ITEM 9.C.

MOORPARK CITY COUNCIL
AGENDA REPORT

TO: **Honorable City Council**

FROM: **David A. Bobardt, Community Development Director**
Prepared by: Joseph Fiss, Principal Planner

DATE: **March 23, 2012 (CC Meeting of 4/4/2012)**

SUBJECT: **Consider Resolution Amending the City's Landscape Design Standards and Guidelines by Adding Section 12.6: Artificial Turf and Rescinding Resolution No. 2011-2966**

BACKGROUND

Recently, the Community Development Department has received a request to install artificial turf at a duplex home on Marquette Street. Currently, the City's Landscape Design Standards and Guidelines do not address the use of artificial turf.

DISCUSSION

Although the City's codes and guidelines currently do not address artificial turf, its use is becoming increasingly popular, due primarily to water conservation and ease of maintenance. Since artificial turf has not been defined as natural landscaping, its installation has been viewed in the same manner as decorative hardscape such as pavers, concrete, gravel, or decomposed granite. This interpretation has allowed its use in rear and side yards, especially on large lots where natural turf would be difficult to maintain. This leaves the challenge of addressing the use of artificial turf in front yards, especially where visible from public streets. With rapid improvement in the aesthetics of artificial turf, its use in front yards is becoming more visually acceptable.

The Moorpark Municipal Code and the City's Landscape Guidelines do not require specific landscaping percentages or a particular level of design. Landscaping is approved through site planning, in a manner consistent with the Landscape Guidelines, which provide performance standards for landscaping, as well as approved and prohibited plant materials.

The newer residential neighborhoods in Moorpark have been approved through the Residential Planned Development (RPD) Permit process and most have Homeowner's Associations (HOA). Within these neighborhoods, front yard landscaping is fairly well regulated by the HOAs, in a manner consistent with City approved landscape plans and guidelines for each RPD Permit. Landscape regulation is more challenging in older neighborhoods where no landscape plans were ever approved and no percentage of landscaping is required.

The Cities of Thousand Oaks and Camarillo have not adopted policies or ordinances regarding the use of artificial turf. On February 27, 2012, the City of Simi Valley adopted an ordinance amending their landscaping regulations by conditionally allowing the use of artificial turf.

Attached is a draft resolution that would amend the City's Landscape Design Standards and Guidelines by adding Section 12.6 to allow the installation of artificial turf in privately-maintained front yards of single detached and duplex homes under certain conditions with a Zoning Clearance, and in HOA-maintained residential front yards and multiple unit residential front yards with an Administrative Permit. The use of artificial turf is recommended to be prohibited as landscaping for commercial and industrial properties except for active or passive recreational use, as the guidelines do not allow for turf in these uses except for recreational applications.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

Adopt Resolution No. 2012-____.

Attachment: Draft Resolution with Revised Landscape Design Standards and Guidelines

RESOLUTION NO. 2012-____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MOORPARK, CALIFORNIA, AMENDING THE CITY'S LANDSCAPE STANDARDS AND GUIDELINES BY ADDING SECTION 12.6: ARTIFICIAL TURF AND RESCINDING RESOLUTION NO. 2011-2996

WHEREAS, on February 2, 2011, the City Council of the City of Moorpark adopted Resolution No. 2011-2996 updating the City's Landscape Design Standards and Guidelines; and

WHEREAS, the City Council wishes to amend the City's Landscape Design Standards and Guidelines to address the use of artificial turf in residential front yards; and

WHEREAS, the City Council concurs with the Community Development Director's determination that this action is exempt from the provisions of the California Environmental Quality Act by the general rule that CEQA only applies to projects that may have a significant effect on the environment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MOORPARK DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. AMENDMENT OF GUIDELINES: The City's Landscape Design Standards and Guidelines are hereby amended by adding Section 12.6: Artificial Turf as contained in Exhibit A of this Resolution.

SECTION 2. Resolution No. 2011-2996 is hereby rescinded.

SECTION 3. The City Clerk shall certify to the adoption of this resolution and shall cause a certified resolution to be filed in the book of original resolutions.

PASSED AND ADOPTED this 4th day of April, 2012.

_____
Janice S. Parvin, Mayor

ATTEST:

_____
Maureen Benson, City Clerk

CC ATTACHMENT

Exhibit A: Revised Landscape Design Standards and Guidelines

EXHIBIT A

LANDSCAPE DESIGN STANDARDS AND GUIDELINES

CITY OF MOORPARK

Community Development Department
799 Moorpark Avenue
Moorpark, CA 93021
805-517-6224

Adopted by City Council on ____
Resolution No. 2011-____

TABLE OF CONTENTS

SECTION 1. GENERAL INFORMATION

1.1 Applicability
1.2 Water Conservation
1.3 Ecological Viability
1.4 Development of Community Character
1.5 Public Access and Enjoyment
1.6 Fire Mitigation

SECTION 2. PROCESSING PROCEDURES

2.1 Pre-Submittal Meeting
2.2 Conceptual Landscape Package Submittal
2.3 Conceptual Plan Review and Approval
2.4 Guarantee/Surety and Exoneration of Surety
2.5 Installation and Inspection
2.6 Compliance

SECTION 3. LANDSCAPE PLAN SUBMITTAL REQUIREMENTS

3.1 Plan Check Fees
3.2 General Plan Preparation Requirements
3.3 Planting Plan Requirements
3.4 Soils Analysis
3.5 Irrigation Plan Requirements
3.6 Landscape and Irrigation Maintenance Schedule

SECTION 4. INSTALLATION VERIFICATION

4.1 Approved Plans/Conditions
4.2 Landscape Condition Compliance Review

SECTION 5. CONTINUED COMPLIANCE REQUIRED

SECTION 6. WATER BUDGET

6.1 Water Efficient Landscape Worksheet
6.2 Effective Precipitation
6.3 Irrigation Scheduling
6.4 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis

SECTION 7. PUBLIC RIGHT-OF-WAY

7.1 Parkways and Streetscapes
7.2 Median Island Planting Requirements

SECTION 8. COMMERCIAL, INDUSTRIAL, AND MULTI-FAMILY PROJECTS

SECTION 9. UTILITIES

SECTION 10. PARKING AREAS

SECTION 11. EROSION CONTROL AND NATURAL AREAS

SECTION 12. RESIDENTIAL DEVELOPMENTS

12.1 Water Efficient Model Home Requirement
12.2 Private Front Yards
12.3 Street Trees
12.4 Streetscape Concept
12.5 Walls and Fencing
12.6 Artificial Turf

ATTACHMENTS:

I. LANDSCAPE PLAN REVIEW CHECKLIST
- General Plan Requirements
- Slope Planting Plan Requirements
- Planting Plan Requirements
- Irrigation Plan Requirements
- Landscape Inspection Requirements (City Maintained Areas)
- Landscape Inspection Requirements (Homeowners Association, Commercial, and Other Non-City Maintained Areas)
- City Approval Block (must be on title sheet)

II. GENERAL RECOMMENDED PLANT LIST

III. PROVISIONALLY ACCEPTABLE PLANT LIST

IV. INVASIVE AND PROHIBITED PLANT LIST

V. RECOMMENDED TREES FOR STREETS

VI. REIMBURSEMENT AGREEMENT FOR LANDSCAPE PLAN REVIEW

VII. CERTIFICATES OF COMPLIANCE

VIII. SAMPLE WATER EFFICIENT LANDSCAPE WORKSHEETS
- Hydrozone Information Table
- Effective Precipitation (Eppt)
- Maximum Applied Water Allowance (MAWA)
- Estimated Total Water Use (ETWU)

IX. CITY STANDARD PLANTING DETAILS (PLATES 1-1 THROUGH 1-5)
1-1 Tree Planting Detail
1-2 Tree Guying Detail
1-3 Tree Planting on Slope Detail
1-4 Shrub Planting Detail
1-5 Shrub on Slope Planting Detail

X. CITY STANDARD IRRIGATION DETAILS

2-1 Remote Control Valve Detail
2-2 Anti-siphon Valve Detail
2-3 Backflow Preventer Detail
2-4 Bubbler Detail
2-5 Pop-up Rotor Detail
2-6 Rotor On Slope Detail
2-7 Pop-up Spray Head Detail
2-8 Riser Spray Detail

XI. PLANTING DESIGN REQUIREMENT FIGURES

12-1 Slope Planting w/View Fence (Elevation)
12-2 Slope Planting w/Screen Wall (Elevation)
12-3 Slope Planting at Single-Family Residence (Plan View)
12-4 Slope Planting a Multi-Family Residence (Plan View)

SECTION 1. GENERAL INFORMATION

The purpose of this guide is to assist in the preparation of landscape plans while incorporating water conservation measures, design aesthetics, and landscape consistency throughout the City of Moorpark. It has been prepared by the City of Moorpark Community Development Department as a guide for use by landscape architects and others involved with the development of projects within the City. These standards and guidelines include water use and landscape plan submittal requirements as outlined in the California Code of Regulations, Title 23, Waters, Division 2, Department of Water Resources, Chapter 2.7, Model Water Efficient Landscape Ordinance (MWELO) adopted by the State of California on September 10, 2009, as well as the City's minimum landscape standards established to create a sense of community character. The landscape plans must meet the basic criteria within these standards and guidelines. Items which utilize mandatory language ("shall") are considered standards and must be adhered to. Additionally, certain projects may be required to exceed the minimum standards to achieve specific objectives. The items which utilize directory language ("should") are considered guidelines, and may be interpreted with some flexibility to meet goals which result in community benefit.

1.1 Applicability: These standards and guidelines apply to all of the following landscape projects:

- New construction and rehabilitated landscapes for public agency projects and private development projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review;
- New construction and rehabilitated landscapes which are developer-installed in single-family and multi-family projects, with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;
- New construction landscapes which are homeowner-provided and/or homeowner-hired in single-family and multi-family residential projects with a total project landscape area equal to or greater than 5,000 square feet requiring a building or landscape permit, plan check or design review; and
- New and rehabilitated cemeteries.
- Water quality treatment facilities, including but not limited to basins and swales. Final review and approval subject to relevant permitting agency.

These standards and guidelines do not apply to:

- Registered local, state, or federal historical sites;
- Ecological restoration projects that do not require a permanent irrigation system;
- Mined-land reclamation projects that do not require a permanent irrigation system;
- Plant collections, as part of botanical gardens and arboretums open to the public;

- New construction and rehabilitated landscapes which are developer-installed in single-family and multi-family projects with a landscape area equal to or less than 2,499 square feet requiring a building or landscape permit, plan check, or design review; and
- New construction landscapes which are homeowner-provided and/or homeowner-hired in single-family and multi-family residential projects with a total project landscape area equal to or less than 4,999 square feet requiring a building or landscape permit, plan check, or design review.

1.2 **Water Conservation:** Water conservation through landscaping offers the greatest single opportunity for water savings in the urban area. About forty percent (40%) of urban water is used to irrigate landscaped areas in California. A water-efficient landscape includes water efficient (drought tolerant) plants, efficient irrigation systems, proper soil preparation, responsive maintenance and watering schedules, and reuse of water (wherever possible) such as grey water, reclaimed or recycled water systems. Water-efficient design can both reduce project costs and reduce the amount of water usage for landscaping. Due to the increasing demand for water and the limited supply in Ventura County and within the City of Moorpark, water-efficient landscaping shall be required in new developments and existing developments undergoing significant modifications.

Included within these standards and guidelines are Water Budget and Projected Water Use Calculations as well as a list of City approved plants and their suggested landscape use. The applicant may expand upon the material list with approval by the Community Development Director, but all suggestions must meet the basic criteria within the standards and guidelines, including:

- Drought tolerant planting;
- Limitation of lawn areas;
- Efficient irrigation;
- Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data;
- Proper soil preparation, including use of mulch;
- Responsive maintenance and watering schedule;
- Use of surfaces that allow percolation of stormwater, such as turfcrete, gravel, porous pavements, vegetative groundcover, mulch, etc;
- Surface drainage through bioswales; and
- Stormwater storage for reuse onsite, such as cisterns.

1.3 **Ecological Viability:** The landscape plans should incorporate sensible conservation of public resources, including water, soil, biodiversity, energy resources, air quality, agricultural, recreational and wildlife open space, and other such resources in the public interest. Judicious conservation is cost-effective in both project construction and maintenance. Landscape. plans that incorporate conservation also integrate with the character of the City's community and environs. The

applicant is encouraged to take full advantage of the wide range of possibilities in design and technology within the framework established by this guide.

A list of invasive and prohibited plants is provided (Attachment IV). The Community Development Director or his/her designee may allow usage of select plants on this list in landscape areas that do not interface with sensitive ecological zones. Methods of increasing ecological viability include:

- Reduced disturbance of soil and natural terrain through minimizing grading and working with the natural topography as much as possible;
- Narrower road design and layouts with shorter road lengths, to reduce infrastructure costs and impermeable surfaces, as well as to increase opportunity to conserve natural resources, viewsheds and other space-requiring amenities in newly developed areas;
- Native topsoil conservation and renewal, by saving topsoil and replacing it after grading, by re-vegetating with native plants, and other landscape regeneration methods;
- Minimization of runoff via on-site stormwater retention/infiltration through open-bottom and vegetated swales and/or detention/retention basins, and other aesthetically enriching project amenities;
- Slope stabilization with appropriate vegetation;
- Use of drought-tolerant non-invasive native plants adjacent to designated natural resource areas and waterways;
- Use of recycled materials of local origin for hardscaping, mulching and/or soil amendments;
- Protection of viewsheds and open space areas; and
- Multiple uses for landscapes, such as stormwater parks, to maximize available land area and natural resources, and to increase the quality of public service or economic opportunity.

1.4 Development of Community Character: It is the intent of these standards and guidelines to provide a sense of community character that is compatible with the City's culture and environment, and to strengthen the perception of the community as a unique place. The aim of community character development is to create and enhance a community identity, to increase the enjoyment and sense of community among the public, and to enhance the image of the community as a desirable place to live, work and shop.

A. Design with consistency and maintain a high standard of aesthetics:

1. Design elements should compliment the architectural theme;
2. Private and public uses should be visually separate, but aesthetically consistent;
3. Public and private streets should take on an individual appearance with a common street tree and design intent; and
4. Landscape areas and streetscape should include 'surprises' such as a large focal tree.

B. Introduce design ideas that complement the City's cultural heritage and natural history such as:

1. "Ranch" style and early Spanish architecture;
2. Natural landscape elements such as native trees and shrubs;
3. Natural building material such as river rock and boulders;
4. The City's agricultural heritage;
5. The railroad;
6. The arroyo; and
7. Local chaparral and riparian plant communities.

C. Integrate conservation and efficiency whenever possible, to enhance enjoyment of the unique characteristics of the area, such as:

1. Mild, sunny climate;
2. Maritime weather patterns;
3. Distinctive shape of the existing terrain;
4. Viewsheds;
5. Beauty of local natural history; and
6. Local building materials.

1.5 Public Access and Enjoyment: The landscape plans shall meet all Title 24 and ADA accessibility requirements as well as all applicable codes for fire and building in order to promote health, safety and community welfare. The intent of these standards and guidelines is to universally provide safe access for use and enjoyment, on new projects and on modifications of existing projects.

A. ADA accessibility and Title 24 requirements shall be incorporated for public, commercial and industrial projects, for both new projects and modification of existing projects.

B. Landscapes shall be viable, functional and attractive, to provide universal access, use and enjoyment. Landscapes shall provide for the health, safety and welfare of the community, through compliance with all applicable ordinances for fire, health and safety.

C. In addition to ADA accessibility, landscapes should be designed for specific user populations as needed, whether for an elderly population, youth, or for specific disabilities such as blindness. Specific landscape functions and amenities should be considered. Examples include:

1. Raised beds to wheelchair height and reach for handicapped and elderly access in a community garden;
2. Casual seating located along pedestrian ways positioned for "people watching", such as benches, steps, planters or grassy slopes, with a view onto a park, plaza or street; and

3. Textured surfaces along pedestrian ways to guide non-sighted pedestrians.

D. Landscapes shall enhance the microclimate and character of pedestrian ways and gathering places by adequately providing the following:

1. Shade, from trees or from overhead structures;
2. Screening;
3. Seating;
4. Lighting;
5. Circulation, including adequate separation of pedestrian, bicycle, equestrian and vehicular circulation; and
6. Attractive gathering spaces with focal amenities.

1.6 Fire Mitigation: A Fuel Modification Plan may be required when a proposed project contains or is bounded by hazardous native vegetation as determined by the Ventura County Prevention District. This plan will demonstrate how the proposed project will mitigate potential fire hazards. The final Fuel Modification Plan shall be submitted in conjunction with landscape plans prior to review by the City. The final approved Fuel Modification Plan may take precedence over these standards and guidelines.

SECTION 2. PROCESSING PROCEDURES

2.1 Pre-Submittal Meeting: A pre-submittal meeting familiarizes the applicant with the review process, and identifies the information and materials necessary to file landscape plans. A pre-submittal meeting can be arranged by contacting the case planner at the Community Development Department.

2.2 Conceptual Landscape Package Submittal: After the applicant has prepared all the information identified during the pre-submittal meeting, the landscape package shall be formally submitted with the required fee deposit in accordance with fee schedule and signed Reimbursement Agreement. (See Attachment VI)

A. Elements to be included in the conceptual landscape plan package are as follows:

1. Existing trees and shrubs to be removed and/or protect in place;
2. Structures or buildings to be removed and/or protect in place;
3. Tree, shrub and groundcover plant palette;
4. Street tree plan;
5. General plant sizes and locations;
6. All design elements, site features and flatwork, including elevations or perspective drawings of those features;

7. Project entry monumentation layout and elevations or perspective drawings.
8. Walls and fences including details;
9. Paving and walkways;
10. Color and material schedule. Samples should be included for City to review;
11. All site amenities. At a minimum, the site amenities should reference color and material (i.e. wood, metal, etc.);
12. Site and landscape lighting;
13. Preliminary parking lot shading plan if applicable. Plan should Address all four seasons (refer to Section 10); and
14. Preliminary utility screening plan (refer to Section 9).

2.3 Conceptual Plan Review and Approval: Upon receipt of the landscape package, the City's case planner shall review it for completeness and forward it to the City's landscape representative as designated in writing by the City Manager (herein after referenced as City's landscape representative) for review. The City's landscape representative's review, which normally takes two weeks, consists of an on-site inspection and package review for consistency with City standards as outlined by this guide. Upon completion of the review, the consultant returns the package to the Planning Division with recommendations for approval or modification. This process is repeated until approval is achieved. Based upon the recommendations of the City's landscape representative and case planner, the Community Development Director shall approve the project's landscape package.

2.4 Guarantee/Surety and Exoneration of Surety: A surety bond may be required as a condition of approval in the following cases:

A. To assure plant viability at least one year after installation.

B. To assure installation of plants after issuance of a Zoning Clearance by the Planning Division and Certificate of Occupancy by Building and Safety. (This would normally be allowed only on non-sloped areas of residential projects where the applicant is providing landscaping).

If, upon final landscape inspection, the Community Development Director determines that the landscaping and irrigation have been installed in accordance with the approved plans, the Community Development Director may recommend that the guarantee/surety be returned to the applicant.

2.5 Installation and Inspection: Landscaping for commercial, industrial, residential, Homeowners Association areas, City Parks, City maintained landscape areas and Landscape Maintenance Districts shall be installed prior to issuance of a Certificate of Occupancy by the City Building and Safety Division unless otherwise approved by the Community Development Director. The applicant's landscape architect shall be required to certify in writing to the Community Development Director that all work has been installed in accordance with the approved plans and

specifications. The City's landscape representative shall conduct the final landscape inspection after receipt of the certification. (See Section 4 – Installation Verification and Attachment I – Landscape Submittal Plan Checklist & Landscape Inspection Requirements). For Commercial, industrial, residential and Homeowner's Association landscape areas a 90 day maintenance period is required, and for City Maintained areas and Landscape Maintenance Districts a one year maintenance period is required upon installation of new landscaping and irrigation to ensure survivability and maintenance of new landscaped areas prior to final approval (as also noted in forthcoming Sections 3.3.e; 4.2.a.2 and 4.2.b.1).

2.6 **Compliance:** Discretionary development permits may be conditioned for follow-up inspections to verify a maintenance program, water management auditing, or compliance with environmental mitigation measures. Failure by the applicant, successor in interest, or homeowner's association to maintain installed common area landscaping and/or irrigation systems will constitute a violation of the Conditions of Approval and/or Mitigation Measures of the development permit.

SECTION 3. LANDSCAPE PLAN SUBMITTAL REQUIREMENTS

The project's landscape package shall be prepared by a California Registered Landscape Architect. Plans must be wet-stamped, signed and dated. The plan submittal shall include the following (see Attachment I – Landscape Plan Review Checklist):

3.1 **Plan Check Fees:** The applicant shall pay the deposit fee in accordance with the fee schedule and submit a signed reimbursement agreement to cover landscape review and inspection. Fees shall include costs of any required follow-up inspections. (See Attachment VI – Reimbursement Agreement for Plan Review)

3.2 **General Plan Preparation Requirements:** (See Attachment I – Landscape Plan Review Checklist)

A. Base Sheets:

1. Plans shall be drawn on clear and legible base sheets prepared especially for the landscape submittal.
2. Plans shall not exceed 30" x 42" or be less than 22" x 36" in size.
3. Base Sheets should accurately and clearly show the following existing and proposed features:

   a) property lines;
   b) streets, street rights-of-way, access easements and/or public or private driveways, walkways, bike paths, and any other paved areas;
   c) all existing and proposed buildings and structures;
   d) parking areas, lighting, striping, curbs and wheel stops;

e) all existing and proposed trees, shrubs and other significant landscape features; i.e., water courses, rock outcroppings, etc.;
f) grading areas; top and toe of slopes, slope direction (engineer's Precise Grading plans must included with submittal);
g) all Utilities, including street lighting, fire hydrants, transformers, electric meters, irrigation equipment, air conditioning units, etc.;
h) existing native vegetation, on-site and on contiguous parcels, may be shown in a generalized manner; and
i) fire clearance zone, if applicable (Approved Fuel Modification Plan must be included with submittal).

B. Scale: The scale shall not be smaller than 1"=20' unless prior approval is received from the Community Development Director.

C. Title Block: A title block shall be included on all plans indicating the names, addresses and phone numbers of the applicant and the landscape architect. The title block shall include a north arrow, scale for each sheet, date, project applicant's name, address and phone number, property owner's name, address and phone number and project address. The title block shall include the California Registered Landscape Architect's seal. Each sheet shall be 'wet-signed' for final approval.

D. Title Sheet: Content of the Title Sheet shall include the following:

1. Project title;
2. Title block;
3. Vicinity map;
4. Location map;
5. Sheet index;
6. Total landscape area, in square feet;
7. Project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed, homeowner's association);
8. Water supply type (e.g., potable, recycled, well water) and identify the local retail water purveyor;
9. Applicant's signature and date with the statement 'I agree to comply with the requirements of the Model Water Efficient Landscape Ordinance';
10. Landscape approval block (see Attachment I – Landscape Plan Review Checklist); and
11. Landscape inspection schedule (see Attachment I – Landscape Plan Review Checklist).

E. Other Items:

1. One (1) copy of the engineer's precise grading plans shall be included with the landscape submittal.

2. One (1) copy of the architectural elevations and floor plans shall be included with the landscape submittal.
3. The final Fuel Modification Plan shall be included with the landscape submittal if applicable.

3.3 Planting Plan Requirements: (See Attachment I – Landscape Plan Review Checklist) Plan Preparation Requirements:

A. Plant Material:

1. Plant material chosen for a particular project shall be selected from the General Recommended Plant List (Attachment II), Recommended Trees for Streets (Attachment V) or the Provisional Plant List (Attachment III) with approval by the Community Development Director, provided the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance (See Section 6). To encourage the efficient use of water, the following is highly recommended:

   a) protection and preservation of native species and natural vegetation;
   b) selection of water-conserving plant and turf species; and
   c) selection of plants based on disease and pest resistance.

2. Each hydrozone shall have plant materials with similar water use.
3. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:

   a) use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
   b) recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; and
   c) consider the solar orientation for plant placement to maximize summer shade and winter solar gain.

4. Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).

5. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.
6. The use of invasive and/or noxious plant species is not allowed.
7. The architectural guidelines of a common interest development, which includes community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

B. Water Features:

1. Recirculating water systems shall be used for water features.
2. Where available, recycled water shall be used as a source for decorative water features.
3. Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
4. Pool and spa covers are highly recommended.

C. Mulch and Amendments:

1. A minimum two inch (2") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
2. Stabilizing mulching products shall be used on slopes.
3. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.

D. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (See Section 3.4 below)

E. A Horticultural Soils Analysis with recommendations shall be included on the landscape plans and shall incorporate recommendations specific to the plants selected for the project. (See Section 3.4 below)

F. Planting plans for commercial, industrial, residential and Homeowners Association areas must include notation that a ninety (90) day maintenance period is required and that expenses are to be paid for by the owner. The City's landscape representative shall inspect all landscape areas for installation and maintenance compliance after the ninety (90) day maintenance period has ended. 100% plant survivability shall be required. (See Section 4.2, Landscape Condition Compliance Review)

G. Planting plans for City maintained areas and Landscape Maintenance Districts must include notation that a one (1) year maintenance period is required and that the expenses are to be paid for by the owner. The City's landscape representative shall inspect the landscape areas for installation and maintenance compliance after the one (1) year maintenance period has ended. 100% plant survivability and 100% coverage shall be required. (See Section 4.2, Landscape Condition Compliance Review)

H. The planting plan shall include a Maintenance Schedule on either the plans or in the specifications. (See Section 3.6 below)

1. Planting notes and specifications shall be included.
2. Existing and proposed grades and drainage elements are shown.
3. All hydrozones shall be delineated by number, letter, or other method.
4. Each hydrozone shall be identified as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation.
5. All design elements shown on the approved Landscape Concept Plan shall be identified; i.e. recreational areas, outdoor eating areas, trails, etc.
6. Areas permanently and solely dedicated to edible plants shall be identified on the plans.
7. Areas irrigated with recycled water shall be identified on the plans.
8. Types of pervious and non-pervious surfaces shall be identified on the plans.
9. Location and spacing of all plants are clearly identified.
10. Common and botanical names of all plants are listed in the plant legend.
11. The WUCOLS plant factor for each plant species identified on the plan shall be listed in the plant legend.
12. Size and quantity of all plants are listed.
13. Seed mix information including:
    a) rate;
    b) mix;
    c) mulch;
    d) binder;
    e) fertilization; and
    f) inoculation.
14. Planting details and general planting notes shall be included.
15. Identify the location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Stormwater best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
    a) infiltration beds, swales, and basins that allow water to collect and soak into the ground;

b) constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and
c) pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.

16. Identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.).
17. Contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan". Statement shall be signed and dated by the project landscape architect.
18. The planting plan shall bear the California Registered Landscape Architect's name, seal and registration number and each sheet shall be 'wet-signed'.

3.4 Soils Analysis: A soils report performed by a laboratory that is a member of the California Association of Agricultural Laboratories shall be attached to the landscape plans. The soil sample tested shall be taken after site grading and the date of the sample shall be included on the report. The planting backfill mixture and soil amendments shall be based on this analysis. Use of soil amendments produced from recycled yard trimmings and/or organic wastes of local origin is encouraged, whenever feasible.

A. Submit soil samples to a laboratory for analysis recommendations:

1. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
2. The soil analysis shall include the following:
   a) infiltration rate determined by laboratory test or soil texture infiltration rate table;
   b) Determination of soil texture indicating the percentage of organic matter;
   c) Measure of pH and total soluble salts shall be indicated;
   d) Percentage of sodium.
   e) Amendments and recommendations for improving water-holding properties shall be noted.

B. The project applicant, or his/her designee, shall comply with one of the following:

1. If significant mass grading is not planned, the soil analysis report shall be included on the landscape plans; or
2. If significant mass grading is planned, the soil analysis report shall be submitted as part of the Certificate of Completion.

C. The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.

D. The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations with the Certificate of Completion.

3.5 Irrigation Plan Requirements: (See Attachment I – Landscape Plan Review Checklist) All landscape areas shall be provided with an approved irrigation system that meets the requirements of this section. Specific site conditions and proposed landscape materials will determine the design of the irrigation system. The irrigation system shall deliver water efficiently and uniformly. All equipment shall be designed for installation per manufacturer's recommendation, and conform to Uniform Plumbing Codes and all local regulations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package:

A. Irrigation System:

1. Dedicated landscape water meters are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management.
2. Landscape areas exceeding 5,000 square feet shall be installed on a designated water meter. A separate meter provides for monitoring of landscape irrigation efficiency.
3. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required for irrigation scheduling in all irrigation systems.
4. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
5. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
6. Static water pressure, dynamic or operating pressure. and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.
7. Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
8. Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water

loss in case of an emergency (such as a main line break) or routine repair.

9. Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall contact the County of Ventura, Environmental Health Division for additional backflow prevention requirements. Notation shall be on the landscape plan that the backflow device must be tested at a minimum of once a year. All backflow devices shall be installed in a mesh enclosure with green or tan powder coating or stainless steel construction..
10. Quick coupling valves are required at one hundred foot (100') intervals throughout the project.
11. High flow sensors that detect and report high flow conditions created by system damage or malfunction are required.
12. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
13. Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
14. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
15. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 6 regarding the Maximum Applied Water Allowance.
16. The project landscape architect shall inquire with the Ventura County Water Works District about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
17. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
18. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
19. Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
20. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.
21. Check valves or anti-drain valves are required for all irrigation systems.
22. Plastic (PVC) mainline piping requires placement not less than 18" below final grade and minimum twenty-four inches (24") below finish surface of streets, with lateral lines requiring 12" depth. UVR (Ultra Violet Resistant) above

ground pipe shall only be installed on slope areas. All piping at the toe-of-slope condition shall be installed below grade. Galvanized lines shall be above ground. Other piping shall be considered for drip or temporary irrigation. Piping for reclaimed water systems shall follow current County Health and State Health standards for pipe color, depth and separation. All irrigation piping under streets or flatwork shall be sleeved with sch 40 PVC minimum two (2) times the diameter of the pipe enclosed.

23. Drip emitters or bubblers with a designated control valve shall be installed for all trees on slopes exceeding 3:1.
24. The irrigation system shall be installed with a back-up system should an operating valve fail to shutoff or a break in the mainline occurs. The back up system shall consist of a master valve with flow meter.
25. Narrow or irregularly shaped areas, including turf, less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or low volume irrigation system.
26. If reclaimed water is available, and if installation is determined to be feasible and is approved by the Ventura County Environmental Health Division in conjunction with the local water purveyor, a reclaimed irrigation system shall be installed. Reclaimed irrigation equipment shall be clearly labeled with appropriate identification symbols, tags, purple pipe color, etc. Applicant shall Contact the Ventura County Environmental Health Division for irrigation equipment identification requirements.
27. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:
    a) the landscape area is adjacent to permeable surfacing and no runoff occurs; or
    b) the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
    c) the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria described in this section. Prevention of overspray and runoff must be confirmed during the irrigation audit.
28. Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified, if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

29. The installation of recycled water irrigation systems shall allow for the current and future use of recycled water, unless a written exemption has been granted by the local water purveyor stating that recycled water meeting all public health codes and standards is not available and will not be available for the foreseeable future.
30. Irrigation systems and decorative water features shall use recycled water unless a written exemption has been granted by the local water purveyor stating that recycled water meeting all public health codes and standards is not available and will not be available for the foreseeable future.
31. All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.
32. Landscape areas using recycled water are considered Special Landscape Areas. The ET adjustment factor for Special Landscape Areas shall not exceed 1.0.

B. Hydrozone:

1. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
2. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
3. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.
4. Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:
   a) the irrigation system is designed to separate the individual water needs of each specific plant species; and
   b) plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
   c) the plant factor of the higher water using plant is used for calculations.
5. Individual hydrozones that mix high and low water use plants shall not be permitted.
6. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Attachment VIII). This table can also assist with the irrigation audit and programming the controller.

C. The irrigation design plan shall at a minimum contain the following:

1. location and size of separate water meters for landscape purposes;
2. location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
3. static water pressure at the point of connection to the public water supply
4. The plans shall include the landscape inspection requirements. The inspection schedule shall be included on the Title Sheet. (See Attachment I)
5. Worst case pressure loss calculation for the circuit with the highest demand, farthest distance from the POC and highest elevation shall be provided.
6. Details and specifications shall be provided for all irrigation system components.
7. flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
8. recycled water irrigation systems as applicable;
9. the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan". Statement shall be signed and dated by the project landscape architect.; and
10. The irrigation plan shall bear the name of the certified irrigation designer or the California Registered Landscape Architect's name, seal and registration number and each sheet shall be 'wet-signed'

3.6 Landscape and Irrigation Maintenance Schedule: Landscapes of residential common areas, commercial or industrial projects, Homeowners Association area, City maintained landscape areas and Landscape Maintenance Districts shall be carefully and competently maintained to ensure water efficiency and high quality appearance. A watering schedule encased in plastic shall be kept inside each controller (with reduced as-built plans showing hydro-zones). Maintenance guideline notes must appear on the planting plan drawings. Using these standards and guidelines, a schedule for ongoing maintenance shall be prepared and shown on the planting plan. The maintenance guidelines shall be as follows:

A. Any alterations to the landscape must be approved by the Community Development Director.

B. Control all harmful diseases and pests. All chemical applications must be per state licensed advisors and applications.

C. Pruning shall be done to keep plants within special limitations, removal of deadwood, cross-branching, etc., per International Society of Arboriculture (ISA) standards. Plants shall never be sheared unless specified on the approved plan. Trees are to be

allowed to grow to the designed size to provide maximum shading of paved areas.

D. Water shall be applied for optimum plant growth with zero runoff or overspray. Adjust controllers per current California Irrigation Management Information System (CIMIS) data. Information can be obtained at www.cimis.ca.gov.

E. Always replace heads with the same kind of head, or head with a matching precipitation rate.

F. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.

G. Backflow device shall be tested and certified annually by the Ventura County Environmental Health Division.

H. Inspect tree supports frequently, and remove as soon as the plants will stand without support and will be able to resist wind damage. Never allow support materials to girdle the trunk or branches.

I. Landscape irrigation shall be scheduled during the night or early morning hours.

J. A regular maintenance schedule shall include, but not limited to, routine inspection, adjusting, and repairing the irrigation equipment; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; weeding; removing litter in all landscaped areas; and removing obstructions to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance only. Verify with the Ventura County Water Works District for current allowable time for irrigation water use.

SECTION 4. INSTALLATION VERIFICATION

4.1 Approved Plans/Conditions: Copies of the approved landscape plans and conditions are kept and available at the City of Moorpark, Community Development Department.

4.2 Landscape Condition Compliance Review: Prior to completion of the landscape installation and prior to final inspection, the City's landscape representative and case planner shall inspect the site and certify that the landscape complies with these standards and guidelines per the attached inspection schedule (see Attachment I). The applicant shall notify the City a minimum of forty-eight (48) hours prior to inspection.

Upon completion of the installation of the landscaping and prior to final inspection, the applicant's landscape consultant shall inspect the site and certify that the landscape complies with these standards and guidelines. Certification shall be accomplished by completing the Certificate of

Compliance checklists (see attachment VII). Concurrently or afterwards, the City's landscape representative and case planner shall inspect the landscape planting and irrigation installation for final conformance with the approved plans and specifications.

A. Commercial, industrial, residential, and Homeowners Association landscape areas:

1. The applicant's landscape architect shall be required to certify in writing to the Community Development Director that all work has been installed in accordance with the approved plans and specifications. The City's landscape representative shall conduct a preliminary landscape inspection upon receipt of the certification. (See Section 4, Attachment I – Landscape Submittal Plan Checklist & Landscape Inspection Requirements and Attachment VII – Preliminary Certificate of Compliance)
2. Upon written preliminary acceptance by the City's landscape representative, the landscape areas shall be maintained by the applicant for a period of ninety (90) days. After the ninety (90) day maintenance period, the project landscape architect shall re-inspect the landscape areas for compliance with the approved landscape plans and specifications and certify in writing to the Community Development Director that all work has been installed and maintained in accordance with the approved plans and specifications. The City's landscape representative shall conduct the final landscape inspection after receipt of the certification. (See Attachment VII – Final Certificate of Compliance)
   a) 100% plant survivability shall be required and all irrigation system components, landscape materials, site features, hardscape and drainage devices shall be inspected and in optimum operating condition.
   b) As-built plans, backflow assembly test reports, soils analysis reports, four (4) sets of controller keys, laminated and color coded irrigation control charts and all relevant product data and warranties shall be submitted to the HOA, owner and/or property management company.

B. City parks, City maintained areas and Landscape Maintenance Districts:

1. The project landscape architect shall be required to certify in writing to the Community Development Director that all work has been installed in accordance with the approved plans and specifications. The City's landscape representative will conduct a preliminary landscape inspection after receipt of the certification. (See Section 4, Attachment I – Landscape Submittal Plan Checklist & Landscape Inspection Requirements and Attachment VII – Preliminary Certificate of Compliance)

Upon written preliminary acceptance by the City's landscape representative, the Landscape Maintenance District areas shall be maintained by the applicant for a one (1) year prior to final acceptance. After the one (1) year period, the project landscape architect shall re-inspect the landscape areas for compliance with the approved landscape architect plans and specifications and certify in writing to the Community Development Director that all work has been installed and maintained in accordance with the approved plans and specifications. The City's landscape representative will conduct the final landscape inspection after receipt of the certification. (See Attachment VII – Final Certificate of Compliance)

a) 100% plant survivability and 100% coverage shall be required.
b) All irrigation system components shall be installed per plan, inspected and in optimum operating condition.
c) All landscape materials, site features, hardscape and drainage devices shall be inspected and in optimum operating condition.
d) As-built plans, backflow assembly test reports, soils analysis reports, four (4) sets of controller keys, laminated and color coded irrigation control charts and all relevant product data and warranties shall be submitted to the City.
e) Digital files in both pdf and AutoCAD file format shall be submitted to the City of all landscape and as-built plans or other format as required by the City's landscape representative.

SECTION 5. CONTINUED COMPLIANCE REQUIRED

The applicant, successor in interest, or homeowner's association shall maintain installed landscaping and efficient irrigation systems in compliance with the Conditions of Approval and/or Mitigation Measures of the development permit.

SECTION 6. WATER BUDGET

6.1 Water Efficient Landscape Worksheet

A. The project landscape architect shall complete the Water Efficient Landscape Worksheet which contains two sections (See Attachment VIII):

1. Hydrozone information table (See Attachment VIII) for the landscape project; and
2. Water budget calculations (See Attachment VIII) for the landscape project.

For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use an ETo value of 51.1 for the City of Moorpark as found in the CIMIS

Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.

B. Water budget calculations shall adhere to the following requirements:

1. The plant factor used shall be from WUCOLS. The plant factor ranges from 0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
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.
3. All Special Landscape Areas shall be identified and their water use calculated as described below.
4. ETAF for Special Landscape Areas shall not exceed 1.0.

C. Maximum Applied Water Allowance (MAWA):The Maximum Applied Water Allowance shall be calculated using the equation:

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

The example calculations below are hypothetical to demonstrate proper use of the equations and do not represent an existing and/or planned landscape project. The ETo values used in these calculations are for deomstration purposes only. For actual irrigation scheduling, automatic irrigation controllers are required and shall use current reference evapotranspiration data, such as from the California Irrigation Management Information System (CIMIS), other equivalent data, or soil moisture sensor data.

Example (1): MAWA calculation: a hypothetical landscape project in Fresno, CA with an irrigated landscape area of 50,000 square feet without any Special Landscape Area (SLA= 0, no edible plants, recreational areas, or use of recycled water). To calculate MAWA, the annual reference evapotranspiration value for Fresno is 51.1 inches.

MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (to gallons)
0.7 = ET Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)
MAWA = (51.1 inches) (0.62) [(0.7 x 50,000 square feet) + (0.3 x 0)]
= 1,108,870 gallons per year
To convert from gallons per year to hundred-cubic-feet per year:
= 1,108,870/748 = 1,482 hundred-cubic-feet per year
(100 cubic feet = 748 gallons)

Example (2): In this next hypothetical example, the landscape project in Fresno, CA has the same ETo value of 51.1 inches and a total landscape area of 50,000 square feet. Within the 50,000 square foot project, there is now a 2,000 square foot area planted with edible plants. This 2,000 square foot area is considered to be a Special Landscape Area.

MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
MAWA = (51.1 inches) (0.62) [(0.7 x 50,000 square feet) + (0.3 x 2,000 square feet)]
= 31.68 x [35,000 + 600] gallons per year
= 31.68 x 35,600 gallons per year
=1,127,808 gallons per year or 1,508 hundred-cubic-feet per year

D. Estimated Total Water Use (ETWU): The Estimated Total Water Use shall be calculated using the equation below. The sum of the Estimated Total Water Use calculated for all hydrozones shall not exceed MAWA.

$$ETWU = (ETo)(0.62)\left(\frac{PF\,x\,HA}{IE} + SLA\right)$$

Where:
ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
PF = Plant Factor from WUCOLS
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor
E = Irrigation Efficiency (minimum 0.71)

For the purpose of determining Maximum Applied Water Allowance and Estimated Total Water Use, average irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average landscape irrigation efficiency of 0.71.

Example (1) ETWU calculation: landscape area is 50,000 square feet; plant water use type, plant factor, and hydrozone area are shown in the table below. The ETo value is 51.1 inches per year. There are no Special Landscape Areas (recreational area, area permanently and solely dedicated to edible plants, and area irrigated with recycled water) in this example.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	10,000	7,000
3	Medium	0.5	16,000	8,000
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	24,700

*Plant Factor from WUCOLS

$$ETWU = (51.1)(0.62)\left(\frac{24{,}700}{0.71} + 0\right)$$

= 1,102,116 gallons per year
Compare ETWU with MAWA: For this example MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 0)] = 1,108,870 gallons per year. The ETWU (1,102,116 gallons per year) is less than MAWA (1,108,870 gallons per year). In this example, the water budget complies with the MAWA.

Example (2) ETWU calculation: total landscape area is 50,000 square feet, 2,000 square feet of which is planted with edible plants. The edible plant area is considered a Special Landscape Area (SLA). The reference evapotranspiration value is 51.1 inches per year. The plant type, plant factor, and hydrozone area are shown in the table below.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	9,000	6,300
3	Medium	0.5	15,000	7,500
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	23,500
6	SLA	1.0	2,000	2,000

*Plant Factor from WUCOLS

$$ETWU = (51.1)(0.62)\left(\frac{23,500}{0.71} + 2,000\right)$$

= (31.68) (33,099 + 2,000)
= 1,111,936 gallons per year

Compare ETWU with MAWA. For this example:
MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 2,000)]
= 31.68 x [35,000 + 600]
= 31.68 x 35,600
=1,127,808 gallons per year

The ETWU (1,111,936 gallons per year) is less than MAWA (1,127,808 gallons per year). For this example, the water budget complies with the MAWA.

6.2 Effective Precipitation: A local agency may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance: MAWA= (ETo - Eppt) (0.62) [(0.7 x LA) + (0.3 x SLA)].

6.3 Irrigation Scheduling: For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:

A. Irrigation scheduling shall be regulated by automatic irrigation controllers.

B. Applicant shall contact the Ventura County Water Works District to obtain current allowable hours of irrigation. In no case shall irrigation scheduling occur before 8:00 PM and 6:00 AM. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance only.

C. For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.

D. Parameters used to set the automatic controller shall be developed and submitted for each of the following:

1. The plant establishment period;
2. The established landscape; and
3. Temporarily irrigated areas.

E. Each irrigation schedule shall consider for each station all of the following that apply:

1. Irrigation interval (days between irrigation);
2. Irrigation run times (hours or minutes per irrigation event to avoid runoff);
3. Number of cycle starts required for each irrigation event to avoid runoff;
4. Amount of applied water scheduled to be applied on a monthly basis;
5. Application rate setting;
6. Root depth setting;
7. Plant type setting;
8. Soil type;
9. Slope factor setting;
10. Shade factor setting; and
11. Irrigation uniformity or efficiency setting.

6.4 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis

A. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

B. For new construction and rehabilitated landscape projects installed after January 1, 2010:

1. the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule;
2. 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.

SECTION 7. PUBLIC RIGHT-OF-WAY

Special attention should be given to the planning and design of areas that are to be maintained by the City and/or are within the public right-of-way. These areas should utilize drought tolerant planting material, planting material that is low maintenance and utilize water conservation techniques without compromising the aesthetics of the design.

7.1 Parkways and Streetscapes: The design and layout of the streetscape is not only important to identify and individualize the project area, but also to capture the characteristics of Moorpark. The following goals should be considered:

A. The street tree should be of the same species for each street to promote consistency and area identity.

B. The streetscape must be designed with parkways.

C. Sidewalks should meander whenever possible.

D. Secondary trees outside of the right-of-way should consist of randomly spaced tree groves and informal massings.

E. Trees and shrubs should be chosen to provide varying texture, color and form.

F. The landscaping should be consistent with the architectural theme.

G. Shrub plantings should consist of layers of planting of varying heights.

H. General Streetscape Requirements:

1. There shall be a minimum of one (1) shrub or perennial per ten (10) s.f. and one (1) tree per four-hundred (400) s.f., exclusive of street trees located within the parkway area.
2. Shrubs shall be minimum 5-gallon size.
3. Accent and perennials shall be located in groupings or massings along the planting edges at a distance not to exceed twenty feet (20)' on center. The accent and perennial groupings are exclusive of the shrub-planting requirement. Accent and perennial plant massings shall consist of minimum 1-gallon container size plants with a minimum of fifty (50) plants per grouping. Larger groupings at a distance greater than thirty feet (30') may be installed with City approval provided the plant quantities are met.
4. With the exception of street trees and median island trees, the minimum tree size is 24" box.
5. All shrub areas shall be installed with flatted groundcover unless the landscape is installed with container plantings that will fill in within one year.
6. All shrub areas shall be installed with minimum two-inch (2") depth of bark mulch.
7. All planting shall be drought tolerant and low maintenance.
8. Six-inch (6") wide concrete headers shall be installed between turf and shrub areas and shall delineate landscape maintenance areas.

I. Street Tree Requirements:

1. Street trees should be spaced according to the mature canopy size of the tree, but in no circumstance should the spacing exceed thirty feet (30') on center without City approval.

2. Street trees shall be minimum 24" box size with minimum 1 ¼" caliper. Trees shall be between eight (8') to twelve (12)' height with a minimum two foot (2') wide spread.
3. Trees shall be standard trunk, not multi-trunk.
4. All street trees within ten feet (10') of walks, curbs, or other hardscape areas shall be installed with a linear root barrier ten feet (10') in length by twenty-four inch (24") in depth installed against the hardscape area centered on the tree trunk.
5. Trees shall be located per the sight distance requirements established by the City Engineer at intersections. Unless otherwise determined by the City Engineer, street trees shall not be closer than twenty-five (25') to the back of curb return.
6. Street trees shall be located no less than five feet (5') from curbs, sidewalks and other hardscape areas, unless they are located in parkways. Trees within parkways shall be centered in the parkway.
7. Street trees shall be located no less than ten feet (10') from utility poles and light standards, fire hydrants, utility structures and driveway aprons.
8. Trees that may exceed twenty feet (20') vertical height at maturity shall not be located under utility lines.

7.2 Median Island Planting Requirements

A. General Requirements:

1. There shall be a minimum of one (1) shrub per ten (10) s.f. and one (1) tree per four-hundred (400) s.f.
2. Shrubs shall consist of minimum 5-gallon container sizes.
3. In median islands ten feet (10') wide or greater, accent and perennials shall be located in massings along the planting edges at a distance not to exceed thirty feet (30') on center and shall be exclusive of the shrub-planting requirement. Accent and perennial plant massings shall consist of minimum 1-gallon container size plants with a minimum of twenty-five (25) plants per grouping. Larger groupings at a distance greater than thirty feet (30') may be installed provided the plant quantities are met.
4. Median island trees shall be minimum 24" box size.
5. All shrub areas shall be installed with flatted groundcover unless the landscape is installed with container plantings that will fill in within one year.
6. All shrub areas shall be installed with minimum two-inch (2") depth of bark mulch.
7. Turf is not allowed in the median islands.
8. All planting shall be drought tolerant and low maintenance.
9. All trees shall be installed with a linear root barrier ten feet (10') in length by twenty-four inch (24") in depth installed against the hardscape area centered on the tree trunk.

B. Planting Design Requirements:

1. Median island trees shall consist of a variety of tree species of varying form, texture and color. Flowering and canopy trees are encouraged.
2. Trees shall be located per the sight distance requirements established by the City Engineering Department. Trees shall not be installed adjacent to a turn pocket.
3. Shrubs located adjacent to the turn pocket shall not exceed eighteen inches (18") in height. Larger shrubs are permitted at a distance of twenty feet (20') from the beginning of the turn pocket, but shall not exceed thirty inches (30") in height.
4. Turf is not permitted in median islands.
5. An eighteen-inch (12") wide decorative hardscape edge shall be installed along the entire length of the median island adjacent to the curb for maintenance. The hardscape band shall consist of either colored, stamped concrete, or concrete pavers, to match the architectural theme of the project.

SECTION 8. COMMERCIAL, INDUSTRIAL AND MULTI-FAMILY PROJECTS

Landscape screening is particularly important with respect to commercial, industrial and multi-family street frontages. The large building mass, parking areas and maintenance staging areas are all relatively visible from the street frontage and require landscaping to soften the architecture and screen utility structures.

A. General Planting Requirements:

1. Minimum percentage of landscape coverage shall be provided within on-site parking areas consistent with Chapter 17.32 of the Moorpark Municipal Code.
2. There shall be a minimum of one (1) shrub per one-hundred (100) s.f. and one (1) tree per five-hundred (500) s.f., exclusive of street trees located within the parkway area.
3. Shrubs shall consist of eighty percent (80%) 5-gallon and twenty percent (20%) 1-gallon of each variety.
4. Turf shall only be allowed in passive or active 'recreational' areas, provided the project Water Budget is achieved (See Section 6). Turf shall not exceed ten percent (10%) of the total landscape area without prior City approval.
5. Large groupings of accent, perennials and annuals are required.
6. Trees shall be a minimum seventy-five percent (75%) 24" box and twenty-five percent (25%) 15-gallon.
7. All shrub areas shall be installed with flatted groundcover unless the landscape is installed with container plantings that will fill in within one year.
8. All shrub areas shall be installed with minimum two-inch (2") depth of bark mulch.
9. The planting palette shall be consistent with these standards and guidelines.
10. Turf shall not be installed on slopes that exceed 4:1.

B. Planting Design Requirements:

1. The landscape buffer shall consist of tall vertical trees adjacent to the building and lower canopy trees adjacent to the street frontage.
2. The tree planting shall consist of a mixture of evergreen, deciduous and flowering trees.
3. All utilities, trash enclosures, maintenance staging areas, etc. shall be screened from view.
4. A parkway with street trees shall be installed at the street frontage.
5. Large specimen trees and enhanced landscaping shall be located at the entry locations. Specimen trees shall be minimum 36" box size.
6. Parking areas should be screened from public view from the street.

SECTION 9. UTILITIES

To reduce the visibility of generally unattractive utility equipment, landscape screening shall be incorporated. For the purpose of these standards and guidelines, utility structures are any appurtenances that are above ground and have been installed in conjunction with new construction or are existing and part of a newly renovated project (i.e. electric meters, transformers, irrigation equipment, air conditioning units, etc.). The landscape plans shall identify all utility structures on site and provide appropriate screening.

A. General Design Requirements:

1. All utility structures shall be screened from view with appropriate landscaping. Minimum 15-gallon container size shrubs are required.
2. Utility structures shall utilize camouflage, disguising the facility as a natural or more aesthetically pleasing man-made object to soften its visual impact on its surroundings.
3. Access to utility structures shall be maintained, while at least seventy-five percent (75%) of the structure shall be screened from view.
4. Bollards shall not be installed with any new utility equipment unless required by governing agency.
5. All utility equipment shall be located at the rear of the property.
6. All utility equipment shall be located in shrub areas with a minimum of three feet (3') clear distance around all sides for appropriate landscape screening.
7. Screening shall take into consideration traffic sight distance requirements established by the City Engineer.

SECTION 10. PARKING AREAS

Parking lots should be designed to provide ease of access and safety as well as to enhance the visual quality of the City. The ultimate goal of the design is to

provide a safe environment, minimize the visual appearance of the large expanse of asphalt and to reduce glare, ambient temperature and traffic noise.

A. General Design Requirements:

1. A minimum of ten percent (10%) of the total parking area shall consist of landscaping. Landscaping shall be computed on the basis of the net parking facility, which includes parking stalls (covered and uncovered), aisles and walkways, but does not include required landscaping adjacent to streets and within the public right-of-way.
2. All parking rows shall terminate with a planter or island that is a minimum of eight-foot (8') width with a twelve inch (12") decorative concrete step-out adjacent to each curb face, for a step out which has a total width of eighteen inches (18"), parallel to the parking stalls. Parking rows shall not exceed forty feet (40') in length without the addition of a diamond planter, planter finger or island.
3. A minimum of one (1) tree per every four (4) stalls is required to meet the shade requirement.
4. There shall be a minimum of one (1) shrub per ten (10) s.f.
5. Shrubs shall consist of eighty percent (80%) 5-gallon size and twenty percent (20%) 1-gallon size.
6. Interior shrub planting shall not exceed thirty inches (30") in height.
7. Turf is not allowed in parking areas.
8. Additional groupings of accent plants and perennials are required.
9. The minimum tree size is 24" box.
10. All shrub areas shall be installed with flatted groundcover unless the landscape is installed with container plantings that will fill in within one year.
11. All shrub areas shall be installed with minimum two-inch (2") depth of bark mulch.
12. The planting palette shall be consistent with these standards and guidelines.

B. Planting Design Requirements:

1. The parking area and parked cars shall be adequately screened from view from the street frontage with landscaping or Low profile walls, not exceeding three and one-half (3 1/2) feet in height, consisting of decorative concrete, stone, brick, or similar types of masonry materials consistent with the architecture of the on-site buildings and combined with on-site landscaping.
2. There shall be a minimum of fifty percent (50%) tree shade coverage of the parking area. This is determined at two-thirds (2/3) tree maturity or fifteen (15) years after installation.
3. A shade coverage exhibit must be submitted to the Community Development Director for review and approval.
4. A minimum of one (1) planter, eight feet (8') in width with a twelve inch (12") decorative concrete, or decorative paver step-out adjacent to each curb face, parallel to the parking stalls, shall be

provided at a minimum of every forty (40) lineal feet, and at the terminus of every parking aisle.

5. A minimum of one (1) 'diamond' planter shall be provided at a minimum of every fourth stall within the parking area or adjacent to pedestrian or landscape areas, or near buildings as needed to obtain the shade coverage requirements.
6. A minimum of one (1) planter, eight feet (8') in width with a twelve inch (12") decorative concrete, or decorative paver step-out adjacent to each curb face, parallel to the parking stalls, shall be provided at every eight (8) stalls adjacent to the building or street frontage. Additional tree massings shall be included adjacent to these areas to provide the shade coverage required.
7. Decorative paving material is required to break up the large expanse of concrete or asphalt to the satisfaction of the Community Development Director.
8. Landscape areas shall be designed so as to discourage pedestrians from crossing any landscape areas to reach building entrances or parked vehicles.
9. Landscape islands shall be designed with walkways that encourage pedestrian circulation through the parking area.
10. Wheel stops are not allowed.
11. An eighteen inch (18") wide decorative concrete band adjacent to the access side of the vehicle shall be installed adjacent to median islands and planter curbs for pedestrian access.
12. Median islands shall be a minimum of five feet (5') wide without a walkway and fifteen feet (15') wide with a five-foot (5'), walkway not including the curb. When the access side of a vehicle is parallel to a median island, the median island width shall be increased to accommodate an eighteen inch (18") decorative concrete step-out adjacent to the curb, (including the six inch wide curb).

SECTION 11. EROSION CONTROL AND NATURAL AREAS

Erosion control landscaping is required to reduce soil erosion and excessive runoff due to construction activities. Erosion control landscaping can also provide an aesthetically pleasing hillside with the proper selection of plant material and design intent.

A. General Design Requirements:

1. Slope planting design should incorporate three (3) levels of vegetation: ground cover, shrubs and trees. Each planting level should provide varying levels of height, texture and color.
2. 'Ornamental' orchards are strongly discouraged and shall only be considered on a case-by-case basis and accompanied by a long-term care and maintenance plan.
3. A minimum five-foot (5') wide Transition Zone of ornamental planting shall separate streets or sidewalks from native areas. The planting species chosen for these areas shall not be invasive or subject to naturalizing and shall be drought tolerant.

4. Pepper Trees are strongly discouraged except as specimen trees within the historic downtown area.
5. Eucalyptus Trees are strongly discouraged and shall only be considered on a case-by-case basis.
6. All manufactured slopes, three feet (3') or greater in vertical height, shall be planted with groundcover from cuttings, shrubs and trees. Hydroseed may be considered adjacent to naturalized areas with prior City approval.
7. All manufactured slopes, five feet (5') or greater in vertical height, shall be installed with jute mesh or equal per City approval.
8. Shrubs on slopes shall be planted at a minimum of one (1) shrub per one-hundred (100) square feet.
9. Trees on slopes shall be planted at a minimum of one (1) tree per three-hundred-fifty (350) square feet.
10. Minimum tree size is seventy-five percent (75%) 15-gallon and twenty-five percent (25%) 24" box.
11. Minimum shrub size is sixty percent (60%) 5-gallon and forty percent (40%) 1-gallon.
12. All slopes planted with cuttings shall be treated with a pre-emergent herbicide per the manufacturer's recommendations and must be identified on the landscape plans.
13. Any existing slope area cleared by construction activity shall, at a minimum, be "'re-vegetated" with a hydroseed mix, shrubs and trees and an automatic temporary irrigation system. The restoration requirement for cleared areas will be per the City's discretion. At a minimum, the cleared area shall be restored to its original condition and shall meet the minimum tree and shrub size and quantity requirements of this section.
14. All existing vegetation shall be retained to the greatest extent possible. The City shall determine mitigation measures for the loss of existing trees.
15. To the greatest extent possible, existing trees that cannot be preserved shall be relocated on site.
16. All manufactured slopes shall be permanently irrigated with an automatic irrigation system.
17. Unimproved disturbed and slope areas shall be landscaped within one-hundred-eighty (180) days following the issuance of a grading permit and/or within thirty (30) days prior to the issuance of a Certificate of Occupancy.
18. Temporary slope erosion control plans are required if the unimproved areas are not permanently planted and irrigated through the rainy season.
19. All slope erosion control plans, temporary slope erosion control plans and landscape plans that include disturbed areas, shall be approved prior to the issuance of a building permit and shall be submitted prior to the issuance of a grading permit.
20. All hardscape structures such as bench drains and slough walls shall be designed to blend into the hillside with matching colored concrete or masonry color.
21. All hardscape structures shall be screened with plant material.

22. Slope landscaping for City maintained landscape areas shall not be accepted by the City until 100% planting coverage has been attained.

B. Planting Design Requirements:

1. Slope planting shall promote varying height, mass, texture, color and form. Large masses of shrubs shall be designed in groupings.
2. The slope planting must reinforce the theme of the hillside area.
3. Plant material shall reinforce the natural hillside terrain and/or general manufactured topography.
4. Low growing and medium size shrubs shall be placed at the lower slope areas in large massings. Medium and large shrub massings should be intermingled at the mid and upper slopes areas. Plantings must respect neighboring views (see fig. 12.1 & 12.2 in Attachment IX).
5. Canopy trees shall be placed at the lower slope areas and shall not grow above the height of the top of slope at view conditions. Canopy trees shall be placed in random clusters adjacent to property lines to open view corridors. Vertical trees shall be located at the upper slope areas adjacent to property lines at view conditions (see fig. 12.3, 12.4 in Attachment IX).
6. Trees located on large slopes shall be grouped in clusters to maintain a natural appearance.
7. Transitional planting must be provided between areas of introduced landscaping and areas to remain natural so that there is no stark break between ornamental landscaped areas and native areas.

C. Irrigation Design Standards:

1. All manufactured slopes shall be installed with a permanent, automatic irrigation system.
2. UVR PVC, or "brownline", may be installed only on homeowner association or City maintained slopes with City approval. However, all toe-of-slope conditions shall be buried and installed with pop-up heads.
3. Private slopes shall be installed with buried PVC pipe.
4. All slope irrigation shall be installed with an approved means of backflow prevention.
5. Separate circuits shall be installed for top, toe and mid slope conditions.
6. Spray heads shall be designed to avoid bench drains. Heads shall be installed on both sides to maintain coverage.
7. Spray heads shall be designed with respect to the topography.
8. A master valve with flow sensor is required at all point of connections.
9. Rain sensing override devices are required.
10. Worst case pressure loss calculations shall be included for the circuit with the highest volume, the circuit with the longest run from the POC and the circuit at the highest elevation.

11. An irrigation schedule and laminated color coded controller chart shall be included within the irrigation controller box.
12. All necessary means shall be taken to prevent low head drainage. The plans must specify that any head that drains for more than sixty (60) seconds requires a check valve.

SECTION 12. RESIDENTIAL DEVELOPMENTS

12.1 Water-Efficient Model Home Requirements

A. General: These requirements apply to all Residential Zones whenever model homes are involved. If there are two or more model homes, one shall be designed to meet the water-saving landscaping condition for residential tracts. Each "water-saving" model home shall contain exclusively low-water use plant materials and efficient irrigation systems with appropriate signs and information for prospective home buyers.

B. Water Meter: Each model in the complex, including the low-water use model, shall be equipped with a water meter to generate records on how much water the landscape uses. The information will be used in public information materials about the model and the water-saving potential for low-water use landscapes.

C. Plant Material: All plants used are to be low-water using types and readily available in Ventura County or other nearby sources. The plants used should be attractive, including some flowering types, require relatively little maintenance once established, and enhance the appearance of the model.

D. Use of Lawn: The Water-Efficient model shall meet the Water Budget requirements of Section 6. In no case shall the turf area of the Water-Efficient model exceed fifteen percent (15%) of the net landscaped area. The net landscaped area is the gross area minus the house foot print, the driveway, detached garage, attached covered patio, slopes of 4:1 ratio or steeper. Low-water use varieties of lawn shall be used.

E. Irrigation System: The irrigation system serving a low-water use landscape shall include a bubbler and/or drip irrigation system. Any sprinklers shall be located properly to minimize overspray onto unplanted areas. Moisture sensors shall be used with a sign and diagram indicating their locations. The moisture sensor will override the controller if the soil is too wet to require irrigation. The irrigation controller shall utilize real time evapotranspiration data.

F. Signs: Signs identifying aspects of the landscape design and irrigation shall be placed around the model. These signs should be

clearly marked on the landscape plan for the model. The criteria below should be used in developing and placing the signs.

1. Entrance Sign: A maximum four (4) square foot sign shall be located in front of or at the entrance to the model home. The sign shall indicate that the model is landscaped with low-water using or drought tolerant plant materials and that an efficient irrigation system has been used.
2. Identification Signs: Small, maximum one (1) square foot, Identification signs shall be placed throughout the landscaped area identifying the irrigation system used, the different sub-areas of the landscape, and any other features that contribute to the overall water conservation theme (hardscapes, redwood bark, mulch). One (1) sign shall identify the moisture sensor in the display.
3. Interior Signs or Displays: A drawing or combination of drawings should be displayed inside the model providing a schematic of the landscape. These drawings should include a key identifying the plants in the yard. It is suggested that this schematic also be printed in a one (1) page handout to be available at the model or the sales office. The drawings could be simplified renderings of the landscape plan itself, using common names rather than the botanical names for the plants. The drawings should be colorful, easy to read, and framed for protection.

G. Literature: A package of literature describing water conserving landscaping shall be given out to individuals upon purchase of a home in the tract. This literature and additional materials shall be displayed inside the model home, also enclosed in a frame, with a note indicating where this material can be obtained.

12.2 Private Front Yards: Residential landscapes are those which occur on private property outside the street right-of-way. These areas are installed and maintained by the homeowner. Front yard landscapes that are maintained by a homeowners association shall meet the requirements of Section 8. In addition, homeowners association maintained landscape areas or private maintained landscape areas that exceed five thousand (5,000) square feet, shall meet the Water Budget requirements of Section 6.

The following suggestions are provided to assist the homeowner in establishing a well-conceived and balanced landscape design with the emphasis on allowing the maximum amount of creativity as possible while still meeting the intent of these guidelines:

A. Water Conservation:

1. Turf areas should be limited to one-third (1/3) of the total landscape area. The remaining area should include one-third (1/3) shrubs/groundcover and one-third (1/3) hardscape.
2. Irrigated areas should be separated between turf and shrub/groundcover areas. This allows for different watering

schedules to meet the various water needs of different plant materials.

3. Automated irrigation controllers and remote control valves should be utilized to efficiently monitor watering schedules. This prevents accidental all night watering and also provides freedom to leave the landscape for prolonged periods of time without creating stress conditions.
4. Irrigation design should include properly sized sprinkler heads (spray radius) and provide head to head spacing of sprinklers to insure adequate coverage.
5. Water overspray should be kept to a minimum of one foot (1') to two feet (2') on hardscape surfaces and avoid spraying on walls and fences.
6. Bubbler and drip irrigation is encouraged for use in small landscape areas.
7. Turf varieties should be selected for durability and reduced water needs. Alta fescue and Bermuda hybrids (with perennial rye grass used as a "nurse crop" in winter) are encouraged.
8. Shrubs selected should be compatible with the climatic conditions of the inland valleys (hot and cold) and drought tolerant.

B. Planting:

1. Trees should be selected based on their size at maturity.
2. A balance of evergreen and deciduous (leafless in winter) trees should be planted to provide a seasonally changed landscape.
3. Shrubs and groundcovers should be selected based on their eventual size to avoid an "overgrown" or butchered appearance.
4. Foreground and background relationships should be utilized in shrub and groundcover plantings.
5. Screening (planting of trees and/or shrubs of undesirable views is encouraged.
6. View opportunities should be maintained as a courtesy to adjacent property owners.

C. Installation: All planting areas should be loosened to a depth of six inches (6") and rototilled in two (2) directions with soil amendments and conditioners as required by soil type.

D. Maintenance:

1. Landscape areas should be maintained in an attractive condition at all times.
2. Regular fertilization with a well-balanced fertilizer should be done to avoid stressed conditions and prevent disease.

E. Safety:

1. Water overspray on hardscape areas should be avoided and kept to a minimum.
2. Pop-up sprinkler heads on swing joints should be used along walkways to avoid a "trip hazard".

12.3 Street Trees: It is the goal of the City of Moorpark to create an overall cohesive theme in terms of street tree design and species selection. Street trees should be incorporated into the overall landscape theme of the development. The designer shall refer to the approved Street Tree List. The following guidelines serve to create a visible community character that will foster a unique image:

A. Planting Design: Within all residential projects, minimum 24" box size street trees shall be planted as follows:

1. Cul-de-sac: minimum one tree per street frontage (maximum thirty feet (30') on center).
2. Interior Lot: minimum one tree per street frontage (maximum thirty feet (30') on center).
3. Corner Lot: minimum three trees per street frontage (maximum thirty feet (30') on center).

12.4 Streetscape Concept: The Streetscape Concept is the primary landscape framework for the City of Moorpark. The intention is to establish the theme for each major street in the City. The streetscape components consist of sidewalks, street trees, landscape areas behind the sidewalk, and median islands where they occur. Larger specimen trees should be planted at highly-visible focal points, such as entry gates, major intersections and other landmarks. Median islands along arterials should be planted with the same palette as adjacent parkways. A different, but complementary palette should be used along collector streets within the project and another different, but complementary palette along residential streets. Each palette may differ from area to area, but they should reflect the theme which is established by the arterial and collector streets. The designer shall verify final tree selection with the Community Development Director.

12.5 Walls and Fencing: The perimeter wall acts as a divider between residential and commercial areas from a street. The wall blocks noise and creates privacy. The treatment of wall can add special dimension to the streetscape concept. The design of walls should be consistent throughout neighborhoods of the City to create a community theme. The following are guidelines for walls which are located along streets, public space, the rear street of double frontage lots, and the side street yard of double frontage lots:

A. Wall niches are prohibited. A minimum five-foot (5') planter area shall be provided for trees, shrubs and vines adjacent to all walls.

B. Chain link, plastic and wood fencing is not permitted, except in rural areas, subject to Community Development Director approval.

C. The minimum wall setback shall be determined by the Conditions of Approval for the project. Walls shall vary in setback to provide areas for landscape features that create interest and reduce the linear aspect of appearance of a walled street.

D. Use of decorative masonry block, pilaster, wrought iron and other decorative treatments are required.

E. Precision concrete is not permitted for walls adjacent to a street.

F. The texture and color of walls shall match the theme of the development or adjacent surroundings.

G. In residential areas the wall height shall be a minimum of six feet (6') when located in a street side yard. Wall heights in excess of six feet (6') shall require adjacent landscaping on the street side to soften the overall height.

H. Walls over six feet (6') high and retaining walls over three feet (3') high require certification by a Registered Engineer.

I. The use of vines, shrubs, and trees shall be required to break the monotonous pattern of the wall. Landscaping shall be approved by the Community Development Director.

12.6 Artificial Turf: Artificial Turf is a synthetically derived, natural grass substitute that may be used as a landscaping feature. To be used in a residential front yard, artificial turf must meet minimum standards for materials, installation, and maintenance. Artificial turf that does not meet these standards is prohibited. Artificial turf is not allowed as landscaping in commercial or industrial properties, except as a surface for active or passive recreational use. The use of artificial turf in residential front yards can be approved on a case-by-case basis with a Community Development Director approved Zoning Clearance for privately-maintained single residential and duplex residential applications, and with a Community Development Director approved Administrative Permit for HOA-maintained and multiple unit residential applications. Artificial turf can also be approved for use in parkways adjacent to residential uses. Any artificial turf installed in parkways within the public right-of-way also requires an approved encroachment permit prior to installation. Any such use must be installed in a manner consistent with the Standard Installation Guidelines of the Association of Synthetic Grass Installers and consistent with the following standards:

A. Materials. Artificial turf must have a minimum eight-year no-fade warranty as issued by the manufacturer; be cut-pile infill and made from lead-free polypropylene, polyethylene, or a blend of such fibers on a permeable backing; and, have a minimum blade length (pile height) of 1.25 inches, with infill medium all subject to review and approval by the Community Development Director. Nylon-

based or other plastic grass blades are not permitted. The use of indoor/outdoor carpeting and artificial shrubs, flowers, trees, and vines instead of natural plantings in the front yard landscaped areas is prohibited.

B. Installation. Artificial turf must be installed consistent with manufacturer's recommendations and requirements and must include removal of all existing plant material and a minimum of the top three inches of soil in the installation area; placement of filter fabric or synthetic porous material over compacted and porous crushed rock or other comparable material below the turf surface to provide adequate drainage; and, the area must be sloped and graded to prevent excessive pooling, runoff, or flooding onto adjacent property or the public right-of-way. Artificial turf areas must be sufficiently drained to live planting areas to provide complete infiltration of any runoff, and all applicable NPDES permit requirements must be met. Where artificial turf is installed adjacent to a natural turf area, a concrete or masonry mow strip must be installed separating the turf areas in order to prevent damage from mowing. Artificial turf must be permanently anchored with nails and/or glue, and all seams must be nailed, or sewn, and glued, with the grain pointing in a single direction.

C. Maintenance. Artificial turf must be maintained in a green, fadeless condition; free of weeds, stains, debris, tears, holes, depressions, ruts, odors, and looseness at edges and seams. Damaged or worn areas in the artificial turf surface must be repaired or removed and replaced in a manner that results in consistent appearance with the existing artificial turf. The artificial turf surface must be replaced once it is unable to be maintained as required. Vehicle parking on artificial turf is prohibited.

ATTACHMENT I

LANDSCAPE PLAN REVIEW CHECKLIST
(GENERAL REQUIREMENTS)

APPLICANT'S NAME: _____
PROJECT NAME: _____
PERMIT/ENTITLEMENT NUMBER(S): _____
DATE: _____

1. Engineer's precise or rough grading plan must be included with submittal.
2. Architectural elevations and floor plans.
3. Fuel Modification Plan if applicable.
4. Plans are prepared by a California Licensed Landscape Architect. California Landscape Architect's seal is on all sheets. (all sheets must be wet signed for final approval)
5. Landscape Architect's company name, address, and phone number on all sheets.
6. Owner's name, address and phone number on all sheets.
7. Sheet index on title sheet.
8. Project type identified (e.g., public, private, homeowners association, etc.).
9. Water supply (e.g. potable, recycled, well water) and water purveyor with contact information is identified on the plan.
10. Applicant's signature and date with the statement 'I agree to comply with the requirements of the Model Water Efficient Landscape Ordinance.'
11. All sheets clearly labeled.
12. Vicinity map and location map with project site clearly identified.
13. North arrow and scale on all applicable sheets.
14. 'landscape inspection schedule' on title sheet (see attached)
15. Signature block on title sheet (see attached)
16. All property lines, easements, public r.o.w., sidewalks, curbs and gutters are clearly identified.
17. All slopes, include top and toe, are clearly identified.
18. All site utilities are clearly identified.
19. All existing and proposed structures are clearly identified. Notation is included identifying which structures are to be removed and which will be protected in place.
20. All existing and proposed trees and shrubs are clearly labeled. Notation is included identifying which are to be removed and which will be protected in place.

Comments:_____

_____

_____

LANDSCAPE PLAN REVIEW CHECKLIST
(SLOPE PLANTING PLAN REQUIREMENTS)

APPLICANT'S NAME: _____
PROJECT NAME: _____
PERMIT/ENTITLEMENT NUMBER(S): _____
DATE: _____

1. A horticultural soils analysis with recommendations is attached to the plans. The soils analysis is performed by a laboratory of the California Association of Agricultural Laboratories. Soil sample is taken after site grading and date is included on the report.
2. All slopes greater than 3' vertical height are planted with groundcover from cuttings, shrubs and trees. Hydromulch is used in areas only with prior city approval.
3. All slopes greater than 5' vertical height are installed with jute mesh or equal.
4. Shrubs on slopes are planted at a minimum of 1 shrub per 100 square feet.
5. All slopes adjacent to major roads, 'entry' to projects sites and other highly visible areas are 'enhanced' with shrubs and trees that exceed the minimum quantity and size requirement.
6. Trees on slopes are planted at a minimum of 1 tree per 350 square feet.
7. A calculation is provided showing total slope landscape area, total number of trees with tree sizes and total number of shrubs with shrub sizes.
8. Plant material is suitable for climatic conditions.
9. Each hydrozone shall have plant materials with similar watering needs.
10. Plant material is suitable for slope areas.
11. Plant material is consistent with City approved plant list.
12. Minimum tree size on slopes is seventy-five percent (75%) 15-gallon and twenty-five percent (25%) 24" box.
13. Minimum shrub size on slopes is (60%) 5 gal., (40%) 1 gal.
14. Plans clearly identify plant locations.
15. Plant quantity and sizes are clearly identified on the plans and in legend.
16. Planting legend identifies botanical and common name.
17. Groundcover spacing is shown in the legend.
18. A pre-emergent herbicide is identified on the landscape plans for all landscape areas where hydroseed is not proposed.
19. Hydroseed mix is included if applicable. Mix identifies seed type and lbs. /acre.
20. Planting details are consistent with city standards.
21. Planting notes and specifications are provided.
22. Notation is included that trees planted within 10' of sidewalk, curb or other hardscape areas must have a linear root barrier installed. Root barrier must extend 5 feet in both directions from the center of the tree and be a minimum of 24" depth.
23. A Planting and Irrigation Maintenance Schedule is provided.
24. Planting plans for commercial, industrial, residential and Homeowners Association areas must include notation that a ninety (90) day maintenance period is required and that expenses are to be paid for by

the owner. The City's landscape representative shall inspect all landscape areas for installation and maintenance compliance after the ninety (90) day maintenance period has ended. 100% plant survivability shall be required.

25. Planting plans for City maintained areas and Landscape Maintenance Districts must include notation that a one (1) year maintenance period is required and that the expenses are to be paid for by the owner. The City's landscape representative shall inspect the landscape areas for installation and maintenance compliance after the one (1) year maintenance period has ended. 100% plant survivability and 100% coverage shall be required.
26. The WUCOLS plant factor for each plant species identified on the plan shall be listed in the plant legend.
27. The plans contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan". Statement shall be signed and dated by the project landscape architect.

Comments:

_____

_____

_____

LANDSCAPE PLAN REVIEW CHECKLIST
(PLANTING PLAN REQUIREMENTS)

APPLICANT'S NAME: _____
PROJECT NAME: _____
PERMIT/ENTITLEMENT NUMBER(S): _____
DATE: _____

1. A horticultural soils analysis with recommendations is attached to the plans. The soils analysis is performed by a laboratory of the California Association of Agricultural Laboratories. Soil sample is taken after site grading and date is included on the report.
2. All above ground utilities are shown with adequate plant screening or camouflaging. Minimum 15-gallon size screen plants are specified.
3. All maintenance staging areas and utilitarian structures such as trash enclosures and maintenance buildings are shown with adequate plant screening.
4. Plant material is suitable for climatic conditions.
5. Plant material is consistent with City approved plant list.
6. Each hydrozone shall have plant materials with similar watering needs.
7. A 2" layer of bark mulch is specified for all shrub planting areas.
8. Minimum shrub sizes are met.
9. All planting areas adjacent to major roads, 'entry' to projects sites and other highly visible areas are 'enhanced' with shrubs and trees that exceed the minimum quantity and size requirement.
10. Plans clearly identify plant locations.
11. Plant quantities and sizes are clearly identified on the plans and in legend.
12. Planting legend identifies botanical and common name.
13. Groundcover spacing is shown in the legend.
14. A pre-emergent herbicide is identified on the landscape plans for all landscape areas where hydroseed is not proposed.
15. Planting details are consistent with city standards.
16. Planting notes/specifications are provided.
17. Notation is included that all trees planted within 10' of sidewalk, curb or other hardscape areas must have a linear root barrier installed. Root barrier must extend 5 feet in both directions from the center of the tree and be a minimum of 24" depth.
18. All street trees are planted minimum 5' from walks or other hardscape areas unless within parkways. Trees within parkways shall be centered within the parkways.
19. All street trees are planted minimum 10' from utility poles and light standards, fire hydrants, sewer lines and utility structures.
20. All lots have minimum (1) one street tree and minimum (1) secondary tree per lot.
21. All street trees are minimum 24" box size. All secondary trees are minimum 15-gallon size.
22. All corner lots have minimum (3) three street trees per lot. Tree spacing does not exceed 30' on center.

23. Minimum plant quantity for multi-family or commercial projects is one (1) tree per 500 square feet and one (1) shrub per one hundred (100) square feet, exclusive of street trees.
24. Tree size for multi-family or commercial projects is seventy-five percent (75%) 24" box and twenty-five percent (25%) 15-gallon.
25. Shrub size for multi-family or commercial projects is eighty percent (80%) 5-gallon and twenty (20%) 1-gallon.
26. Turf does not exceed 10% of the total landscape area, is only allowed in designate passive or active 'recreational' areas and must meet the project Water Budget.
27. Street tree spacing does not exceed 30' on center.
28. Parking areas have minimum 50% shade coverage at 2/3 tree maturity or 15-years growth or one (1) tree per every 4 stalls in a row.
29. Parking area trees are minimum 24" box size.
30. A minimum of one (1) planter, eight feet (8') in width with an eighteen inch (18") decorative concrete step-out adjacent to each curb face, parallel to the parking stalls, is provided at a minimum of every forty (40) lineal feet, and at the terminus of every parking aisle.
31. A minimum of one (1) 'diamond' planter is provided at every fourth stall within the parking area or as needed to obtain the shade coverage requirement.
32. A minimum of one (1) planter, eight feet (8') in width with an eighteen inch (18") decorative concrete step-out adjacent to each curb face, parallel to the parking stalls, is provided at every eight (8) stalls adjacent to the building or street frontage. Additional tree massings are included adjacent to these areas to provide the shade coverage required and soften the architectural façade.
33. Parks have a minimum of 55 trees per gross acre. However, the minimum requirement may be reduced if the park has 'active' recreational activities.
34. Park trees are minimum forty percent (40%) 24" box and sixty percent (60%) 15-gallon.
35. A calculation is provided showing total project area, total landscaped area, total number of trees with tree sizes and total number of shrubs with shrub sizes.
36. A Planting and Irrigation Maintenance Schedule is provided.
37. Planting plans for commercial, industrial, residential and Homeowners Association areas must include notation that a ninety (90) day maintenance period is required and that expenses are to be paid for by the owner. The City's landscape representative shall inspect all landscape areas for installation and maintenance compliance after the ninety (90) day maintenance period has ended. 100% plant survivability shall be required.
38. Planting plans for City maintained areas and Landscape Maintenance Districts must include notation that a one (1) year maintenance period is required and that the expenses are to be paid for by the owner. The City's landscape representative shall inspect the landscape areas for installation and maintenance compliance after the one (1) year maintenance period has ended. 100% plant survivability and 100% coverage shall be required.
39. The WUCOLS plant factor for each plant species identified on the plan shall be listed in the plant legend.

40. The plans contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan". Statement shall be signed and dated by the project landscape architect.

Comments:

_____

_____

LANDSCAPE PLAN REVIEW CHECKLIST
(IRRIGATION PLAN REQUIREMENTS)

APPLICANT'S NAME: _____
PROJECT NAME: _____
PERMIT/ENTITLEMENT NUMBER(S): _____
DATE: _____

1. The irrigation system is automatic.
2. The plans identify the location and size of a designated water meter for irrigation water use.
3. The irrigation controller utilizes either evapotranspiration or soil moisture data.
4. A rain override device is specified on the plans.
5. The worst case pressure loss is calculated and shown for the valve with the most volume, the valve farthest from the water meter and the valve at the highest elevation.
6. The irrigation system is designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
7. Drip emitters or bubblers with a designated control valve shall be installed for all trees on slopes exceeding 3:1.
8. The project Water Budget calculations are shown on the plans.
9. Overhead irrigation is not shown within 24 inches of any non-permeable surface unless the non-permeable surface drains to the landscape area. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology where runoff is eliminated.
10. An irrigation schedule is provided and shown on the plans. The irrigation schedule is designed so that the operating window is not within 8 hours of peak demand periods.
11. Notation is included stating that the backflow device must be tested a minimum of once a year.
12. Irrigation equipment is shown in shrub areas with adequate plant screening.
13. The locations and sizes of all water meters are shown. The plans reference who is responsible for the water meter and hook-up.
14. Spray heads are designed to provide full coverage.
15. All valves are designed with matched precipitation rates.
16. The irrigation system is designed to irrigation individual hydrozones.
17. The symbol, manufacturer, model #, and size of all irrigation equipment are clearly labeled in the legend.
18. The location of all irrigation equipment is clearly identified on the plan.
19. The backflow preventer is identified in the legend with a powder coated mesh or stainless steel enclosure. The model # and size of the enclosure is clearly labeled.
20. A master valve and flow meter are identified in the legend with model # and size clearly labeled.
21. Spray heads are listed in the legend with symbol, manufacturer, model #, radius, flow, pressure and precipitation rate.

22. Rotor heads are listed in the legend with nozzles grouped for matched precipitation rates.
23. Details are consistent with city standards.
24. Irrigation specifications are included.
25. The class and/or schedule for mainline, lateral line, and irrigation sleeves is shown in the legend.
26. The size of the mainline, lateral line and irrigation sleeves is shown on the plan.
27. Valve callouts identify the station and controller #, valve size and maximum gpm.
28. Operating pressure is within manufacturer's recommendations.
29. Flow velocities do not exceed 5' per second.
30. Irrigation system is matched per individual hydrozone.
31. Top and bottom of slopes must be irrigated separately.
32. Equipment used is within manufacturer's recommendations.
33. All pipes and wires under paving must be sleeved. Sleeves must be of sufficient size for number of wires and size of pipe (minimum 2x's diameter of pipe enclosed).
34. Pop-up heads are installed adjacent to pedestrian traffic. System must be designed to minimize overspray.
35. Riser heads are not installed where highly visible from public view.
36. Head radius must not be reduced more than 15% of nozzle size to minimize overspray.
37. The following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan" is signed and dated by the project landscape architect shown on the plan.

Comments:

_____

_____

_____

LANDSCAPE PLAN REVIEW CHECKLIST
LANDSCAPE INSPECTION REQUIREMENTS
(CITY MAINTAINED AREAS)

SCHEDULE:

The City's landscape representative will inspect for installation compliance with the approved landscape plans. Contractor shall notify the City's landscape representative 48 hours in advance of each of the required inspection:

1. Pressure test of irrigation mainline. To be completed prior to backfilling trenches.
2. Irrigation coverage tests. Coverage test shall be completed prior to any planting.
3. After trees and shrubs are spotted, but prior to planting.
4. Final inspection: at the start of the one-year maintenance period. Preliminary Certificate of Compliance may be granted at this time.
5. Document submittal: As-built plans, backflow assembly certifications, soils analysis reports, four (4) sets of controller keys, laminated controller charts, product data and warranties. Digital pdf and AutoCAD file format of all landscape and as-builts plans. 60 days prior to the end of the maintenance period.
6. Final Certificate of Compliance: at the end of the one-year maintenance period or as specified by the City's Community Development Director.

*must be included on the title sheet

LANDSCAPE PLAN REVIEW CHECKLIST
LANDSCAPE INSPECTION REQUIREMENTS
(HOMEOWNERS ASSOCIATION, COMMERCIAL
AND OTHER NON-CITY MAINTAINED LANDSCAPE AREAS)

SCHEDULE:

The City's landscape representative will inspect construction for compliance with the approved landscape plans. Contractor shall notify the City's landscape representative 48 hours in advance of each of the required inspections:

1. Irrigation coverage test and planting inspection. The irrigation coverage test shall be completed concurrently with the planting inspection.
2. Final inspection: at the start of the 90-day maintenance period. Preliminary Certificate of Compliance may be granted at this time.
3. Document submittal: As-built plans, backflow assembly certifications, soils analysis reports, four (4) sets of controller keys, laminated controller charts, product data and warranties. 30 days prior to the end of the maintenance period.
4. Final Certificate of Compliance: at the end of the 90-day maintenance period or as specified by the City's Community Development Director.

*must be included on the title sheet

LANDSCAPE PLAN REVIEW CHECKLIST
CITY APPROVAL BLOCK
(Must be included on Title Sheet)

APPROVED
CITY OF MOORPARK

These plans have been reviewed and found to be in compliance with relevant sections of the Moorpark Municipal Code and the Conditions of Approval for (Permit Case No.) and (Permit Case No.). Landscaping and Irrigation shall be installed on the subject property substantially as shown herein.

Approved by: _____
Community Development Director

ATTACHMENT II

GENERAL RECOMMENDED PLANT LIST

The City reserves the right to approve or reject any of the plant species listed at any time. Prior City approval is required. Note that plant species listed in bold are native to California, and those noted with (f) are fire retardant and may be suitable for use in fuel modification zones.

TREES

Botanical Name:	Common Name:
Aesculus californica	**California Buckeye**
Agonis flexuosa	Peppermint Myrtle
Albizia julibrissin	Silk Tree
Alnus rhombifolia	**White Alder**
Arbutus 'Marina'	NCN
Arbutus menziesii	**Madrone**
Arbutus unedo	Strawberry Tree
Bauhinia variegata	Purple Orchid Tree
Brachichiton acerifolius	Flame Tree
Brachychiton populneus	Bottle Tree
Callistemon citrinus (f)	Lemon Bottlebrush
Calocedrus decurrens	**Incense Cedar**
Callistemon viminalis (f)	Weeping Bottlebrush
Cassia leptophylla	Gold Medallion Tree
Cedrus deodara	Deodar Cedar
Cercidium floridum	**Blue Palo Verde**
Cercidium microphyllum	**Foothill Palo Verde**
Cercidium praecox	Sonoran Palo Verde
Cercis Canadensis	**Eastern Redbud**
Cercis occidentalis (f)	**Western Redbud**
Cercocarpus betuloides	**Mountain Mahogany**
Chilopsis linearis	**Desert Willow**
Chitalpa x tashkentnesis	Chitalpa
Cinnamomum Camphora	Camphor Tree
Cupaniopsis Anacardiodes	Carrotwood
Cupressus arizonica	**Arizona Cypress**
Cupressus forbesii	**Tecate Cypress**
Cupressus glabra	Smooth Arizona Cypress
Cuppressocyparis leylandi	Leyland Cypress
Dracaena draco	Dragon Tree
Eriobotrya japonica	Loquat
Eriobotrya deflexa	Bronze Loquat
Fraxinus ornus 'Raywood'	Raywood Ash
Fraxinus veluntina 'Modesto'	Modesto Ash
Fraxinus veluntina 'Rio Grande'	Rio Grande Ash
Geijera parviflora	Australian Willow
Ginko biloba (Male only)	Maidenhair Tree (grafted male)
Gleditsia triacanthos spp.	Honey Locust
Heteromeles arbutifolia	**Toyon**

Jacaranda mimosifolia	Jacaranda
Juglans hindsii	**Northern California Black Walnut**
Juglans californica	**California Black Walnut**
Koelreuteria paniculata	Golden Rain Tree
Lagerstroemia indica	Crape Myrtle
Laurus nobilis	Sweet Bay
Leptospermum laevigatum	Australian Tea Tree
Ligustrum japonicum	Japanese Privet
Liquidambar styraciflua (cultivars)	Sweet Gum
Liriodendron tulipifera	Tulip Tree
Lophostemon confertus	Brisbane Box
Lyonathamnus floribundus var. asplenifolius	**Island (Catalina) Ironwood**
Magnolia grandiflora var.	Southern Magnolia
Maytenus boaria 'Green Showers'	Showers Mayten Tree
Melaleuca linarifolia	Flaxleaf Paperbark
Melaleuca nesophila	Pink Melaleuca
Melaleuca styphelioides	Black Tea Tree
Melalueca quinquenervia	Cajeput Tree
Metrosideros excelsus	New Zealand Christmas Tree
Myrica californica	**Pacific Wax Myrtle**
Olea europaea (fruitless)	Olive
Olneya tesota	**Desert Ironwood**
Parkinsonia aculeate	**Mexican Palo Verde**
Photinia serrulata	Chinese Photinia
Pinus spp.	**Pine**
Pistacia chinensis	Chinese Pistache
Pittosporum rhombifolium	Queensland Pittosporum
Platanus acerifolia 'Bloodgood' (f)	Bloodgood Plane Tree
Platanus acerifolia 'Yarwood' (f)	Yarwood Plane Tree
Platanus racemosa (f)	**California Sycamore**
Podocarpus gracilior	Fern Pine
Podocarpus macrophyllus	Yew Pine
Populus fremontii (f)	**Western Cottonwood**
Prosopis alba	Argentine Mesquite
Prosopis chilensis	Chilean Mesquite
Prosopis glandulosa	**Texas Mesquite**
Prosopis juliflora	**Mesquite**
Prunus caroliniana (f)	Carolina Laurel Cherry
Prunus cerasifera 'Atropurpurea'	Purple Leaf Plum
Prunus cerasifera 'Krauter Vesuvius'	Black-leaf Plum
Prunus ilicifolia	**Hollyleaf Cherry**
Prunus lyonii (f)	**Catalina Cherry**
Pyrus calleyana 'Aristocrat'	Aristocrat Pear
Pyrus calleryana 'Bradford'	Bradford Pear
Pyrus calleyana 'Capitol'	Capitol Pear
Pyrus calleyana 'Red Spire'	Red Spire Pear
Pyrus calleyana 'Chanticleer'	Chanticleer Pear
Pyrus kawakamii	Evergreen Pear
Quercus agrifolia	**Coast Live Oak**
Quercus berberidifolia	**Scrub Oak**
Quercus douglasii	**Blue Oak**

Quercus dumosa	**Coastal Scrub Oak**
Quercus durata	**Nuttall's Scrub Oak**
Quercus engelmanii	**Mesa Oak**
Quecus ilex	Holly Oak
Quercus kelloggii	**California Black Oak**
Quercus lobata	**Valley Oak**
Quercus suber	Cork Oak
Quecus virginiana	Southern Live Oak
Rhaphiolepis 'Majestic Beauty'	Rhaphiolepis Tree
Rhus laurina (f)	**Laurel Sumac**
Sambucus mexicana	**Mexican Elderberry**
Sambucus caerulea	**Blue Elderberrry**
Sapium sebiferum	Chinese Tallow Tree
Sequoia sempervirens	**Coast Redwood**
Sophora japonica	Japanese Pagoda Tree
Tabebuia chrysotricha	Gold Trumpet Tree
Tabebuia impetiginosa	Pink Trumpet Tree
Ulmus parvifolia	Evergreen Elm
Umbellularia californica	**California Laurel**

SHRUBS

Botanical Name:	**Common Name:**
Abelia grandiflora	Abelia
Adenostoma fasciculatum	**Chamise**
Agave spp.	**Agave**
Alyogyne cuneiformis	NCN
Alyogyne hakeifolia	Red Centered Hibiscus
Alyogyne huegelii	Blue Hibiscus
Arbutus unedo 'Compacta'	Dwarf Strawberry Tree
Arctostaphylos spp.	**Manzanita**
Arctostaphylos densiflora	**Manzanita**
Arctostaphylos edmundsii	**Little Sur Manzanita**
Arctostaphylos 'Emerald Carpet'	**Emerald Carpet**
Arctostaphylos hookeri	**Monterey Manzanita**
Arctostaphylos 'Pacific Mist'	**NCN**
Arctostaphylos uva-ursi	**Bearberry**
Baccharis spp.	**Coyote Bush**
Baccharis `Centennial'	**NCN**
Baccharis pilularis	**Coyote Bush**
Baccharis sarathroides	**Desert Broom**
Berberis pinnata	**California Barberry**
Bougainvillea spp.	Bougainvillea
Caesalpinia gilliesii	Bird of Paradise Bush
Caesalpinia mexicana	Mexican Poinciana
Caesalpinia pulcherrima	Barbados Pride
Calliandra californica	**Baja Fairy Duster**
Calliandra eriophylla	**Fairy Duster**
Calliandra inaequilatera	Pink Powder Puff
Calliandra peninsularis	NCN
Callistemon spp. (f)	Bottlebrush
Callistemon citrinus (f)	Lemon Bottlebrush

Carpenteria californica	**Bush Anemone**
Cassia artemisiodes	Feathery Cassia
Cassia nemophila	Desert Cassia
Cassia odorata	NCN
Cassia phyllodinea	Silvery Cassia
Ceanothus spp. (f)	**California Lilac**
Ceanothus arboreus	**Catalina Ceanothus**
Ceanothus 'Concha'	**NCN**
Ceanothus 'Dark Star'	**NCN**
Ceanothus 'Frosty Blue'	**NCN**
Ceanothus gloriosus	**Point Reyes Ceanothus**
Ceanothus griseus	**Carmel Ceanothus**
Ceanothus impressus	**Santa Barbara Ceanothus**
Ceanothus 'Joyce Coulter'	**NCN**
Ceanothus 'Julia Phelps'	**NCN**
Ceanothus maritimus	**Maritime Ceanothus**
Ceanothus 'Ray Hartman'	**NCN**
Ceanothus rigidus	**Monterey Ceanothus**
Ceanothus thyrsiflorus	**Blue Blossom**
Ceanothus 'Wheeler Canyon'	**NCN**
Chamelaucium uncinatum	Geraldton Wax Flower
Cistus spp. (f)	Rockrose
Cistus 'Doris Hibberson'	NCN
Cistus hybridus	White Rockrose
Cistus ladanifer	Crimson-spot Rockrose
Cistus purpureus (f)	Orchid Rockrose
Cistus salviifolius	Sageleaf Rockrose
Cistus skanbergii	NCN
Cistus Sunset	NCN
Cleome isomeris	**Bladderpod**
Comarostaphylis diversifolia	**Summer Holly**
Coprosma kirkii	NCN
Cordia boissieri	Wild Olive
Cordia parvifolia	NCN
Correa alba	White Correa
Correa`Dusky Bells'	NCN
Correa`Ivory Bells'	NCN
Correa pulchella	NCN
Correa schlechtendalii	NCN
Cotoneaster lacteus	Parney Cotoneaster
Cuphea hyssopifolia	False Heather
Dendromecon harfordii	**Island Bush Poppy**
Dendromecon rigida	**Bush Poppy**
Dodonaea viscosa'Purpurea'	Purple Hopseed Bush
Echium Fastuosum	Pride of Madiera
Encelia californica	**Bush sunflower**
Euphorbia characias	**Mediterranean Spurge**
Euphorbia ingens	**Candelabra Tree**
Euphorbia rigida	**Narrow-leaf Glaucus**
Escallonia spp.	Escallonia
Feijoa sellowiana	Pineapple Guava
Fremontodendron spp.	**Flannel Bush**

Fremontodendron californicum	**California Flannel Bush**
Fremontodendron mexicanum	**Mexican Fremontia**
Fremontodendron hybrids	**NCN**
Fremontodendron 'California Glory'	**'California Glory'**
Fremontia	
Fremontodendron 'Pacific Sunset'	**NCN**
Fremontodendron 'San Gabrial'	**NCN**
Fremontodendron 'Ken Taylor'	**NCN**
Grevillea banksii	Red Silky Oak
Grevillea 'Canberra Gem'	NCN
Grevillea lanigera	Woolly Grevillea
Grevillea noelii	Noel's Grevillea
Grevillea 'Poorinda Constance'	NCN
Grevillea thelemanniana	Hummingbird Bush
Grevillea victoriae	Royal Grevillea
Hakea suaveolens	Sweet Scented Hakea
Haplopappus spp.	**Various Goldenbush (Mock Heather)**
Heteromeles arbutifolia (f)	**Toyon**
Hybiscus syriacus	Rose of Sharon
Jasminum officinale	Common White Jasmine
Juniperus spp.	Juniper
Lavatera assurgentiflora	**California Tree Mallow**
Lavatera bicolor	NCN
Leptospermum scoparium	New Zealand Tea Tree
Leucophyllum candidum	Violet Silverleaf
Leucophyllum frutescens	Texas Ranger
Leucophyllum frutescens 'Compacta'	Dwarf Texas Ranger
Leucophyllum laevigatum	Chihuahuan Sage
Leptodactylon califonicum	**Prickly Phlox**
Lobelia laxiflora	Mexican Bush Lobelia
Ligustrum lucidium	Glossy Privet
Lotus scoparius	**Deerweed**
Mahonia aquifolium	**Oregon Grape**
Mahonia 'Golden Abundance'	'Golden Abundance' Oregon Grape
Mahonia nevinii	**Nevin's Barberry**
Mahonia pinnata	**California Grape**
Mahonia repens	**Creeping Mahonia**
Malacothamnus fasciculatus	**Bush Mallow**
Malosma laurina	**Laurel Sumac**
Mimulus longiflorus	**Sticky (Bush) Monkeyflower**
Myrtus communis	Myrtle
Pithecellobium flexicaule	Texas Ebony
Pittosporum spp.	Mock Orange (some species)
Photinia fraseri	Photinia
Plecostachys serpyllifolia	NCN
Plumbago auriculata	Cape Plumbago
Prunus caroliniana (f)	Carolina Cherry
Prunus ilicifolia	**Hollyleaf Cherry**
Prunus lyonnii (f)	**Catalina Cherry**

Punica granatum	Pomegranate
Pyracantha coccinea	NCN
Pyracantha 'Mohave'	NCN
Pyracantha 'Red Elf'	NCN
Pyracantha 'Ruby Mound'	NCN
Pyracantha 'Santa Cruz'	NCN
Pyracantha 'Teton'	NCN
Pyracantha 'Tiny Tim'	NCN
Quercus dumosa	**Scrub Oak**
Rhapheolepis indica	India Hawthorne
Rhamnus alaternus (f)	**Italian Buckthorn**
Rhamnus californica (f)	**Coffeeberry**
Rhamnus crocea ilicifolia	**Hollyleaf Coffeeberry**
Rhaphiolepis spp.	**Indian Hawthorn**
Rhus integrifolia	**Lemonade Berry**
Rhus laurina	**Laurel Sumac**
Rhus ovata	**Sugar Bush**
Ribes aureum	**Golden Currant**
Ribes indecorum	**Wild-flowered Currant**
Ribes malvaceum	**Chapparal Currant**
Ribes speciosum	**Fuchsia Flowering Currant**
Rives viburnifolium	**Evergreen Currant**
Romneya coulteri	**Matilija Poppy**
Rosmarinus spp.	Rosemary
Ruellia californica	NCN
Ruellia peninsularis	NCN
Simmondsia chinensis	**Goatnut**
Sollya heterophylla	Australian Bluebells
Tagetes lemmonii	Mexican Bush Marigold
Tamarix pentandra, T. parviflora	Salt Cedar Tamarisks
Tecomaria capensis	Cape Honeysuckle
Trichostema lanatum	Woolly Blue Curls
Vitex agnus-castus	Chaste Tree
Westringia fruticosa	Coast Rosemary
Westringia longifolia	NCN
Westringia 'Wynyabbie Gem'	NCN
Xylosma congestum	Shiny Xylosma
Yucca spp.	**Yucca**

GROUND AND SLOPE COVER

Botanical Name:	**Common Name:**
Achillea spp. (f)	**Yarrow**
Arctostaphylos spp. (f)	**Manzanita**
Arctotheca calendula (f)	**Yellow capeweed**
Armeria meritima	**Sea Pink**
Artemisia spp.	**Sagebrush**
Atriplex spp.	**Saltbush**
Atriplex semibaccata	**Creeping Saltbush**
Baccharis pilularis (f)	**Dwarf Coyote Brush**
Baccharis 'Twin Peaks' or 'Pigeon Point'	**Coyote Brush**
Bougainvillea spp.	Bougainvillea

Carpobrotus Chilensis	**Ice Plant**
Carpobrotus edulis	Ice Plant
Ceanothus spp. (f)	**California Lilac**
Ceanothus griseus var. horizontalis	**Carmel Creeper**
Ceanothus griseus horizontalis 'Hurricane Pt.'	**NCN**
Ceanothus griseus horizontalis 'Yankee Pt.'	**NCN**
Ceanothus griseus 'Louis Edmonds'	**NCN**
Ceanothus griseus 'Santa Ana'	**NCN**
Cephalophyllum 'Red Spike'	Red Spike Iceplant
Cerastium tomentosum (f)	Snow in Summer
Cistus spp. (f)	Rockrose
Convolvulus cneorem	Bush Morning Glory
Convolvulus mauritanicus	Ground Morning Glory
Coprosma `Verde Vista'	NCN
Cotyledon orbiculata	NCN
Cotyledon teretifolia	NCN
Cotyledon undulata	NCN
Cowania mexicana	**Cliff Rose**
Crassula falcate	Sickle Plant
Crassula multicava	NCN
Coreopsis aruiculata 'Nana'	Dwarf Coreopsis
Dalea greggii	Trailing Indigo Bush
Delsperma 'Alba'	White Trailing Iceplant
Drosanthemum floribundum	Rosea Ice Plant
Drosanthemum hispidum	NCN
Dymondia margaretae	Dymondia
Euonymus fortunei radicans (f)	Common Winter Creeper
Grevillea 'Noelli'	Noel Grevillea
Hypericum calycinum (f)	Creeping St. John's Wort
Iva hayesiana	**Hayes Iva**
Jasminum grandiflorum	Spanish Jasmine
Jasminum mesnyi	Primrose Jasmine
Juniperus spp.	Juniper
Lantana montevidensis and hybrids (f)	Lavender Lantana and hybrids
Limonium pectinatum	Petite Sea Lavender
Lonicera japonica halliana	Hall's Honeysuckle
Maleophora spp.	Ice Plant
Mimulus longiflorus	**Sticky (Bush)**
Monkeyflower Myoporum pacificum	Prostrate Myoporum
Myoporum parvifolium (f)	Prostrate Myoporum
Oenothera berlandieri	**Mexican Evening Primrose**
Oenothera caespitosa	**Tufted Evening Primrose**
Oenothera stubbii	Baja Evening Primrose
Osteopermum fructicosum (f)	Trailing African Daisy
Polygonum aubertii	Silver Lace Vine
Pyracantha spp.	Firethorn
Ribes viburnifolium	**Catalina Perfume**
Rosa banksiae	Lady Bank's Rose
Rosmarinus officinalis var. (f)	Dwarf Rosemary
Scaevola 'Mauve Clusters'	NCN

Sedum spp.	Stonecrop
Senecia mandraliscae	NCN
Sophora secundilflora	Texas Mountain Laurel
Tecomaria capensis	Cape Honeysuckle
Teucrium chamaedrys 'Prostratum' (f)	Prostrate Germander
Thymus praecox	Mother-of-Thyme
Thymus pseudolanuginosus	Wooly Thyme
Thymus vulgaris	Common Thyme
Trachelospermum jasminoides	Star Jasmine
Verbena peruviana	NCN
Verbena rigida	Vervain
Verbena tenuisecta	Moss Verbena

FLOWERING PLANTS, SUCCILENTS, PERENNIALS, AND ACCENT PLANTS

Botanical Name:	**Common Name:**
Achillea spp.	**Yarrow**
Achillea clavennae	**Silvery Yarrow**
Achillea filipendulina	**Fernleaf Yarrow**
Achillea millefolium	**Common Yarrow**
Achillea taygetea	**Yarrow**
Achillea tomentosa	**Woolly Yarrow**
Adenostoma fasciculatum	**Chamise**
Aeonium spp.	NCN
Aesculus californica	**California Buckeye**
Agave spp.	Century Plant
Agave americana	Century Plant
Agave attenuate	Foxtail Agave
Agave deserti	**Desert Agave**
Agave shawii	Shaw's Century Plant
Agave victoriae-reginae	NCN
Agave vilmoriniana (f)	Octopus Agave
Aloe spp. (f)	Aloe
Aloe arborescens	Tree Aloe
Aloe bainesii	NCN
Aloe brevifolia (f)	Short-leaved Aloe
Aloe candelabrum	Candelabra Aloe
Aloe ciliaris	NCN
Aloe nobilis	Dwarf Aloe
Aloe striata	Coral Aloe
Aloe vera	Medicinal Aloe
Anigozanthos cultivars	Kangaroo Paws
Anisacanthus thurberi	Desert Honeysuckle
Anisodontea hypomandarum	Dwarf Pink Hibiscus
Artemisia spp.	**Sagebrush**
Artemisia arborescens	Shrubby Wormwood
Artemisia californica	**California Sagebrush**
Artemisia `Powis Castle'	NCN
Artemisia pycnocephala	Sandhill Sage
Asparagus sprengeri	Asparagus Fern
Asparagus myeri	Myer's Asparagus
Asteriscus maritimus	Gold Cup

Asteriscus sericeus	NCN
Atriplex spp.	**Saltbush**
Atriplex canescens	**Four-wing Salt Bush**
Atriplex glauca	**NCN**
Atriplex hymenelytra	**Desert Holly**
Atriplex lentiformis	**Quail Bush**
Baileya multiradiata	**Desert Marigold**
Brachycome multifida	Cut-leaf Daisy
Buddleia marrubiifolia	Woolly Butterfly Bush
Calochortus spp.	**Mariposa lily**
Centaurea cineraria	Dusty Miller
Centaurea gymnocarpa	Velvet Centaurea
Centranthus ruber	Red Valerian
Cheiranthus 'Bowles Mauve'	Shrubby Wallflower
Cistus spp.	Rockrose
Clarkia spp.	**Clarkia**
Convolvulus cneorum	Bush Morning Glory
Convolvulus mauritanicus	Ground Morning Glory
Coreopsis auriculata	Golden Coreopsis
Coreopsis gigantea	**Giant Coreopsis**
Coreopsis grandiflora	NCN
Coreopsis lanceolata	NCN
Coreopsis maritime	**Sea Dahlia**
Coreposis verticillata	Thread-leafed Coreopsis
Cotinus coggygria	Smoke Tree
Dalea frutescens	Black Dalea
Dalea pulchra	Indigo Bush
Dietes bicolor	Fortnight Lily
Dietes vegeta	Fortnight Lily
Diplacus hybrids	**Monkey Flower**
Dudleya brittoni	**Chalk Dudleya**
Dudleya virens	**Island Live-forever**
Dudleya viscida	**NCN**
Echeveria agavoides	NCN
Echeveria crenulata	NCN
Echium fastuosum	Pride of Madeira
Elymus condensatus 'Canyon Pride'	Wild Rye
Encelia californica	**California Encelia**
Encelia farinose	**Desert Encelia**
Epilobium californica	**California Fuchsia**
Epilobium cana	**Hoary California Fuchsia**
Erigeron glaucus	**Seaside Daisy**
Erigeron karvinskianus	Mexican Daisy
Eriogonum spp.	**Buckwheat**
Eriogonum arborescens	**Santa Cruz Island Buckwheat**
Eriogonum cinereum	**Ashyleaf Buckwheat**
Eriogonum crocatum	**Conejo Buckwheat**
Eriogonum fasciculatum	**Common Buckwheat**
Eriogonum giganteum	**St. Catherine's Lace**
Eriogonum grande ssp. Rubescens	**Red Buckwheat**
Eriogonum parvifolium	**Coastal Buckwheat**

Eriogonum umbellatum	**Sulphur Flower**
Escallonia spp.	Escallonia
Eschscholzia californica	**California Poppy**
Festuca ovina glauca	Blue Fescue
Gaillardia grandiflora	Blanket Flower
Galvezia speciosa	**Island Bush-snapdragon**
Gaura lindheimeri	Guara
Helianthes tuberosus	Jerusalem Artichoke
Helianthemum nummularium	Sunrose
Helictotrichon sempervirens	Blue Oat Grass
Hemerocallis hybrids	Daylily
Hesperaloe parvifolia	Red Yucca
Heuchera maxima	**Island Alum Root**
Heuchera sanguinea	**Coral Bells**
Iris douglasiana (f)	**Pacific Coast Iris**
Keckiella antirrhinoides	**Yellow Penstemon**
Keckiella cordifolia	**Heart-leaved Penstemon**
Kniphofia uvaria	Red Hot Poker
Lantana spp.	Lantana
Lavandula angustifolia	English Lavender
Lavandula dentate	French Lavender
Lavandula intermedia	Lavandin
Lavandula latifolia	Spike Lavender
Lavandula stoechas	Spanish Lavender
Leonotis leonurus	Lion's Tail
Limonium perezii	Sea Lavender
Lupinus spp.	**Lupine**
Melampodium leucanthum	Blackfoot Daisy
Muhlenberghia rigens	**Deer Grass**
Oenothera speciosa childsii	Mexican Evening Primrose
Optunia basilaris.	**Beaver Tail Cactus**
Opuntia ficus-indica	**Indian Fig**
Opuntia lindheimeri var. linguiformis	Cow's Tongue
Opuntia robusta	NCN
Penstemon centranthifolius	**Scarlet Bugler**
Penstemon eatoni	**Firecracker Penstemon**
Penstemon heterophyllus	**Foothill Penstemon**
Penstemon Palmeri	**NCN**
Penstemon Parryi	**NCN**
Penstemon Spectabilis	**Showy Penstemon**
Penstemon superbus	**NCN**
Perovskia atriplicifolia	**Russian Sage**
Phacelia spp.	**Phacelia**
Phlomis fruticosa	Jerusalem Sage
Phlomis lanata	NCN
Phormium cookianum var.	Mountain Flax
Phormium tenax var.	New Zealand Flax
Plumbago auriculata	Cape Plumbago
Portulaca grandiflora	Rose Moss
Romneya coulteri	**Matilija Poppy**
Rosa spp.	Rose
Salvia 'Allen Chickering'	Allen Chickering Sage

Salvia apiana	**White Sage**
Salvia chamaedryoides	NCN
Salvia clevelandii	**California Blue Sage**
Salvia greggii	Autumn Sage
Salvia leucantha	Mexican Bush Sage
Salvia leucophylla	**Purple Sage**
Salvia mellifera	**Black Sage**
Salvia munzii	**San Miguel Mountain Sage**
Salvia officinallis	Garden Sage
Salvia sonomensis	**Creeping Sage**
Salvia spathacea	**Hummingbird Sage**
Santolina chemaecyparissus	Lavender Cotton
Santolina pinnata	NCN
Santolina virens	NCN
Senecio cineraria	Dusty Miller
Sisyrinchium bellum	Blue-eyed Grass
Sphaeralcea ambigua	**Dessert Mallow**
Stachys byzantina	Lamb's Ear
Tagetes lemmonii	Mountain Marigold
Teucrium chamaedrys	NCN
Teucrium cossonii	NCN
Teucrium fruiticans	Bush Germander
Tulbaghia violacea	Society Garlic
Verbena hybrids	Verbena
Vitis spp.	Grape
Yucca gloriosa	Soft-tip Yucca
Yucca recurvifolia	Curveleaf Yucca
Yucca whipplei	**Chapparal Yucca (Our Lord's Candle)**
Zauschneria californica	**California Fuschia**

VINES

Botanical Name:	**Common Name:**
Bougainvillea cultivars	Bougainvillea cultivars
Campsis spp.	Trumpet Creeper
Clytostoma callistegiodes	Violet Trumpet Vine
Distictis buccinatorius	Scarlet Trumpet Vine
Hardenbergia violacea	Lilac Vine
Hibbertia scandens	Guinea Gold Vine
Keckiella cordifolia	Heart-leaved Penstemon
Jasminum spp.	Jasmine
Macfadyena unguis-cati	Cats Claw
Parthenocissus tricuspidata	Boston Ivy
Rosa spp.	Climbing Rose
Solandra maxima	Cup of Gold Vine
Solanum jasminoides (f)	Potato Vine
Tecomaria capensis	Cape Honeysuckle
Vitis vinifera	Wine Grape
Wisteria spp.	Wisteria

ATTACHMENT III

PROVISIONALLY ACCEPTABLE PLANT LIST

The following list of plants are generally unacceptable, but may be approved on a case-by-case basis by the City's landscape representative. In no case are these plants to be used in or adjacent to natural or open space areas.

TREES

Botanical Name:	Common Name:
Acacia spp.	NCN
Eucalyptus spp.	Red Gum
Koelreuteria bipinnata	Chinese Flame Tree
Rhus lancea	African Sumac
Robinia (tree form)	Locust
Schinus molle	Peruvian pepper tree (May be used on High Street within the Moorpark downtown area only with prior City approval)
Schinus terebinthifolius	Brazilian pepper tree

SHRUBS

Botanical Name	Common Name
Elaeagnus spp.	Elaegnus

GROUND AND SLOPE COVER

Botanical Name	Common Name
Acacia redolens prostrate	Prostrate Acacia
Cotoneaster spp.	Cotoneaster
Cynodon dactylon	Bermuda grass
Vinca spp.	Periwinkle

FLOWERING PLANTS, PERENNIALS, and ACCENT PLANTS

Botanical Name:	Common Name:
Pennisetum setaceum	Fountain Grass
Spartium junceum.	Spanish Broom

ATTACHMENT IV

INVASIVE AND PROHIBITED PLANT LIST

The following plant species are not to be used within the City.

Botanical Name:	Common Name:
Ageratina adenophora	Sticky eupatory
Agrostis stolonifera	Creeping bentgrass
Ailanthus altissima	Tree of heaven
Ammophila arenaria	European beachgrass
Andropogon virginicus	Broomsedge bluestem
Anthriscus caucalis	Bur chervil
Aponogeton distachyon	Cape pondweed
Aptenia cordifolia	Baby sun rose
Arundo donax	Giant reed
Atriplex sembiccata	Australian saltbush
Avena barbata	Slender wild oat
Avena fatua	Wild oat
Berula erecta	Cutleaf water parsnip
Brassica nigra	Black mustard
Brassica rapa	Field mustard, Turnip
Brassica tournefortii	Moroccan mustard
Bromus diandrus	Ripgut grass
Bromus hordeaceus	Soft chess
Bromus madritensis	Foxtail chess
Bromus tectorum	Cheatgrass
Carderia chalapense	Lens-pod
Carderia draba	Hoary cress
Carderia pubescens	White-top
Carduus pycnocephalus	Italian thistle
Carpobrotus edulis	Hottentot-fig
Catharanthus roseus	Madagascar periwinkle
Centaurea melitensis	Tocalote
Centaurea solstitialis	Yellow star-thistle
Ceratophyllum demersum	Aquatic hornwort
Chenopodium album	Lamb's quarters, Pigweed
Chenopodium murale	Nettle-leaved goosefoot
Chrysanthemum coronarium	Garland or crown daisy
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle
Conicosia pugioniformis	Narrow-leaved ice plant
Conium maculatum	Poison hemlock
Cortaderia jubata	Andean pampas grass, jubatagrass
Cortaderia selloana	Pampas grass
Cotula coronopifolia	Brass buttons
Cynara cardunculus	Artichoke thistle, Cardoon
Cytisus scoparius	Scotch broom
Cytisus striatus	Portuguese broom
Datisca glomerata	Durango root
Delairia odorata (=Senecio milkanioides)	Cape ivy (German ivy)

Descurainia sophia	Tansy mustard
Egeria densa	Brazilian waterweed
Ehrharta calycina	Veldt grass
Eichhornia crassipes	Water hyacinth
Elodea canadensis	Common waterweed
Erodium cicutarium	Red-stemmed filaree
Eucalyptus globulus	Blue gum
Euphorbia esula	Leafy spurge
Ficus carica	Edible fig
Foeniculum vulgare	Fennel
Genista monspessulana (=Cytisus monspessulanus)	French broom
Gunnera tinctoria	Gunnera
Hedera helix	English ivy
Hedera canariensis	Algerian ivy
Hippurus vulgaris	Mare's tail
Hirschfeldia incana	Shortpod mustard
Hordeum jubatum	Foxtail barley
Hydrilla verticillata	Hydrilla
Lactuca serriola	Prickly lettuce
Lepidium latifolium	Perennial pepperweed
Lobularia maritima	Sweet alyssum
Lythrum spp.	Loosestrife
Lythrum hyssopifolium	Loosestrife
Lythrum salicaria	Purple loosestrife
Malva parviflora	Cheeseweed, Little mallow
Marrubium vulgare	Horehound
Melilotus alba	White sweetclover
Mentha pulegium	Pennyroyal
Mesembryanthemum crystallinum	Crystalline iceplant
Myoporum laetum	Myoporum
Myriophyllum aquaticum	Parrot's feather
Myriophyllum spicatum	Eurasian milfoil
Nerium oleander	Oleander
Nicotiana glauca	Tree tobacco
Ottelia alismoides	Ottelia
Oxalis pes-caprae	Bermuda buttercup
Parentucellia viscosa	Parentucellia
Phalaris aquatica	Harding grass
Phoenix dactylifera	Date palm
Phragmites australis (=communis)	Common reed
Phyla (=Lippia) nodiflora	Lippia
Picris echioides	Bristly ox-tongue
Piptatherum miliaceum	Smilo grass
Pistia stratiotes	Water lettuce
Poa pratensis	Kentucky bluegrass
Raphanus sativus	Radish
Ranunculus aquatilis var. aquatilis	Water buttercup
Ranunculus muricatus	Buttercup
Ricinus communis	Castor bean
Robinia pseudocacia	Black locust
Rorippa nasturtium-aquaticum	Watercress

Rubus procerus (=discolor)	Himalayan blackberry
Rumex conglomeratus	Whorled dock
Rumex crispus	Curly dock
Salix alba	White willow
Salsola spp.	Tumbleweed
Salsola soda	Tumbleweed
Salsola tragus	Russian thistle, Tumbleweed
Schinus molle	Peruvian pepper tree
Scirpus spp.	Bulrush, alkali bulrush
Senecio mikanioides	German-ivy
Silybum marianum	Milk thistle
Sisymbrium irio	London rocket
Sisymbrium officinale	Hedge mustard
Sisymbrium orientale	Oriental mustard
Sonchus oleraceus	Common sow thistle
Sorghum halepense	Johnsongrass
Spartina alterniflora	European/Atlantic cord grass
Spartina densiflora	Cord grass
Spartina patens	Cord grass
Taeniatherum caput-medusae	Medusa-head
Tamarix aphylla	Athel
Tamarix ramosissima, T. chinensis, T. gallica, T. parviflora	Salt cedar, tamarisk
Taraxacum officinale	Common dandelion
Tribulus terrestris	Puncture vine
Tropaeolum majus	Garden nasurtium
Ulex eruopaeus	Gorse
Varbascum spp.	Mullein
Veronica ssp. (incl. V. Anagallis-aquatica, V. beccabunga, V. catenata)	Speedwell, Brooklime
Washingtonia filifera	Fan palm
Xanthium spinosum	Spiny cocklebur
Xanthium strumarium	Cocklebur
Zantedeschia aethiopica	Calla lily

[1] Sources include: California Native Plant Society. 1992. Non-native invasive plants in the Santa Monica Mountains; Dudley, T. 1998. Exotic plant invasions in California riparian areas and wetlands. Fremontia 26(4): 24-29; California Exotic Pest Plant Council. 1996. List of exotic pest plants of greatest ecological concern in California.

ATTACHMENT V

RECOMMENDED TREES FOR STREETS

The City reserves the right to approve or reject any of the plant species listed at any time. Other species may be approved by the City. Note that several plant species listed are included on the provisional list. These plants are only intended to be installed in urban areas away from native hillsides or natural areas. Prior City approval is required.

TREES

Agonis flexuosa	Peppermint Myrtle
Arbutus unedo	Strawberry Tree
Bauhinia variegata	Purple Orchid Tree
Brachychiton populneus	Bottle Tree
Callistemon citrinus	Lemon Bottlebrush
Callistemon viminalis	Weeping Bottlebrush
Cassia excelsa	Crown of Gold Tree
Cassia leptophylla	Gold Medallion Tree
Chitalpa x tashkentensis	Chitalpa
Cinnamomum Camphora	Camphor Tree
Fraxinus ornus 'Raywood'	Raywood Ash
Geijera parviflora	Australian Willow
Ginko biloba (Male only)	Maidenhair Tree (grafted male)
Gleditsia triacanthos 'var.'	Honey Locust
Jacaranda mimosifolia	Jacaranda
Koelreuteria paniculata	Golden Rain Tree
Lagerstroemia indica	Crape Myrtle
Liriodendron tulipifera	Tulip Tree
Magnolia grandiflora var.	Southern Magnolia
Melaleuca linarifolia	Flaxleaf Paperbark
Melalueca quinquenervia	Cajeput Tree
Photinia serrulata	Chinese Photinia
Pinus eldarica	Mondell Pine
Pinus halepensis	Aleppo Pine
Pinus pinea	Italian Stone Pine
Pistacia chinensis	Chinese Pistache
Platanus acerifolia 'Bloodgood'	London Plane
Platanus acerifolia 'Yarwood'	Yarwood Plane Tree
Podocarpus glacilior	Fern Pine
Podocarpus macrophyllus	Yew Pine
Prunus cerasifera 'Atropurpurea'	Purple Leaf Plum
Prunus c. 'Krauter Vesuvius'	Black-leaf Plum
Prunus serrulata 'Amanogawa'	Columnar Flowering Cherry
Pyrus calleryana 'Aristocrat'	Aristocrat Pear
Pyrus calleryana 'Bradford'	Bradford Pear
Pyrus calleryana 'Chanticleer'	Chanticleer Pear
Pyrus kawakamii	Evergreen Pear
Quercus agrifolia	**Coast Live Oak**
Quecus ilex	Holly Oak

Sapium sebiferum	Chinese Tallow Tree
Sophora japonica	Japanese Pagoda Tree
Tristania conferta	Brisbane Box
Ulmus parvifolia	Evergreen Elm

ATTACHMENT VI

REIMBURSEMENT AGREEMENT FOR LANDSCAPE PLAN REVIEW

PERMIT/ENTITLEMENT NUMBER(S):_____

I, the undersigned Applicant, hereby authorize the City of Moorpark, California to review the Landscape Plans submitted for the above referenced permit/entitlement request(s) in accordance with the City of Moorpark Ordinance Code. I am herewith depositing $_____ in accordance with adopted fee schedule to cover consultant review (plus 15% city administrative charge), staff review, coordination and processing, the unused portion of the deposit will be refunded to me. I further understand that, if the final cost is more than the deposit fee, I shall pay the balance due.

Name of Applicant*: _____
Please print or type

Phone: (__)_____

Address of Applicant_____
(Do not use P.O. Box)

Phone: (__)_____

Name of Corporation or Agency

Address of Corporation or Agency_____
(Do not use P.O. Box)

_____
Signature Date

*If corporation or agency, list person(s) authorized to act on behalf of corporation or agency.

ATTACHMENT VII

CERTIFICATES OF COMPLIANCE

PRELIMINARY CERTIFICATE OF COMPLIANCE
(prior to completion of maintenance period)

Project Number _____Assessor's Parcel No.:_____

Landscape Contractor: _____

Landscape Architect: _____

Applicant: _____

I certify that:
Post-Installation Inspection: (check to indicate compliance)
❑ A. Plants installed as specified including proper staking & root control boxes
❑ B. Soils amended as noted in soils report (Invoices attached)
❑ C. Irrigation system installed as designed an adjusted

I certify that this project complies with the City of Moorpark Landscape Design Guidelines. The landscape planting and irrigation installation conforms with the approved plans and specifications with the following exceptions: (Itemize all exceptions on attached sheets)

_____

Signature, Applicant's Landscape Architect of Record

State License Number
Date

CITY OF MOORPARK
Landscape Verification

I certify that this project:
❑ Complies,
❑ Does not comply, with the approved Landscape Plans with the following exceptions: (Use attached sheets, if necessary)

_____

Signature, City's landscape representative Date

FINAL CERTIFICATE OF COMPLIANCE
(post-maintenance period)

Project Number _____Assessor's Parcel No.:_____

Landscape Contractor: _____

Landscape Architect: _____

Applicant: _____

I certify that:

❑ A. Post-Installation inspection was performed and a Preliminary Certificate of Compliance was completed. Date:_____
❑ B. Maintenance Period conforms with Landscape Maintenance Schedule (90-day maintenance period for non-City maintained landscape areas and 360-day maintenance period for all City maintained landscape areas).
❑ C. Planting installed per plan w/100% plant survivability
❑ D. Irrigation system installed per plan and in optimum operating condition
❑ D. Laminated color coded controller charts in controller cabinets
❑ E. As-built plans provided to owner/manager
❑ F. Backflow Prevention Test

I certify that this project complies with the City of Moorpark Landscape Design Guidelines.

_____

Signature, Applicant's Landscape Architect of Record

State License Number
Date

CITY OF MOORPARK
Landscape Verification

I certify that this project:
❑ Complies,
❑ Does not comply

_____

Signature, City's landscape representative

Date

ATTACHMENT VIII

SAMPLE WATER EFFICIENT LANDSCAPE WORKSHEETS

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.
Please complete all sections (A and B) of the worksheet.

HYDROZONE INFORMATION TABLE
Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Hydrozone*	Zone or Valve	Irrigation Method**	Area (Sq. Ft.)	% of Landscape Area
	Total			**100%**

***Irrigation Method**
MS = Micro-spray
S = Spray
R = Rotor
B= Bubbler
D= Drip
O = Other

***Hydrozone**
HW = High Water Use Plants
MW = Moderate Water Use Plants
LW = Low Water Use Plants

WATER BUDGET CALCULATIONS

Maximum Applied Water Allowance (MAWA)

The project's Maximum Applied Water Allowance shall be calculated using this equation:

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

where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration from Appendix A (inches per year)

0.7 = ET Adjustment Factor (ETAF)
LA = Landscaped Area includes Special Landscape Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.3 = the additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Maximum Applied Water Allowance = _____gallons per year
Show calculations.

Effective Precipitation (Eppt)

If considering Effective Precipitation, use 25% of annual precipitation. Use the following equation to calculate Maximum Applied Water Allowance:

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

Maximum Applied Water Allowance = _____gallons per year

Show calculations.

Estimated Total Water Use (ETWU)

The project's Estimated Total Water Use is calculated using the following formula:

$$ETWU = (ETo)(0.62)\left(\frac{PF\,x\,HA}{IE} + SLA\right)$$

Where:

ETWU = Estimated total water use per year (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
PF = Plant Factor from WUCOLS (see Definitions)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor (to gallons per square foot)
IE = Irrigation Efficiency (minimum 0.71)

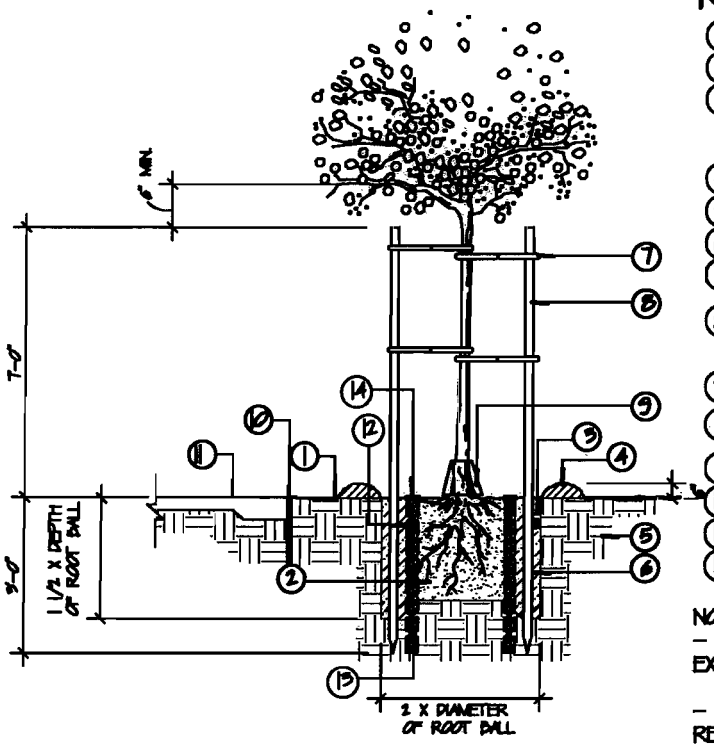
Hydrozone Table for Calculating ETWU

Please complete the hydrozone table(s). Use as many tables as necessary.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)	Area (HA) (square feet)	PF x HA (square feet)
			Sum	
	SLA			

Estimated Total Water Use = _____gallons

Show calculations.



KEY

1. FINISH GRADE
2. ROOTBALL
3. AGRIFORM OR EQ. PLANT TABS (TOP 1/2 OF ROOT BALL–4 PER 15-GAL, 6 PER 24"/36" BOX, 8 PER 48" BOX AND GREATER)
4. TEMPORARY 6" WATERING BASIN
5. NATIVE SOIL
6. BACKFILL MIX (PER SOILS ANALYSIS)
7. TREE TIES (MIN. 4 REQUIRED) SECURE TO POLE W/GALV. NAIL
8. 2" DIA. TREATED LODGEPOLE PINE STAKE (3" DIA. FOR 36" BOX TREE OR GREATER)
9. PLASTIC TREE GUARD IN TURF.
10. 2' DEPTH X 10' LENGTH LINEAR ROOT BARRIER ADJACENT TO ALL HARDSCAPE SURFACES
11. HARDSCAPE SURFACE
12. 4" PERFORATED PIPE WRAPPED IN FILTER FABRIC
13. 3/4" GRAVEL
14. PVC CAP

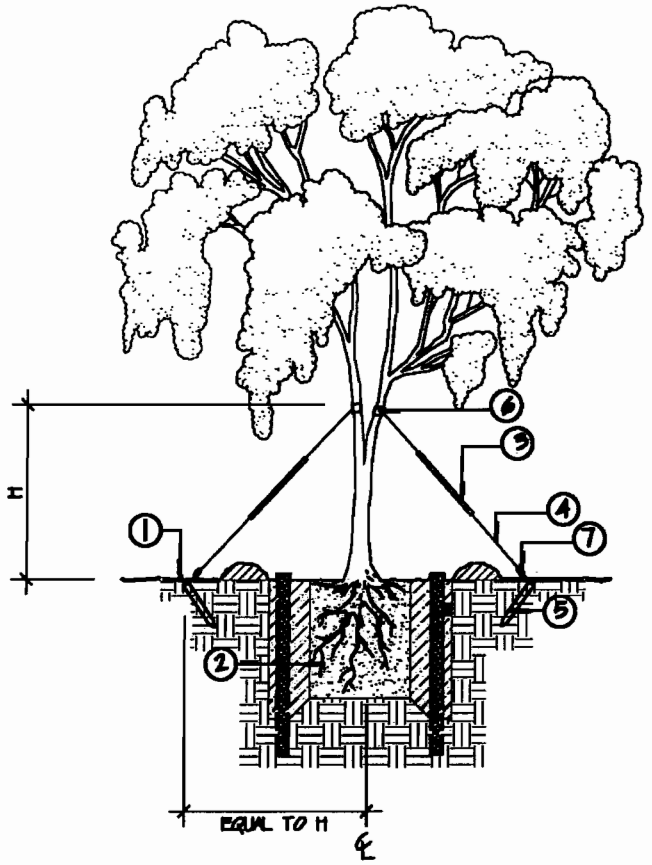
NOTE:
- STAKES SHALL NOT PIERCE ROOTBALL AND SHALL EXTEND INTO UNDISTURBED SOIL.

- PLACE PRE-MANU. TIES ACCORDING TO MANU. RECOMMENDATIONS.

- CITY APPROVED ROOT BARRIERS SHALL BE INSTALLED ON ALL TREES WITHIN 10'-0" ALL WALKS, DRIVEWAYS, WALLS AND OTHER HARDSCAPE AREAS AND STRUCTURES.

TREE PLANTING DETAIL (PLATE 1-1)

City of Moorpark Community Development Department	Tree Planting Detail	Plate 1-1



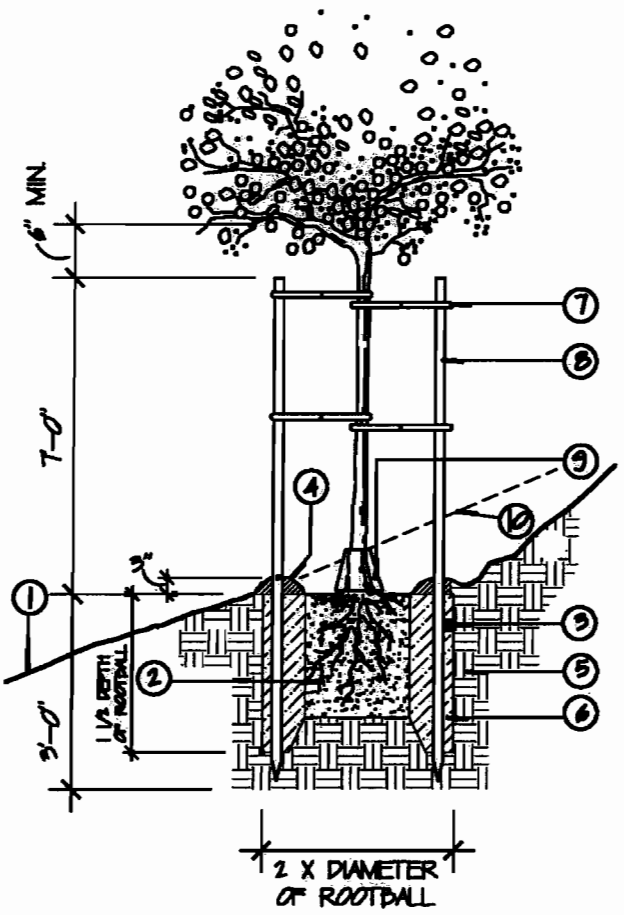
KEY

1. FINISH GRADE
2. ROOTBALL
3. PROVIDE WHITE PLASTIC TUBING OVER GUY WIRE
4. #12 GAUGE GALVANIZED WIRE DOUBLE STRAND. MINIMUM 3 GUYS EQUALLY SPACED 120 DEGREES AROUND TREE
5. ANCHORS: 2X2X36" RWD. STAKES, INSTALL MIN. 1" BELOW FINISH GRADE
6. TYPICAL TREE TIE: ATTACH TO MAJOR BRANCHES ONLY.
7. TURNBUCKLE AT FINISH GRADE ADJUST TO TAKE UP SLACK ONLY

NOTE:
- GUYING OF BOXED SPECIMEN TREES DEPENDS ON BRANCHING STRUCTURE AND WIND EXPOSURE. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO MAKE THE FINAL DECISION REGARDING GUYING REQUIREMENTS.
- SEE TREE PLANTING DETAIL FOR ROOTBARRIERS, PLANT TABS, DEEP ROOT SLEEVES.

TREE GUYING DETAIL (PLATE 1-2)

City of Moorpark Community Development Department	Tree Guying Detail	Plate 1-2



KEY

1. FINISH GRADE
2. ROOTBALL
3. AGRIFORM OR EQ. PLANT TABS (TOP 1/2 OF ROOT BALL–4 PER 15-GAL, 6 PER 24"/36" BOX, 8 PER 48" BOX AND GREATER)
4. TEMPORARY 6" WATERING BASIN
5. NATIVE SOIL
6. BACKFILL MIX (PER SOILS ANALYSIS REQUIREMENTS)
7. TREE TIES (MIN. 4 REQUIRED) SECURE TO POLE W/GALV. NAIL
8. 2" DIA. TREATED LODGEPOLE PINE STAKE (3" DIA. FOR 36" BOX TREE OR GREATER)
9. PLASTIC TREE GUARD IN TURF.
10. SLOPE

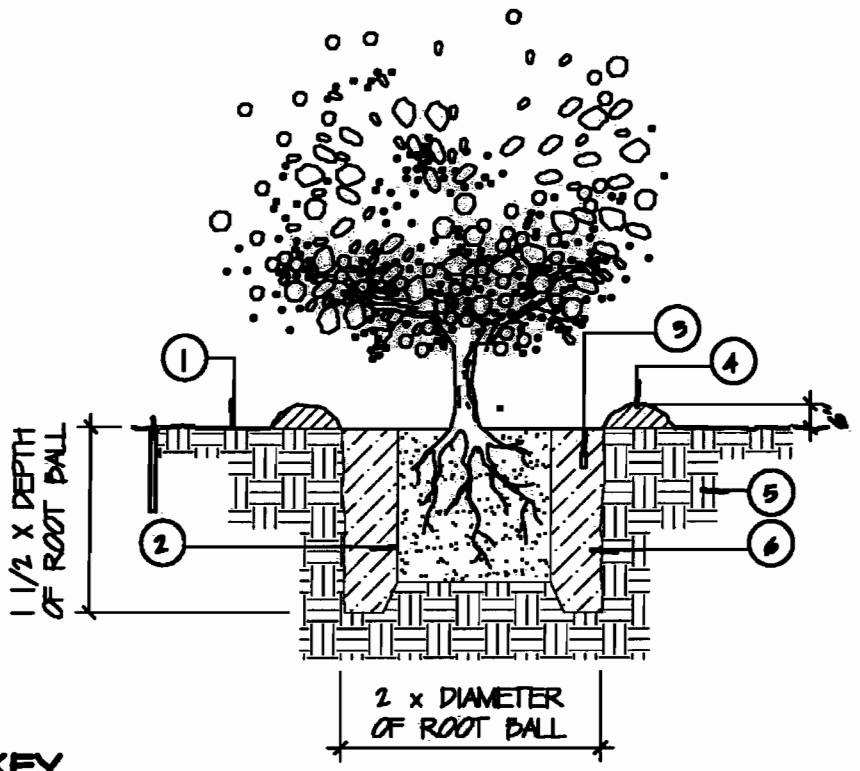
NOTE:
- STAKES SHALL NOT PIERCE ROOTBALL AND SHALL EXTEND INTO UNDISTURBED SOIL.

- PLACE PRE-MANU. TIES ACCORDING TO MANU. RECOMMENDATIONS.

- CITY APPROVED ROOT BARRIERS SHALL BE INSTALLED ON ALL TREES WITHIN 10'-0" ALL WALKS, DRIVEWAYS, WALLS AND OTHER HARDSCAPE AREAS AND STRUCTURES.

TREE PLANTING ON SLOPE DETAIL (PLATE 1-3)

City of Moorpark Community Development Department	Tree Planting on Slope Detail	Plate 1-3

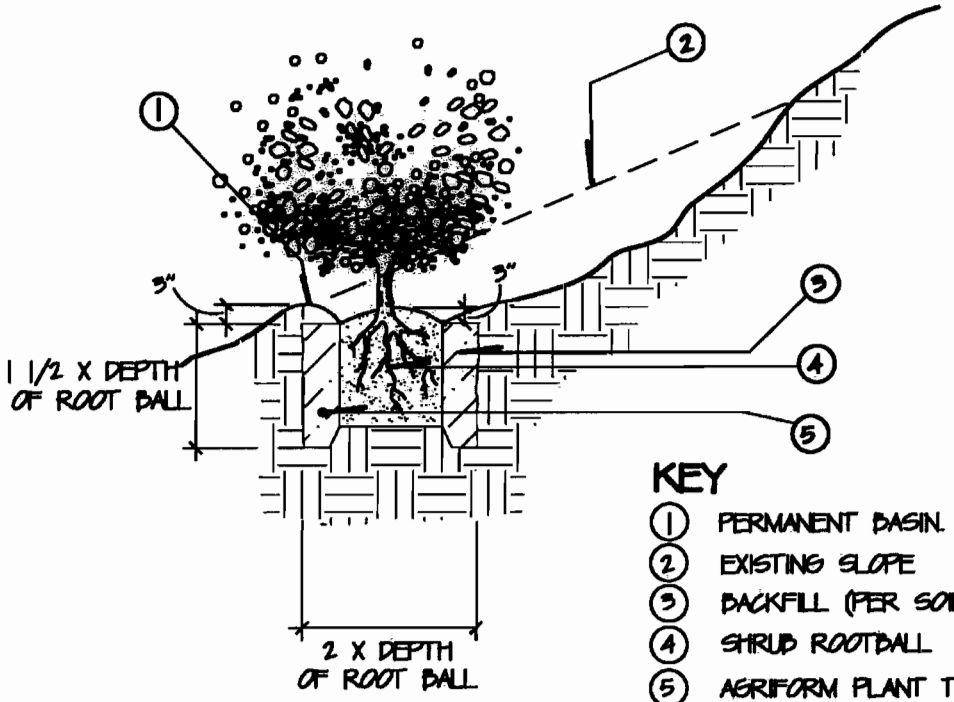


KEY

1. FINISH GRADE
2. ROOTBALL
3. AGRIFORM PLANT TABS OR EQ. (TOP 1/2 OF ROOT BALL) (1 PER 1-GAL, 2 PER 5-GAL, 4 PER 15-GAL, 6 PER BOX CONTAINER)
4. 6" WATERING BASIN (TO BE REMOVED PRIOR TO END OF MAINTENANCE)
5. NATIVE SOIL
6. BACKFILL MIX (PER SOILS REPORT RECOMMENDATIONS)

SHRUB PLANTING DETAIL (PLATE 1-4)

City of Moorpark Community Development Department	Shrub Planting Detail	Plate 1-4

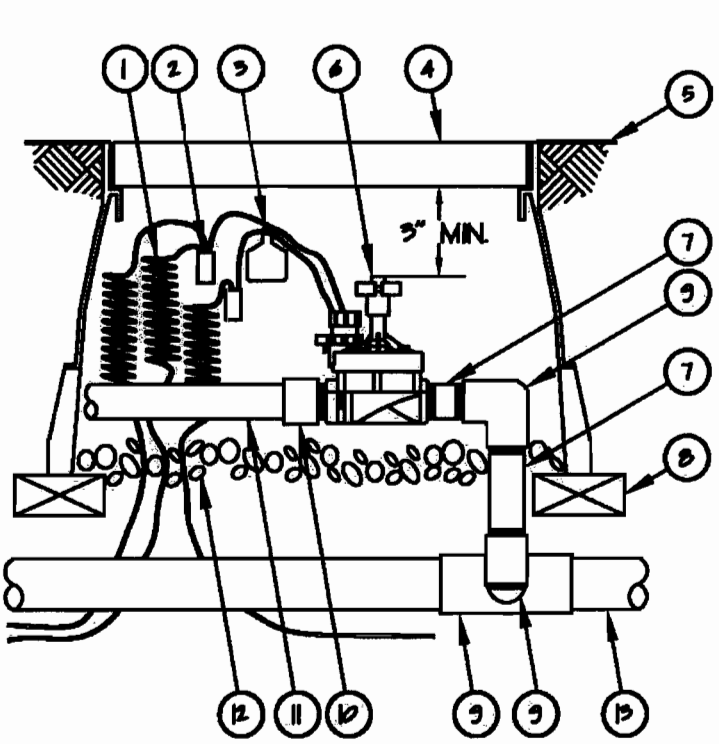


KEY

1. PERMANENT BASIN.
2. EXISTING SLOPE
3. BACKFILL (PER SOILS REPORT)
4. SHRUB ROOTBALL
5. AGRIFORM PLANT TABS OR EQ. (1 PER 1-GAL., 2 PER 5-GAL., 4 PER 15-GAL., 6 PER BOX CONTAINER)

SHRUB ON SLOPE PLANTING DETAIL (PLATE 1-5)

City of Moorpark Community Development Department	Shrub Planting on Slope Detail	Plate 1-5

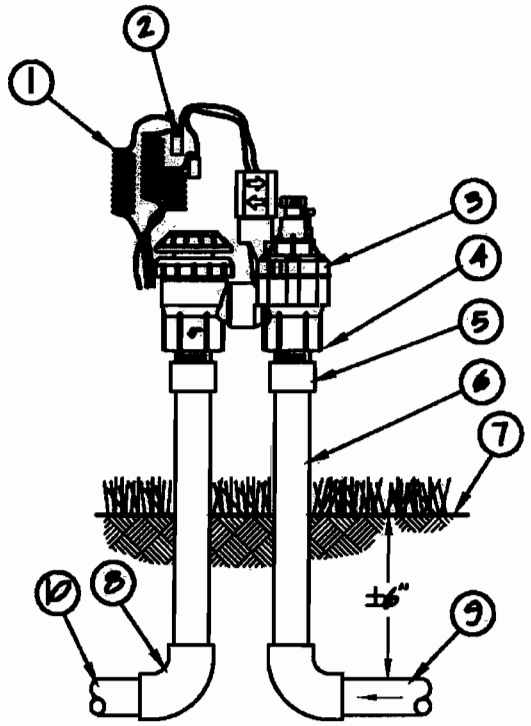


KEY

1. CONTROL WIRES W/3'-0" MIN. LONG EXPANSION LOOPS, COILED AND BUNDLE TAPE WIRES TO RISER.
2. WATER PROOF EPOXY CONNECTION.
3. ID TAG.
4. VALVE BOX W/COVER (12" SIZE) MARKED R.C.V. OR MASTER VALVE AND W/VALVE NO.
5. FLUSH IN LAWN / 2" IN GROUNDCOVER.
6. REMOTE CONTROL/MASTER VALVE.
7. PVC SCH 80 NIPPLE.
8. BRICK (1 OF 4).
9. SCH 40 PVC ELL OR TEE.
10. PVC SCH 80 MALE ADAPTER.
11. PVC LATERAL PER PLAN.
12. MIN. 3" DEPTH OF 3/4" WASHED GRAVEL.
13. SCH 40 PVC/CL 315 MAINLINE.

REMOTE CONTROL VALVE DETAIL (PLATE 2-1)

City of Moorpark Community Development Department	Remote Control Valve Detail	Plate 2-1



KEY

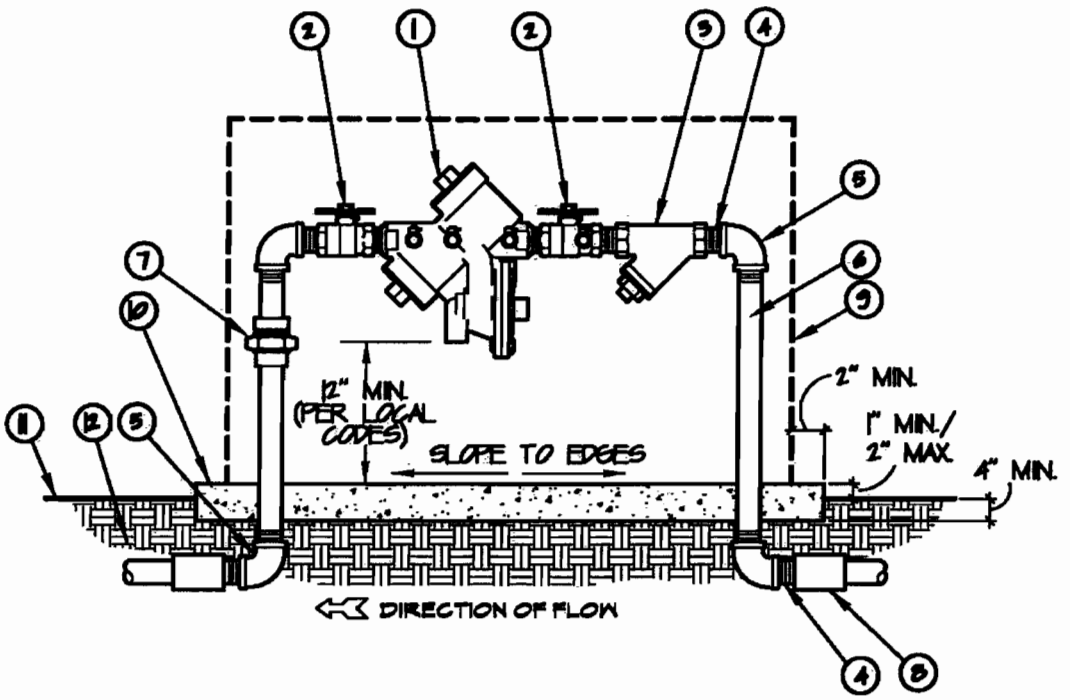
1. 30-INCH LINEAR LENGTH OF WIRE, COILED
2. WATER PROOF CONNECTION (W/EPOXY CONNECTION CONTROL WIRES W/3' MIN. LONG EXPANSION LOOPS – BUNDLE TAPE WIRES TO RISERS).
3. REMOTE CONTROL ANTI-SIPHON VALVE:
4. INSTALL 12 INCH MIN. ABOVE HIGHEST POINT OF DISCHARGE
5. UV RADIATION RESISTANT PVC SCH 80 MALE ADAPTER (1 OF 2)
6. UV RADIATION RESISTANT PVC SCH 80 RISER (1 OF 2)
7. FINISH GRADE/TOP OF MULCH
8. PVC SCH 40 ELL (1 OF 2)
9. PVC SCH 40 MAINLINE PIPE (CL 315 FOR 2" AND GREATER)
10. PVC LATERAL LINE (SIZE PER PLAN)

NOTES:

1. BUNDLE TAPE CONTROL WIRES AT TEN FOOT INTERVALS.
2. FOR TRENCHING AT STREET CROSSINGS, CONSULT LOCAL STANDARDS FOR DEPTH, BACKFILL MATERIAL AND COMPACTION REQUIREMENTS.
3. BACKFILL SHALL BE COMPACTED SUCH THAT NO SETTLING OCCURS ARTER PROJECT COMPLETION.
4. REFER TO TRENCHING DETAIL/IRRIGATION SPECIFICATIONS FOR LATERAL LINE AND MAINLINE DEPTH.

ANTI-SIPHON VALVE DETAIL (PLATE 2-2)

City of Moorpark Community Development Department	Anti-siphon Valve Detail	Plate 2-2

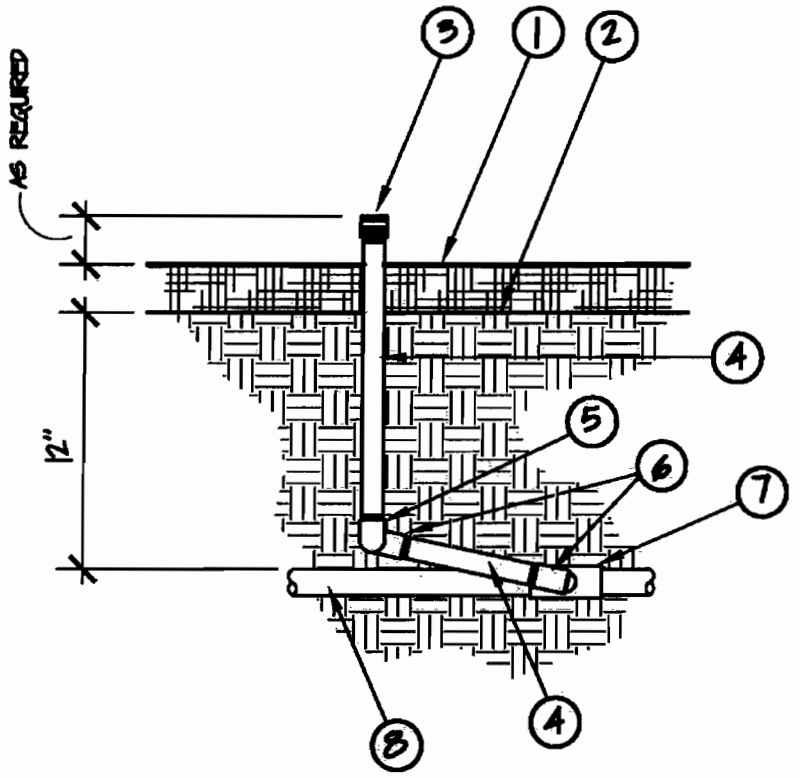


KEY

1. REDUCED PRESSURE BACKFLOW PREVENTER
2. BALL VALVE
3. BRASS WYE STRAINER W/60 MESH SCREEN
4. SHORT BRASS NIPPLE
5. BRASS ELL (TYP)
6. THREADED BRASS RISER (TYP)
7. BRASS UNION (TYP)
8. PVC COUPLING (TYP)
9. BACKFLOW PREVENTER ENCLOSURE (POWDER COATED MESH)
10. CONCRETE FOOTING
11. FINISH GRADE
12. 95% COMPACTED SUBGRADE

BACKFLOW PREVENTER DETAIL (PLATE 2-3)

City of Moorpark Community Development Department	Backflow Preventer Detail	Plate 2-3

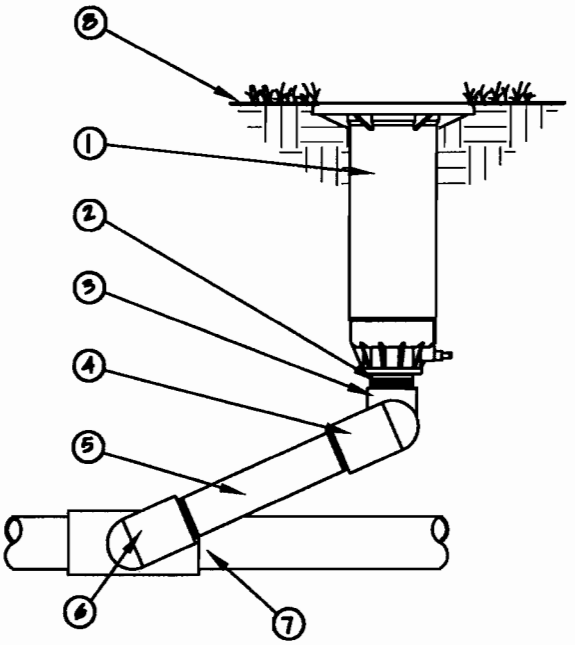


KEY

1. TOP OF MULCH
2. FINISH GRADE
3. LOW GALLONAGE BUBBLER
4. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
5. PVC SCH 40 ELL
6. PVC SCH 40 STREET ELL
7. PVC SCH 40 TEE OR ELL
8. PVC LATERAL PIPE

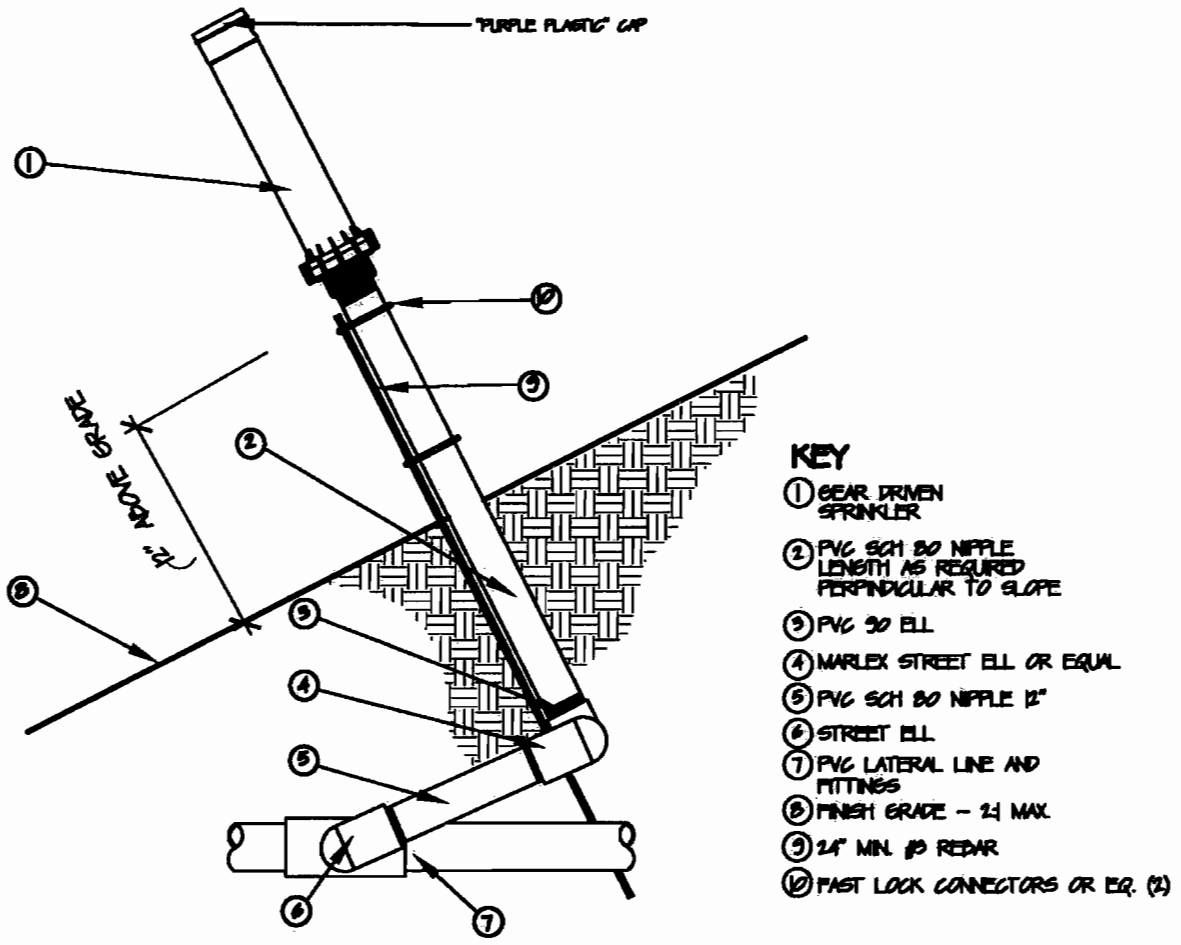
BUBBLER DETAIL (PLATE 2-4)

City of Moorpark Community Development Department	Bubbler Detail	Plate 2-4



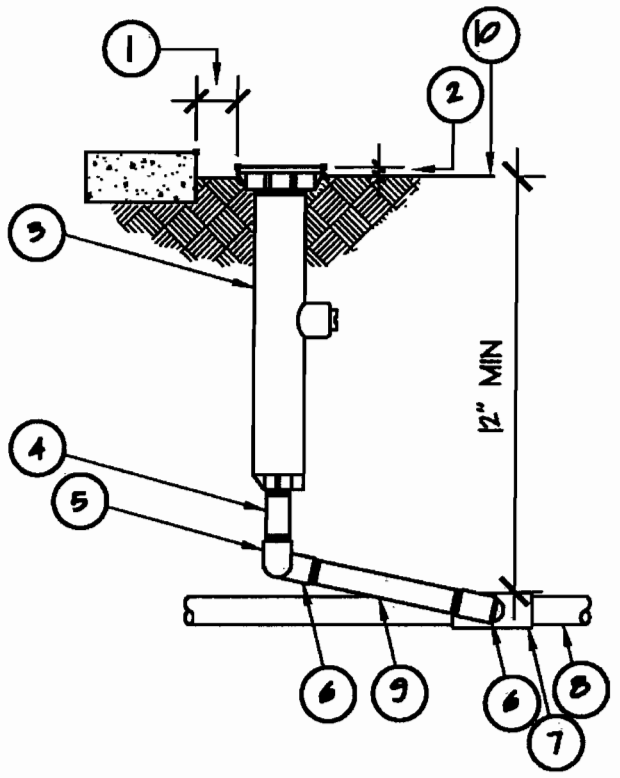
POP-UP ROTOR DETAIL (PLATE 2-5)

City of Moorpark Community Development Department	Pop-up Rotor Detail	Plate 2-5



ROTOR ON SLOPE DETAIL (PLATE 2-6)

City of Moorpark Community Development Department	Rotor on Slope Detail	Plate 2-6

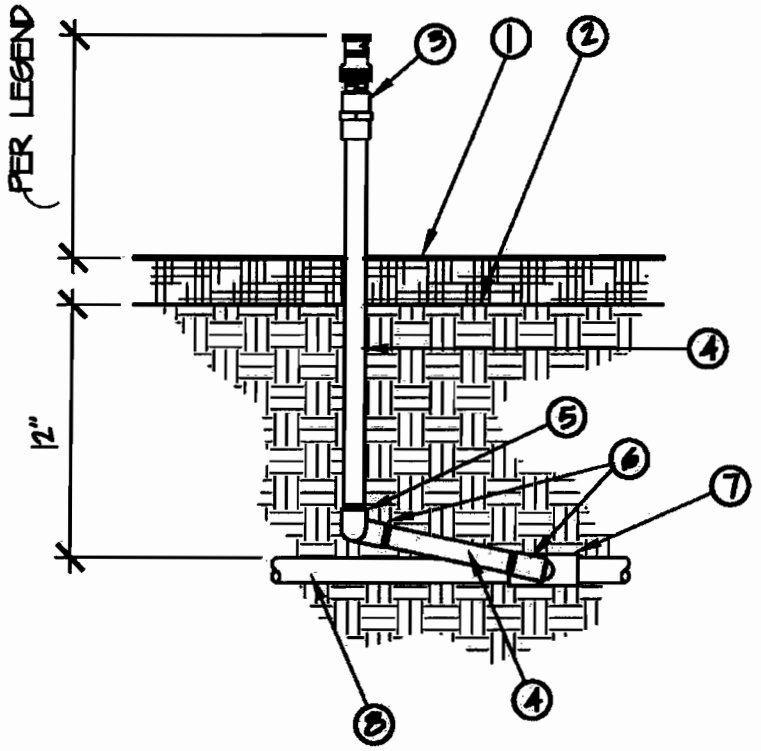


KEY

1. 1" MIN./2" MAX AT EDGE OF PAVING OR WALL
2. 1/4" CLEARANCE
3. POP-UP SPRAY HEAD
4. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED, 2" MIN.)
5. PVC SCH 40 ELL
6. PVC SCH 40 STREET ELL
7. PVC SCH 40 TEE OR ELL
8. PVC LATERAL PIPE
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED, 6" MIN.)
10. FINISH GRADE

POP-UP SPRAY HEAD DETAIL (PLATE 2-7)

City of Moorpark Community Development Department	Pop-up Spray Head Detail	Plate 2-7

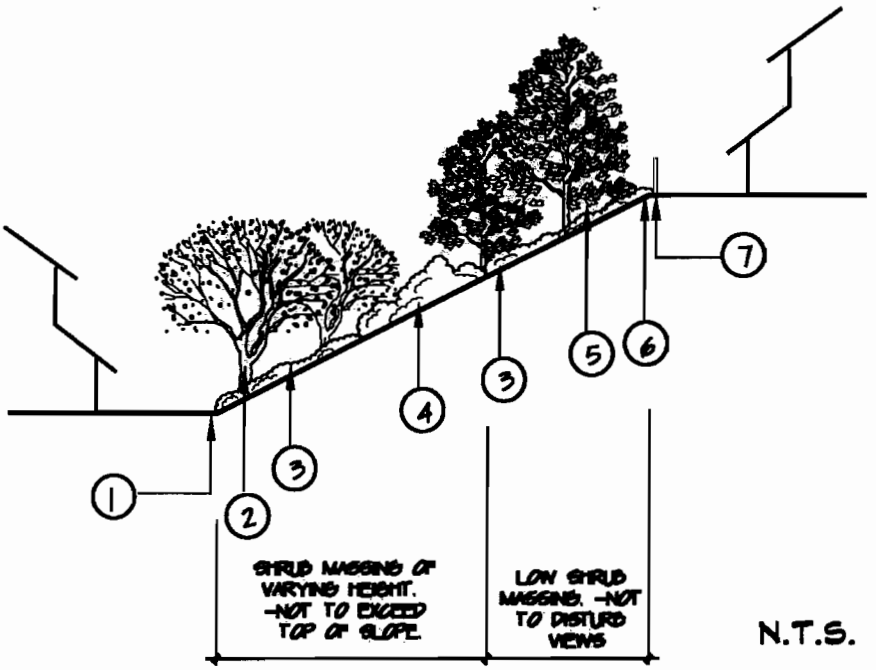


KEY

1. TOP OF MULCH
2. FINISH GRADE
3. RISER SPRAY HEAD
4. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
5. PVC SCH 40 ELL
6. PVC SCH 40 STREET ELL
7. PVC SCH 40 TEE OR ELL
8. PVC LATERAL PIPE

RISER SPRAY DETAIL (PLATE 2-8)

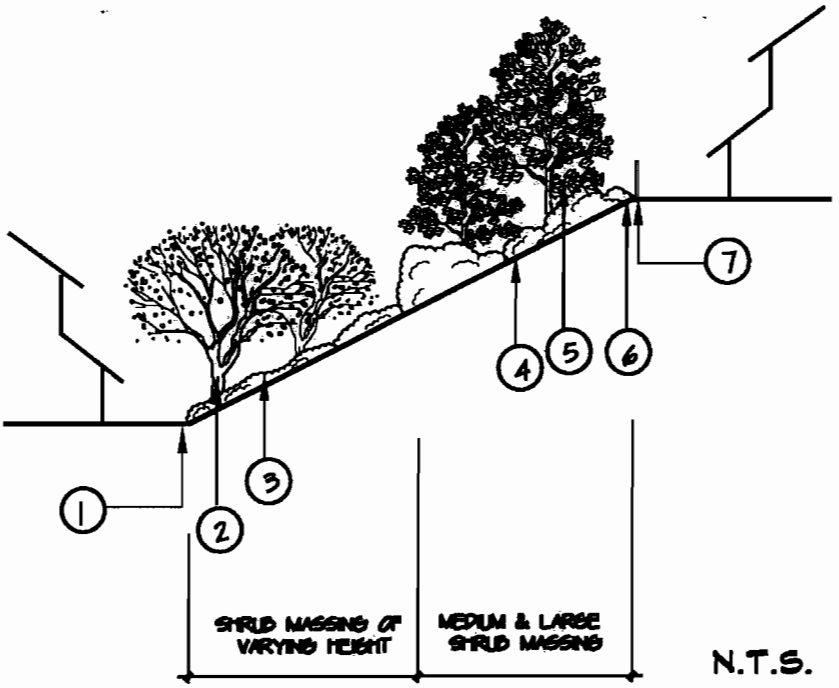
City of Moorpark Community Development Department	Riser Spray Head Detail	Plate 2-6



1. TOE OF SLOPE
2. CANOPY TREE ON LOWER SLOPE. MATURE HEIGHT OF TREES SHALL NOT EXCEED TOP OF SLOPE
3. LOW GROWING SHRUBS
4. LARGE SHRUBS
5. VERTICAL TREE NEAR SIDEYARD LOTLINES OR BUILDING EDGE TO SOFTEN ARCHITECTURE. CARE SHALL BE TAKEN TO ENSURE CANOPY OF MATURE TREE DOES NOT ENCROACH PROPERTY LINE.
6. TOP OF SLOPE
7. VIEW FENCE

SLOPE PLANTING W/ VIEW FENCE (ELEVATION) (FIG. 12.1)

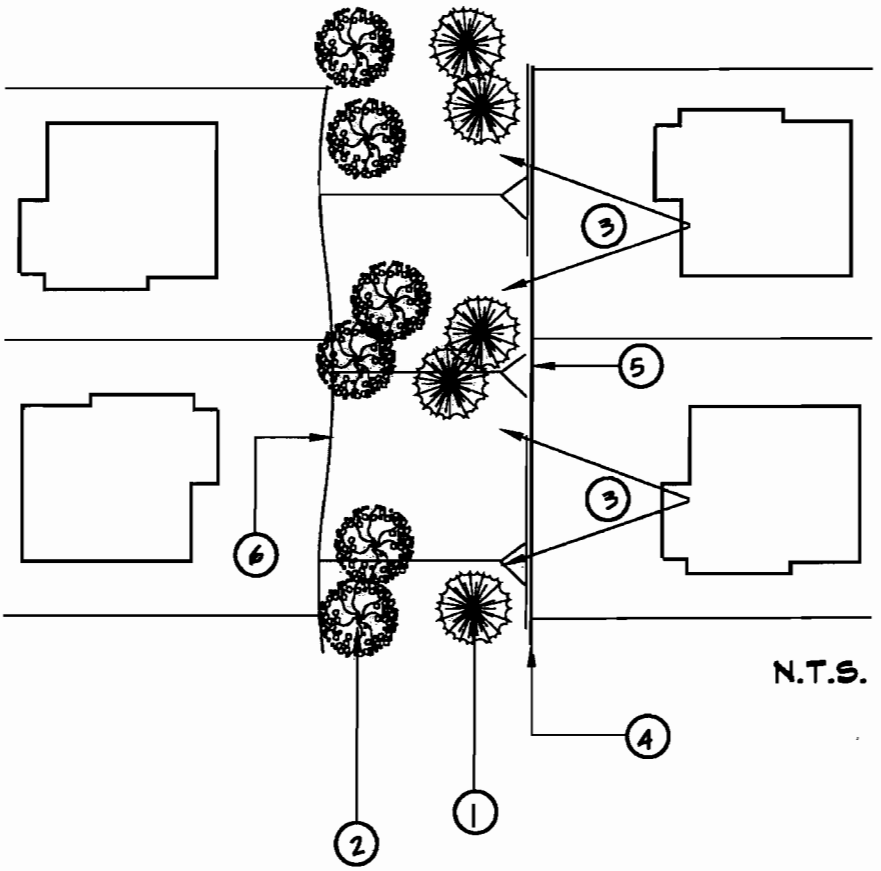
City of Moorpark Community Development Department	Slope Planting w/View Fence (elevation)	Fig. 12.1



1. TOE OF SLOPE
2. CANOPY TREE ON LOWER SLOPE
3. LOW GROWING SHRUBS
4. LARGE SHRUBS
5. VERTICAL TREE NEAR SIDEYARD LOTLINES OR BUILDING EDGE TO SOFTEN ARCHITECTURE. CARE SALL BE TAKEN TO ENSURE CANOPY OF MATURE TREE DOES NOT ENCROACH PROPERTY LINE.
6. TOP OF SLOPE
7. SCREEN WALL

SLOPE PLANTING W/ SCREEN WALL (ELEVATION) (FIG. 12.2)

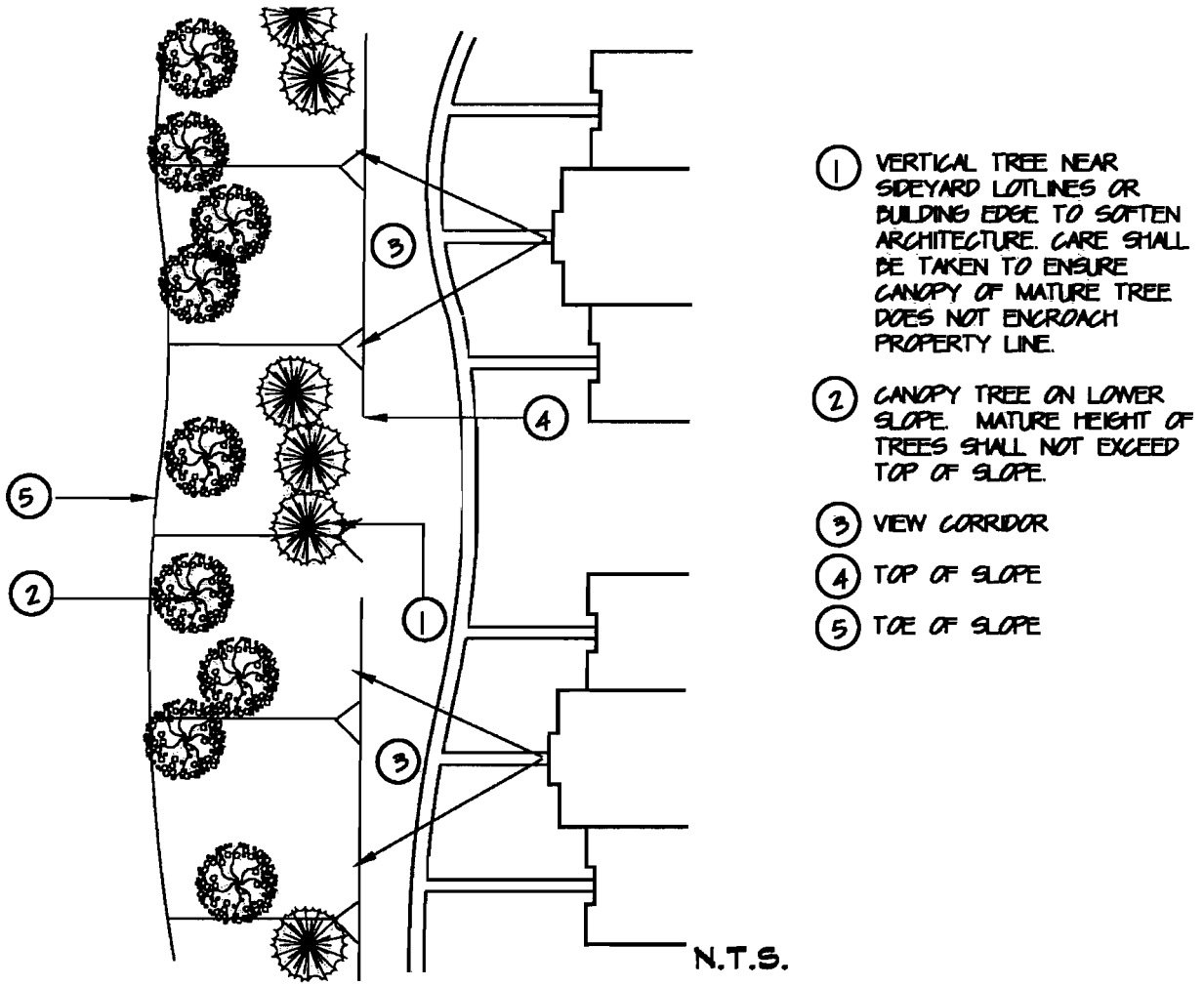
City of Moorpark Community Development Department	Slope Planting w/Screen Wall (elevation)	Fig. 12.2



1. VERTICAL TREE NEAR SIDEYARD LOTLINES OR BUILDING EDGE TO SOFTEN ARCHITECTURE. CARE SHALL BE TAKEN TO ENSURE CANOPY OF MATURE TREE DOES NOT ENCROACH PROPERTY LINE.
2. CANOPY TREE ON LOWER SLOPE. MATURE HEIGHT OF TREES SHALL NOT EXCEED TOP OF SLOPE
3. VIEW CORRIDOR
4. VIEW FENCE
5. TOP OF SLOPE
6. TOE OF SLOPE

SLOPE PLANTING AT SINGLE-FAMILY RESIDENCE (PLAN VIEW) (FIG. 12.3)

City of Moorpark Community Development Department	Slope Planting at Single-family Residence (elevation)	Fig. 12.3



SLOPE PLANTING AT MULTIPLE-FAMILY RESIDENCE (PLAN VIEW) (FIG. 12.4)

City of Moorpark Community Development Department	Slope Planting at Multi-family Residence (plan view)	Fig. 12.4