CHAPTER 16.12. WATER EFFICIENT LANDSCAPE REGULATIONS

16.12.010. Purpose

The State Legislature determined in the Water Conservation in Landscaping Act (the "Act"), Government Code sections 65591 et seq., that the State's water resources are in limited supply and are subject to ever increasing demands. The Legislature also recognized that while landscaping is essential to the quality of life in California, landscape design, installation, maintenance and management must be water efficient. The general purpose of this chapter is to establish landscaping efficiency standards for landscaping in the City that implement design requirements established by the Act. Consistent with the Legislature's findings, the purpose of this chapterordinance is to:

A. Promote the values and benefits of landscaping practices that integrate and go

beyond the conservation and efficient use of waterres while recognizing the need to utilize water and other resources as efficiently as possible.

B. Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction.

C. Promote the use, when available, of tertiary treated recycled water, for irrigating landscaping.

D. Use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use for landscaping to the lowest practical amount.

E. Encourage water users of existing landscapes to water efficiently and without waste.

F. Landscapes that are planned, designed, installed, managed and maintained with the watershed based approach can improve California's environmental conditions and provide benefits and realize sustainability goals. Such landscapes will make the urban environment resilient in the face of climatic extremes. Consistent with the legislative findings and purpose of the chapterOrdinance, conditions in the urban setting will be improved by:

1. Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and aesthetic benefits.

2. Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas.

3. Conserving water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment.

4. Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion.

5. Protecting existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants. Utilizing integrated pest management with least toxic methods as the first course of action.

16.12.020. Findings.

This cChapter implements the Efficiency Regulations Water Conservation in Landscaping Act. The requirements of this chapter reduce water use associated with irrigation of outdoor landscaping by setting a maximum amount of water to be applied to landscaping and by designing, installing and maintaining water efficient landscapes

consistent with the water allowance. The provisions of this chapterordinance are equivalent to and at least as effective as the provisions of the state Model Landscape Ordinance because the calculation of maximum applied water allowance (MAWA) and the resulting restrictions on irrigation and process are similar, though tailored to CityITY's existing regulatory procedures.

The requirements herein are intended to reduce water usage in Imperial Beach to the same extent as the Model Landscape Ordinance prepared by the State of California. In implementing this law, the City shall endeavor to apply the law in a manner which will result in long-term water savings to the Citizens of the State as required by law. The water savings shall be achieved through permanent landscape rules using irrigation management, greater use of drought-tolerant plantings and improved design criteria.

If, after the adoption of this chapterordinance, the California Department of Water Resources, or its successor agency, amends 23 CCR, Division 2, Chapter 2.7, Sections 492.6(a)(3)(B), (C), (D), and (G) of the Model Water Efficient Landscape Ordinance September 15, 2015 requirements in a manner that requires jurisdictions to incorporate the requirements of an updated Model Water Efficient Landscape Ordinance in a local ordinance, and the amended requirements include provisions more stringent than those required in this section, the revised requirements of 23 CCR, Division 2, Chapter 2.7 shall apply and be enforced.

In adopting this cChapter the City Council finds and determines that this cChapter will be as effective as the state Model Landscape Ordinance and are based on the San Diego County Regional Model Ordinance with changes for local and climatic conditions. The threshold regulations are based on those in the State Model Landscape Ordinance as modified by the San Diego Regional Model Ordinance. The uniformity with the County Model will assist developers and property owners in meeting the requirements of this cChapter.

16.12.030. Definitions.

The following definitions shall apply to this chapter:

"Applied water" means the portion of water supplied by the irrigation system to the landscape.

"Automatic irrigation controller" means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers shall schedule irrigation events using either evapotranspiration (ETo) (weather-based) or moisture sensor data.

"Backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

"Building permit" means a permit to engage in a certain type of construction on a specific location, including a plumbing permit.

"Certified landscape irrigation auditor" means a person certified to perform landscape irrigation audit by an accredited academic institution, a professional trade organization or other accredited certification program.

"Check valve" or "anti-drain valve" means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

"Common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

"Compost" means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

"Conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.

"Distribution uniformity" means the measure of the uniformity of irrigation water over a defined area.

"Drip irrigation" means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

"Developer" means a person who seeks or receives permits for or who undertakes land development activities, who is not a single family homeowner. Developer includes developer's partner, associate, employee, consultant, trustee or agent, or anyone who builds residential or commercial developments.

"Director" means the Director of Community Development or anyone to whom the Director has designated or hired to administer or enforce this chapter.

"Discretionary Permit" means any permit requiring a decision-making body to exercise judgment prior to its approval, conditional approval or denial.

"Ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

"Effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.

"Emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.

"Established landscape" means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

"Establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.

"Estimated total water use" (ETWU) means the estimated total water use in gallons per year for a landscaped area.

"ET adjustment factor" (ETAF) means a factor that when applied to reference evapotranspiration, adjusts for plant water requirements and irrigation efficiency, two major influences on the amount of water that is required for healthy landscape.

"Evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

"Evapotranspiration" (ETo) means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time period. "Reference evapotranspiration" means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month or year and is an estimate of the evapotranspiration of a large field of four-inches to seven-inches tallcool season turf that is well watered. Reference evapotranspiration is used as the basis of determining the MAWA so that regional differences in climate can be accommodated.

"Flow rate" means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

"Flow sensor" means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

"Friable" means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.

"Fuel Modification Plan Guideline" means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

"Grading" means an importation, excavation, movement, loosening or compaction of soil or rock.

"Graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.

"Hardscape" means any durable surface material, pervious or non-pervious.

"Homeowner-provided landscaping" means landscaping installed either by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner.

"Hydrozone" means a portion of the landscape area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

"Infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

"Invasive plant species" means vegetation that is not native to the area where it occurs and interferes with native species growing or attempting to grow in the area based on applicable federal or state guidelines for the location.

"Irrigation audit" means an inspection which includes an in depth evaluation of the performance of an irrigation system conducted by a certified landscape irrigation auditor. An irrigation audit may include, but is not limited to, inspection, system tune up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow and preparation of an irrigation schedule.

"Irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.75 for overhead spray devices and 0.81 for drip systems. ~~means the measurement of the amount of water beneficially used divided by the water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices.~~

"Irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

"Irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.

"Landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

"Landscaped area" means an area with outdoor plants, turf and other vegetation that uses water provided by a public water purveyor within the City of Imperial Beach. A landscaped area includes a water feature either in an area with vegetation or that stands alone. A landscaped area may also include design features adjacent to an area with vegetation when allowed under section 16.12.150. A landscaped area does not include the footprint of a building, decks, patio, sidewalk, driveway, parking lot or other hardscape. A landscaped area also does not include an area without irrigation designated for non-development such as designated open space or area with existing native vegetation.

"Landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

"Landscape design manual" means the manual, approved by the Director of Community Development that establishes specific design criteria and guidance to implement the requirements of this chapter.

"Landscape Documentation Package" means the documents required under Section 23 CCR § 492.3.

"Landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 23 CCR § 492.1.

"Landscape water meter" means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.

"Lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

"Local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this ordinance, including but not limited to, approval of a permit and plan check or design review of a project.

"Local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.

~~(a) "Landscape design manual" means the manual, approved by the Director of Community Development that establishes specific design criteria and guidance to implement the requirements of this chapter.~~

"Low head drainage" means a sprinkler head or other irrigation device that continues to emit water after the water to the zone in which the device is located has shut off.

"Low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip lines or bubblers.

"Mass grading" means the movement of more than 5000 cubic yards of soil by mechanical means to alter the topographic features of a site.

"Main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

"Master shut-off valve" is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.

"Maximum Applied Water Allowance" (MAWA) means the maximum allowed annual water use for a specific landscaped area based on the square footage of the area, the ETAF and the reference ETo.

"Median" is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

"Microclimate" means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

"Mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

"Mulch" means an organic material such as leaves, bark, straw or inorganic mineral materials such as rocks, gravel or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature or prevent soil erosion.

"New construction" means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

"Non-residential landscape" means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.

"Operaing pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

"Overhead sprinkler irrigation systems" or "overhead spray irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).

"Overspray" means the water from irrigation that is delivered outside an area targeted for the irrigation and makes contact with a surface not intended to be irrigated.

"Parkway" means the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.

"Passive area" means an area that receives irrigation but is not used for recreation and is intended for limited access, aesthetic uses.

"Permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.

"Pervious" means any surface or material that allows the passage of water through the

material and into underlying soil.

"Plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the publication "Water Use Classification of Landscape Species". Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).

"Project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 492.3, to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.

~~(aa) "Plant factor" means a factor when multiplied by the ETo, estimates the amount of water a plant needs.~~

~~(bb)~~ "Public water purveyor" means a public utility, municipal water district, municipal irrigation district or municipality that delivers water to customers.

"Rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.

"Record drawing" or "as-builts" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

~~(cc)~~ "Recreational area" means an area intended for active use by persons for sports or other forms of recreation.

~~(dd)~~ "Recycled water" means waste water that has been treated at the highest level required by the California Department of Health Services for water not intended for human consumption. "Tertiary treated recycled water" means water that has been through three levels of treatment including filtration and disinfection.

"Reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Appendix A, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated.

"Regional Water Efficient Landscape Ordinance" means a local Ordinance adopted by two or more local agencies, water suppliers and other stakeholders for implementing a consistent set of landscape provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.

"Rehabilitated landscape" means any relandscaping project that requires a permit, plan check, or design review, meets the requirements of Section 23 CCR § 490.1, and the modified landscape area is equal to or greater than 2,500 square feet.

"Residential landscape" means landscapes surrounding single or multifamily homes.

~~(ee)~~ "Runoff" means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area.

"Soil moisture sensing device" or "soil moisture sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

"Soil texture" means the classification of soil based on its percentage of sand, silt, and clay.

~~(ff)~~ "Special landscaped area" means an area of the landscape dedicated to edible plants, an area irrigated with recycled water or an area dedicated to active play such as a park's sports field or golf course where turf provides a playing surface.

"Sprinkler head" or "spray head" means a device which delivers water through a nozzle.

"Static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.

"Station" means an area served by one valve or by a set of valves that operate simultaneously.

"Swing joint" means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

"Submeter" means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.

~~(gg)~~ "Subsurface irrigation" means an irrigation device with a delivery line and water emitters installed below the soil surface that slowly and frequently emit small amounts of water into the soil to irrigate plant roots.

~~(hh)~~ "Transitional area" means an area immediately adjacent to an area that contains vegetation but is not irrigated and will not be irrigated.

~~(ii)~~ ”Turf” means a groundcover surface of mowed grass.

“Valve” means a device used to control the flow of water in the irrigation system.

“Water conserving plant species” means a plant species identified as having a very low or low plant factor.

~~(jj)~~ “Water feature” means a design element where open water performs an aesthetic or recreational function. A water feature includes a pond, lake, waterfall, fountain, artificial streams, spa and swimming pool where a public water purveyor within the City of Imperial Beach provides water for the feature. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices are not water features.

“Watering window” means the time of day irrigation is allowed.

“WUCOLS” means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

~~(b) (kk) "WUCOLS III" means Water Use Classification of Landscape Species and refers to the Department of Water Resources 1999 publication authored by a U.C. Cooperative extension employee, Larry Costello.~~

16.12.040. Applicability

A. After December 1, 2015, and consistent with Executive Order No. B-29-15, this chapter~~ordinance~~ shall apply to all of the following landscape projects: ~~This chapter shall apply to the following projects for which the City requires a building permit or a discretionary permit after the chapter's effective date:~~

1. New construction projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review.

~~A project for an industrial, commercial, institutional or multi-family residential use where the landscaped area is greater than or equal to 2,*500 square feet).*~~

~~(1) Developer installed residential and common area landscapes where the total landscaped area for the development is greater than or equal to 2,*500 square feet.*~~

~~(2) A new single family residence with homeowner provided landscaping, where the landscaped area is greater than or equal to 5,000 square feet.~~

~~(3) A model home that includes a landscaped area.~~

~~(4) A public agency project that contains a landscaped area 2,500 square feet or more.~~

~~A rehabilitated landscape for an existing industrial, commercial, institutional, public agency or multifamily use where a building permit or discretionary permit is being issued and the applicant is installing or modifying 2,500 square feet or more of landscaping.~~

2. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review

3. Existing landscapes limited to Sections 23 California Code of Regulations (CCR) § 493, 23 CCR § 493.1 and 23 CCR § 493.2; and

~~1.~~**4.** Cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 23 CCR § 492.4, 492.11, and 492. 12; and existing cemeteries are limited to Sections 23 CCR § 493, 493.1, and 493.2~~A cemetery under limited requirements in section 16.12.170.~~

B.~~(b)~~ For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2500 sq. ft. of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to 23 CCR Div. 2 Ch. 2.7 App. D.
~~A new single-family residence with homeowner provided landscaping, where the landscape area is less than 5,000 square feet, under limited requirements in section 16.12.160.~~

C. This chapter shall not apply to the following:

1. A registered local, state or federal historical site.

2. An ecological restoration project that does not require a permanent irrigation system.

3. A mined land reclamation project that does not require a permanent irrigation system.

4. Existing plant collections, as part of~~A~~ botanical garden or arboretum, open to the public.

5. Any single-family residence that is being rebuilt after it was destroyed due to a natural disaster, such as a fire, earthquake, hurricane or tornado.

16.12.050. Landscape Approval

A. No person who installs landscaping for a project subject to this chapter shall install

landscaping without the review and approval required by this chapter.

B. A person constructing a project subject to the requirements of this chapter, as set out in section 16.12.040, shall obtain approval for the landscaped area as follows:

1. A person applying for a building permit for a single family residence shall obtain an approval of the landscaping from the City of Imperial Beach as part of the permitting process.

2. A person applying for a discretionary permit described in section 16.12.040:

a. Shall submit a landscape concept plan with the discretionary permit application. The concept plan shall include representation of the site features, proposed plantings areas and the proposed method and type of irrigation.

b. Shall obtain approval for landscaping as part of the permitting process for each building permit for each project segment that requires installation of a water meter or connection to an existing water meter.

c. May use "typical" plans for Developer-installed landscaping for Single-family homes.

16.12.060. Administration, Enforcement and Landscape Manual.

A. The Director of Community Development or designee shall administer and enforce this chapter.

B. The Director of Community Development or designee shall prepare a landscape design manual that provides guidance to applicants on how to comply with the requirements of this chapter. The Director of Community Development or designee may designate the County of San Diego's Landscape Manual or other local jurisdiction, as they are applicable to the requirements of this Chapter, as the City of Imperial Beach Landscape Manual.

16.12.070. Landscape Documentation Package.

A. Except as provided in subsection B.~~(b)~~ an application for a building permit for a project described in Section 16.12.040 shall submit a landscape documentation package that complies with the provisions of this chapter and with the Landscape Design Manual with the permit application.

B. An applicant for a building permit for a single family residence with a landscaped area less than 500~~5,000~~ square feet is not required to submit a landscape documentation package with the permit application, but shall comply with section 16.12.160. An applicant for a permit for a cemetery is not required to submit a landscape documentation package, but shall comply with section 16.12.170**.**

C. The landscape documentation package required by subsection A.~~(a)~~ shall contain the

following:

1. A soil management report and plan that complies with section 16.12.080 that analyzes the soil within each landscaped area of the project and makes recommendations regarding soil additives.

2. Planting and irrigation plans that comply with section 16.12.090 that describe the landscaping and irrigation for the project.

3. A water efficient landscape worksheet that complies with the section 16.12.100 that calculates the MAWA and the ETWU for the project.

4. A grading design plan that complies with section 16.12.110 that describes the grading of the project. If the project applicant has submitted a grading plan with the application for the project, the Director may accept that grading plan in lieu of the grading design plan required by this subsection if the grading plan complies with section 16.12.110.

16.12.080. Soil Management Report.

A. The soil management report required by section 16.12.070 shall be prepared by a licensed landscape architect, licensed civil engineer, or licensed architect, or other person with similar training necessary to approve the applicable plan, and contain the following information:

1. An analysis of the soil for the proposed landscape areas of the project that includes information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium, percent organic matter.

2. Recommendations about soil amendments that may be necessary to foster plant growth and plant survival in the landscaped area using efficient irrigation techniques.

2.3. In projects with multiple landscape installations (i.e., single-family subdivision), a soil sampling rate of one in seven lots or approximately 15 percent will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to one in seven lots.

B. When a project involves mass grading of a site, the applicant shall submit the soil management report that complies with subsection (a) above with the certificate of completion.

C. The soil management report shall include information regarding proposed soil amendments and mulch:

1. The report shall identify the type and amount of mulch for each area where mulch is applied. Mulch shall be used as follows:

a. A minimum threetwo-inch layer of mulch shall be applied on all exposed soil surfaces in each landscaped area except in turf areas,

creeping or rooting ground covers or direct seeding applications where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to 5 % of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.

b. Stabilizing mulch shall be applied on slopes

c. The mulching portion of seed/mulch slurry in hydro-seeded applications shall comply with subsection (a) above.

d. Highly flammable mulch material shall not be used.

2. Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.

3. For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.

~~2.~~4. The report shall identify any soil amendments and their type and quantity.

16.12.090 PLANTING AND IRRIGATION PLANS

A. The planting and irrigation plans required by section 16.12.070 shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect or other person with similar professional training necessary to approve the applicable Plan. The plans shall:

1. Include the MAWA for the plans, including the calculations used to determine the MAWA. The calculations shall be based on the formula in section 16.12.130.

2. Included the ETWU for the plans, including the calculations used to determine the ETWU. The calculations shall be based on the formula in section 16.12.140.

3. Include a statement signed under penalty of perjury by the person who prepared the plan that provides, "I am familiar with the requirements for landscape and irrigation plans contained in the City of Imperial Beach's Water Efficient Landscape Regulations. I have prepared this plan in compliance with those regulations and the Landscape Design Manual. I certify that the plan implements those regulations to provide efficient use of water."

4. Demonstrate compliance with best management practices required by Chapters 8.31 & 8.32 of the Imperial Beach Municipal Code (*Watershed Protection, Stormwater Management and Discharge Control regulations*).

5. Address fire safety issues and demonstrate compliance with applicable State and City of Imperial Beach requirements for defensible space around buildings and structures and shall avoid the use of fire prone vegetation.

B. The planting plan shall meet the following requirements:

1. The plan shall include a list of all vegetation by common and botanical plant name, which exists in the proposed landscaped area. The plan shall state what vegetation will be retained and what will be removed.

2. The plan shall include a list of all vegetation by common and botanical plant name which will be added to each landscaped area. No invasive plant species shall be added to a landscaped area. The plan shall include the total quantities by container size and species. If the applicant intends to plant seeds, the plan shall describe the seed mixes and applicable purity and germination specifications.

3. The plan shall include a detailed description of each water feature that will be included in the landscaped area.

4. The plan shall be accompanied by a drawing showing on a page or pages, the specific location of all vegetation, retained or planted, the plant spacing and plant size, natural features, water features, and hardscape areas. The drawing shall include a legend listing the common and botanical plant name of each plant shown on the drawing.

5. All plants shall be grouped in hydrozones and the irrigation shall be designed to deliver water to hydrozones based on the moisture requirements of the plant grouping. A hydrozone may mix plants of moderate and low water use or mix plants of high water use with plants of moderate water use. No high water use plants shall be allowed in a low water use hydrozone. The plan shall also demonstrate how the plant groupings accomplish the most efficient use of water.

6. The plan shall identify areas permanently and solely dedicated to edible plants.

7. The plan shall demonstrate that landscaping when installed and at maturity will be positioned to avoid obstructing motorists' views of pedestrian crossings, driveways, roadways and other vehicular travel ways. If the landscaping will require maintenance to avoid obstructing motorist's views, the plan shall describe the maintenance and the frequency of the proposed maintenance.

8. The plan shall avoid the use of landscaping with known surface root problems adjacent to a paved area, unless the plan provides for installation of root control barriers or other appropriate devices to control surface roots.

9. Plants in a transitional area shall consist of a combination of site adaptive and compatible native and/or non-native species. No invasive species shall be introduced or tolerated in a transitional area. The irrigation in a

transitional area shall be designed so that no overspray or runoff shall enter an adjacent area that is not irrigated.

10. On a project other than a single-family residence, the plan shall identify passive and active recreational areas.

11. Identify location, installation details, and 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Project applicants shall refer to the local agency or regional Water Quality Control Board for information on any applicable stormwater technical requirements.

~~10.~~12. Identify any applicable graywater discharge piping, system components and area(s) of distribution

C. The Irrigation Plan shall meet the following requirements:

1. The plan shall show the location, type and size of all components of the irrigation system that will provide water to the landscaped area, including the controller, water lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices.

2. Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. but not more than 5,000 sq.ft. (the level at which Water Code 535 applies) and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either

a. A customer service meter dedicated to landscape use provided by the local water purveyor; or

b. A privately owned meter or submeter.

~~1.~~3. The plan shall show the static water pressure at the point of connection to the public water supply and the flow rate in gallons, the application rate in inches per hour and the design operating pressure in pressure per square inch for each station.

2.4. The irrigation system shall be designed to prevent runoff, overspray, low- head drainage and other similar conditions where irrigation water flows or sprays onto areas not intended for irrigation. The plan shall also demonstrate how grading and drainage techniques promote healthy plant growth and prevent erosion and runoff.

3.5. The plan shall identify each area irrigated with recycled water.

4.6. The plan shall provide that any slope greater than 25 percent will be irrigated with an irrigation system with a precipitation rate of .75 inches per hour or less to prevent runoff and erosion. As used in this chapter, 25 percent grade means one foot of vertical elevation change for every four feet of horizontal length. An applicant may employ an alternative design if the plan demonstrates that no runoff or erosion will occur.

5.7. The plan shall provide that all wiring and piping under a paved area that a vehicle may use, such as a parking area, driveway or roadway, will be installed inside a PVC conduit.

6.8. The plan shall provide that irrigation piping and irrigation devices that deliver water, such as sprinkler heads, shall be installed below grade if they are within 24 inches of a vehicle or pedestrian use area. The Director may allow on- grade piping where landform constraints make below grade piping infeasible.

7.9. The plan shall provide that only low volume or subsurface irrigation shall be used to irrigate any vegetation within 24 inches of an impermeable surface unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.

8.10. The irrigation system shall provide for the installation of a manual shutoff valve as close as possible to the water supply. Additional manual shutoff valves shall be installed between each zone of the irrigation system and the water supply.

9.11. The irrigation system shall provide that irrigation for any landscaped area will be regulated by an automatic irrigation controller.

12. The irrigation system shall be designed with landscape irrigation efficiency necessary to meet the MAWA.

13. The plan shall provide master shut-off valves except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.

14. The plan shall provide low sensors that detect high flow conditions created by system damage or malfunction are required for all on non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.

15. All irrigation emission devices must meet the requirements set in the

American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard, All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014

~~10.~~16. Areas less than ten (10) feet in width in any direction on the plans shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

~~11.~~17. The plan shall describe each automatic irrigation controller the system uses to regulate the irrigation schedule and whether it is a weather based system or moisture detection system. The plan shall depict the location of electrical service for the automatic irrigation controller or describe the use of batteries or solar power that will power valves or a smart controller.

16.12.100. Water Efficient Landscape Worksheet.

The water efficient landscape worksheet required by section 16.12.070 shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect or other person with similar professional training and shall contain the following:

A. A hydrozone information table that contains a list of each hydrozone in the landscaped area of the project and complies with the following requirements:

1. For each hydrozone listed, the table shall identify the plant types and water features in the hydrozone, the irrigation methods uses, the square footage and the percentage of the total landscaped area of the project that the hydrozone represents.

2. The plant types shall be categorized as turf, high water use, moderate water use or low water use.

~~2.~~3. Information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydro-zone. Calculations shall be made to show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of special landscape areas. The ETAF for a landscape project is based on the plant factors and irrigation methods selected. The maximum applied water allowance is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and expressed as annual gallons required. The estimated total water use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA.

B. Water budget calculations, which shall meet the following requirements:

1. The plant factor used shall be from WUCOLS III. The plant factor ranges from 0.1 for very low water use plants, 0.3 for low water use plants, 0.5 for moderate

water use plants, and 0.8 for high water use plants. A plan that mixes plants in a hydrozone that require a different amount of water shall use the plant factor for the highest water using plant in the hydrozone. Turf shall have a plant factor of 1.0.

2. All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.~~Temporarily irrigated areas shall be included in the low water use hydrozone. Temporarily irrigated as used in this chapter means the period of time when plantings only received water until they become established.~~

2.

3. All Special Landscape Areas shall be identified and their water use calculated as shown in 23 CCR Div. 2 Ch. 2.7 Appendix B.

~~3. The surface area of a water feature shall be included in a high water use hydrozone.~~

~~3.~~4. The calculations shall use the formula for the MAWA in section 16.12.130 and for the ETWU in section 16.12.140.

~~4.~~ ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.~~Each special landscaped area shall be identified on the worksheet and the area's water use calculated using an ETAF of 1.0.~~

16.12.110. Grading Design Plan.

The grading design plan required by section 16.12.070 shall be prepared by a California licensed civil engineer, licensed landscape architect, licensed architect or person with similar professional training and shall comply with the following requirements:

A. The grading on the project site shall be designed for the efficient use of water by minimizing soil erosion, runoff and water waste, resulting from precipitation and irrigation.

C. The plan shall show the finished configurations and elevations of each landscaped area including the height of graded slopes, the drainage pattern, pad elevations, finish grade and any stormwater retention improvements.

16.12.120. Irrigation Schedule.

The irrigation schedule required by section 16.12.070 shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect or person with similar professional training and provide the following information.

A. A description of the automatic irrigation system that will be used for the project.

B. The evapotranspiration data relied on to develop the irrigation schedule, including the source of the data.

C. The time period when overhead irrigation will be scheduled and confirm that no overhead irrigation shall be used between the hours of 10:00 a.m. and 8:00 p.m.

D. The parameters used for setting the irrigation system controller for watering times for:

1. The plant establishment period.
2. Established landscaping.
3. Temporarily irrigated areas
4. Different seasons during the year.

E. The consideration used for each station for the following factors:

1. The days between irrigation.
2. Station run time in minutes for each irrigation event, designed to avoid runoff.
3. Number of cycle starts required for each irrigation event, designed to avoid runoff.
4. Amount of water to be applied on a monthly basis.
5. The root depth setting.
6. The plant type setting.
7. The soil type.
8. The slope factor
9. The shade factor.

16.12.130. Maximum Applied Water Use.

A. A landscape project subject to this chapter shall not exceed the MAWA. The MAWA for a landscape project shall be determined by the following calculation:

MAWA = (ETo)(0.62)[0.7 x LA + 0.3 x SLA]

B. The abbreviations used in the equation have the following meanings:

1. MAWA = Maximum Applied Water Allowance in gallons per year.
2. ETo = Evapotranspiration in inches per year.
3. 0.62 = Conversion factor to gallons per square foot.
4. 0.7 = ET adjustment factor for plant factors and irrigation efficiency
5. LA = Landscaped area includes special landscaped area in square feet.

6. 0.3 = the additional ET adjustment factor for a special landscaped area (1.0 – 0.7 = 0.3)

7. SLA = Portion of the landscaped area identified as a special landscaped area in square feet.

16.12.140. Estimated Total Water Use.

A. An applicant for a project subject to this chapter shall calculate the ETWU for each landscaped area and the entire project using the following equation:

ETWU = (ETo)(0.62)(PF x HA / IE + SLA)

B. The abbreviations used in the equation have the following meanings:

1. ETWU = Estimated total water use in gallons per year.

2. ETo = Evapotranspiration in inches per year.

3. 0.62 = Conversion factor to gallons per square foot.

4. PF = Plant factor from WUCOLS

5. HA = Hydrozone Area in square feet. Each HA shall be classified based upon the data included in the landscape and irrigation plan as high, medium or low water use.

6. IE = Irrigation Efficiency (minimum 0.71).

7. SLA = Special landscaped area in square feet.

C. The ETWU for a proposed project shall not exceed the MAWA.

16.12.150. Adjustment to Landscaped Area for Non-Vegetated Area.

Rock and stone or pervious design features, such as decomposing granite ground cover that are adjacent to a vegetated area may be included in the calculation of the MAWA and ETWU provided the features are integrated into the design of the landscape area and primary purpose of the feature is decorative.

16.12.160. New Single Family Residential Projects with Limited Landscaping.

An applicant for a building permit for a new single family residence subject to this chapter where the landscaped area of the project is less than 2,500 square feet for rehabilitated landscapes and 500 square feet for new development~~less than 5,000 square feet~~ shall, as a condition of obtaining a building permit, submit an application to establish a MAWA and/or a best landscape design practices checklist for the property on the form approved by the Director.

16.12.170. Cemeteries

A. A person submitting an application for a cemetery shall submit the following:

1. A concept plan, as described in section 16.12.050.
2. A water efficient irrigation worksheet that calculated the MAWA for the project with the application that complies with section 16.12.100.
3. A landscape irrigation and maintenance schedule that complies with 16.12.230.

16.12.180. Regulations Applicable to Use of Turf on Landscaped Areas.

The following regulations shall apply to the use of turf on a project subject to this chapter:

A. Only low volume or subsurface irrigation shall be used for turf in a landscaped area:

1. On a slope greater than 25 percent grade where the toe of the slope is adjacent to an impermeable hardscape.

2. Where any dimension of the landscaped area is less than six feet wide.

B. On a commercial, industrial or multi-family project, no turf shall be allowed on a center island median strip or on a parking lot island.

C. A ball field, park, golf course, cemetery and other similar use shall be designed to limit turf in any portion of a landscaped area not essential for the operation of the facility.

D. No turf shall be allowed in a landscaped area that cannot be efficiently irrigated, such as avoiding runoff or overspray.

~~D.~~E. These regulations do not apply to the use of artificial turf.

16.12.190. Projects with Model Homes.

A person who obtains a permit to construct a single family residential development that contains a model home shall provide a summary of this chapter prepared by the Director of Community Development to each adult visitor that visits a model home. If an adult visitor is accompanied by one or more adults during the visit, only one set of written materials is required to be provided. Each model home shall provide an educational sign in the front yard of the model home visible and readable from the roadway that the home faces that states in capital black lettering at least two inches high on a white sign, “THIS MODEL HOME USES WATER EFFICIENT LANDSCAPING AND IRRIGATION.”

16.12.200. Recycled Water.

A. A person who obtains a permit for a project that is subject to this chapter shall use recycled water for irrigation when tertiary treated recycled water is available from

B. the water purveyor who supplies water to the property for which the City issues a permit.

C. A person using recycled water shall install a dual distribution system for water received from a public water surveyor. Pipes carrying recycled water shall be purple.

D. A person who uses recycled water under this section shall be entitled to an ETAF of 1.0.

E. This section does not excuse a person using recycled water from complying with all State and local laws and regulations related to recycled water use.

16.12.210. Graywater Systems.

~~(a)~~ Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and any applicable local ordinance standards. Refer to Section 16.12.040 (b) for the applicability of this ordinance to landscape areas less than 2,500 square feet with the Estimated Total Water Use met entirely by graywater.

16.12.220~~210~~. Landscaping and Irrigation Installation.

A person issued a landscape approval for a project, other than a single-family residence where the landscaped area of the project is less than 2,500 square feet for rehabilitated landscapes and 500 square feet for new development, shall install the approved landscaping and irrigation system before final inspection of the project.~~A person issued a water use authorization for a project other than a single family residence where the landscaped area of the project is less than 5,000 square feet shall install the approved landscaping and irrigation system before final inspection of the project.~~

16.12.230~~220~~. Landscaping and Irrigation Maintenance.

A. A property owner using water on property subject to a landscape approval other than a single-family residence with a total landscaped area less than 2,500 square feet for rehabilitated landscapes and 500 square feet for new development ~~less than 5,000 square feet~~, shall prepare a maintenance schedule for the landscaping and irrigation system on the project. The schedule shall provide for (1) routine inspection to guard against runoff and erosion and to detect plant or irrigation system failure, (2) replacement of dead, dying and diseased vegetation, (3) eradication of invasive species, (4) repairing the irrigation system and its components, (5) replenishing mulch, (6) soil amendment when necessary to support and maintain healthy plant growth, (7) fertilizing, pruning and weeding and maintaining turf areas, and (8) maintenance to avoid obstruction of motorists' view. The schedule shall also identify who will be responsible for maintenance.

B. After approval of a landscape plan, the owner is required to:

1. Maintain and operate the landscaping and irrigation system on the property consistent with the MAWA.

2. Maintain the irrigation system to meet or exceed an irrigation efficiency necessary to meet MAWA.

3. Replace broken or malfunctioning irrigation system components with components of the same materials and specifications, their equivalent or better.
4. Ensure that when vegetation is replaced, replacement plantings are representative of the hydrozone in which the plants were removed and are typical of the water use requirements of the plants removed, provided that the replaced vegetation does not result in mixing high water use plants with low water use plants in the same hydrozone.

16.12.240230. Certificate of Completion.

Each person issued a landscape approval, other than a single family residence with a total landscaped area of less than 2,500 square feet for rehabilitated landscapes and 500 square feet for new development ~~less than 5,000 square feet~~ shall submit:

A. A signed certificate of completion, under penalty of perjury, on a form provided by the Director of Community Development within 10 days after installation.

1. The certificate shall include a statement verifying that the landscaping and irrigation were installed as allowed in the approved landscape and irrigation plan, all approved soil amendments were implemented, the installed irrigation system is functioning as designed and approved, the irrigation control system was properly programmed in accordance with the irrigation schedule, and the person operating the system has received all required maintenance and irrigation plans.

2. Where there have been significant changes to the landscape plan during the installation of landscaping or irrigation devices or irrigation system components, the professional of record for the landscape design shall submit “as built” plans that show the changes.

3. The certificate shall be signed by the professional of record for the landscape design.

B. An irrigation schedule that complies with section 16.12.120 that describes the irrigation times and water usage for the project. A soil management report that complies with section 16.12.080, if the applicant did not submit the report with the landscape documentation package.

16.12.250240. Waste Water Prevention.

A. No person shall use water for irrigation that due to runoff, low head drainage, overspray or other similar condition, water flows onto adjacent property, non-irrigated areas, structures, walkways, roadways or other paved areas.

B. No person whose landscape is subject to a landscape approval pursuant to this chapter shall apply water to the landscape in excess of the MAWA.

C. No person shall fail to maintain the irrigation system installed as part of a city

approved landscape documentation package as required by this section.

C. The local agency shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

16.12.260. Irrigation Audit.

A. This section shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size.

- For all landscapes in Section 16.12.040 A.1.~~(a)(1)~~ that have a water meter, the local agency shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the Maximum Applied Water Allowance for existing landscapes. The Maximum Applied Water Allowance for existing landscapes shall be calculated as: MAWA = (0.8) (ETo) (LA) (0.62).

- For all landscapes in Section 16.12.040 A. 1.~~(a)(1)~~, that do not have a meter, the local agency shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.

B. ~~(b)~~ All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

16.12.270~~250~~. Enforcement

A. This c~~C~~hapter shall be enforced using the civil and criminal provisions found in Title I (General Provisions) of the Imperial Beach Municipal Code. All remedies are cumulative.

B. Nothing herein prevents the City from inspecting properties, in a manner allowed by law, to determine if violations of this Chapter have occurred, including the use of water audit procedures as authorized by law.

16.12.280~~260~~. Fees

An applicant for a project subject to this chapter shall include with the application, all fees established by Resolution by the City Council to cover the City's cost to review an application, any required landscape documentation package and any other documents the City reviews pursuant to the requirements of this chapter.

16.12.290. Reporting

A. Local agencies shall report on implementation and enforcement by December 31, 2015. Local agencies responsible for administering individual ordinances shall report on their updated ordinance, while those agencies developing a regional ordinance shall report on their existing ordinance. Those agencies crafting a regional ordinances shall also report on their new ordinance by March 1, 2016. Subsequently, reporting for all agencies will be due by January 31st of each year. Reports shall be submitted to the Department of Water Resources.

B. Local agencies are to address the following:

1. State whether you are adopting a single agency ordinance or a regional agency alliance ordinance, and the date of adoption or anticipated date of adoption.

2. Define the reporting period. The reporting period shall commence on December 1, 2015 and the end on December 28, 2015. For local agencies crafting regional ordinances with other agencies, there shall be an additional reporting period commencing on February 1, 2016 and ending on February 28, 2016. In subsequent years, all local agency reporting will be for the calendar year.

3. State if using a locally modified Water Efficient Landscape Ordinance (WELO) or the MWELO. If using a locally modified WELO, how is it different than MWELO, is it at least as efficient as MWELO, and are there any exemptions specified?

4. State the entity responsible for implementing the ordinance.

5. State number and types of projects subject to the ordinance during the specified reporting period.

6. State the total area (in square feet or acres) subject to the ordinance over the reporting period, if available.

7. Provide the number of new housing starts, new commercial projects, and landscape retrofits during the reporting period.

8. Describe the procedure for review of projects subject to the ordinance.

9. Describe actions taken to verify compliance. Is a plan check performed; if so, by what entity? Is a site inspection performed; if so, by what entity? Is a post-installation audit required; if so, by whom?

10. Describe enforcement measures.

11. Explain challenges to implementing and enforcing the ordinance.

12. Describe educational and other needs to properly apply the

ordinance.