MUNI/WESTERN EXHIBIT 10-10

SAN BERNARDINO VALLEY MUNICIPAL DISTRICT, MASTER PLAN, EXCERPTS FROM FINAL DRAFT

Muni/Western 10-10

Section 2
Proposed Water Resources Management Strategies

2.1 Introduction

To meet the needs identified in Section 1, a coordinated plan for management of all water resources in the study area is required, together with adequate facilities to be able to convey, store, treat, and deliver the resources in accordance with the plan. This section presents a summary of key strategies for managing the various water resource components.

The Master Plan places particular emphasis on managing the Bunker Hill Basin because this basin provides the greatest opportunity for storage in the region, but also has high water level and water quality concerns which must be addressed. However, a plan to meet the ultimate area-wide demands must include the coordinated use of all available resources as briefly discussed in Section 1. Specific elements of a water resources plan discussed in this section include the following:

- Water Conservation (Demand Reduction)
- Groundwater Management
- Surface Water Management (Including Seven Oaks Dam)
- Imported Water Use
- Reclaimed Water Use
- Spreading Operations and Management
- Flexibility of Supply Sources
- Deliveries of water to SGPW

This section also poses several possible future supply-demand scenarios. These scenarios show how available water resources could be best used within the study area to meet the ultimate demands of all local water purveyors under a range of local water and imported water availability conditions. These scenarios become the "link" between the water management strategies presented in this section and the specific facility requirements presented in Section 3.

2.2 Water Conservation

The future water demands presented in Section 1 generally use individual agencies' projections based upon current per capita or per acre demand factors applied to future population or land use. As the demand for water continues to increase and the need for supplemental water grows, water conservation can become an important component for reducing ultimate demands and thereby lowering the need to import large quantities of State Water Project (SWP) water. Implementation of increased water conservation measures could result in as much as a five to ten percent reduction in demands compared to currently projected levels. Thus the objective of a water conservation element, as defined in this section, is to reduce ultimate demands on the available water resources.

Conservation measures such as increased water rates, distribution of toilet retrofit kits, and long-term public education, can result in significant temporary reductions and limited permanent

reductions in unit water demands. Plumbing codes which now require use of water-conserving fixtures and landscaping standards under the Water Conservation in Landscaping Act provide a permanent reduction in unit water demands and will have a significant impact in an area such as the San Bernardino Valley where substantial new development will occur.

Permanent measures can result in at least a five percent overall long-term reduction in unit demands. If ultimate average-year demands are decreased by about 16,000 ac-ft/yr, the need for imported supplies is also reduced from a projected 85,000 ac-ft/yr to approximately 69,000 ac-ft/yr. This later figure represents about 67 percent of SBVMWD's full contractual SWP entitlement of 102,600 ac-ft/yr. Under drought conditions when basin over-extractions and/or the need for imported water would be the greatest, additional short-term conservation programs including heightened public awareness, temporary rate increases and other measures could decrease water demands by over ten percent. A ten percent reduction could theoretically lower imported deliveries from 105,600 ac-ft/yr (exceeding the full contractual entitlement) to about 73,000 ac-ft/yr (71 percent of contractual entitlement). This concept is illustrated in Figure 2-1.

The implementation of conservation measures resulting in the suggested levels of reduction in water demand is achievable. As a management strategy, water conservation programs are encouraged as a part of all water purveyors' current and future operations. However, for the purpose of planning regional facilities, the direct impact of conservation has not been included. This assumption will result in a slightly more conservative approach to the planning and management of available water resources and sizing of the facilities required to distribute water throughout the service area.

2.3 Groundwater Management

2.3.1 Introduction

Groundwater production has been and will continue to be the principal means by which water suppliers meet demands. Currently, over 80 percent of the total annual supply to the area consists of groundwater production. A key assumption of the Master Plan is that groundwater production will significantly increase as demand increases, with higher production replenished through a combination of increased capture and recharge of local runoff, increased recharge of imported water, and recharge of reclaimed water. The ability to recharge higher quantities of water will also require control of groundwater levels to allow high replenishment rates over limited periods when water is available. At ultimate conditions, annual average demands will be approximately 62 percent higher than current demands, and groundwater production will still make up over 75 percent of total area demands, as shown in Figure 2-2. As discussed in Section 1.3.1.2, groundwater supplies do not include waters produced within export rights under the 1969 Western-San Bernardino judgment or the Lytle Creek judgments.

While the use of groundwater will gradually increase, and may vary to a limited extent from year to year, recharge of the local basins by both natural and artificial means will likely have a much wider annual and seasonal variation. This can be observed in the range of historical changes in storage in the Bunker Hill Basin, as shown in Figure 2-3, principally reflecting the variations in local hydrology. Furthermore, the availability of SWP water for supplemental replenishment may also be highly variable, depending upon hydrologic conditions in Northern