Voluntary Revegetation Guidelines for Private Parcels in the Angora burn area of South Lake Tahoe, CA

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by

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The Angora Fire and its Impact on the Community

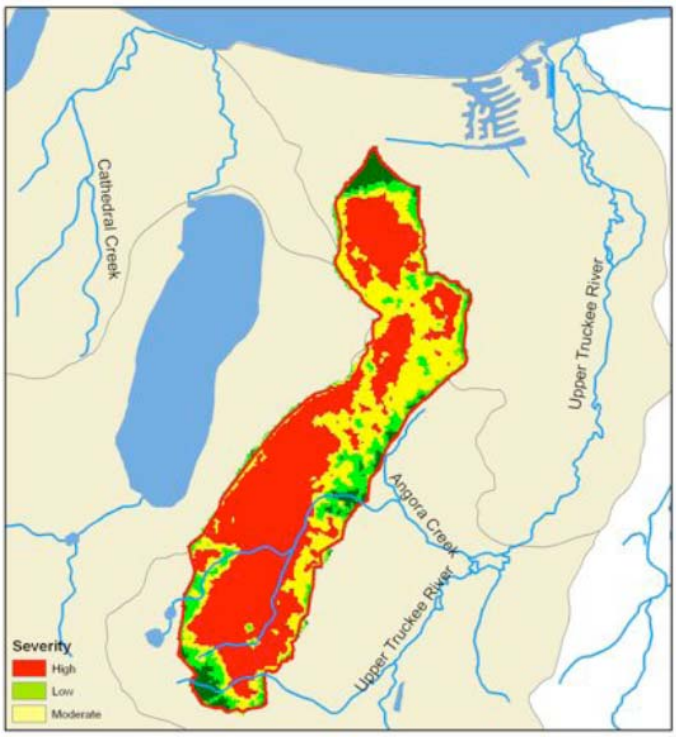

Figure 1. Severity of the June 2007 Angora Fire in South Lake Tahoe, CA

The Angora Fire began on June 24th, 2007 in the community of South Lake Tahoe, California. It started when high winds blew up an unattended campfire. Flames spread four miles in the first three hours and burned 248 homes and 8 structures. The fire burned for a week, covering almost 3,100 acres, although it covered the majority of its final area within the first 12-18 hours. Most of the acres burned are publicly owned and administered by the US Forest Service, California Tahoe Conservancy, California State Parks, and El Dorado County. A total of 231 acres of private property burned.

Fire severity on private lands ranged from low to high severity. Private lots that experienced low severity fire generally have large living trees remaining on site, while ground vegetation (and some homes) burned. High severity fire generally caused mortality of all trees and most vegetation on the site (and homes).

Private land restoration: Removal of debris from all burned homes, structures and vehicles was accomplished very quickly due to an extraordinary level of cooperation by local and state agencies. The program, created by the California Integrated Waste Management Board, used government resources to coordinate removal of hazardous ash and debris from private parcels by contractors and consultants. Every affected property owner participated in the program and all home debris was removed in 39 days. Later, over 8000 trees were removed and erosion control measures were installed on the burned lots. One year after the fire, over 180 homes were being rebuilt (Thalhammer, 2009). Residents that started to return to their new homes in 2008 faced a very different landscape than before the fire. Most returned to a completely denuded lot and are starting from scratch on developing a new landscape.

Public land restoration: Publicly owned lots are interspersed within the Angora burn area. These lots were purchased by the USDA Forest Service and the California Tahoe Conservancy (CTC) to protect environmentally sensitive areas and implement erosion control projects with the ultimate goal of protecting Lake Tahoe's water quality. The fire burned 131 USFS lots covering 279 acres and 177 CTC lots covering 90 acres. All trees killed by the burn are or have been removed from these publicly owned lots as well.

Figure 2. Lookout Point Road and Mule Deer Neighborhood before and after the Angora Fire (but before removal of dead trees). Source: Angora BAER urban lot report, USFS 2007.

Guideline Development Overview

Project goal: The goal of this project was to provide landscape recovery guidelines for revegetation by private landowners affected by the Angora wildfire. The concept for this project originated at a post fire reforestation workshop held by the University of California Cooperative Extension (UCCE) in South Lake Tahoe in November 2007. A resident attending the workshop asked how residents could work together to develop a coherent new landscape after the fire. With this goal in mind, UCCE wrote a proposal to work with affected residents to develop a set of voluntary guidelines that can be used to restore their neighborhood. This proposal was funded in 2008 by El Dorado County Title III Federal Forest Reserve Funds. The project took place between January and May 2009. Grant funds were used to rent meeting space, advertise the project, contract with a landscape architect, and print the guidelines.

Working with residents to develop the Guidelines: Residents were recruited to participate in the landscape planning group by a direct mailing to over 400 affected properties (including those where the home did not burn), through an email list serve developed by the Angora Resource and Recovery Center and by a list serve run by a local government official (see Appendix 1). The first meeting was held on January 28th, from 6-8pm, at South Lake Tahoe High School. Participants were asked to articulate their preferences for re-vegetation and beautification of the neighborhoods (These preferences are listed below). At this meeting, the project's landscape architect also reviewed the habits and needs of native and landscape trees that do well in the Lake Tahoe Basin and answered residents' questions on plant materials.

The project's second meeting was held on February 18th at South Tahoe High School. Residents reviewed initial landscape sketches developed based on their preferences and gave input on plant choices and types of sites that should be included. The project's landscape architect also reviewed the habits and needs of native shrubs and answered resident's questions. A US Forest Service representative attended to describe the agency's plans for restoration of their urban lots and general forest lands.

The third meeting was held on March 18th at South Tahoe High School. The focus of the meeting was on landscape scale planning. A map of the neighborhood with critical view points was presented and residents' locations of interest were noted. Information on the use and limitations of windbreaks was presented to residents.

The fourth meeting was held at a resident's home on April 22nd. The goal was to present the plan to a larger group for review and input. Based on this input, this draft document was produced for distribution to local residents. These guidelines include methods for landscaping individual lots and reforesting neighborhoods, incorporating fire conscious and water efficient mountain landscaping, and materials to help maximize the results of money and effort spent by homeowners.

Working with agencies to identify revegetation constraints*:* A meeting with relevant agencies was held on January 21st, 2009, at the California Tahoe Conservancy to determine the planning constraints under which the project would take place. Agencies represented included: Lake Valley Fire Department, Nevada Fire Safe Council, Lahontan Regional Water Quality Board, Tahoe Resource Conservation District, Nevada Tahoe Conservation District, USDA Forest Service, Tahoe Regional Planning Agency, and El Dorado County. Agency staff discussed constraints to revegetation and Lake Tahoe Basin requirements. This informed development of the landscaping guidelines.

Landscape Preferences and Constraints

Homeowner preferences: Homeowners at the first planning meeting were asked to articulate their preferences for the new landscape. This list summarizes preferences expressed. These were used to develop this guidelines document:

1) Use fast growing plants

Residents said they preferred plant species that grow quickly to re-establish a landscape as quickly as possible. There was interest in also including longer lasting plants that can provide landscape variety in future years.

2) Use large trees

Residents wanted to incorporate large tree plantings specifically where they would be most useful for visual screening or wind breaks. Although planting with large trees everywhere would be ideal, large trees are more expensive to purchase. Since resources are limited, larger trees should be placed in the most advantageous locations possible.

3) Establish ground cover quickly

Residents preferred use of ground cover plants that can establish quickly to control dust created by bare soil in the burn area. Native wildflower seed is a good fit for the climate conditions of the Tahoe Basin, however, some species require several seasons to sprout. Some alternatives were desired including lawns in high use areas since it establishes quickly and resists traffic. Alternatives to lawns using low growing herbaceous vegetation were also desired.

4) Include vegetation adapted to new high water conditions

Many residents have found that their property now has a higher water table due to the removal of so much living vegetation (trees) that formerly transpired. Residents requested incorporation of plants that can handle the high water in some areas.

5) Use vegetation that can adapt to and mitigate against winds
Homeowners said the winds in the neighborhood are much more intense since much of the forest has been removed. They requested incorporation of vegetation to reduce winds. They also cautioned that plants that can survive dry and windy conditions should be used.

6) Use vegetation to preserve desired views and block undesired views
The visual character of the neighborhood was profoundly altered by the fire. Almost all of the area was in a mature and dense forested condition pre-fire. All trees were killed and removed in over half the area changing views dramatically. One said that she used to live in a forest and now feels that she lives in an urban subdivision. Residents requested that planted vegetation be sited strategically in order to recreate a more forested feel to the landscape. Some also hoped that new and improved views of surrounding mountains would be preserved by minimizing replanting of blocking vegetation.

Homeowners in attendance were also very interested in the revegetation process occurring on nearby public lands. Specifically, they wished to be kept informed about:

- Access to USDA Forest Service lots and trails during the landscape clearing process including a schedule of where the USFS was working and when.
- Remove dead trees - residents hoped the USFS would expedite tree removal so dead trees were not so visible on the landscape.
- Remove fuels - residents said they wanted a fire safe landscape so that the risk of home loss to wildfire would be reduced in the future.

These preferences expressed by residents were then summarized and given to the landscape architect to develop a landscape plan for the burn area.

Landscaping constraints: A meeting was held with local agency representatives on January 21st in order to identify regulatory constraints to revegetation in the burn area. Agency personnel identified the following issues that homeowners must keep in mind when landscaping:

1) Defensible space - All new landscaping will need to conform to defensible space requirements from California Public Resource Code 4291. Defensible space inspections are available in the Angora fire area from Lake Valley Fire Department.

2) Stormwater retention - All new residential construction will be required to keep stormwater from leaving the property by ordinance of the Tahoe Regional Planning Agency to protect the water quality of Lake Tahoe. These requirements (which also required of existing structures) will be enforced during the home construction and permit process.

3) Power line clearance - Trees should be planted at least 10 feet from power lines. Trees planted too close to power lines will eventually need to be trimmed or topped.

4) County right of way - Trees should not be planted within the county right away so there is no interference with snow clearance, maintenance or construction projects.

5) Inputs - Guidelines should minimize water, fertilizer and herbicide requirements in order to protect water quality in Lake Tahoe.

6) Native plants - Although not required, native or naturalized plants are preferred over exotics. Considerations such as seed source, stock availability, site conditions and requirements should influence plant selection. Homeowners should avoid using invasive plants.

7) Soil moisture - Hydrological changes such as an elevated water table in the burn area should be taken into consideration when making plant choices.

8) Soil amendments - Soil conditions may have been adversely affected by post-fire activities such as debris clearing. Soil amendments and conditioning may be required before planting.

9) Assistance - There are a number of agency sponsored programs to assist residents (see last section of these guidelines for a listing).

Tahoe Climate and Growing Conditions

Residents of the Lake Tahoe basin also face a major constraint on their landscaping choices posed by the extreme climate found at high elevation which includes a short growing season, poorly developed soils and high snow load. South Lake Tahoe, at an elevation of 6,237, has a weather regime in which most precipitation (an annual average of about 18 inches) falls as snow between November and April, although rainstorms occasionally occur during the spring, summer and fall. The Angora burn area is only a few miles from Echo Summit, where the second greatest 24-hour snowfall in the United States ever was recorded in 1982 - 67 inches (although accumulation is much less below the summit). Many feet of snow typically cover the area from December or January through April or May. The length of the growing season is about 120 frost free days with an average date of last frost of June 15th. Summer temperatures very rarely exceed 90 degrees Fahrenheit and frosts can occur any month of the year. Most of the local soil consists of decomposed granite that is poorly developed, coarse textured, and does not hold moisture well.

Natural vegetation in the area is dominated by a mixed conifer forest of Jeffrey pine (Pinus jeffreyi), lodgepole pine (Pinus contorta), white fir (Abies concolor), and red fir (Abies magnifica). Wet meadows and riparian areas typically contain aspen (Populus tremuloides), willow (Salix species) and mountain alder (Alnus tenuifolia). Dryer slopes are covered with brush species including manzanita (Arctostaphylos) and Ceanothus species.

Approach to Revegetation Used in these Guidelines

The overall approach to revegetation of the neighborhoods affected by the Angora fire presented here emphasizes use of native plants and cooperation between residents to more quickly reestablish their neighborhood forest. Utilizing an all native plant pallet, working with neighbors and clearly defining the opportunities and constraints of different lots and existing environmental conditions provides the tools for more successful landscaping.

Use Native Plants: These guidelines focus on the use of native plants for revegetation. Natives generally have higher survival rates than non-natives since they have evolved for many years to meet the harsh climate and soil conditions in the Lake Tahoe Basin. They also require less water and maintenance to establish. Many native plants can be purchased at local nurseries and so provide color, texture, and interest to residential landscapes while requiring fewer resources.

Consider the Individual Lot: Well designed landscapes are built with understanding of the existing environments conditions of that site. Homeowners are encouraged to explore and define plants and landscape methods that meet the needs of each site. Sample lot scale landscape plans are provided here for several different site conditions including flat lots, steep lots or lots set in streamside areas. These ideal plans are provided to help homeowners identify opportunities and constraints on their own property but should be refined to the needs of the individual lot.

Work Together with Neighbors: The list of native plants and planting methods provided here are also intended to help homeowners reestablish the natural forest between their lots. While every homeowner is free to landscape his or her parcels however they see fit, working together to establish the native trees, shrubs and perennials in their neighborhoods can reduce the overall cost of installation and maintenance and bring back the natural forest more quickly. Neighbors working together can spend less for more landscaping and provide more immediate visual impact. These guidelines will be most effective when neighbors combine effort and work together in the design and construction of their landscapes.

Recommended Native Plant Materials

The following list includes native plants recommended for use in revegetation of the neighborhoods affected by the Angora fire. This list includes plants that are commonly found in local nurseries. Plants are classified by their:

Scientific Name: This is the plant's official name including the genus, species and variety. Only one plant species carries this name and it is used throughout the world by botanists to identify this plant.

Common Name: This is the name commonly used for this plant in our location. Oftentimes, more than one common name is in use for any one plant.

Appropriate Planting Zones: This is the most appropriate location for the plant to be established in. SEZ means Stream Environment Zone, an official classification of the Tahoe Regional Planning Agency. In this context, it implies that the plant prefers any moist area.

Water Requirements: This is how often each plant should be watered during the summer months. Generally, plants of similar watering requirements should be clustered together to simplify watering and minimize water use.

Combustibility: This is the ease with which each plant will catch fire. Only plants with low combustibility should be planted within the 0 to five foot non-combustible zone. Plants with medium or high combustibility may be used within the Lean, Green and Clean/Defensible Space zone (5 to 30 foot), but they should not be planted in clusters or densities that would carry a fire to the house. High combustibility plants should be found primarily in the Reduced Fuel/Neighborhood Forest zone (more than 30 feet from the house).

Common Plant Stock: This is the size recommended for establishing new landscapes in the Tahoe Basin.

List: Recommended Plants for Revegetation in the Angora burn area

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Recommended Planting and Seeding Techniques

Vegetation that has been planted or seeded using proper techniques has an increased chance of survival. Spacing between plants is also a critical factor in long term survival and aesthetic quality. Recommendations for planting and spacing are illustrated on the following page.

Sketch: Recommended Seeding and Planting Methods

(Following page)

ANGORA RECOMMENDED NATIVE PLANTS FOR LANDSCAPING & REVEGETATION

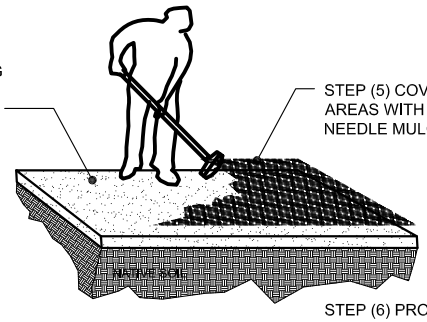
Scientific Name	Common Name	Appropriate Planting Zones	Water Requirements During Summer Months	Combustibility	Common Plant Stock
Trees					
Acer glabrum var. torreyi	Mountain Maple	SEZ & PARTIAL SHADE	DAILY	LOW	BALLED AND BURLAP
Alnus rhombifolia	White alder	SEZ & PARTIAL SHADE	DAILY	MED	BALLED AND BURLAP
Alnus tenufolia	Mountain Alder	SEZ & PARTIAL SHADE	DAILY	LOW	BALLED AND BURLAP
Calocedrus decurrens	Incense cedar	ALL	TWICE WEEKLY	HIGH	BALLED AND BURLAP
Pinus jeffreii	Jeffrey Pine	FULL SUN & PARTIAL SHADE	TWICE WEEKLY	HIGH	BALLED AND BURLAP
Pinus lambertiana	Sugar Pine	FULL SUN & PARTIAL SHADE	TWICE WEEKLY	HIGH	BALLED AND BURLAP
Populus tremuloides	Quaking Aspen	ALL	DAILY	LOW	BALLED AND BURLAP
Salix scouleriana	Scouler's Willow	ALL	DAILY	LOW	BALLED AND BURLAP
Large Shrub					
Salix eastwoodiae	Eastwood's Willow	ALL	DAILY	LOW	1 GALLON CONTAINER
Salix lemmonii	Lemmon's Willow	SEZ	DAILY	LOW	1 GALLON CONTAINER
Sorbus californica	California Mountain Ash	PARTIAL SHADE	DAILY	MED	BALLED AND BURLAPED
Medium Shrubs					
Amelanchier alnifolia spp. pumila	Serviceberry	ALL	TWICE WEEKLY	MED	5 GALLON CONTAINER
Arctostaphylos patula	Greenleaf Manzanita	FULL SUN	TWICE MONTHLY	HIGH	1 GALLON CONTAINER
Artimisia tridentata spp.vaseyana	Mountain Sage Brush	FULL SUN	TWICE MONTHLY	HIGH	4" CONTAINER
Cercocarpus ledifolius	Mountain Mahogany	FULL SUN	TWICE MONTHLY	HIGH	1 GALLON CONTAINER
Chrysolepis sempervirens	Chinquapin Bush	FULL SUN	TWICE MONTHLY	HIGH	1 GALLON CONTAINER
Chrysothamnus nauseosus	Rabbit Brush	FULL SUN	TWICE MONTHLY	HIGH	4" CONTAINER
Cornus sericea spp. sericea	Redtwig Creek Dogwood	ALL	DAILY	LOW	5 GALLON CONTAINER
Prunus emarginata	Bittercherry	ALL	TWICE WEEKLY	MED	5 GALLON CONTAINER
Prunus virginiana var. demissa	Western Chokecherry	ALL	DAILY	MED	5 GALLON CONTAINER
Purshia tridentata	Bitterbrush	ALL	TWICE MONTHLY	HIGH	1 GALLON CONTAINER
Rosa woodsii var. ultramontana	Wild Woods Rose	ALL	TWICE WEEKLY	MED	1 GALLON CONTAINER
Spirea densiflora	Mountain Spirea	ALL	TWICE WEEKLY	MED	5 GALLON CONTAINER
Perennials					
Aquilegia formosa	Western Columbine	PARTIAL SHADE	DAILY	LOW	4" CONTAINER
Delphinium glaucum	Larkspur	FULL SUN & PARTIAL SHADE	DAILY	LOW	SEED
Epiobium canum ssp. latifolium	California Fuschia	PARTIAL SHADE	DAILY	LOW	SEED
Eriogonum umbellatum spp. polyanthum	Buckwheat	FULL SUN	WEEKLY	LOW	4" CONTAINER, SEED
Linum lewisii	Blue Flax	FULL SUN	WEEKLY	LOW	4" CONTAINER, SEED
Lupinus polyphyllus	Large Leaf Lupine	SEZ & PARTIAL SHADE	DAILY	LOW	4" CONTAINER
Mimulus sp.	Native Monkey Flower	PARTIAL SHADE	DAILY	LOW	4" CONTAINER
Monardella odratissima	Pennyroyal	PARTIAL SHADE	TWICE WEEKLY	LOW	4" CONTAINER
Penstemon newberryii	Mountain Pride Penstemon	ALL	TWICE WEEKLY	LOW	SEED
Penstemon strictus	Rocky Mountain Penstemon	ALL	TWICE WEEKLY	LOW	SEED
Potentilla fruiticosa	Shrubby Cinquefoil	ALL	DAILY	LOW	1 GALLON CONTAINER
Ground Cover					
Arctostaphylus nevadensis	Pinemat Manzanita	FULL SUN	TWICE MONTHLY	MED	1 GALLON CONTAINER
Fragaria virginiana	Mountain Strawberry	PARTIAL SHADE	DAILY	LOW	4" CONTAINER
Galium grayii	Bedstraw	PARTIAL SHADE	DAILY	LOW	4" CONTAINER
Lupinus breweri	Brewer's Lupine	FULL SUN	TWICE MONTHLY	LOW	SEED
Rubus parviflorus	Thimbleberry	PARTIAL SHADE	DAILY	LOW	1 GALLON CONTAINER
Symphoricarpus mollis	Creeping Snow Berry	PARTIAL SHADE	TWICE WEEKLY	LOW	4" CONTAINER
Wyethia mollis	Woolly Mules Ears	FULL SUN	TWICE MONTHLY	MED	SEED

STEP (1) SEED IN EARLY SPRING OR FALL FOR BEST RESULTS.

STEP (2) BREAK UP EXISTING TOP SOIL OR COMPACTED SOIL WITH A RAKE TO A DEPTH OF 2".

STEP (3) BROADCAST NATIVE SEED AT A MINIMUM RATE OF 1 LB PER 500 SQUARE FEET.

STEP (4) COVER WITH 1/2" TOP SOIL



STEP (5) COVER DISTURBED AREAS WITH 1" LAYER OF PINE NEEDLE MULCH

STEP (6) PROVIDE OCCASIONAL SUMMER WATER DURING THE FIRST 3 YEARS TO INCREASE GERMINATION RATES AND PLANT SURVIVAL.

REVEGETATION WITH SEED

SPACE CONIFERS AND OTHER HIGHLY COMBUSTIBLE NATIVES 30' MIN

TYPICAL B&B PINE OR CEDAR AFTER 5 YEARS WITH IRRIGATION 12'-15'

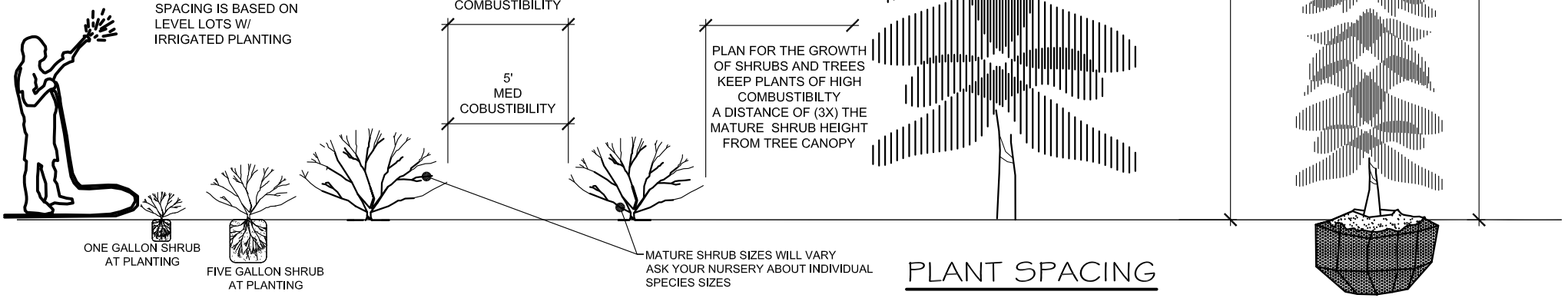
TYPICAL B&B JEFFREY PINE OR CEDAR AT PLANTING 6'-8'

SPACING IS BASED ON LEVEL LOTS W/ IRRIGATED PLANTING

10' HIGH COMBUSTIBILITY

5' MED COBUSTIBILITY

PLAN FOR THE GROWTH OF SHRUBS AND TREES KEEP PLANTS OF HIGH COMBUSTIBILTY A DISTANCE OF (3X) THE MATURE SHRUB HEIGHT FROM TREE CANOPY



ONE GALLON SHRUB AT PLANTING

FIVE GALLON SHRUB AT PLANTING

MATURE SHRUB SIZES WILL VARY ASK YOUR NURSERY ABOUT INDIVIDUAL SPECIES SIZES

PLANT SPACING

TYPICAL PLANT HEIGHTS FROM NURSERY STOCK

1 GALLON PERENNIAL/SHRUB = 12"-15"

5 GALLON SHRUB = 16"-36"

15 GALLON TREE = 4'-6'

24" BOX TREE = 7'-10'

1" DIAMETER TRUNK TREE = 8'-12'

2" DIAMETER TRUNK TREE = 8'-18'

BALLED & BURLAP CONIFERS = 6'-18'

PREVAILING WIND.

180°

NOTE:
CONTAINER BALL SHALL BE ½" ABOVE FINISHED GRADE AFTER WATERING & SETTLING.

1x2 LUMBER STAKES W/ RUBBER STRAPS ⅔ UP THE CLEAR TRUNK. SCREW STRAP TO STAKE.

CONTAINER GROWN PLANT

2" MULCH

2" SOIL BERM AROUND ROOTBALL

FINISHED GRADE

PREPARED PLANTING BACK FILL WITH 50% NATIVE SOIL & 50% COMPOSTED HUMUS

2 X WIDTH OF ROOTBALL

2 X WIDTH OF ROOTBALL

120°

120°

120°

NOTE:
TOP OF ROOT BALL SHOULD BE 1" ABOVE FINISHED GRADE AFTER SETTLING.

TREE GUY WIRES W/ EARTH ANCHOR ASSEMBLY

FLORESCENT VINYL FLAGGING

BALLED AND BURLAPED TREE

2" MULCH

3" SOIL BERM AROUND ROOTBALL

2 X WIDTH OF ROOTBALL

NOTE:
CUT BURLAP FROM ROOT BALL PRIOR TO BACK FILL

PLANTING METHODS

Revegetation Sketches for Individual Lots

Defensible space: For obvious reasons, landscapes should be designed and installed with fire conscious methods and materials. These guidelines discuss some important concepts in creating a fire safe landscape that will develop into a healthy forest over time.

All of the Lake Tahoe Basin has been rated as a high fire hazard area by the state of California. The Jeffrey pine forest in the affected neighborhood used to experience frequent low intensity fires, burning on average every 11 years (Taylor 2004) before fire agencies started extinguishing every fire in the early 20th century. In most of the affected area, fire adapted brush species are now resprouting vigorously. Brush areas are also quite flammable and historically burned every 28 years on average (Nagel and Taylor 2005).

In order to help new homes withstand future fires, residents are required by law to create defensible space around their homes. In the Tahoe Basin, defensible space is defined using three zones around the home. These are:

1. The Non-Combustible zone 0 to 5 feet from the structure. This area should be free from flammable shrubs and include only irrigated herbaceous plants or non-combustible mulches in order to minimize potential for ignition from flying embers during wildfire.
2. The Lean, Clean and Green/Defensible Space zone occupies the distance from 5 to 30 feet from the structure. This zone should contain healthy green plants with high moisture content in order to minimize the ability of a passing ground fire to be spread to the house.
3. The Reduced Fuel/Neighborhood Forest zone covers from 30 to 100 feet from the home. It typically consists of native vegetation that has been modified so that dead material has been removed and dense stands have been thinned. In this context, it includes newly planted native trees and shrubs with adequate spacing so that plants will not create a fire hazard as they mature.

For more information on defensible space, consult Living with Fire, A Guide for the Homeowner http://www.unce.unr.edu/publications/files/nr/2006/sp0611.pdf

Sketch: Recommended Plants for Use in Each Zone on an Individual Flat Lot

(Next Page)

The sketch on the next page shows the native plants appropriate for planting in the Non-Combustible zone 0 to 5 feet from the structure and the Lean, Clean and Green/Defensible Space zone 5 to 30 feet from the structure. These are plants that will thrive on a typical flat lot in the affected neighborhood where there is very little shade due to dead tree removal.

DEFENSIBLE SPACE ZONE PLANTS

Acer g. var. torreyi - Mountain Maple
Alnus tenufolia - Mountain Alder
Populus tremuloides - Quaking Aspen
Salix scouleriana - Scoulers Willow
Surbus californica - Mountain Ash
Prunus v. 'demysia' - Western Chokecherry
Prunus emarginata - Bittercherry
Cornus sericea - Creek Redtwig Dogwood
Amelanchier a. var. pumila - Serviceberry
Spirea densiflora - Mountain Spirea
Rosa woodsii - Woods Rose
Wyethia mollis - Wooley Mules Ears

NEIGHBORHOOD FOREST ZONE

See Neighborhood Forest Revegetation on private parcels for recommended plants.

NONCOMBUSTIBLE ZONE FULL SUN PLANTS

Cornus sericea - Creek Redtwig Dogwood
Linum lewisii - Blue Flax
Potentilla fruiticosa - Shrubby Cinquefoil
Lupinus spp. - Native Lupine
Mimulus sp. - Native Monkey Flower
Pemstemon spp. - Native Penstemon

NONCOMBUSTIBLE ZONE PARTIAL SHADE PLANTS

Aquilegia formosa - Western Columbine
Cornus sericea - Redtwig Dogwood
Fragaria virginiana - Mountain Strawberry
Gallium grayii - Sweet Woodruff
Rhubus parviflorus - Thimbleberry

RESIDENTIAL PLANTING ZONES

Planting in different moisture conditions: Many lots in the burned area now have more extreme moisture conditions than before the fire. The fire killed most or all of the large mature trees in much of the neighborhood. This dramatically reduced the amount of water that was drawn out of the ground by trees to maintain themselves. As a result, many areas now have higher water tables than before. Tree species, such as Jeffrey or lodgepole pine, adapted to dryer sites may not thrive where they did before because the site is now too wet for them. In these areas, species adapted to wetter conditions such as aspen, may be most suitable for planting.

At the other extreme, sites that were shaded are now exposed to full sun in most locations. In sloped areas, full sun, droughty soils and loss of soil during debris removal have produced very harsh dry sites posing a challenge for revegetation. However, revegetation of these areas is very important in order to establish cover to both reduce dust and minimize erosion that could impair downstream water quality.

Sketch: Recommended Plants for Use on a Sloped Lot with a Stream Environment Zone

(Next Page)

The sketch on the next page shows the native plants appropriate for planting in high water areas and on harsh dry slopes.

HILLSIDE STABILIZING PLANTS

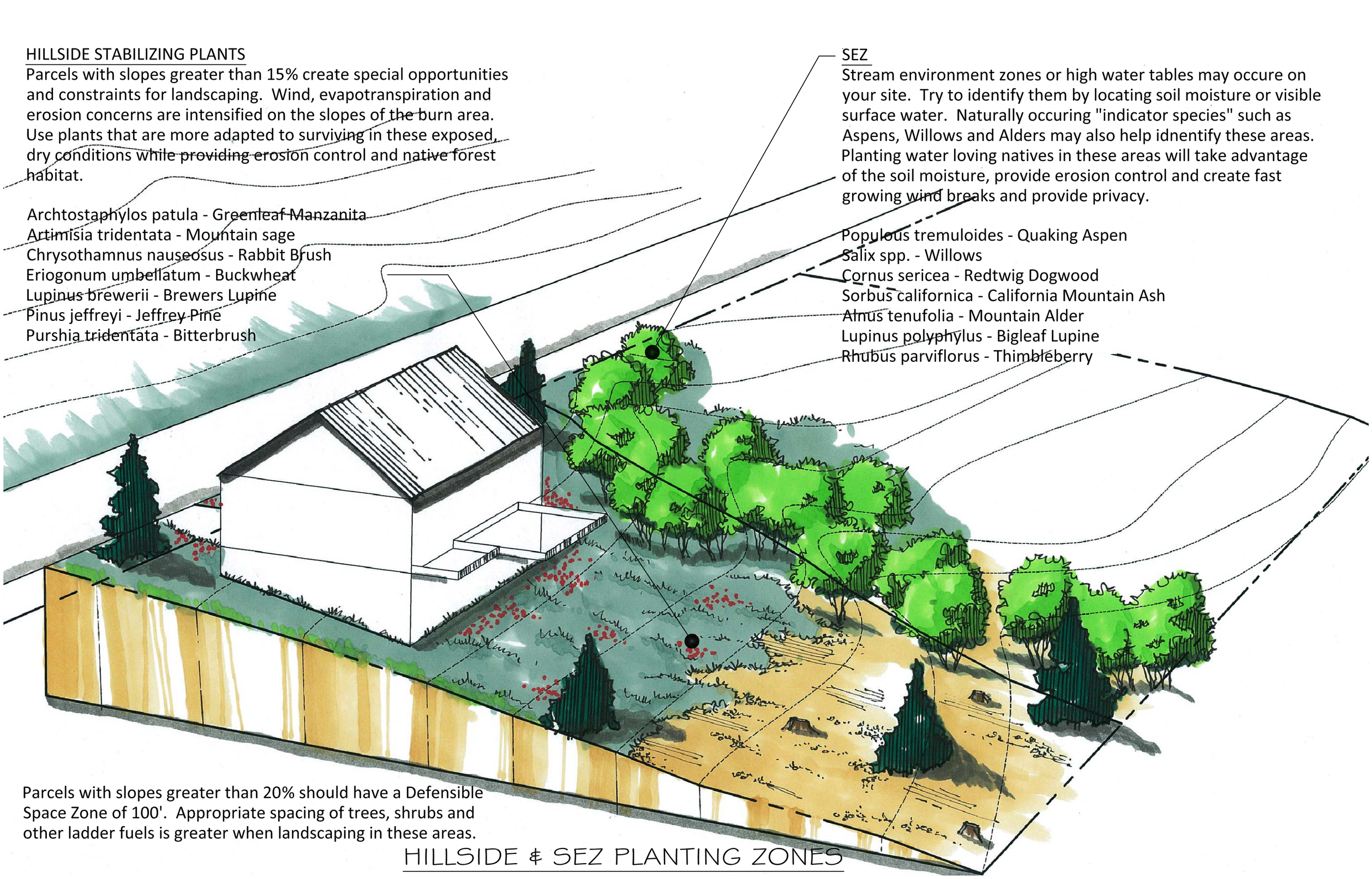
Parcels with slopes greater than 15% create special opportunities and constraints for landscaping. Wind, evapotranspiration and erosion concerns are intensified on the slopes of the burn area. Use plants that are more adapted to surviving in these exposed, dry conditions while providing erosion control and native forest habitat.

Archtostaphylos patula - Greenleaf Manzanita
Artimisia tridentata - Mountain sage
Chrysothamnus nauseosus - Rabbit Brush
Eriogonum umbellatum - Buckwheat
Lupinus brewerii - Brewers Lupine
Pinus jeffreyi - Jeffrey Pine
Purshia tridentata - Bitterbrush

SEZ

Stream environment zones or high water tables may occure on your site. Try to identify them by locating soil moisture or visible surface water. Naturally occuring "indicator species" such as Aspens, Willows and Alders may also help idnentify these areas. Planting water loving natives in these areas will take advantage of the soil moisture, provide erosion control and create fast growing wind breaks and provide privacy.

Populous tremuloides - Quaking Aspen
Salix spp. - Willows
Cornus sericea - Redtwig Dogwood
Sorbus californica - California Mountain Ash
Alnus tenufolia - Mountain Alder
Lupinus polyphylus - Bigleaf Lupine
Rhubus parviflorus - Thimbleberry



Parcels with slopes greater than 20% should have a Defensible Space Zone of 100'. Appropriate spacing of trees, shrubs and other ladder fuels is greater when landscaping in these areas.

HILLSIDE & SEZ PLANTING ZONES

Revegetation Sketch at the Block Scale

The next sketch shows revegetation within a block of adjoining homes and highlights guidelines for revegetation of the outer Reduced Fuel/Neighborhood Forest zone. Individual parcels depicted have used the recommended plant list to revegetate the 0 to 5 foot Non-Combustible zone and the 5 to 30 feet Lean, Clean and Green/Defensible Space zone.

The landscape planted in the Reduced Fuel/Neighborhood Forest zone, 30 to 100 feet from each home, emphasizes reestablishment of native forest conditions. This involves seeding native vegetation, and planting native shrubs and trees. In this zone, very little watering or maintenance is needed once the plants have been established. This sketch shows how neighbors working together can recreate a neighborhood forest by planting a handful of larger conifer trees (or deciduous trees such as aspen where water tables are high) each. With each neighbor contributing a few trees, a forested feeling is achieved more quickly for the entire block.

One strong preference expressed by participants in the planning group was for establishments of wind breaks to slow winds that are no longer blocked by a mature forest. The neighborhood forest zone will eventually function as a windbreak for residences, although not for a long time. This is because the effectiveness of a windbreak is largely a function of the height of the vegetation used (along with vegetation type and density).

The table below illustrates this point. It shows that a windbreak of conifers planted at a density of 40 to 60 percent will reduce an open wind speed of 20 miles per hour (mph) by 50 percent at a distance of 10 times the tree height. Trees that are five feet tall would reduce a 20 mph wind to 10 mph up to 50 feet from the trees, but only to 19 mph at a distance of 150 feet from the trees. This table shows that winds are slowed primarily very close to the trees and not until they reach sufficient height. Native conifers planted in our location can be expected to grow from 6 to 12 inches per year depending on site conditions and so require a long time to grow to a size sufficient to act as a wind break. In the meantime, the most efficient windbreaks in the neighborhood will be the newly constructed homes.

Distance from windbreak	**5 X tree height**	**10 X tree height**	**15 X tree height**	**20 X tree height**	**30 X tree height**
Windbreak of conifer trees at 40 to 60% density with open wind speed of 20 mph					
Wind speed after windbreak	6 mph	10 mph	12 mph	15 mph	19 mph
% reduction in wind speed due to windbreak	70%	50%	40%	25%	5%
Windbreak deciduous trees at 25 to 35% density with open wind speed of 20 mph					
Wind speed after windbreak	10 mph	13 mph	16 mph	17 mph	20 mph
% reduction in wind speed due to windbreak	50%	35%	20%	15%	0%

Figure 3. Reduction in Wind due to Different Types of Wind Breaks

After University of Nebraska Extension, 2006

Sketch: Integrating Revegetation on Individual Parcels to Create a Neighborhood Forest Zone

(Next Page)

NATIVE SHRUBS & GROUND COVER

Arctostaphylos patula - Greenleaf Manzanita
Artemisia tridentata spp. vaseyana - Mountain Sagebrush
Rosa woodsii 'ultramontana' - Woods Rose
Purshia tridentata - Bitterbrush

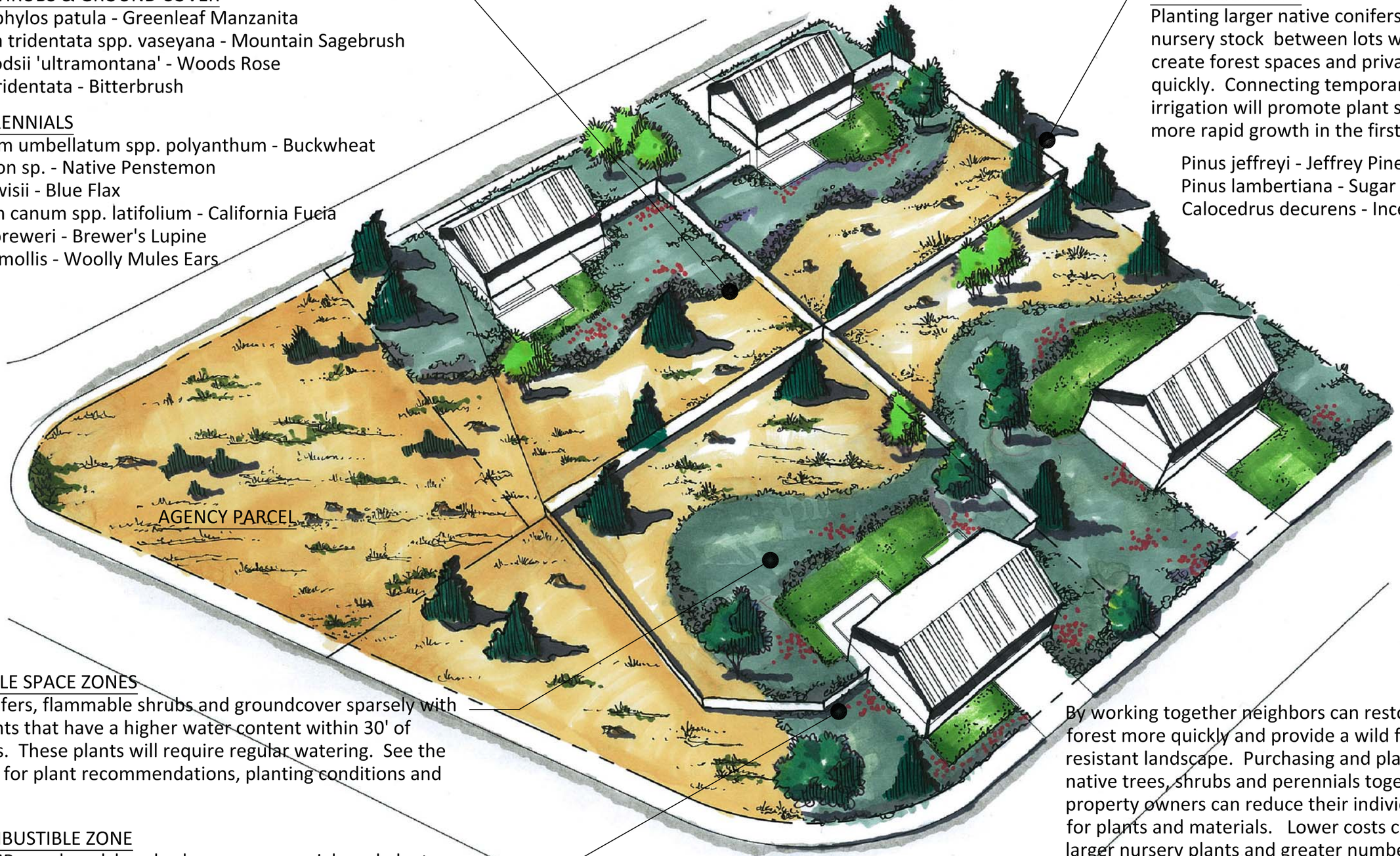
SEED PERENNIALS

Eriogonum umbellatum spp. polyanthum - Buckwheat
Penstemon sp. - Native Penstemon
Linum lewisii - Blue Flax
Epilobium canum spp. latifolium - California Fucia
Lupinus breweri - Brewer's Lupine
Wyethia mollis - Woolly Mules Ears

NATIVE CONIFERS

Planting larger native conifers from nursery stock between lots will help create forest spaces and privacy more quickly. Connecting temporarily to drip irrigation will promote plant survival and more rapid growth in the first 3 to 5 years.

Pinus jeffreyi - Jeffrey Pine
Pinus lambertiana - Sugar Pine
Calocedrus decurens - Incense Cedar



DEFENSIBLE SPACE ZONES

Plant conifers, flammable shrubs and groundcover sparsely with more plants that have a higher water content within 30' of structures. These plants will require regular watering. See the plant lists for plant recommendations, planting conditions and sizes.

NONCOMBUSTIBLE ZONE

Install BMPs, rock mulches, herbaceous perennials and plants with very low combustibility within 5' of structures. Keep area clear of wood piles, wood mulches and pine needle duff. See the plant list for plant recommendations, conditions and sizes.

By working together neighbors can restore the forest more quickly and provide a wild fire resistant landscape. Purchasing and planting native trees, shrubs and perennials together property owners can reduce their individual costs for plants and materials. Lower costs can mean larger nursery plants and greater numbers increasing the immediate visual improvements. Coordinating plant locations and spacing between parcels as a neighborhood can; further increase the immediate impact, create a more sustainable, fire safe landscape and provide long term forest health.

NEIGHBORHOOD FOREST REVEGETATION ON PRIVATE PARCELS

Landscape Scale Sketches of the Neighborhoods

The following three sketches depict the entire neighborhood affected by the Angora fire. These three sketches can be joined together to form one map of the neighborhood that shows ownership, placement of larger trees, priority view lots and lots where there is an opportunity for agencies to plant larger trees because nearby irrigation water is available.

Ownership of parcels affected by the fire is depicted in the map. Ownership categories include: Privately owned lots; US Forest Service urban lots; El Dorado County lots; California Tahoe Conservancy (CTC) lots; and South Tahoe Public Utility District (STPUD) lots.

Placement of larger trees*:* The sketches include representations of trees planted in the reforestation zone of individual private lots. These larger trees are portrayed by small green circles. The circles are placed around the edges of and in between lots (as illustrated in the previous sketch). These circles are not a recommendation for the exact location where new trees should be placed as no data of the locations of living trees was done for this plan. Instead these representations were placed to illustrate the concept of how planting a few larger trees on each lot can lead to a forested feeling throughout the neighborhood more quickly.

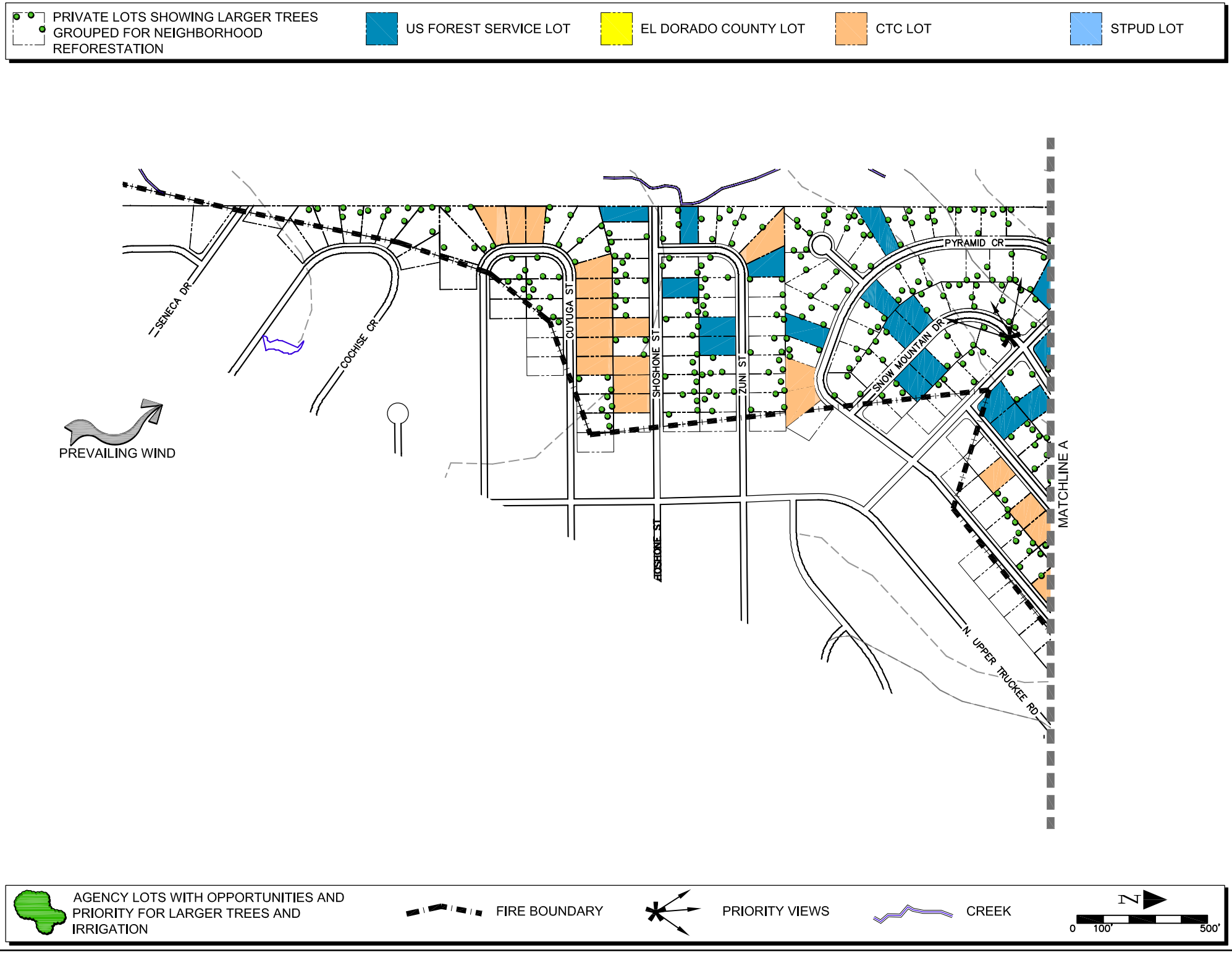
Considering solar access: Some new homes constructed in the burn area include passive solar energy systems. For these solar systems, it is necessary to plan ahead with landscaping so that newly maturing trees will not block the sun from reaching windows between 9 am and 3 pm solar time in the winter when the sun is lowest. At our latitude, this means that obstructions directly to the south of the house need to be located at a distance of about 1.8 times their height away from windows to avoid shading. Conifers with the potential to grow to a height of 75 feet should be planted at least 135 feet away from the structure. Obstructions to the southeast and southwest should be at least 3.5 times their height away from the building to avoid winter shading. Individual deciduous trees, which loose their leaves in the winter, will not completely block solar access to windows although they may be a problem for active solar systems.

Priority view lots: These locations have been identified as priorities for improving views for the neighborhood. Planting larger trees on these lots will increase screening and so will benefit many neighbors.

Public lots with opportunity for larger trees: These public lots are priorities for revegetation as more rapid reforestation in these locations would improve the neighborhood. They area also locations where irrigation water may be available either due to a relatively high water table or location nearby a developed property with water service (assuming neighbors would be willing to water larger trees). Currently, public agencies are reforesting these lots with 2 to 3 year old conifer seedlings that are six inches in height or less. The lots identified here would be ideal locations for public - private partnerships to plant and maintain larger landscape trees.

Sketch: Neighborhood Scale Revegetation with Land Ownership

(Next three pages)


PRIVATE LOTS SHOWING LARGER TREES GROUPED FOR NEIGHBORHOOD REFORESTATION
US FOREST SERVICE LOT
EL DORADO COUNTY LOT
CTC LOT
STPUD LOT
SENECA DR
COCHISE CR
CUYUGA ST
SHOSHONE ST
ZUNI ST
PYRAMID CR
SNOW MOUNTAIN DR
MATCHLINE A
N. UPPER TRUCKEE RD
PREVAILING WIND
AGENCY LOTS WITH OPPORTUNITIES AND PRIORITY FOR LARGER TREES AND IRRIGATION
FIRE BOUNDARY
PRIORITY VIEWS
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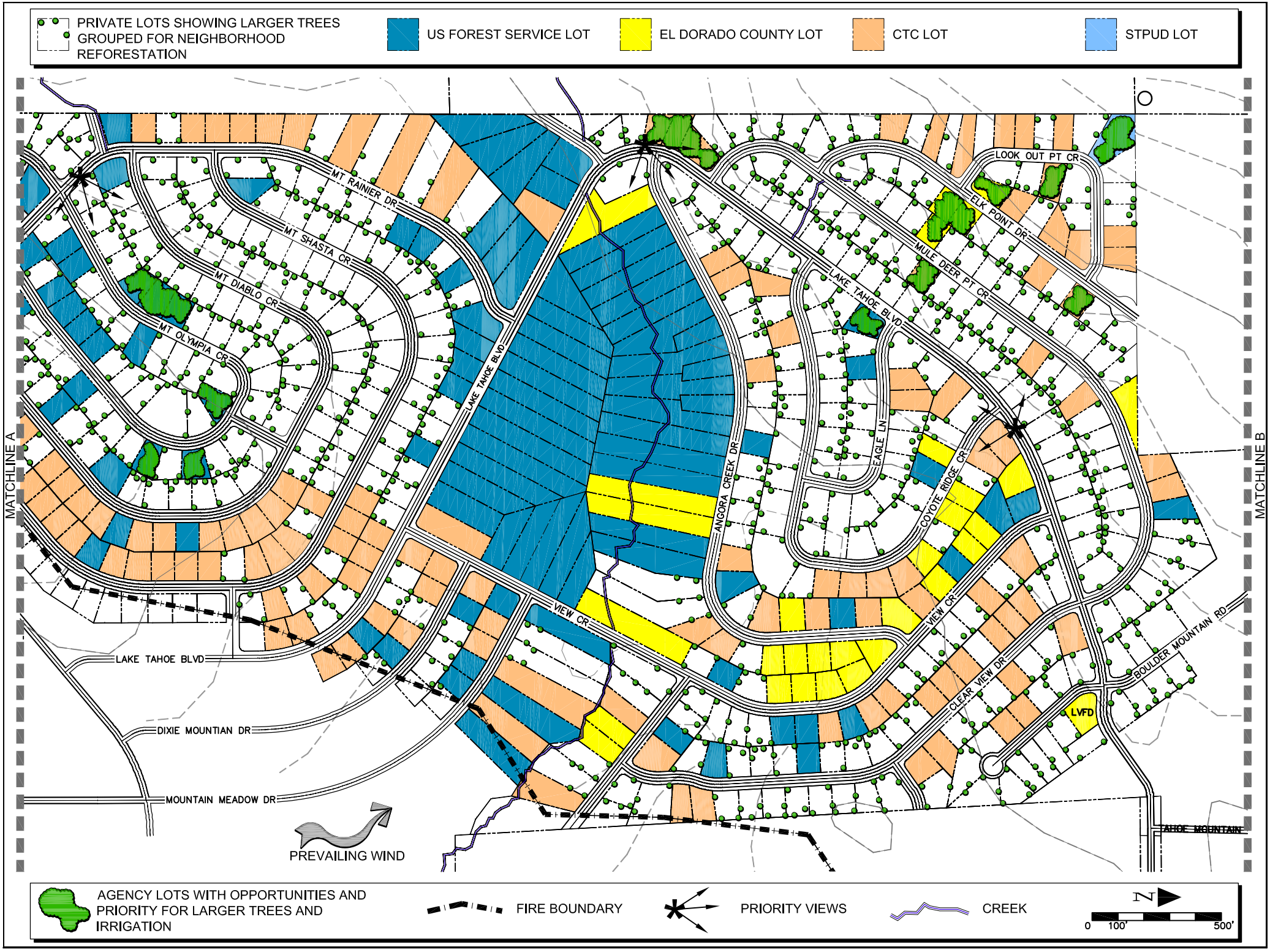
PRIVATE LOTS SHOWING LARGER TREES GROUPED FOR NEIGHBORHOOD REFORESTATION
US FOREST SERVICE LOT
EL DORADO COUNTY LOT
CTC LOT
STPUD LOT
MATCHLINE A
MATCHLINE B
MT RAINIER DR
MT SHASTA CR
MT DIABLO CR
MT OLYMPIA CR
LAKE TAHOE BLVD
LOOK OUT PT CR
ELK POINT DR
MULE DEER PT CR
ANGORA CREEK DR
EAGLE LN
COYOTE RIDGE CR
VIEW CR
CLEAR VIEW DR
BOULDER MOUNTAIN RD
LVFD
DIXIE MOUNTIAN DR
MOUNTAIN MEADOW DR
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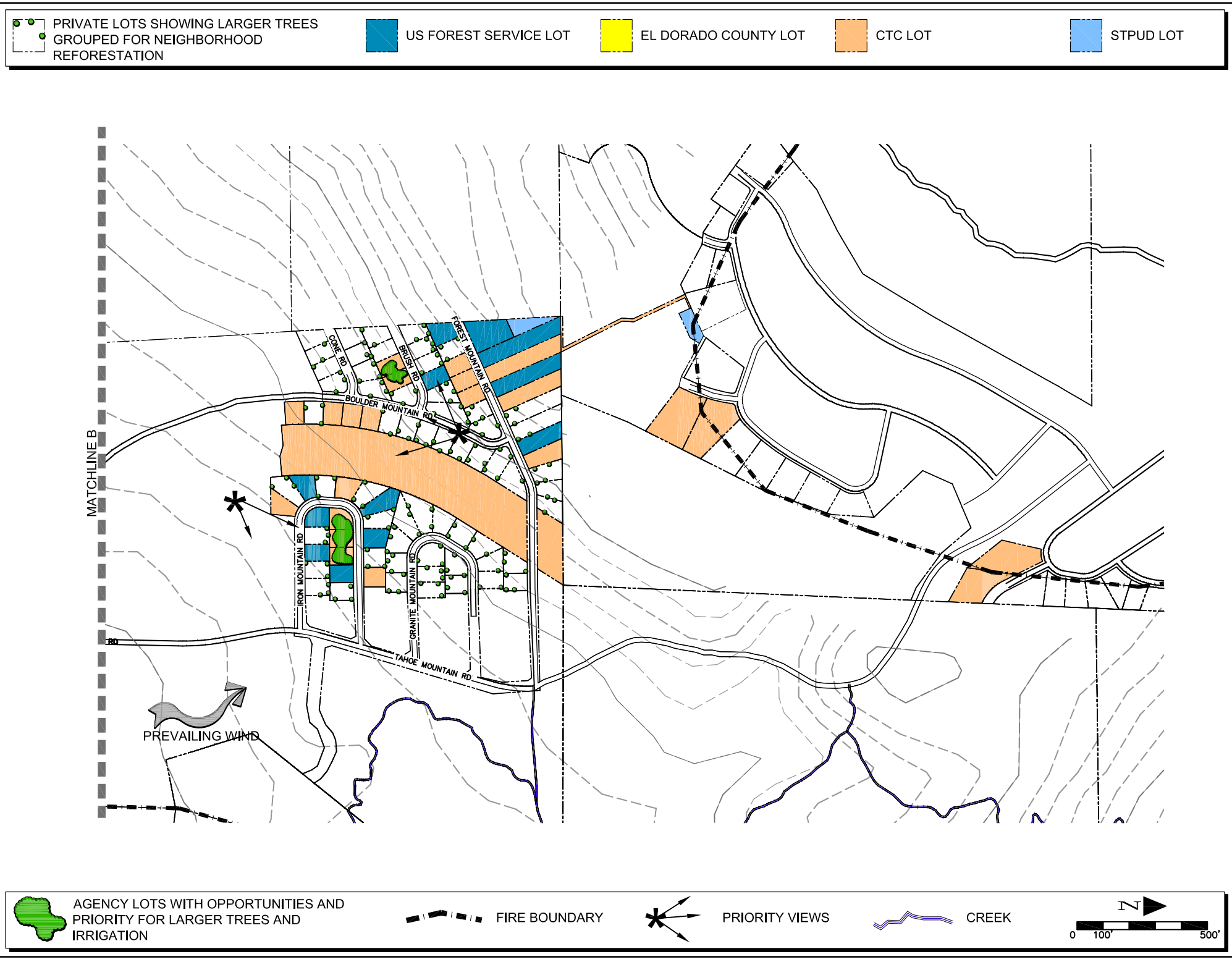
PRIVATE LOTS SHOWING LARGER TREES GROUPED FOR NEIGHBORHOOD REFORESTATION
US FOREST SERVICE LOT
EL DORADO COUNTY LOT
CTC LOT
STPUD LOT
MATCHLINE B
CONE RD
BRUSH RD
FOREST MOUNTAIN RD
BOULDER MOUNTAIN RD
IRON MOUNTAIN RD
GRANITE MOUNTAIN RD
TAHOE MOUNTAIN RD
RD
PREVAILING WIND
AGENCY LOTS WITH OPPORTUNITIES AND PRIORITY FOR LARGER TREES AND IRRIGATION
FIRE BOUNDARY
PRIORITY VIEWS
CREEK
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Implementation of these Guidelines

These guidelines have been developed as a collaborative effort with residents affected by the Angora burn of 2007. Many residents are beginning life in their newly rebuilt homes surrounded by a denuded landscape. Although the loss of the mature forest that used to surround homes is keenly felt my most, there is also an opportunity for residents to begin from scratch. In newly built subdivisions, landscape plans that integrate the neighborhood are typically designed and planted. This allows a local sense of the neighborhood as a coherent unit to be developed over time as the new landscape grows. This set of revegetation guidelines is intended to serve this same purpose in the Angora burn area, where each individual homeowner will be rebuilding and landscaping on their own.

Use of these guidelines is completely voluntary for each homeowner. It is the authors' hope that this document will allow homeowners to landscape their lots with plants that have good chance of survival and so reduce revegetation and maintenance costs. We also hope this plan will allow neighbors to collaborate more effectively in their revegetation efforts. Hopefully these guidelines have demonstrated that working together with a common vision will improve the landscape outcome and increase the rate of recovery in the Angora burn area.

Local Resources for Revegetation

A number of resources exist to assist residents of the basin and the Angora burn area in particular to restore their landscapes. These include local agency programs, publications and private nurseries.

Agencies:

Tahoe Resource Conservation District: The Tahoe RCD offers vegetation consultations to assist homeowners with determining how to best vegetate their properties while applying conservation landscaping techniques. Vegetation consultations provide homeowners with information on appropriate plant selection based on soil type, moisture content, and sunlight conditions. A vegetation consultation includes: a site plan with the site-specific microclimate, an invasive weed survey, the Home Landscaping Guide for Lake Tahoe and Vicinity, tip sheets including a Tahoe friendly native and adapted plant list and advice for wildlife habitat enhancement.
Contact: 870 Emerald Bay Road, Suite 108 South Lake Tahoe, CA 96150
Backyard Conservation Hotline: 530-543-1501 extension 113, info@tahoercd.org, http://www.tahoercd.org/

University of California Cooperative Extension: UCCE manages the Master Gardener program. Master Gardeners are community volunteers who have completed more than 50 hours of formal classroom training. Master Gardeners provide practical scientific gardening information on many subjects including pest management, soils, composting, irrigation and watering, plant selection through the Master Gardener telephone information line at 530-621-5512 from 9 am to noon, Tues. through Friday.
Contact: 311 Fair Lane, Placerville, CA 95667 530-621-5502 ceeldorado@ucdavis.edu, http://ceeldorado.ucdavis.edu/

Nevada Fire Safe Council: The NVFSC serves as a bridge between fire services and public agencies, and communities threatened by wildfire. It creates a network of local community support, and provides educational and financial assistance to mitigate fire risk. Three local chapters exist in the burn area: the Mountain View Estates Chapter, the Angora Highlands Chapter, and the Tahoe Paradise Chapter.
Contact: 589 Tahoe Keys Blvd, Suite E-4 South Lake Tahoe, CA 96150, 530-543-3473, www.nvfsc.org

Lake Valley Fire Protection District: LVFPD provides free chipping and defensible space inspections to assist homeowners in maintaining defensible space.
Contact: 530-577-2447
http://www.lakevalleyfire.net/

South Tahoe Public Utility District: STPUD sponsors the turf buy back program which provides a rebate for planting new water efficient landscaping.
Contact: 1275 Meadow Crest Drive
South Lake Tahoe, CA 96150, 530-544-6474
http://www.stpud.us/

Publications:

Home Landscaping Guide for Lake Tahoe and Vicinity
http://www.unce.unr.edu/publications/files/nr/2006/eb0601.pdf

Landscaping Tips to Help Defend Your Home from Wildfire
http://anrcatalog.ucdavis.edu/Items/8322.aspx

Homeowner's Fire Information Toolkit
http://firecenter.berkeley.edu/toolkit/homeowners.html

Living with Fire, A Guide for the Homeowner
http://www.unce.unr.edu/publications/files/nr/2006/sp0611.pdf

Native Plant and Backyard Conservation Tip Sheets
http://www.tahoercd.org/index.php/resources/tip-sheets

How Windbreaks Work. http://www.ianrpubs.unl.edu/epublic/live/ec1763/build/ec1763.pdf

Local Nurseries:

1. *Nel's Garden Center*: 1050 Fremont Ave, South Lake Tahoe, CA, 530-541-2552

2. *Sunbasin Landscape & Nursery*, 276 Kingsbury Grade, Stateline, NV, 775-588-8326

3. *Zehren's Landscape Nursery*, 3754 Pioneer Trail, South Lake Tahoe, CA, 530-544-2622

4. *Aspen Hollow Nursery*, 541 Emerald Bay Road, 530-542-3180

5. *Tahoe Outdoor Living Nursery*, Emerald Bay Rd, South Lake Tahoe, CA, 530-541-8877

6. *Meek's Lumber & Hardware*, 2970 US Highway 50, South Lake Tahoe, CA, 530-577-0550

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Appendices

Appendix 1: Resident Invitation Letter

January 14th, 2008

Dear community member,

Our community suffered a profound loss when the Angora fire burned through in June 2007. Not only were hundreds of homes lost and lives disrupted, but the landscape that we lived in was changed forever. Just as many homeowners are now in the process of rebuilding, the character of the future landscape is being determined now through plantings by individual residents and local, state and federal government agencies.

What will our future landscape look like? Is it possible to coordinate our individual landscaping actions into a coherent landscape that will be fire safe, preserve views, integrate water quality and best management practices, and express a community identity? What is the ideal landscape pictured by local residents?

Please join me by taking part in a community planning process that will **develop a vision for the future landscape of the Angora burn area**. The University of California Cooperative Extension (UCCE) will be hosting a planning process that will develop objectives for landscape restoration. We will then oversee development of several landscape restoration alternatives by a landscape architect. A preferred alternative will be selected by the group which will serve as a foundation to develop "Landscape Recovery Guidelines for the Angora Burned Area" for voluntary use by residents.

Your attendance is requested on **January 28th**, from 6-8pm, Lake Tahoe High School to begin this effort. A series of 5 meetings is planned between now and April to develop the guidelines (see attached newsletter for schedule). Please RSVP your interest in attending by contacting Nancy Starr, UCCE in Placerville at 530-621-5552 or at njstarr@ucdavis.edu. This effort is funded through a Federal Forest Reserve Fund grant awarded to UCCE by El Dorado County.

Partners in this project include the Nevada Fire Safe Council, the Tahoe Resource Conservation District, the Nevada Tahoe Conservation District, El Dorado County, United States Forest Service Lake Tahoe Basin Management Unit, and the California Tahoe Conservancy. These partners will also be providing information on their landscaping efforts in the burn area. In particular, the US Forest Service will be replanting their urban lots in the neighborhood starting in Spring 2009 and would like to work with you to help plant and maintain trees on their urban lots over the next few years.

We hope you will become involved in this important effort to determine the character of our neighborhood for many years to come. Please feel free to contact me if you have any questions about the project or would like more information.

Sincerely,

Susie Kocher, Registered Professional Forester #2874, University of California Cooperative Extension
(530) 542-2571, skocher@nature.berkeley.edu or http://ucanr.org/angoralandscape/

Angora Community Newsletter

January 2009

Developing a Community Vision for Landscaping in the Angora Burn Area

The University of California Cooperative Extension (UCCE) invites you to participate in a neighborhood planning process to create a set of voluntary landscaping guidelines for the burn area. The goal of this project is to develop a vision for a future landscape that integrates defensible space, water quality, habitat restoration and aesthetic quality.

Susie Kocher, UCCE Natural Resources Advisor, was awarded federal Title III Forest Reserve funds by the El Dorado County Board of Supervisors to conduct the planning process. The bulk of the funds will be used to contract with a landscape architect who will turn neighborhood and agency input into designs including neighborhood-scale landscape schematics, sample lot landscaping plans, and plant species recommendations. Based on these, a design guideline document will be written and disseminated to residents.

The planning process will involve a series of four evening meetings beginning January 28th, 2009 in the Lake Tahoe Community College Aspen Room, 6-8pm. The project will be completed by May in time for the spring planting season. We hope you will be able to attend to voice your opinion on what the future landscape should look like.

The Angora area burn scar.

For more information about the project please contact:

Susie Kocher, UCCE- El Dorado County
(530) 542-2571
skocher@nature.berkeley.edu

Angora Stewardship Program to Replant Forest Service Urban Lots

In Spring 2009, Forest Service urban lots burned by the Angora Fire will be replanted. The National Forest Foundation awarded funding to the Nevada Tahoe Conservation District (NTCD) and the Tahoe Resource Conservation District (Tahoe RCD) to assist the USFS Lake Tahoe Basin Management Unit in the creation of a Forest Stewardship Program that will plant, maintain, and monitor these replanted urban lots. There will be several planting days in the spring, followed by the establishment of a maintenance and monitoring program to ensure tree survival.

The goal of the **Angora Forest Stewardship Program** is to encourage community participation in the long-term health of the forest. Angora homeowners, local citizens, and students will be educated on how to plant, maintain, and monitor the restored areas. By using native species such as Jeffrey Pine and Sugar Pine grown from seeds collected near Tahoe, the trees will be adapted to local growing conditions.

New growth in the Angora Burn area.

There are many ways to get involved:

- Volunteer on one of several planting days.
- Sign up to be a steward to the newly planted trees by maintaining and monitoring them throughout the summer.
- Contribute a donation to buy planting materials.

To sign up to participate and for more information, contact:
Sarah Ford, Tahoe RCD
(530) 543-1501 ext. 114
sford@tahoercd.org

SAVE THE DATE!

January 28th, LTCC Aspen Room:

First meeting to develop Angora community landscape objectives and identify landscape issues; Learn about the **Angora Forest Stewardship Program** and other projects and services in the area

February 18th:

Second meeting (tentative) to refine Angora landscape objectives and issues; Updates on **Angora Forest Stewardship Program** and other Angora projects/services

March 18th:

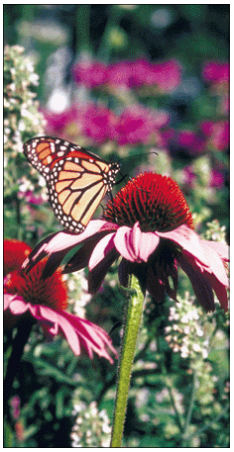
Third meeting (tentative) to present Angora community landscape project alternatives; Be sure to sign up to take part in the **Angora Forest Stewardship Program** to **plant some trees**!

Demonstration garden planned for 1383 Mount Olympia Circle

The Tahoe Resource Conservation District, South Tahoe Public Utility District, Nevada Fire Safe Council, Lake Valley Fire Protection District, and University of California Cooperative Extension plan to re-vegetate a property burned in the Angora Fire for demonstration purposes. The property is owned by the Allen family and was graciously donated for the project. The purpose of the project is to provide a sample landscape that showcases conservation landscaping ideas tailored to the Angora Burn area for the benefit of homeowners affected by the Angora Fire, as well as other Lake Tahoe community members.

The park will include examples of Tahoe native and adapted vegetation, fire defensible space, water conservation, and erosion control practices specific to properties in the Angora Burn area. Additionally, the park will feature soil amendment monitoring, irrigation techniques, and a variety of composts and mulches. The demonstration garden, located at 1383 Mount Olympia Circle, will promote backyard conservation by providing landscaping design to homeowners in the Angora Burn area as well as provide a beautiful area for the neighborhood to enjoy. Construction of the park will commence in the spring of 2009.

For more information regarding the project, contact:
Courtney Walker, Tahoe RCD
(530) 543-1501 ext. 118
cwalker@tahoercd.org



Landscaping is a way to attract wildlife to your yard.

Vegetation consultations available to assist with re-landscaping needs

Summer 2008 proved an extremely successful first field season for the Tahoe RCD's new vegetation consultation services. Vegetation consultations assist homeowners with determining how to best re-vegetate their properties and apply conservation landscaping techniques. A vegetation consultation includes a site plan with the site-specific microclimate, an invasive weed survey, a copy of the *Home Landscaping Guide for Lake Tahoe and Vicinity*, Tahoe RCD tip sheets including a Tahoe friendly native and adapted plant list, and advice for wildlife habitat enhancement. Vegetation consultations also promote water conservation through water efficient landscaping, often working with South Tahoe Public Utility District's Turf Buy-Back Program recipients to meet this goal.

Due to Tahoe's difficult growing conditions, many homeowners have trouble determining which plants are suitable to the conditions specific to their yards. Vegetation consultations provide homeowners with information on appropriate plant selection based on soil type, moisture content, and sunlight conditions. Vegetation also functions as a Best Management Practice (BMP) treatment by controlling erosion through soil stabilization and infiltrating stormwater.

To sign up for a vegetation consultation and for more information, contact:
Tahoe Resource Conservation District
BCP Hotline: (530) 543-1501 ext. 113
info@tahoercd.org

Thimbleberry is one of Tahoe's native species.

Turf Buy-Back Program can help fund water efficient landscaping

The South Tahoe Public Utility District (South Tahoe PUD) recognizes that lawn areas help to provide defensible space, play areas for children and pets, and serve an integral role in a comprehensive landscaping plan. However, lawns are also the most water intensive landscaping option a homeowner can choose. Non-functional lawns - ones that are rarely used - waste water and represent an ongoing cost in both time and resources for the home or business owner.

Through the Turf Buy-Back program, Angora property owners can receive $1.00 per square foot rebate, up to $800, for planting water efficient landscaping. The South Tahoe PUD may reject or limit applications based on the availability of funds.

For more information or to sign up for the Turf Buy-Back Program, contact:
Shelly Barnes, South Tahoe PUD
(530) 543-6268
sbarnes@stpud.dst.ca.us

A Tahoe native garden is a great alternative to turf.