

City of Hayward



LANDSCAPE DESIGN CHECKLIST

✓ Purpose of Checklist?

This checklist is provided to assist landscape architects and designers in preparing planting and irrigation plans that will comply with the City's landscaping standards, guidelines, and submittal requirements. The checklist is derived from the City's Zoning, Water Efficient Landscape, Tree Preservation, Security Ordinance, Traffic Code, Design Review Guidelines, Landscape Beautification Plan, and Hillside Design and Urban/Wildland Interface Guidelines. Certain items may not pertain to your project. Please contact the City Landscape Architect, (510) 583 4208, for additional information.

✓ Who can prepare landscaping plans?

Landscaping plans shall be prepared by a licensed landscape architect with the expertise to prepare planting and irrigation plans that comply with water efficient landscape design principles in accordance with State law. For single-family hillside projects, the City may *require* that landscaping plans be prepared by a landscape architect. Plans shall include the signature and license or certification number of the design professional who prepared the plans.

✓ When are landscaping plans submitted?

If planning approval is required for a project (i.e., site plan review, use permit, or planned development), a *conceptual* planting plan is usually required with the development plans submitted to the Planning Department. The conceptual planting plan should indicate: general plant sizes and quantities; plant massing to comply with zoning standards, water conservation standards, and design guidelines; all existing trees shown on a plan and designated to be preserved or removed; and a suggested plant palette.

Following planning approval, *detailed* planting and irrigation plans and a Landscape Water Use Statement are to be submitted to the Building Division along with plans for a building permit, unless otherwise specified in the planning approval. Issuance of a building permit is contingent on approval of landscaping documents by the City Landscape Architect.

✓ What is required at completion of landscaping?

An irrigation schedule and Certificate of Substantial Completion, which shall be prepared by the design professional or licensed landscape contractor, must be submitted to the City Landscape Architect. A landscape inspection and approval, and submittal of the above documents are required prior to issuance of a Certificate of Occupancy.

LANDSCAPE DESIGN CHECKLIST

Pr	oject Name: Building Permit No.:
Pr	oject Address: Planning Permit No.:
	Submittal Requirements
	Gubinitui Nequirements
Pla	anting Plan
	Location of all proposed plant materials.
	Legend summarizing botanical and common name, quantity, and size of all plant materials.
	Property lines and street names.
	Existing and proposed buildings, structures, retaining walls, fences, utilities, paved areas, and other site improvements.
	Existing trees and plant materials to be removed or retained.
	Where landscaped areas exceed 10 percent slope, contour lines and/or spot elevations as necessary for the proposed finished grade.
	Designation of landscape zones used to calculate the Estimated Landscape Water Use (ELWU).
	Details and specifications for tree staking, soil preparation, and other planting work. (Refer to recommended standard for street tree staking.)
	Where applicable, specifications for stockpiling and reapplying site topsoil and/or imported topsoil.
Irr	igation Plan –
	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; also, precipitation rate (inches per hour) for each valve with sprinklers.
	Installation details for irrigation components.
	Soils Report (if required by City Landscape Architect) – Report shall be prepared by a qualified soil and plant laboratory. Recommendations for soil amendment and fertilizers shall be indicated on planting plan.
	Landscape Water Use Statement – See Attachment A.

□ *Irrigation Schedule* – See Attachment B. Submit Schedule when landscaping is completed, prior to issuance of Certificate of Occupancy.

	Certificate of Substantial Completion – See Attachment C. Submit Certificate when landscaping is completed, prior to issuance of a Certificate of Occupancy.
	Setbacks – required front, side street, side and rear yards fully landscaped except for permitted paved areas and other approved encroachments.
	Comment: Confirm with property owner/applicant or Planning Division regarding required setbacks for development. The sole use of rock or wood bark in landscaped areas is not permitted.
	Street Trees – minimum one 24" box tree provided for every 20 to 40 lineal feet of street frontage, depending on tree species and as directed by City Landscape Architect.
	Comment: Refer to City's List of Recommended Street Trees. City Landscape Architect may also specify a tree for certain streets:
	Parking Lot Landscaping – minimum one 15-gallon tree for every six parking stalls; tree wells or landscape medians minimum 5' wide; parking rows capped with landscape medians.
	Parking Lot Screening – parking areas screened from street with low shrubs, walls, and/or earth berms; earth berms maximum 30" high per City's Security Ordinance; shrubs will create a continuous 30" high screen within two years. 30" is measured from the top of the curb.
	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.
	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, within the area described below, 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.
Oti	her Landscaping Requirements (e.g. conditions of approval for planning permit):
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Design Guidelines

	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.
	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.
	Street trees planted minimum 5 feet from sewer, water, gas, and electrical lateral services lines.
	Plants preserve sight distance at site entries/exits and internal circulation routes.
	Deep-rooted plants on slopes for erosion control; jute mesh netting or a comparable erosion control material on slopes 2:1 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 <i>Landscape Beautification Plan</i> (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. Obtain a copy of the guidelines from the Planning Department.
	Projects located in Hayward hills conform to Hillside Design Guidelines.
	Comment: The Hayward hills is generally defined as the area east of Mission Blvd and south of "D" Street. Obtain a copy of the guidelines from the Planning Department.
	Projects located at urban/wildland interface must comply with <i>Urban/Wildland Interface Guidelines</i> .
	Comment: Properties subject to the guidelines are designated by the Hayward Fire Department and typically include sites that abut open space or riparian corridors. The guidelines include a recommended list of fire-resistant plants. Contact the Planning Department for a copy of the guidelines.
Otl	ner Site-Specific Landscaping Considerations:

Water Conservation Standards

pressure.

	Estimated Landscape Water Use (ELWU) does not exceed Landscape Water Allowance (LWA). See Attachment A.
	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 or Bob Perry's Trees and Shrubs for Dry California Landscapes for recommended water-conserving plants.
	Plants with similar water needs grouped together.
	Where turf is proposed, a drought tolerant Tall Fescue or variety with similar water requirement should be specified.
	Turf should not be proposed on slopes exceeding 15 percent.
	For developer-installed front yard landscaping on single-family lots, the turf islimited to 50 percent turf.
	Pre-emergent herbicide and minimum two-inches of wood mulch specified on all planters.
Irri	igation:
	Automatic controller shall provide multiple programs and repeat cycle capabilities with a flexible calendar program.
	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 are irrigated on separate valves.
	Drip emitters and sprinklers shall be on separate valves.
	Drip emitters and bubbler are provided to each tree; bubblers maximum 1.5 gallons per minute. Bubblers for trees shall be on separate valve, unless otherwise permitted by City Landscape Architect.
	Sprinklers shall have matched precipitation rate on each valve.
	Pop-up sprinklers are to be specified next to paving – 4" in turf, 6" in ground cover areas.
	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 will 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

- 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.

Tree Preservation

□ 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.

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.

Comment: See below for recommended minimum tree protection measures.

A Tree removal permit must be obtained prior to removing any tree designated as a protected tree.

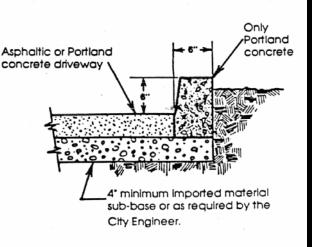
Comment: Replacement trees are typically required for trees authorized for removal, which will be specified by City Landscape Architect based on condition, size, species, and location of tree(s) to be removed. Show required replacement trees on planting plan.

TREE PROTECTION NOTES

- Tree branches that will interfere with construction equipment shall be properly pruned *prior* to beginning 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 under 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 the 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.

CURB REQUIREMENTS

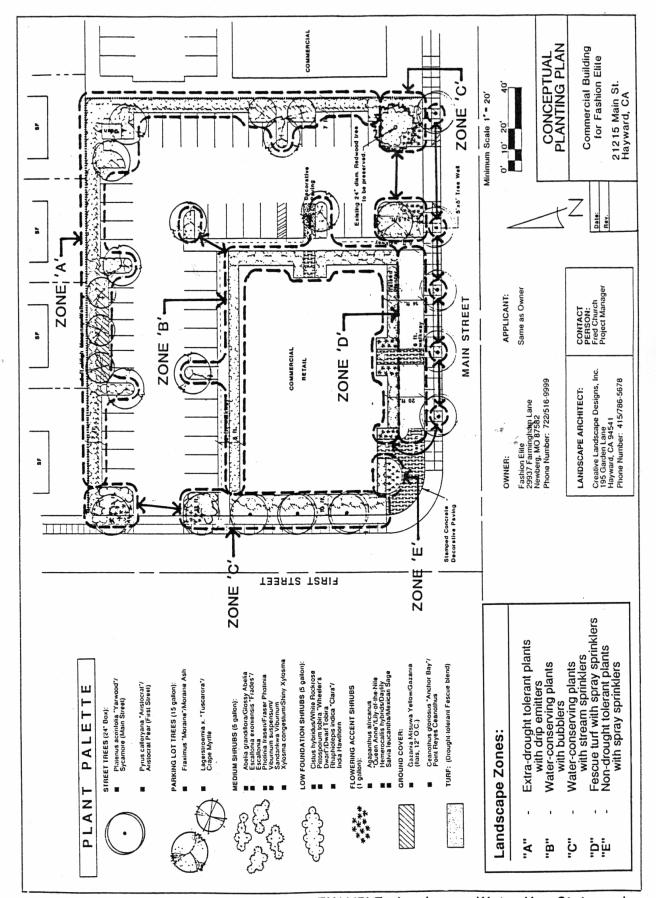
Specifications for concrete (Portland Cement) curbs required to be constructed to a height of 6° above pavement around outer perimeter of open parking areas, edges of driveways, and planting islands.



STREET TREE PLANTING SPECIFICATIONS

- 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.
- 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. If required by the City, a pressure-compensating bubbler, or drip emitters, shall be provided to each tree.
- 7. 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.
- 8. Stakes are to be removed when the tree trunk diameter meets or exceeds the diameter of the stake.

		Street Tree Planting Detail	



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 Water Conversing Plants and Landscapes for the Bay Area 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 bubbler irrigation and avoid specifying 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 cnsist 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 =
$$LZ \times PF \times 26$$

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 Fa	ictors	TABLE B - Irrigation Efficiency			
Plant Type	PF	Irrigation Type	IE		
Fescue Turf	0.7	Bubblers Drip Emitters	0.85 0.85		
Non- Drought Tolerant Plants Water-Conserving	0.7	Drip Emitters Stream Sprinklers (in planter strips 8 feet or wider)	0.75		
Plants Extra Drought	0.5	Spray Sprinklers (in planter strips 8 feet or wider)	0.625		
Tolerant Plants	0.2	Sprinklers (in planter strips less than 8 feet v	0.4 vide)		

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 = LZxPFx26

ΙE

Landscape Zone	Area (LZ) (square feet)	Plant Factor (PF)	Irrigation Efficiency (IE)	ELWU (Gallons/Year)
А	3,113	0.2	0.85	19,044
В	1,943	0.5	0.85	29,716
С	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	e)			
Address		Telephone	Telephone Number Date				
		Date					
PART ONE	Landscape Water	Allowance					
Total Irrigated	Landscaped Area (square feet)		Box A				
Landscape Wa (Ga	ater Allowance llons per Year)		Box B	× 20.8			
PART TWO	Estimated Lands	cape Water Use	*ELWU = <u>LZ x P</u>				
Landscape Zone	Area (LZ) (square feet)	Plant Factor (PF)	Irrigation Efficiency (IE)	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 1.5	Feb 1.5				Jun Jul Aug Sep Oct Nov Dec 5.3 6.0 5.5 4.8 3.1 1.4 0.9	Ann ET. 41.8			

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

NOTE:

The City of Hayward is presently under an emergency water rationing program. Landscape water use is limited to 1" per square foot per week for turf areas and ½" per square foot per week for non turf areas. Excess water use charges are levied for exceeding water allotments. Contact Utilities Administration, 293-5134 for more information.

SPECIFIC INSTRUCTIONS:

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

B. Plant TypeIndicate either:

Т 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 TypeIndicate either:

SP Spray Sprinklers

ST Stream Sprinkler

В **Bubblers**

D **Drip Emitters**

D. Flow RateIndicate 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 TimeIndicate total minutes per day valve will be operating.

Η. Number of-

Day/Week

Indicate number of days per week valve will be

scheduled to operate.

0 y 0 H Y W A R D

MONTHLY IRRIGATION SCHEDULE

NOTE:	6	5	4	3	2	_	(A)	Valve or Station Number				Project Address: Prepared by:
This irrig							(B)	Plant		1		ddress:
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							(C)	Irrigation			Address	Name
dule shoul			27. 27.				(D)	Flow				
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		Ą					(E)	Precipita- tion Rate				
s a guid								lni Esta Peri				
de. The s need								Initial Plant Establishment Period (3 Mos.				
lands								nt lent los.)				**
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Month Run Ti								Following One-Year Period (12 Months)				
nth 1 Time								Ъ				
Month Run Time (Minutes pe												
ites pe									-			

Run Time (Minutes per Day)

City of HAYWARD

ATTACHMENT C CERTIFICATE OF SUBSTANTIAL COMPLETION

Projec	t Name:						
-	t Address:						
Buildir	ng Permit #:	Planning Permit #:(if applicable)					
		(п аррисаріе)					
I/We h	ereby certify the following:						
1.	The landscaping work for the above project the City approved planting and irrigation planting and irrigation planting are consistent to the control of the c	t has been completed in substantial conformance to ans and specifications;)				
2.	The automatic controller has been set according establishment period;	ording to the approved irrigation schedule for the pla	ant				
3.	The irrigation system has been adjusted to runoff; and	maximize irrigation and minimize overspray and					
4.	A copy of the irrigation schedule had been	given to the property owner.					
СОМ	MENTS:						
This C	Certification prepared by:	(check whichever applies)					
	 Landscape Architect Landscape Designer Irrigation Designer or Consultar Licensed Landscape Contractor 						
Signa	ture:	Date:					
Addre	ess:						
Telep	hone:	License or Certification No. (if applicable)					