Elements of a Golf Course Irrigation Best Management Plan

As required by Regulation 61-113, a "best management plan" for water use and water conservation is designed to protect water quality and reduce water consumption to include, but not limited to:

1. Reasonable and appropriate conservation techniques, application processes, and alternative sources of water, including but not limited to, surface water(s) and/or availability of treated effluent, to minimize or eliminate groundwater sources. Examples may include but are not limited to:

    a. Determine soil type and monitor soil moisture to determine watering needs
    b. Determine weekly site-specific precipitation amounts using a centrally located rain gauge; adjust irrigation schedule accordingly
    c. Implement low-water demand landscaping
    d. Prevention of excessive water use by spot watering dry areas, using drip or trickle irrigation, and/or watering at night or early in the morning

2. Based on current and/or proposed withdrawal rates, provide reasonable and appropriate documentation that the proposed water use is necessary to the anticipated needs of the applicant **to include, but not limited to**, the following:

    a. Irrigated acreage (differentiating actual golf course areas and aesthetic landscaping)
    b. Water use per acre
    c. Calculated irrigation requirement (including available precipitation)
    d. Annual water use statistics
        i. Monthly average
        ii. Peak summer/winter consumption
    e. Nutrient and pest management strategy

    Please specify flow measurement method in this section.

3. Maintenance schedule to preserve the integrity and deficient operation of water conveyance system(s). Examples may include but are not limited to:

    a. Routine inspections
    b. Meter installation, replacement, and calibration
    c. Leak detection and repair
    d. Upgrade old equipment with new water-efficient equipment

4. A statement specifying the beneficial use of the groundwater being withdrawn as necessary to meet the reasonable needs of the applicant.

Elements of a Water Supply Best Management Plan

As required by Regulation 61-113, A "Best management plan" for water use and water conservation is designed to protect water quality and reduce water consumption to include, but not limited to:

1. Reasonable and appropriate conservation techniques, application processes, and alternative sources of water, including but not limited to, surface water(s) and/or availability of treated effluent, to minimize or eliminate groundwater sources. Examples may include, but not limited to:
    a. Assessment of water supply alternatives, including implementation of water conservation and reuse practices, and the utilization of alternate sources, including purchasing water from adjacent facilities.
    b. Cross connection control program.
    c. Using a water loss modeling program.
    d. Reducing pressure seasonally and/or where available to reduce loss from background leaks.
    e. Monitor night flow measurements.
    f. Develop water balance by comparing water produced to water consumed.
    g. Metering individual pressure zones.
    h. Develop water utility rate structures that promote water conservation.
    i. Water bill structure and comparison- highlight historical use patterns for residential customers.
    j. Send water conservation notices using bill stuffers to customers.
    k. Promote customer low flow plumbing fixtures incentive programs.

2. Based on current and/or proposed withdrawal rates, provide reasonable and appropriate documentation that the proposed water use is necessary to the anticipated needs of the applicant to include, but not limited to, the following;
    a. Population served,
    b. Anticipated growth,
    c. Annual water use statistics.

3. Maintenance schedule to preserve the integrity and deficient operation of water conveyance system(s). Examples to include:
    a. Develop and implement a metering program based on current AWWA practices and standards.
    b. Meter calibration/replacement.
    c. Install temporary or permanent leak noise detectors and loggers.
    d. Conducting water loss surveys to uncover long running leaks, underlying leaks masked by sounds of larger leaks, and new leaks.
    e. Reducing repair time on leaks.
    f. Preforming annual inspection of facility.
    g. Preforming annual maintenance of facility.
4. A statement specifying the beneficial use of the groundwater being withdrawn as necessary to meet the reasonable needs of the applicant

Elements of an Agricultural Irrigation Best Management Plan

As required by Regulation 61-113, a "best management plan" for water use and water conservation is designed to protect water quality and reduce water consumption to include, but not limited to:

1. Reasonable and appropriate conservation techniques, application processes, and alternative sources of water, including but not limited to, surface water(s) and/or availability of treated effluent, to minimize or eliminate groundwater sources. Examples may include but are not limited to:

    a. Determine soil type and monitor soil moisture to determine watering needs
    b. Prevention of excessive water use by spot watering dry areas, using drip or trickle irrigation, and/or watering at night or early in the morning
    c. Utilize micro-irrigation wherever possible (ex. Drip emitters, soaker hoses, bubblers, or micro-sprayers)

2. Based on current and/or proposed withdrawal rates, provide reasonable and appropriate documentation that the proposed water use is necessary to the anticipated needs of the applicant **to include, but not limited to**, the following:

    a. Irrigated acreage Water use per acre
    b. Major crops (with irrigated acreage for each crop)
    c. Water use by crop (per acre)
    d. Calculated irrigation requirement (including available precipitation)
    e. Critical period growth requirements
    f. Growing season
    g. Nutrient and pest management strategy

    Please specify flow measurement method in this section.

3. Maintenance schedule to preserve the integrity and deficient operation of water conveyance system(s). Examples may include but are not limited to:

    a. Routine inspections
    b. Meter installation, replacement, and calibration
    c. Leak detection and repair
    d. Upgrade old equipment with new water-efficient equipment

4. A statement specifying the beneficial use of the groundwater being withdrawn as necessary to meet the reasonable needs of the applicant.

Elements of an Industrial Best Management Plan

As required by Regulation 61-113, a "best management plan" for water use and water conservation is designed to protect water quality and reduce water consumption to include, but not limited to:

1. Reasonable and appropriate conservation techniques, application processes, and alternative sources of water, including but not limited to, surface water(s) and/or availability of treated effluent, to minimize or eliminate groundwater sources. Examples may include but are not limited to:

    a. Establish programs to improve long-term efficiency of water use
    b. Clean products, equipment, and facility only when necessary, and utilize dry cleaning methods wherever possible
    c. Reuse water wherever possible by reclaiming wash and rinse water, reusing blow-down water, employing recirculation technology on reverse osmosis and deionized water systems, installing an evaporative cooling tower system, and/or reusing single-pass or cooling tower discharge
    d. Irrigate only when necessary or not at all

2. Based on current and/or proposed withdrawal rates, provide reasonable and appropriate documentation that the proposed water use is necessary to the anticipated needs of the applicant **to include, but not limited to**, the following:

    a. Industry type
    b. Anticipated growth
    c. Annual water use statistics
        i. Monthly average
        ii. Peak summer/winter consumption

    Please specify flow measurement method in this section.

3. Maintenance schedule to preserve the integrity and deficient operation of water conveyance system(s). Examples may include but are not limited to:

    a. Routine inspections
    b. Meter installation, replacement, and calibration
    c. Install sensors or spring-loaded valves that shut off water flows when not in use
    d. Leak detection and repair
    e. Upgrade old equipment with new water-efficient equipment

4. A statement specifying the beneficial use of the groundwater being withdrawn as necessary to meet the reasonable needs of the applicant.