CITY OF
HAYWARD
HEART OF THE BAY

WS #2

**DATE:** December 9, 2008

**TO:** Mayor and City Council and Planning Commission

**FROM:** Director of Development Services Department

**SUBJECT:** Proposed Hayward Environmentally Friendly Landscape Guidelines and Checklists for Private Development Projects

## RECOMMENDATION

That the City Council and Planning Commission review and comment on this report.

## BACKGROUND

The Council Sustainability Committee expressed support to wait to adopt a City water-efficient landscape ordinance until Stopwaste.org completed development of its Bay Friendly system, including developing a checklist and third-party rater system for single-family developments; and until the State released its new Model Water Efficiency standards, anticipated for January 2009. However, the Committee expressed a desire to adopt, by resolution, standards for landscaping that could be used ahead of the later ordinance. The Committee also encouraged more substantial requirements with associated guidelines and a checklist for larger developments, intended for use by landscape professionals.

In response to direction given by the Council Sustainability Committee, staff has developed a new set of sustainable landscaping guidelines and checklist for new single-family home construction, and single-family remodels and additions, which include a plant list. They are designed for use by the homeowner and non-landscape professional. The Committee also encouraged higher standards for new, larger developments and, therefore, staff is recommending utilization of a more comprehensive set of guidelines and checklist for such projects.

Staff is proposing three thresholds related to the use of specific guidelines and checklists:

1. LANDSCAPE PROFESSIONALS: A set of guidelines and associated checklist required for use by landscape professionals (Exhibit B), applicable to more substantial projects, such as those involving four or more new single-family homes, new multi-family residential development, new commercial development, and commercial tenant improvements or additions with more than 5,000 square feet of landscape area renovations.

2. HOMEOWNER: A set of guidelines and associated checklist required for use by a homeowner (Exhibit C) for developments consisting of one to three new single-family homes, including duplexes, or for major remodels or additions that increase existing building footprint area by more than 50 percent.

3. SMALL PROJECTS: Proponents for smaller residential and commercial remodels and additions would not be required to implement checklists items, but would be encouraged to do so.

Exhibit A summarizes these three thresholds and staff's recommendation to the City Council, based on the recommendation of the Committee.

**DISCUSSION**

Hayward's General Plan sets forth goals for preserving and improving the City's natural and built environment in order to protect the health of its residents and to foster its economy. Sustainable landscape design, construction, operation and maintenance can have a significant positive effect on energy, water, and resource efficiency, waste and pollution reduction, and human health. Environmentally-friendly landscaping contributes to a reduction in greenhouse gas emissions, improves air quality, and enhances urban sustainability.

To provide these benefits, staff recommends adoption of both sets of guidelines and checklists. Where existing City ordinance provisions conflict with the guidelines and checklists, the existing ordinance provisions would prevail; however, staff has made all attempts to ensure compatibility between the proposed guidelines and existing ordinance provisions.

The more substantial set of guidelines and checklist (Exhibit B) are recommended for larger projects, including those entailing four or more single-family unit developments, new multi-family developments, and commercial developments with new or renovated landscape area, exceeding 5,000 square feet. Staff is recommending that for such projects, the checklist be required to be submitted, and the checklist items be incorporated into plans and construction. As is the current practice, the City's landscape architect would review plans and conduct inspections to ensure required compliance for these larger projects.

The second set of guidelines and checklist (Exhibit C) have been developed in response to the Committee's previous comments, and are for single-family developments, encompassing less than four units or less than 50 percent footprint expansion, and are intended to be used by the non-landscape professional (e.g., homeowner/builder). Staff recommends that submittal of the checklist be required with building permit application submittals, and that the checklist items, which include provisions for planting and irrigation, be incorporated into projects.

For smaller multi-family residential projects and commercial remodels and additions (with less than 5,000 square feet of landscape renovation), use of the guidelines and checklist is only encouraged. The guidelines and checklist also include gardening tips and a plant list for guidance to assist homeowners with compliance and desired landscaping practices. Staff would review plans to encourage the inclusion of checklist items into plans. Staff would not typically conduct final inspections of such landscaping, but would require submittal of a verification form from the

homeowner or project proponent indicating compliance with the approved plans. Such form is attached to the guidelines, and would be placed in the project file.

## FISCAL IMPACT

Additional staff time will be required to review submittals of the newly required checklists, prepare and process amendments to existing ordinances, and develop new City standard details that incorporate the provisions of the guidelines and checklist. City ordinances that would ultimately require amendments include: the parking lot landscaping requirements within the *Off-Street Parking Regulations*; the *Tree Preservation Ordinance* provisions for optional tree mitigation measures; each zoning district's provisions related to landscape design and performance standards in the *Zoning Ordinance*; and the *Water Efficient Landscape Ordinance*. Staff estimates 200 hours annually will also be required to periodically review and update the Guidelines and Checklist, to keep them current and reflective of current laws and trends. This will involve participating in workshops, seminars, and discussion sessions with other local agencies and Stopwaste.org.

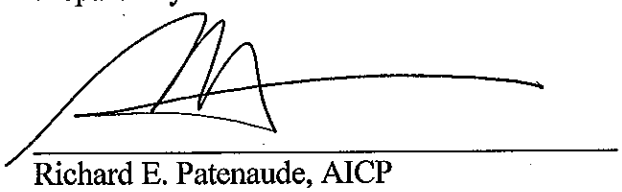
The cost impacts to the development community due to differences between traditional and recycled landscape materials such as recycled wood, organic compost, organic fertilizer, and mulch, are becoming nominal. Also, because of the newly developed second set of guidelines and checklist, the cost to the individual homeowner would be less, since there would not be a need to hire a landscape professional to prepare plans. There also will be significant long-term cost savings due to importing less topsoil by stockpiling more material on site, hauling less material to landfills, and reduced costs for maintenance and water use. The immeasurable benefits will be healthier soil for plants that will result in enhanced landscaping, improved air quality, and a healthier environment for the community and natural habitats.

Costs to the City associated with relying on **Stopwaste.org's** Bay Friendly Landscaping program would be less, since the City would rely on that system being updated by Stopwaste.org staff. Also, a third-party rater system would be developed, utilization of which may prove to be desirable by a reduction in staff time, and associated costs, in ensuring that scorecard measures are implemented.

## NEXT STEPS

Staff will respond to recommendations and suggestions from the City Council and the Planning Commission, and present the proposal at a community meeting in early December, prior to public hearings before the Planning Commission, which are anticipated for January 8, 2009; and City Council on February 17, 2009.

Prepared by:



Richard E. Patenaude, AICP
Planning Manager

Recommended by:

David Rizk, AICP
Director of Development Services Department

Approved by:

Gregory T. Jones
City Manager

Attachments:

| | |
|---|---|
| Exhibit A: | Summary Matrix of Staff Recommendations for Private Developments |
| Exhibit B: | Draft Hayward Environmentally Friendly Landscape Guidelines and Checklist for Landscape Professionals |
| Exhibit C: | Draft Hayward Environmentally Friendly Landscape Guidelines and Checklist for Single-Family Developments |

EXHIBIT A

# SUMMARY OF REQUIREMENTS FOR PRIVATE DEVELOPMENTS
# HAYWARD ENVIRONMENTALLY FRIENDLY LANDSCAPE

| Project Type | Staff's Recommendation | Anticipated Meeting Dates |
|---|---|---|
| **SINGLE-FAMILY RESIDENTIAL PROJECTS (1 or 2 units per building, including duplexes)** | | |
| New Single Family Residential Projects of 4 or More Dwellings | Submittal of Landscape Professionals Checklist and incorporation of checklist measures into project are required | 12/9/08 – Introduce the Guidelines and Checklists to PC & CC at a joint work session<br><br>Early-December 2008 – Community meeting<br><br>1/8/09 – PC recommends adoption of the Guidelines and Checklist to the CC<br><br>2/17/09 – CC adopts the Guidelines and Checklist |
| New Single Family Residential Projects of 1 to 3 Dwellings | Submittal of Single-Family Checklist and incorporation of checklist measures into project are required | |
| Single Family Remodels and Additions that Exceed 50% Expansion of Existing Building Footprints | | |
| All Other Remodels and Additions | Submittal of Single-Family Checklist and incorporation of checklist measures into project are encouraged | |
| **MULTI-FAMILY RESIDENTIAL PROJECTS (3 or more units per building)** | | |
| New Multi-Family Residential Projects | Submittal of Landscape Professionals Checklist and incorporation of checklist measures into project are required | 12/9/08 – Introduce the Guidelines and Checklists to PC & CC at a joint work session<br><br>Early-December 2008 – Community meeting<br><br>1/8/09 – PC recommends adoption of the Guidelines and Checklist to the CC<br><br>2/17/09 – CC adopts the Guidelines and Checklist |
| Multi-Family Remodels and Additions that Exceed 5,000 Square Feet of Landscape Renovation | | |
| All Other Multi-Family Remodels and Additions | Submittal of Landscape Professionals Checklist and incorporation of checklist measures into project are encouraged | |
| **COMMERCIAL PROJECTS (non-residential projects)** | | |
| All New Commercial Projects | Submittal of Landscape Professionals Checklist and incorporation of checklist measures into project are required | 12/9/08 – Introduce the Guidelines and Checklists to PC & CC at a joint work session<br><br>Early-December 2008 – Community meeting<br><br>1/8/09 – PC recommends adoption of the Guidelines and Checklist to the CC<br><br>2/17/09 – CC adopts the Guidelines and Checklist |
| Commercial Tenant Improvements, Remodels and Additions that Exceed 5,000 Square Feet of Landscape Renovation | | |
| All Other Commercial Tenant Improvements, Remodels and Additions | Submittal of Landscape Professionals Checklist and incorporation of checklist measures into project are encouraged | |

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# HAYWARD ENVIRONMENTALLY FRIENDLY LANDSCAPE GUIDELINES AND CHECKLIST FOR THE LANDSCAPE PROFESSIONAL

September, 2008

## ✓ *Applicability of these Guidelines and Checklist*

These guidelines and checklist are intended for use by a landscape professional and are to be used for private developments comprising:

- more than three new single-family units;
- new multi-family residential projects (defined as a project comprising more than three units per building);
- multi-family residential remodels and additions encompassing more than 5,000 square feet of landscape area renovation;
- new commercial projects (defined as projects entailing new non-residential development); and
- commercial tenant improvements, remodels and additions that exceed 5,000 square feet of landscape area renovation.

Although not required, the use of these guidelines and checklist for smaller multi-family and commercial project remodels and additions is encouraged to promote water conservation and sustainable landscape practices.

For projects encompassing one to three new single-family units or single-family remodels or additions, refer to the City's Environmentally Friendly Landscape Guidelines and Checklist for Single-Family Development.

## ✓ *Purpose of Guidelines and Checklist?*

This set of Guidelines and Checklist is provided to assist landscape architects and designers in preparing landscape and irrigation plans that will comply with the City's landscaping standards, guidelines, and submittal requirements. The Guidelines and Checklist incorporate the nine required practices for Bay-Friendly Landscape by StopWaste.Org*, and incorporate the updates to the Model Water Efficient Landscape Ordinance from the California Department of Water Resources. The Guidelines and Checklist are derived from the City's Zoning Ordinance, Water Efficient Landscape and Tree Preservation ordinances, Off-Street Parking Regulations, Security and Traffic Code, Design Review Guidelines, Landscape Beautification Plan, Hillside Design and Urban/Wildland Interface Guidelines, Bay-Friendly Landscape Guidelines*, and the updated Model Water Efficient Landscape Ordinance by the Department of Water Resources. Certain

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items may not pertain to some projects, and should be noted as such by the professional on the checklist. Please contact the City Landscape Architect at (510) 583-4208, or go to www.hayward-ca.gov/municipal for additional information.

*Bay-Friendly Landscape Guidelines are established by StopWaste.Org, a program funded by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board. For more information, go to www.StopWaste.org

## ✓ *Who can prepare landscape plans?*

Landscape plans shall be prepared by a licensed landscape architect with expertise to prepare plans that comply with water efficient landscape design principles in accordance with State laws and the above mentioned ordinances and guidelines. Landscape plans consist of layout, landscape grading, planting, irrigation and landscape construction detail plans. Different project types will require varying level of completion. All required plans shall be wet stamped to include signature and license number of the landscape architect preparing the plans.

## ✓ *When are landscape plans and checklist submitted?*

If planning approval is required for a project (i.e., site plan review, use permit, planned development or single-family hillside projects), *conceptual* landscape and irrigation plans are required when development plans are submitted to the Planning Division. Minimum standards for conceptual landscape and irrigation plans are as follows:

- The conceptual landscape plans shall be prepared on an accurately surveyed plan that matches the architectural, site or civil plan.
- The landscape plan shall indicate the botanical name, common name, size, location and massing of different plant types; provides all existing trees shown on the survey plan; and trees designated to be preserved or removed.
- A comprehensive arborist report prepared by a certified arborist shall be required when any protected tree is proposed to be removed for development. See the Tree Preservation Ordinance (HMC Chapter 10, Article 15) for guidelines in preparing an arborist report.
- The conceptual irrigation plan shall include designation of landscape zones per water use, proposed water meter location, static water pressure (psi) at point of connection, performance standards, and backflow prevention device locations.

Following planning approval, submit *detailed* landscape and irrigation plans prepared by a licensed landscape architect, and completed the landscape design checklist and attachments in this document to the Building Division for building permit application review, unless otherwise specified in the planning approval process. Issuance of a building permit is contingent on approval of landscape plans by the City Landscape Architect.

## ✓ *What is required at completion of landscaping?*

A landscape inspection and approval by the City Landscape Architect is required upon completion of landscape installation prior to issuance of a Certificate of Occupancy. An irrigation schedule and *Document of Final Acceptance* (Attachment C) must be submitted to the City Landscape Architect prior to requesting an inspection. The *Document of Final Acceptance* shall be prepared by the project landscape architect, or by a licensed landscape contractor when permitted by the City Landscape Architect.

# LANDSCAPE IMPROVEMENT PLAN GUIDELINES AND CHECKLIST

Please check and circle all applicable items.

Project Type: ☐ Single Family Residential: new (__ of units) / remodel/addition / hillside/flat

☐ Multi-Family Residential: new (__ of units) / remodel/addition / hillside/flat

☐ Commercial (non-residential): new / remodel/addition

Project Size: Total Construction _____sq. ft. Landscaping _____sq. ft.

Project Name:_____ Building Permit No.:_____

Project Address:_____ Planning Permit No.:_____

***Required Landscape Statement Submittal:*** *address the following and provide the statement on the plan*

- ☐ Outdoor spaces, pathways, and edges defined with landscaping.
- ☐ Adjacent land uses buffered with landscaping.
- ☐ Landscaping complements adjacent landscaping.
- ☐ Landscaping complements architectural style and form of building, accentuates building features and entrances, and is compatible with building colors and materials.
- ☐ Limit the use of impervious paving types, and use porous paving whenever possible with porous concrete and asphaltic paving, interlocking pavers and pavers.
- ☐ Maximize usage of recycled material in all aspects of construction material.
- ☐ Parking, loading, and service areas, utilities, solid building surfaces, retaining and masonry walls, and fences are screened with landscaping.
- ☐ Plants preserve required vehicular and pedestrian clearances, 13'-6" for trucks and 8'-6" for pedestrians.
- ☐ Mature plants will fit space and will not cause damage to pavement or underground utilities.
- ☐ Plants shall be selected to preserve sight distance at site entries/exits and internal circulation routes without shearing.
- ☐ Deep-rooted plants on slopes for erosion control; jute mesh netting or a comparable erosion control material on slopes 3:1 or steeper or on slopes showing signs of erosion.
- ☐ Plants display variations in texture and form, with attention to flowering shrubs and seasonal color.
- ☐ For projects located along the arterial streets, street frontage landscaping is consistent with guidelines in ***Landscape Beautification Plan*** (LBP).

  *Comment: Arterials covered by the LBP consist of Jackson Street, "A" Street, Foothill Boulevard, Hesperian Boulevard, Mission Boulevard, Winton Avenue, Harder Road, Tennyson Road, Industrial Boulevard/Parkway, "B" Street, Second Street, Fairview Avenue, and Hayward Boulevard. Copies of the LBP are available at the Planning Division and on the City's website at www.hayward-ca.gov.*

- ☐ Projects located in the Hayward hills and in the urban/wildland interface areas must conform with Hayward's ***Hillside Design and Urban/Wildland Interface Guidelines***
  *Comment: The Hayward hills are generally defined as the areas east of Mission Boulevard and south of "D" Street. Properties subject to the interface provisions are designated by the Hayward Fire Department and typically include sites that abut open space or riparian corridors. Copies of the Guidelines are available at the Planning Division and on the City's website at www.hayward-ca.gov.*

## Submittal Requirements

***Detailed Landscape Improvement Plan (Construction Documents):***
*please check all applicable items*

- ☐ Show property lines and street names.
- ☐ Provide existing and proposed buildings, structures, retaining walls, fences, above and underground utilities, meters, paved areas, and other site improvements.
- ☐ Provide contour lines and/or spot elevations where landscaped areas exceed 10 percent slope as necessary for the proposed finished grade.
- ☐ Provide legend summarizing botanical and common name, quantity, size, spacing of all plant materials, and water use requirements.
- ☐ Show location of all proposed plant materials.
- ☐ Show all existing trees and plant materials to be removed or retained.
- ☐ When applicable, recycle minimum 50% of landscape construction and green waste.
- ☐ Where applicable, specifications for stockpiling and reapplying site topsoil and/or imported topsoil.
- ☐ Specify California native, Mediterranean or other climate adapted plants that require occasional, little or no summer watering for 75% of all non-turf plants.
- ☐ Limit using plant species require shearing.
- ☐ Do not specify species listed by Cal-IPC (California Invasive Plant Council) as invasive in the San Francisco Bay Area.
- ☐ *Plants well-suited to microclimate and soil conditions at site, require minimal water once established, are relatively free from pests and diseases, and are generally easy to maintain.*

  *Comment: Refer to EBMUD's* ***Water-Conserving Plants and Landscapes for the Bay Area, and the latest publication from EBMUD Plants and Landscapes for Summer-Dry Climate of the San Francisco Bay Region,*** *or Bob Perry's* ***Trees and Shrubs for Dry California Landscapes*** *for recommended water-conserving plants.*
- ☐ Plants with similar water needs to be grouped together (See example, Attachment D).
- ☐ Turf should not be proposed on slopes exceeding 10 percent or areas narrower than 8 feet.
- ☐ Limit the use of turf to 25 percent of the total landscaping area for all projects including single family residential homes unless used for sport or recreational function.

- ❑ Where turf is proposed, a drought tolerant Tall Fescue or variety with similar water requirement should be specified.

- ❑ Provide Tree Mitigation Summary Chart: All removed protected trees must be mitigated per Tree Preservation Ordinance (HMC Chapter 10, Article 15). The summary chart must provide the method of meeting the mitigation goal. Tree mitigation method includes, but not limited, to transplanting existing specimen trees, up-sizing required trees, and replacement above and beyond required trees.

- ❑ Details and specifications for tree staking, soil preparation, and other planting work. City Standard Street Tree Staking Detail SD-122 is required for street tree planting and is recommended for other trees on the project.

- ❑ Promote integrated and/or organic pest control practice for weed control.

- ❑ Jute mesh netting or a comparable erosion control material on slopes 3:1 or steeper or on slopes showing signs of erosion.

- ❑ Minimum three-inches of recycled chipped wood mulch in Dark Brown color or greenwaste in all planting areas except in turf areas.

- ❑ Replace nitrified soil conditioner and commercial fertilizer with minimum 9 cubic yards of organic compost per 1,000 square feet (1:4 ratios) of all planting areas and rototill thoroughly into minimum top 9 inches of soil.

- ❑ Prepare planting holes to be two times of a root ball. Backfill mix shall be 1 part organic compost and 2 parts native soil.

- ❑ Trees shall be planted a minimum of 5 feet from sewer, water, gas, cable, and electrical lateral services lines as well as from any paving and structures. Trees shall also be located a minimum of 7 feet from utility boxes, 15 feet from a light pole, and a minimum of 30 feet from the face of a traffic signal, or as otherwise specified by the City. Provide root barriers when a tree is located within 7 feet of a structure or edge of paving.

- ❑ Root barriers shall be installed along the edge of structure or paving or curb.

- ❑ Minimum planting area shall be five feet measuring from back of the curb to back of the curb, or from any hard surfaces to all directions.

- ❑ ***Soils Report*** (if required by City Landscape Architect) – Report shall be prepared by a qualified soil and plant laboratory. Recommendations for soil amendment with organic compost and organic fertilizers shall be indicated on planting plan.

- ❑ ***Document of Final Acceptance*** – See Attachment C. Submit Document of Final Acceptance when landscaping is completed, prior to issuance of a Certificate of Occupancy.

- ❑ ***Setbacks*** – Required front, side street, side and rear yards to be fully landscaped and irrigated except for permitted paved areas and other approved encroachments. When landscape setback areas are used for Stormwater Treatment such as bio-swale, the setback areas shall be increased to meet required screen tree planting.

  *Comment: Confirm with property owner/applicant or Planning Division regarding required setbacks for development. The use of decorative rocks, decomposed granite, or wood mulch for the sole purpose of landscaping is not permitted.*

- ❑ ***Street Trees – Minimum one 24"-box tree shall be provided for every 20 to 40 lineal feet of street frontage for all commercial and multi-family residential projects depending on tree species and as directed by City Landscape Architect. Minimum of one 15 gallon tree shall be planted within the required front and side yard setback for every 50 feet or fraction thereof frontage for all single family residential projects regardless of construction type: new,***

***additions or remodels. Any missing, dead, or dying street trees shall be replaced with 15 gallon trees for all single family residential projects regardless of construction type: new, additions or remodels. Mitigating street trees for non-single family residential project, see Tree Preservation Ordinance.***

*Comment: Refer to City's List of Recommended Street Trees. City Landscape Architect may also specify a tree for certain streets:_____.*

- ❑ ***Parking Lot Landscaping – All parking lot shade trees shall be medium to large size tree types.*** A parking lot shade tree shall be provided at every six spaces, or provide 50% shades to total paved areas including driving aisles and/or driveways in 15 years. All parking rows shall be capped with landscape islands. The end capped landscape islands shall have minimum two trees. Shade trees can be planted in finger islands, or continuous landscape medians. Minimum tree size shall be 15-gallon. All landscaping shall be completed with trees shrub and groundcover planting. Alternative shade structure such as carports or solar panel roofs or trellis can be used for providing minimum 50% shading of entire parking lot including parking aisles and/or driveways. Continuous planting islands are encouraged to allow for multiple tree plantings and increased rootable soil volume. Combining a row of compact car parking spaces with a row of standard car parking spaces is encouraged to create central landscape medians. The landscape medians can incorporate vehicle overhangs into landscape areas to create deeper landscape areas.

- ❑ ***Tree Wells in Parking Lot*** – Tree well design may be allowed when adequate rootable soil volume (min. 85 cubic feet) is incorporated into the tree well planting.

- ❑ ***Soil Volume*** – Tree wells in parking lots should be excavated to a depth of 3 feet or greater before being backfilled. The use of structural soil mixes is encouraged to promote root growth and to reduce the potential for root invasion into parking lot paving especially where irregular tree wells are proposed.

- ❑ ***Parking Lot Screening*** – parking areas screened from neighboring residents, businesses, or street with low shrubs, and/or walls; maximum 30 – 36 inches high per City's Security Ordinance; shrubs will create a continuous 30 – 36 inches high screen at mature growth. The height is measured from the top of the curb.

- ❑ ***Parking Lot Lighting*** – Light standards no greater than 16 feet in height are strongly encouraged to minimize conflicts with required shade tree locations or growth.

- ❑ ***Masonry Walls and Fences*** – buffered with shrubs or vines where facing a street or driveway.

- ❑ ***Parcels Abutting BART Tracks (or within 500 feet and in direct view of BART tracks)*** – 10' wide landscape strip provided along property line, with minimum one 15-gallon tree every 20 lineal feet.

- ❑ ***Commercial or Industrial Use Abutting Residential*** – minimum one 15-gallon tree provide for every 20 lineal feet within required side or rear yards.

- ❑ ***Curbs*** – landscape areas adjoining driveways and/or parking areas separated by 6" high Class "B" Portland Cement concrete curb unless flush curb or slotted curb are proposed for Stormwater Treatment and approved by the City staff. Cobblestones shall be placed behind each slotted curb to prevent soil erosion. Refer to City of Hayward Standard Details for Standard Sidewalk, Curb and Gutter, Island Curb and Curb Ramp Sections SD-108.

- ❑ ***Drive-in Establishments*** (e.g., service stations, car washes, fast-food restaurants, etc.) – contact Planning Division for specific landscaping standards.

- ❑ ***Security – landscaping will not obstruct building or parking lot light fixtures, address signs, building entrances, and windows.***

- ☐ ***Sight Distance*** – for corner lots, shrubs kept to maximum 3 feet high (measured from gutter line) and tree branches kept to minimum 8 feet above the grade at the center of the intersection. (Not applicable to intersections controlled by signs or signals.

***Other Landscaping Requirements*** (e.g. conditions of approval for planning permit):

- ☐ _____
- ☐ _____
- ☐ _____

***Detailed Irrigation Improvement Plan (Construction Documents):***
*please check all applicable items*

- ☐ A separate water meter is required for projects with 5,000 Square Feet or more of irrigated landscaped area.
- ☐ Recycled or re-circulating water for water features and irrigation is encouraged.
- ☐ ***Submit Landscape Water Use Statement*** – See Attachment A.
- ☐ ***Submit Irrigation Schedule*** – See Attachment B. Submit Schedule when landscaping is completed, prior to issuance of Certificate of Occupancy.
- ☐ Estimated Landscape Water Use (ELWU) does not exceed Landscape Water Allowance (LWA). *See Attachment A.*
- ☐ Layout of the irrigation system, (i.e. water meter, backflow prevention device, pressure regulator, automatic controller, main and lateral lines, valves, sprinklers, bubblers, drip emitters, quick couplers, and filters where applicable.
- ☐ Legend summarizing the manufacturer name, model number, and size of all components of the irrigation system.
- ☐ Static water pressure (psi) at the point of connection. (Water pressure at City main available from Utilities Administration, 583-4727.)
- ☐ Flow rate (gallons per minute) and design operating pressure (psi) for each valve; and precipitation rate (inches per hour) for valves with sprinklers.
- ☐ Installation details for irrigation components.
- ☐ Automatic controller shall be equipped with multiple programs and repeat cycle capabilities with a flexible calendar program.
- ☐ Adopt Smart Water Application Technology and irrigation equipment including, but not limited to, controllers, moisture sensors, emission devices and valves.
- ☐ On slopes over 25 percent, or 4:1 grade, irrigation system shall consist of drip emitters, bubblers or sprinklers with maximum precipitation rate of 0.85 inches per hour.
- ☐ Each valve shall irrigate an area with similar site, slope, and soil conditions and plants with similar watering needs.
- ☐ Turf and non-turf areas shall be irrigated on separate valves.
- ☐ Drip emitters and sprinklers shall be on separate valves.

- ☐ Drip emitters or two flood or pop-up type bubbler are provided for each tree; bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be on separate valve, unless otherwise permitted by City Landscape Architect. Bubblers are not to be placed inside of aeration tubes.

- ☐ Two aeration tubes per each tree are required: the tube shall be 30 inches long and 4 inches in diameter PVC perforated drainpipe with slotted cover, and drain rocks shall be filled in and around the pipe.

- ☐ Sprinklers shall have matched precipitation rate on each valve.

- ☐ Drip or subsurface irrigation is to be specified for planting including turf area within 24" of hard surface.

- ☐ Check valves are to be specified where low-head drainage may occur due to elevation differences.

- ☐ Pressure compensating valves and sprinklers are specified where significant variation in water pressure could occur.

- ☐ Sprinklers spaced at maximum 1.0 times radius of head for square and maximum 1.2 times radius of head for triangular spacing.

- ☐ Rain shut-off device specified.

- ☐ Pressure regulator provided where static water pressure exceeds maximum recommended operating pressure.

- ☐ All irrigation lines to be underground, including drip systems, except for temporary installations.

- ☐ Lateral (non-pressure) irrigation lines are to be 12" minimum below grade. Main (pressure) irrigation lines are to be 18" below grade, minimum, and 24" under drivable surfaces. All lines under pavement must be sleeved.

- ☐ Backflow prevention device shall be mounted on a concrete pad and provided with a strong box type enclosure painted in black or dark green with a lock, and a polar blanket type freeze protection.

---------- end of the checklist ----------

## *Tree Preservation*

- ☐ See Tree Preservation Ordinance **(HMC Chapter 10, Article 15).**

- ☐ All trees and large shrubs on the site should be shown on a salvage/demolition plan. Trees to be preserved, trimmed, or removed must be indicated on the plan. Trees in good health that are proposed to be removed shall be replaced with a tree of equal size and value.

- ☐ When tree mitigation goals can't be achieved through allowed tree mitigation method as described in Tree Preservation Ordinance, cash mitigation is recommended as an option to a designated City tree fund.

- ☐ A minimum replacement tree size shall be 36"-box tree except for single family residential homes and exceptions as stated in the ordinance. A minimum replacement tree size shall be 24"-box tree for a single family home.

  *Comment: Indicate location, trunk diameter, species, and approximate dripline of trees. Retain significant trees and native vegetation that are in good condition, and avoid grading and paving within the dripline of the trees. The City Landscape Architect may require an arborist report.*

- ☐ Tree Protection measures shall be noted on the grading, site, and landscaping plans, if applicable. See below for recommended minimum tree protection measures.

- ☐ A separate tree removal permit must be obtained in person prior to removing any tree designated as protected per Tree Preservation Ordinance; the permit must be signed by the City Landscape Architect.

  *Comment: Replacement trees are typically required for trees authorized for removal, which will be specified by City Landscape Architect based on condition, size, species, and location of tree(s) to be removed. Show required replacement trees on planting plan.*

### *TREE PROTECTION NOTES*

1. Tree branches interfering with construction equipment shall be properly pruned ***prior*** to commencement of construction. Pruning shall be as approved by the City and shall comply with City approved practices.

2. A protective fence shall be placed at the dripline of the existing trees during the entire construction period. No work shall occur within the dripline except under the direct supervision of a certified arborist approved by the City.

3. Soil compaction and grading shall be avoided within the dripline of the trees. Maintain a positive drainage away from tree trunk. Irrigation shall be avoided under native oak trees.

4. No storage of materials or equipment shall occur within 25 feet of the dripline of trees.

5. All roots 1" or larger that must be severed shall be cut manually to produce a clean cut and treated with a tree sealant. Boring, rather than trenching shall be required where it is unavoidable for piping to cross through the dripline of a tree.

6. Contractor shall be responsible for providing comparable replacement trees for any existing trees that are found by the City to be irreparably damaged due to construction activity.

## *STREET TREE PLANTING SPECIFICATIONS*

1. Refer to City of Hayward Standard Details for Street Tree Planting SD-122.

2. Tree shall be healthy, disease and insect-free, well-rooted, and properly trained with a straight trunk that can stand upright without support. Tree shall exhibit a central leader, or a main branch that can be trained as a central leader. Branches shall be well-developed and shall be evenly and radially distributed around the trunk. Root ball shall not exhibit kinked or circling roots. After planting, no roots shall be left exposed.

3. Tree shall comply with federal and state laws requiring inspection for plant diseases and pest infestation. Clearance from the county agricultural commissioner, as required by law, shall be obtained before planting trees delivered from outside the county.

4. Prior to planting tree, determine the location of existing or future underground utilities. Locate the tree a minimum of 5 feet from lateral service lines and driveways. Locate the tree a minimum of 15 feet from light pole, and a minimum of 30 feet from the face of a traffic signal, or as otherwise specified by the City.

5. Tree pit shall be tested for proper drainage prior to planting tree. Fill pit with water. If water remains after a 24-hour period, auger three (3) 4-inch diameter by 3-foot deep holes at the bottom of the tree pit. Backfill with drain rock.

6. Set tree in an upright and plumb position. As much as possible, tree shall be positioned such that dominant branches are parallel to the roadway and are oriented away from potential conflicts.

7. If required by the City, a pressure-compensating bubbler, or drip emitters, shall be provided to each tree.

8. Depending on the planter strip width, or the tree well size and the tree species being planted, a 24 inch deep root-barrier may be required by the City to be placed between the root-ball and the curb and/or sidewalk. Length of strip barrier or size of box will be specified by the City.

9. Stakes are to be removed when the tree trunk diameter meets or exceeds the diameter of the stake.

# ATTACHMENT A
## LANDSCAPE WATER USE STATEMENT

### *General Instructions:*

This statement shall be submitted with the planting and irrigation plans and is the basis for achieving a water efficient landscape design. Part One should generally be completed before preparing the planting plan. Part Two should be completed after preparing a preliminary planting plan. The Landscape Water Allowance (LWA) calculated in Part One shall not exceed the Estimated Landscape Water Use (ELWU) calculated in Part Two.

For design purposes, the LWA establishes an "annual water budget" for the landscaped area within a project. It is based on evapotranspiration data (ET) for the Hayward area and the total square footage of irrigated landscaped area.

The ELWU is determined from the planting and irrigation plans for a project and provides an estimate of the water annually needed to keep the landscaping healthy and attractive.

A sample Landscape Water Use Statement for a hypothetical project is attached for illustration.

Preparing landscaping plans that do not exceed the LWA or "annual water budget" requires an emphasis on water-conversing plants, although a modest amount of turf or other non-drought tolerant plants will still be possible. Following are suggestions for modifying the planting and irrigation plans to reduce the landscaping water use for a project, if found to be necessary:

- ☐ Group plants with similar water needs, thereby allowing for a more efficient irrigation design.
- ☐ Reduce the amount of turf or other non-drought tolerant plants. Concentrate these plants in highly visible areas or areas targeted for pedestrian or recreational activities.
- ☐ On less visible and more remote areas of a site, specify extra-drought tolerant plants that can survive with minimal water after two years. Refer to EBMUD's ***Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*** for suggestions.
- ☐ Where appropriate, change spray sprinklers to stream sprinklers, bubblers, or drip emitters to improve irrigation efficiency.
- ☐ In narrow planter strips (less than 8 feet wide), use drip or subsurface irrigation and do not specify turf.

## *Specific Instructions:*

### Part ONE

**Box A- Enter** the total square footage of irrigated landscaped area within the project.

**Box B-** Calculate the Landscape Water Allowance (LWA) for a project by multiplying the number in Box A by 20.8.

### Part TWO

***First,*** designate "landscape zones" on the preliminary planting plan. Each landscape zone should consist of plants with similar water needs, area with similar microclimate (i.e., slope exposure, wind, etc.) and soil conditions, and areas that will be similarly irrigated. A landscape zone can consist of an area served by one or several valves.

***Next,*** complete the table in Part TWO as follows:

**Landscape Zone** — Enter symbol corresponding to the designation on the planting plan.

**Area (LZ)** — Enter square footage of the landscape zone.

**Plant Factor (PF)** — Enter the PF from Table A below that most closely describes the type of plants in the landscape zone.

**Irrigation Efficiency (IE)** — Enter the IE from Table B below that describes the predominate type of irrigation in the landscape zone.

**ELWU** — Calculate the Estimated Landscape Water Use (gallons per year) for each landscape zone using the following formula:

$$ELWU = \frac{LZ \times PF \times 26}{IE}$$

**Totals**

a) Total the square footage of all landscape zones, which should equal the total irrigated landscaped area shown in Part One, Box A.

b) Total the ELWU for all landscape zones, which shall not exceed the LWA shown in Part One, Box B.

**TABLE A - Plant Factors**

| *Plant Type* | *PF* |
|---|---|
| Fescue Turf | 0.7 |
| Non- Drought Tolerant Plants | 0.7 |
| Water-Conserving Plants | 0.5 |
| Extra Drought Tolerant Plants | 0.2 |

**TABLE B - Irrigation Efficiency**

| *Irrigation Type* | *IE* |
|---|---|
| Bubblers | 0.85 |
| Drip Emitters | 0.85 |
| Stream Sprinklers (in planter strips 8 feet or wider) | 0.75 |
| Spray Sprinklers (in planter strips 8 feet or wider) | 0.625 |
| Drip Emitters or Subsurface (in planter strips less than 8 feet wide) | 0.85 |

EXAMPLE

**City of Hayward**

# LANDSCAPE WATER USE STATEMENT

Project Name: Fashion Elite Commercial Building

Project Address: 21215 Main Street
Hayward, CA 94541

Prepared by:

| Creative Landscape Designs | CLA: #1956 |
|---|---|
| Name | License or Cert. No. (if applicable) |
| 195 Garden Lane | (510) 786-5678 |
| Address | Telephone Number |
| Hayward, CA 94541 | July 15, 1992 |
| | Date |

## PART ONE Landscape Water Allowance

Total Irrigated Landscaped Area (square feet) — **Box A**: **8,873**

X 20.8

Landscaped Water Allowance (Gallons per Year) — **Box B**: **184,558**

## PART TWO Estimated Landscape Water Use

*ELWU = $\frac{LZxPFx26}{IE}$

| Landscape Zone | Area (LZ) (square feet) | Plant Factor (PF) | Irrigation Efficiency (IE) | ELWU (Gallons/Year) |
|---|---|---|---|---|
| A | 3,113 | 0.2 | 0.85 | 19,044 |
| B | 1,943 | 0.5 | 0.85 | 29,716 |
| C | 2,592 | 0.5 | 0.75 | 44,928 |
| D | 1,112 | 0.7 | 0.625 | 32,381 |
| E | 113 | 0.7 | 0.625 | 3,291 |
| | | | | |
| **TOTAL** | 8,873 | | | 129,360 |

City of HAYWARD

# LANDSCAPE WATER USE STATEMENT

Project Name: _____

Project Address: _____

_____

Prepared by:

_____ _____
Name License or Cert. No. (if applicable)

_____ _____
Address Telephone Number

_____ _____
Date

## PART ONE *Landscape Water Allowance*

Total Irrigated Landscaped Area (square feet)

Box A

| |
|---|
| |

x **20.8**

Landscape Water Allowance (Gallons per Year)

Box B

| |
|---|
| |

## PART TWO *Estimated Landscape Water Use*

*ELWU = $\frac{LZ \times PF \times 26}{IE}$

| Landscape Zone | Area (LZ) (square feet) | Plant Factor (PF) | Irrigation Efficiency (IE) | ELWU (Gallons/Year |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **TOTAL** | | | | |

ATTACHMENT B
**IRRIGATION SCHEDULE**

## *General Instructions:*

A monthly irrigation schedule shall be prepared to cover the initial 90-day plant establishment period and the following one-year period. The irrigation schedule shall be prepared by a landscape architect or designer, an irrigation designer, or a licensed landscape contractor. Attached is a suggested form for the irrigation schedule. The preparer may use this form or follow another appropriate format.

The irrigation schedule shall rely on the Estimated Landscape Water Use (ELWU) that was calculated for the project during the preparation of the landscaping plans. The schedule should also rely on monthly reference evapotranspiration (ET) data for the Hayward area, which is provided below. Once established, Tall Fescue turf can be maintained in an attractive manner at approximately 70 percent of the ET rate under normal weather conditions. Water-conserving plants typically need 50 percent or less of the ET under normal weather conditions. The amount of water applied for valve should also be adjusted for irrigation efficiency, local rainfall, specific site conditions, (e.g., exposure, slope, etc.) depths of root zone, and soil conditions, (e.g., water holding capacity, and infiltration rate). Ultimately, the amount and frequency of irrigation will need to be monitored regularly to adjust for plant growth, climatic changes, and site conditions.

For valves with overhead spray or stream sprinklers, set valves to operate between 9 p.m. and 8 a.m. to reduce water loss from wind and evaporation. Early morning irrigation is recommended for turf and ground cover. On slopes and soils with slow infiltration rates, program valves for multiple repeat cycles to reduce run-off.

**Estimated Monthly ET for Hayward Area***
(inches per year)

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Ann ET. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 1.5 | 2.8 | 3.9 | 5.1 | 5.3 | 6.0 | 5.5 | 4.8 | 3.1 | 1.4 | 0.9 | 41.8 |

- Based on historical data, extrapolated from 12-month normal year ET maps and U.C. publication 21246.

***SPECIFIC INSTRUCTIONS:***

A. **Valve or – Station Number** — Shall correspond to irrigation plan.

B. **Plant Type-** — *Indicate either:*

- **T** - Trees Only
- **WC** - Water-conserving trees, shrubs, and/or groundcover
- **ND** - Non-drought tolerant trees, shrubs, and/or groundcover
- **GC** - Groundcover only
- **L** - Turf

C. **Irrigation Type-** — *Indicate either:*

- **SP** - Spray Sprinklers
- **ST** - Stream Sprinkler
- **B** - Bubblers
- **D** - Drip Emitters

D. **Flow Rate-** — Indicate total gallons per minute or hour flowing through Valve during normal operation (available on irrigation plan).

E. **Precipitation-Rate** — For valves with spray or stream sprinklers ***only,*** indicate the average precipitation rate in inches per hours (available on irrigation plan, from irrigation manufacturer, or through field test.)

F. **Month-** — Begin irrigation schedule with the month that landscaping work is completed.

G. **Run Time-** — Indicate total minutes per day valve will be operating.

H. **Number of-Day/Week** — Indicate number of days per week valve will be scheduled to operate.

# City of HAYWARD

## MONTHLY IRRIGATION SCHEDULE

Project Name: _____

Project Address: _____

Prepared by: *Name* _____ *License or Certification No. (if applicable)* _____

*Address* _____ *Telephone Number* _____

_____ *Date Prepared* _____

| Valve or Station Number (A) | Plant Type (B) | Irrigation Type (C) | Flow Rate (D) | Precipitation Rate (E) | Initial Plant Establishment Period (3 Mos.) | | | Following One-Year Period (12 Months) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |

***NOTE:*** This irrigation Schedule should be used as a guide. The landscaping should be monitored regularly and the schedule adjusted as needed for plant growth, local rainfall, and climatic conditions. Check irrigation system frequently to minimize run-off and overspray. Schedule valves with sprinklers to irrigate between 9 PM and 8 AM to reduce water loss from wind and evaporation.

F Month

G Run Time (Minutes per Day)

H Days per Week

# CITY OF HAYWARD

## ATTACHMENT C
## DOCUMENT OF FINAL ACCEPTANCE

Project Name: _____

Project Address: _____

Building Permit No. _____ Planning Permit No.: _____

I/We hereby certify the following:

1. The landscape work for the above project has been completed in full compliance to the City approved planting and irrigation plans and specifications;

- ☐ Soil Amendment/Organic Compost
- ☐ 3" deep Bark Mulch: recycled
- ☐ Organic Fertilizer
- ☐ Quality of Plant Material
- ☐ Spacing of Plant Material
- ☐ Staking of Trees: 2 sets of rubber ties & horizontal bracing
- ☐ Irrigation Head Review
- ☐ Irrigation Coverage
- ☐ Water Pattern
- ☐ Required Revision or Substitutions (explain in comments)

_____ Date of Final Acceptance for Conformance to Prepared Plans.

2. The automatic controller has been set according to the approved irrigation schedule for the plant establishment period;
3. The irrigation system has been adjusted to maximize irrigation and minimize overspray and runoff; and
4. A copy of the irrigation schedule had been given to the property owner.

COMMENTS: _____

_____

_____

This documentation was prepared by: (check whichever applies)

- ☐ Landscape Architect (for projects having plans prepared by a Licensed Landscape Architect).
- ☐ Licensed Landscape Contractor or Single-Family Homeowner not on hillside (for projects where no Licensed Landscape Architect is involved).

Signature: _____ Date: _____

Address: _____ Phone: _____

_____ _____

License No.

ATTACHMENT D

EXAMPLE: Landscape Water Use Statement

## PLANT PALETTE

**STREET TREES (24" Box):**
- Platanus acerifolia "Yarwood"/ Sycamore (Main Street)
- Pyrus calleryana "Aristocrat"/ Aristocrat Pear (First Street)

**PARKING LOT TREES (15 gallon):**
- Fraxinus "Moraine"/Moraine Ash
- Lagerstroemia x. "Tuscarora"/ Crape Myrtle

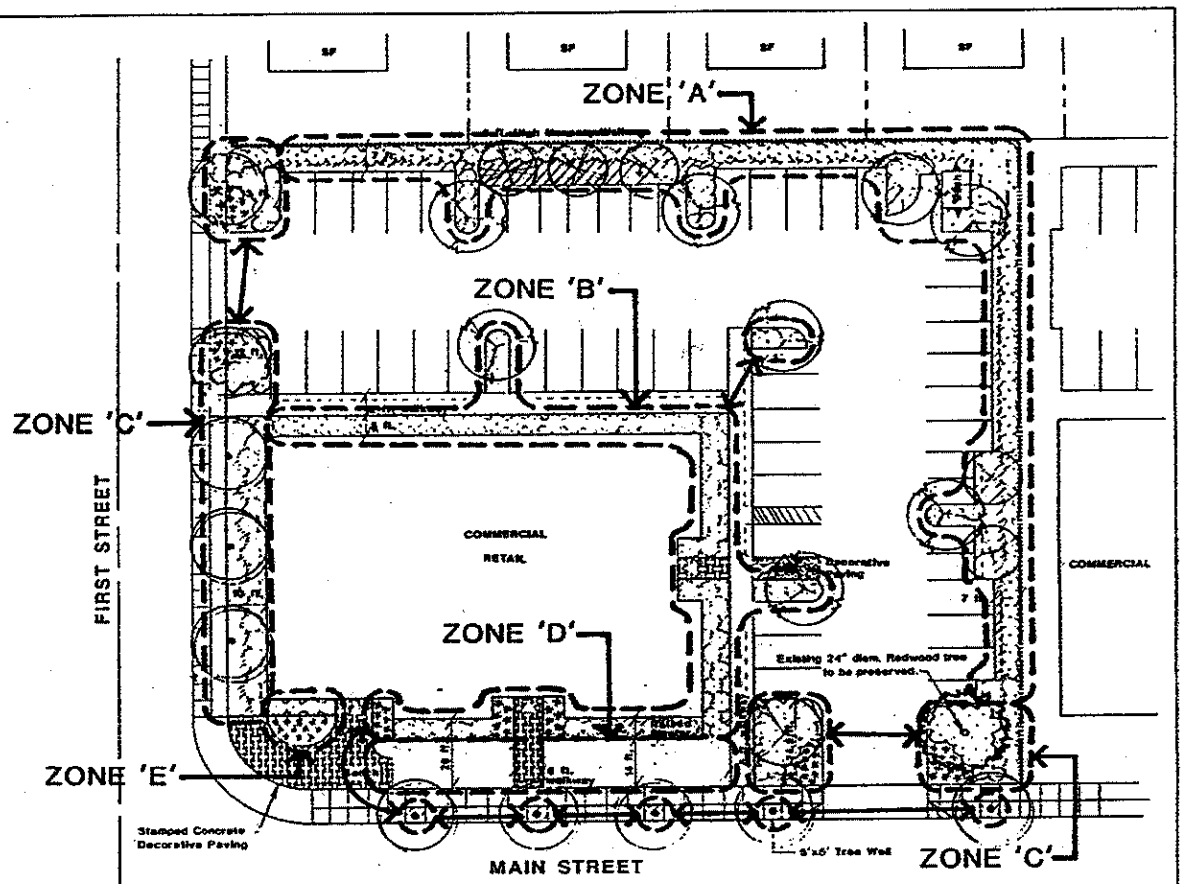
**MEDIUM SHRUBS (5 gallon):**
- Abelia grandiflora/Glossy Abelia
- Escallonia exoniensis "Frades"/ Escallonia
- Photinia fraseri/Fraser Photinia
- Viburnum suspensum/ Sandankwa Viburnum
- Xylosma congestum/Shiny Xylosma

**LOW FOUNDATION SHRUBS (5 gallon):**
- Cistus hybridus/White Rockrose
- Pittosporum tobira "Wheeler's Dwarf"/Dwarf Tobira
- Rhaphiolepis indica "Clara"/ India Hawthorn

**FLOWERING ACCENT SHRUBS (1 gallon):**
- Agapanthus africanus "Queen Anne"/Lily-of-the-Nile
- Hemerocallis hybrids/Daylily
- Salvia leucantha/Mexican Sage

**GROUND COVER:**
- Gazania Mitsuwa Yellow/Gazania (flats, 12" O.C.)
- Ceanothus gloriosus "Anchor Bay"/ Point Reyes Ceanothus

**TURF:** (Drought-tolerant Fescue blend)




Minimum Scale 1" = 20'

0' 10' 20' 40'

## Landscape Zones:

| | | |
|---|---|---|
| "A" | - | Extra-drought tolerant plants with drip emitters |
| "B" | - | Water-conserving plants with bubblers |
| "C" | - | Water-conserving plants with stream sprinklers |
| "D" | - | Fescue turf with spray sprinklers |
| "E" | - | Non-drought tolerant plants with spray sprinklers |

**OWNER:**
Fashion Elite
29937 Farmingdale Lane
Newberg, MO 87582
Phone Number: 722/516-9999

**APPLICANT:**
Same as Owner

**LANDSCAPE ARCHITECT:**
Creative Landscape Designs, Inc.
195 Garden Lane
Hayward, CA 94541
Phone Number: 415/786-5678

**CONTACT PERSON:**
Fred Church
Project Manager

N

Date:
Rev.

## CONCEPTUAL PLANTING PLAN

Commercial Building for Fashion Elite

21215 Main St.
Hayward, CA

CITY OF
HAYWARD
HEART OF THE BAY

# HAYWARD ENVIRONMENTALLY FRIENDLY LANDSCAPE GUIDELINES AND CHECKLIST FOR SINGLE-FAMILY DEVELOPMENT

September, 2008

✓ ***Applicability of these Guidelines and Checklist***

These guidelines and checklist are intended for use by a non landscape professional and are to be used for developments comprising one to three single-family units, including duplexes, and for residential remodels and additions that entail an increase of at least 50 percent of existing building footprint area. Although not required, the use of these guidelines and checklist for smaller remodels and additions is encouraged to promote water conservation and sustainable landscaping.

For other more substantial projects, the City's Environmentally Friendly Landscape Guidelines and Checklist for Landscape Professionals are to be used.

✓ ***Purpose of Guidelines and Checklist***

The guidelines and checklist are provided to assist the homeowner to plan and develop an attractive, San Francisco Bay friendly, energy-conserving, water efficient, and wildlife-friendly garden. They incorporate the principles of Bay-Friendly Landscaping by StopWaste.Org*, and the water efficient landscape goals of the California Department of Water Resources.

These guidelines and checklist are derived from the City's adopted policies, standards and guidelines, which include the Water Efficient Landscape Ordinance, Tree Preservation Ordinance, and the Hillside Design and Urban/Wildland Interface Guidelines, and StopWate.org's Bay-Friendly Gardening guidelines*.

**Reference websites:**

- www.hayward-ca.gov/municipal/ for City of Hayward Municipal Codes
- www.StopWaste.org *
- www.ourwaterourworld.org for guides to pest control and more
- www.cal-ipc.org for California invasive plant material list and recommendations
- www.arborday.org/ for information regarding benefits of trees
- www.livingsystemslandmangement.com for grazing for controlling weeds and firebreaks

**Reference Books:**

- EBMUD's latest publication: Plants and Landscapes for Summer-Dry Climate of the San Francisco Bay Region
- Sunset Western Garden Book

✓ ***What is required at completion of landscaping?***

Submittal of a completed *Verification of Landscaping Installation* form (copy attached) is required upon completion of required landscape installation prior to issuance of a Certificate of Occupancy.

* Bay-Friendly Landscape Guidelines are established by StopWaste.Org, a program funded by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board.

***Landscape Guidelines:***

***Planting:***

- ✓ Any tree removed for new development or remodels and additions must be replaced in accordance with Tree Preservation Ordinance (HMC Chapter 10, Article 15). The minimum replacement tree size is 24"-box.
- ✓ Arborists report required for removing 3 or more trees that measure larger than 8 inches in diameter at 54 inches above the ground. The report must include appraised value of all trees on the property and any tree protection recommendations to be implemented during construction. A tree preservation bond equal to the value of trees to be saved that may be impacted by construction shall be posted at issuance of grading or building permit.
- ✓ In addition to replacement trees, additional new trees shall be planted, in accordance with standards indicated in following pages.
- ✓ Recycle minimum 50% of green waste.
- ✓ Stockpile topsoil and reuse.
- ✓ Group plants by similar water use requirements.
- ✓ Soil preparation and staking for tree planting: Prepare planting holes, to be two times the size of the tree root ball. Backfill mix shall be 1 part organic compost and 2 parts native soil. Use City Standard Street Tree Staking Detail SD-122 for tree planting.
- ✓ Trees shall be planted a minimum of 5 feet from sewer, water, gas, cable, and electrical lateral services lines as well as from any paving and structures. Trees shall also be located a minimum of 7 feet from utility boxes, 15 feet from a light pole, and a minimum of 30 feet from the face of a traffic signal, or as otherwise specified by the City.
- ✓ Use diverse plant palettes of different sizes, shapes, texture and seasonal color (see attached plant list for guidance).
- ✓ Choose plants and allow enough spacing for plants to grow to their natural, mature shape and size.
- ✓ Do not use plants listed by Cal-IPC (California Invasive Plant Council) as invasive in the San Francisco Bay Area: www.cal-ipc.org.
- ✓ Where turf is proposed, use a drought tolerant Tall Fescue or variety with similar water requirements.
- ✓ Minimize use of pesticides and herbicides.
- ✓ Use recycled landscape construction material as much as possible such as mulch, header boards. etc.
- ✓ Recommended soil amendments: Do not use nitrified soil conditioner and commercial fertilizer. Use approximately three inches of organic compost and rototill thoroughly into minimum top nine inches of native soil.

***Irrigation:***

- ✓ Check static water pressure (psi) at the point of connection. (Information on water pressure at City main available from Utilities Division of City Public Works Department at 583-4727.)
- ✓ Each valve shall irrigate an area with similar area and slope; recycled water for irrigation is encouraged.
- ✓ Drip emitters and sprinklers shall be on separate valves.
- ✓ Sprinklers should be spaced at maximum 1.0 times radius of head for square area and maximum 1.2 times radius of head for triangular area.
- ✓ Rain shut-off device/ moisture sensor is recommended.
- ✓ All irrigation lines need to be underground, including drip systems, except for temporary installations.

# LANDSCAPE CHECKLIST FOR SINGLE-FAMILY DEVELOPMENT

Single-Family Home(s): ☐ new (number of units: _____)

☐ remodel/addition exceeding 25% of existing building footprint

Project Name:_____ Building Permit No.:_____

Project Address:_____ Planning Permit No.:_____

## *Landscape Requirements:*

***Planting:***

- ❑ Limit the use of impervious paving types (e.g., asphalt or concrete), and use permeable paving types, such as natural stones and pavers in sand leveling bed. Any new homes located on more than 3:1 slope must use permeable paving for all proposed paved areas, except for allowed driveway, unless otherwise approved by Planning Division Manager.
- ❑ Show and label all existing trees to be removed or retained
- ❑ Show locations of proposed plants on a scaled landscape plan, and provide a plant legend that indicates plants' botanical and common names, quantity, size, spacing, and indicate on the plan watering needs such as high, moderate, low, or no summer watering.
- ❑ Plant one 15-gallon tree within the required front and side yard setbacks for every 50 feet of frontage or fraction thereof. Any missing, dead, or dying street trees shall be replaced with 24"-box trees.
- ❑ Limit the use of turf to 25 percent of the total landscaping area. Do not use turf on slopes exceeding 10 percent, or areas narrower than 8 feet.
- ❑ Use drought tolerant plants that require occasional, little or no summer watering (see attached plant list for guidance).
- ❑ Place a minimum three inches of recycled chipped wood mulch in a dark brown color or place greenwaste in all planting areas, except in turf areas, for weed control and water retention.

***Irrigation:***

- ❑ Layout irrigation system: water meter, gate valve, pressure regulator, main and lateral lines, valves, sprinklers, bubblers, drip emitters, and filters where applicable.
- ❑ Turf and non-turf areas to be irrigated on separate valves.
- ❑ Provide drip or two flood or pop-up type bubbler for each tree; irrigation for trees shall be on separate valve.
- ❑ Two aeration tubes per each tree are required: the tube shall be 30 inches long and 4 inches in diameter PVC perforated drainpipe with slotted cover, and drain rocks shall be filled in and around the pipe.

## *Helpful Gardening Guides to a Healthy Garden:*

*"Bay-Friendly* ***is a holistic approach to gardening and landscaping that works in harmony with the natural conditions of the San Francisco Bay Watershed. Bay-Friendly practices foster soil health, conserve water and other valuable resources while reducing waste and preventing pollution. Visit www.stopwaste.org."***

**Healthy Soil** - Compost food waste and garden debris and amend soil with compost.

**Weed Control and Improve Soil** – Lay recycled cardboards (sheet mulching) before placing mulch.

**Garden Waste as Mulch** – Use leaves, chipped plants, branches and garden clippings as mulch.

**Reduce Waste** – Don't over plant. Minimize pruning. Allow enough room for each plant to grow.

**Grasscycling** – Mow lawn less often. Mow when lawn is dry, and leave the clippings on the lawn.

**Less Water** – Choose plants that are California native and/or drought tolerant, and buy plants from local nurseries.

**Less Water** – Minimize or eliminate lawn area.

**Water Smart** – Group plants with similar watering needs.

**Water Smart** – Pay only what you use. Install efficient irrigation system with a rain/moisture sensor device. Reduce rain and irrigation run-off.

**Water Smart** – Install a rainwater collection or gray (recycled) water system.

**Wildlife-Friendly** – Provide variety of plants with flowers and fruits for birds, butterflies, and other wildlife.

**Wildlife-Friendly** – Provide bird bath, water dish or a small pond.

**Wildlife-Friendly** – Leave some areas in the garden somewhat untidy: let flowers go to seed to provide food for birds, and leave dead leaves and stalks to shelter over-wintering insects.

**Protect Children and Protect the Bay** – Do not wash synthetic fertilizers or herbicides into the Bay.

**Protect the Bay** – Minimize impervious paving such as concrete patios and driveways. Allow water to oak back into soil and recharge ground water.

**Protect the Bay** – Terrace steep slopes. Prevent erosion and reduce run-off.

**Healthy Community** – Tolerate pests as much as possible. Grow your own vegetable organically.

**Save Energy** – Plant deciduous trees on the west side of the house to provide shade. Less energy bill.

**Save Energy** – Pave less and plant more.

**Save Energy** – Use solar powered or low voltage lighting.

**Reduce Pollution – Turf less, mow less, compost, and plant more trees.**

## *Suggested Plant List*

| Botanical Name | Common Name | evergreen | deciduous | color interests | flowers | water needs |
|---|---|---|---|---|---|---|
| **TREES** | | | | | | |
| Aesculus californica | California Buckeye | | x | x | x | moderate |
| Arbutus 'Marina' | Arbutus | x | | | x | moderate |
| Celtis sinensis | Chinese Hackberry | | x | x | | moderate |
| Cercis occidentalis | Western Redbud | | x | x | x | moderate |
| Eriobotrya deflexa | Bronze Loquat | x | | | x | moderate |
| Ginkgo biloba | Maidenhair Tree | | x | x | | moderate |
| Jacaranda | Jacaranda | | x | | x | infrequent |
| Koelreuteria paniculata | Glodenrain tree | | x | x | x | moderate |
| Lagerstroemia indica | Crape Myrtle | | x | x | x | moderate |
| Leptospermum | New Zealand Tea Tree | x | | | x | infrequent |
| Pistacia chinensis | Pistacia Tree | | x | x | | occasional |
| Platanus acerifolia | London Plane Tree | | x | x | | moderate |
| Quercus agrifolia | Coastal Live Oak | x | | | | infrequent |
| Schinus molle | California Pepper | x | | | | infrequent |
| Sequoia semperviron | Redwood | x | | | | moderate |
| **SHRUBS** | | | | | | |
| Abelia grandiflora | Abelia | x | | | x | moderate |
| Aloe spp. | no common name | x | | | | infrequent |
| Arbutus | no common name | x | | | x | occasional |
| Arctostaphylos spp. | Manzanita | x | | | x | occasional |
| Artemisia spp. | no common name | x | | | | occasional |
| Berberis spp. | Barberry | x | x | | | moderate |
| Carpenteria californica | Bush Anemone | x | | | x | moderate |
| Ceanothus spp. | Wild Lilac | x | | | x | infrequent |
| Cercis occidentalis | Western Redbud | | x | x | x | infrequent |
| Chaenomeles | Flowering Quince | | x | | x | infrequent |
| Choisya ternata | Mexican Orange | x | | | x | moderate |
| Cistus spp. | Rockrose | x | | | x | infrequent |
| Coleonema spp. | Breath of Heaven | x | | | x | moderate |
| Correa spp. | Australian Fuschsia | x | | | x | moderate |
| Cotinus coggygria | Smoke Tree | | x | x | x | infrequent |
| Cotoneaster spp. | no common name | x | | | x | infrequent |
| Dodonaea viscosa | Hop Bush | x | | x | x | infrequent |
| Echium fastuosum | Pride of Madeira | x | | | x | infrequent |
| Escallonia spp. | no common name | x | | | x | moderate |
| Euonymus japonicus | Evergreen Euonymus | x | | x | | moderate |
| Feijoa | Pineapple Guava | x | | | x | infrequent |
| Hibiscus huegelii | Blue Hibiscus | x | | | x | moderate |

| | | | | | | |
|---|---|---|---|---|---|---|
| Lantana | Lantana | x | | | x | infrequent |
| Lavandula | Lavender | x | | | x | infrequent |
| Lavatera | Tree Mallow | x | | | x | moderate |
| Lupinus | Lupine | x | | | x | infrequent |
| Nandina | Heavenly Bamboo | x | | x | | infrequent |
| Nerium oleander | Oleander | x | | | x | infrequent |
| Osmanthus | Osmanthus | x | | | x | moderate |
| Philadelphus | Mock Orange | x | x | | x | moderate |
| Photinia fraseri | Photinia | x | | x | | moderate |
| Rhaphiolepis | Rhaphiolepis | x | | | x | infrequent |
| Ribes | Currant | x | x | | x | moderate |
| Rosa | Rose | | x | | x | moderate |
| Salvia spp. | Sage | x | | | x | occasional |
| Santolina spp. | Santolina | x | | | x | occasional |
| Westringia fruticosa | Coast Rosemary | x | | | x | occasional |
| Xylosma congestum | Xylosma | x | | | | occasional |
| PERENNIALS | | | | | | |
| Acanthus Mollis | Bear's Breech | | | | x | occasional |
| Achillea spp. | Yarrow | | | | x | occasional |
| Agapanthus spp. | Lily-of-the-Nile | | | | x | occasional |
| Agave | Agave | | | | | occasional |
| Allium | Allium | | | | x | occasional |
| Anemone spp. | Windflower | | | | x | moderate |
| Armeria maritima | Common Thrift | | | | x | moderate |
| Cosmos | Cosmos | | | | x | moderate |
| Dietes | Fortnight Lily | | | | x | occasional |
| Dymondia | Silver Carpet | | | | | moderate |
| Echinacea | Coneflower | | | | x | moderate |
| Erigeron | Fleabane | | | | x | occasional |
| Gazania | Gazania | | | | x | moderate |
| Iris | Iris | | | | x | occasional |
| Oenothera | Evening Primrose | | | | x | occasional |
| Phormium | New Zealand Flax | | | | | occasional |
| Stachys byzantina | Lamb's Ears | | | | x | moderate |
| Thymus | Thyme | | | | x | moderate |
| Tulbaghia | Society Garlic | | | | x | moderate |
| Yucca | Yucca | | | | x | infrequent |
| GRASSES AND GRASSLIKE PLANTS | | | | | | |
| Carex | Sedge | | | | | moderate |
| Festuca | Fescue | | | | | moderate |
| Helictotrichon | Oat Grass | | | | | moderate |
| Miscanthus | Miscanthus | | | | | moderate |
| Stipa | Feather Grass | | | | | moderate |

CITY OF
HAYWARD
HEART OF THE BAY

**Verification of Landscaping Installation**
**Single-Family Home(s) (including duplexes)**

Check appropriate box:

☐ new (number of units: _____)

☐ remodel / addition

Project Name:_____ Project Address:_____

City Building Permit Number:_____

I/We hereby certify the following:

The landscape work for the above-referenced project has been completed in compliance with the City approved planting and irrigation plans and specifications.

COMMENTS: _____

_____

_____

_____

_____ _____

Signature of homeowner, contractor or owner's representative (circle whichever applies) Date

_____ _____

Print Name Phone or e-mail address

_____ _____

Signature of homeowner, contractor or owner's representative (circle whichever applies) Date

_____ _____

Print Name Phone or e-mail address

Department of Development Services
777 B Street, Hayward, CA 94541-5007
Tel: 510/583-4200 Fax: 510/583-3649