.). All water agencies south of Lake Hodges (Olivenhain Municipal Water District, Santa Fe Irrigation District, City of Poway, Ramona Municipal Water District, Otay Water District, Padre Dam Water District, San Dieguito Water District, Sweetwater Authority, Helix Water District and the entire City of San Diego water service area including the Cities of Imperial Beach and Coronado).
Type of Customer	Irrigation, commercial, industrial and potable water customers served by Olivenhain Municipal Water District and all water agencies south of Lake Hodges.
Study options used	Expand the current distribution system, add water to raw water reservoir after additional treatment
Amount of recycled water used	Of available 23.4 MGD, 16.1 MGD can be used
Total available plant utilization	69%
Total Project Cost	\$188,300,000
Cost increase estimated on monthly bill	\$1.17
Cost analysis	Has lowest overall cost of all North City alternatives, after infill and Phase III to Rancho Bernardo. Requires construction of a small advanced water treatment facility at Lake Hodges. NOTE: These are estimated costs and do not include grants or other incentives that may be available.
Benefit	Increased beneficial reuse of available supply, locally controlled drought-proof supply, less dependence on imported water, less use of fertilizers, environmental enhancement to western end of San Pasqual Valley, offsets discharge of wastewater into the ocean. Provides the opportunity to switch from non-potable to indirect potable reuse.





**North City-3 (NC-3)**

Type of Use	Non-potable and indirect potable reuse
System	Expand the distribution system through infill (new customers within one-quarter mile of the existing infrastructure). Construct a 16 MGD advanced water treatment facility and a 23 mile pipeline to convey water to San Vicente Reservoir for blending with other water sources during non-peak months. Advanced treated water could potentially flow through a created wetland for natural treatment before entering the reservoir. Water would be sent to Alvarado and/or Miramar WTPs for potable uses.
Area served	Existing recycled water customers (e.g. UCSD, Torrey Pines area, Mira Mesa, Poway, Black Mountain Ranch). Alvarado and Miramar WTP service areas. Cities of Del Mar, Coronado, Imperial Beach, Chula Vista, Helix, Otay Water District, La Mesa, Lemon Grove, Santee, and El Cajon.
Type of Customer	Irrigation, commercial, industrial. City wholesale and retail potable water customers receiving water from the Alvarado and Miramar WTP service areas. Potable water customers of the cities of Del Mar, Coronado, Imperial Beach, Chula Vista, La Mesa, Lemon Grove, Santee, El Cajon, and San Diego County unincorporated areas served by the Helix Water District (such as Mt. Helix, Bostonia and Spring Valley).
Study options used	Expand the current distribution system, add water to raw water reservoir after additional treatment, potentially create wetlands
Amount of recycled water used	Of available 21.2 MGD, 21.2 MGD can be used
Total available plant utilization	100%
Total Project Cost	\$237,600,000
Cost increase estimated on monthly bill	\$1.63
Cost analysis:	Highest capital investment for construction of advanced water treatment facility and distribution pipeline, but overall lowest unit cost. NOTE: These are estimated costs and do not include grants or other incentives that may be available.
Benefit	Maximizes the available North City water supply through indirect potable reuse, less dependence on imported water, locally controlled drought-proof supply, and offsets discharge of wastewater into the ocean. Provides the lowest overall unit cost and greatest geographic area of utilization.

