Proposed Changes to Chapter 2
DEFINITIONS

Relevant Definitions Found in Chapter 2
(Definitions without supporting text are not being amended; underlined text is new language)

Activity
Area of Wave Run-Up
Artificial Beach Replenishment
Backshore Stability: The extent to which the backshore resists erosion or mass wasting due to factors such as the presence of naturally occurring existing vegetation, the gradient and geological composition of the backshore and the absence of structures that may affect stability or disrupt natural littoral processes.
Beach Recreation (Dispersed)
Beach Recreation (Intensive)
Best Management Practices
BMPs
Boat Launching Facility
Boat Lift
Boat Ramp
Body of Water
Breakwater
Buoy: A float anchored to a lake bottom which serves as a boat mooring, a navigation guide, hazard warning, or similar use. Seasonal or event marker buoys are buoys used to mark swim areas or identify boat race courses. The marker buoys are not used to moor watercraft.
Change in Operation
Charter Boat Service: A recreational use of a pleasure craft or other vessel on a body of water requiring a commercial operator’s permit from the U.S. Coast Guard. All commercial support facilities shall be located within a marina facility.
Clearing
Commercial Boating Uses: Commercial use of pleasure craft or other vessel on a body of water
Community Plan
Derelict
Directional Sign
Dredging: Removing or rearranging earthen materials which are lakeward of the high water line.

Dynamic Revetment: A shoreline protective structure that is designed using engineered sand, gravel, and/or cobble berms where significant wave action is expected to shape and reshape the dynamic revetment as it defends the shoreline. Includes beach nourishment.

Environmental Assessment (EA)

Erosion
Erosion Control
Excavation
Existing
Expansion
Facility
Family
Feasible
Fill
Findings
Fish Habitat
Fisheries
Floating Docks or Platforms
Floating Breakwaters
Foreshore
Foundation
Grading
Harbor
High Water (Elevation) Line
Intensification of Use
Jetty
Lagoons (man-made)
Lake
Lake Tahoe Datum
Lakeward
Lakezone
Land Coverage
Land Disturbance

Linear Lake Frontage: The length of a littoral parcel’s frontage on Lake Tahoe as
measured at highwater.

Littoral Parcel

Littoral Processes: The redistribution of sediments within the foreshore or nearshore in response to energy generated by waves or longshore currents which have not been disrupted by man-made structures. [Source: 50.2]

Low Level Boat Lift

Low Water [Elevation] Line

Maintenance

Maintenance Dredging

Manipulation: Cutting, killing or significantly damaging naturally occurring shorezone vegetation.

Marine Railway Systems: A boat launch system designed to use rails attached to the lakebed and a railed vehicle to launch and retrieve watercraft.

Multiple-Use Facility: A shorezone facility, usually but not always a pier, which is used by homeowners associations or functionally similar private or public entity, or two or more littoral parcel owners.

Navigational Structure

Nearshore

Outdoor Recreation Concessions

Permissible Use

Pier: A fixed or floating structure intended as a landing or mooring for water craft and either extending from the backshore to at least 10 feet beyond the high water elevation line, or extending into Lake Tahoe to a depth of 6226.1 Lake Tahoe Datum (or a functionally similar depth on other lakes in the Region).

Pierhead Line

Potential Land Coverage

Project

Project Area

Project Cost

Protective Structure

Public Service

Public Use Facilities: A shorezone facility that is owned by a public or private entity, where the facility is open to the general public.

Quasi-Public

Recreation (Developed)

Recreation (Dispersed)
Remedial Action Plan
Repair
Rock Cribbing
Seaplane Operations: See Chapter 51
Section
Setback
Shoreline
Shoreline Protective Structure
Shorezone
Shorezone Tolerance District
Sign
Significant Spawning Habitat
Significant Wave Action: The forces from significant wave height and period as defined by the U.S. Army Corps of Engineers.
Single-Use Pier
Spawning Habitat
Specific Plan
Street
Structural Repairs
Temporary Activity
Temporary Project
Temporary Structure
Temporary Use
TRPA Permit
Tour Boat: Recreational use of a vessel rated by the U.S. Coast Guard for more than 30 passengers where such passengers load and unload at a single site. All tour boat facilities for mooring, fueling, sewage pumpout, storage and maintaining the vessel are located with in one marina facility.
Vegetation
Vehicle Trip
Water Borne Transit: Public Service use of a vessel for transit of people and goods on a regular schedule with regularly schedule stops.
Water-Dependent
Water Taxi: Public Service or Commercial use of a vessel, U.S. Coast Guard rated for less than 30 passengers, for transit of passengers on an “on-call” bases. A water taxi does not create vehicle trips.
Chapter 12
TRPA REGIONAL PLAN MAPS

Chapter Contents

12.0 Purpose
12.1 Applicability
12.2 Establishment Of Official TRPA Maps
12.3 Map Amendment

12.0 Purpose: This chapter establishes a coordinated mapping system for the official TRPA maps. This chapter identifies the official maps and sets forth provisions for the adoption and amendment of maps.

12.1 Applicability: Any map referenced by this Code shall be an official TRPA map. TRPA shall not approve any project or implement any program that is inconsistent with an official TRPA map, unless otherwise provided by this Code.

12.2 Establishment Of Official TRPA Maps: The maps listed below are established as the official TRPA maps. Official TRPA maps shall be certified by a signature block for the Chairman as official maps of the TRPA.

12.2.A Base Maps: The base map is a reference map for all the overlays and indicates the location of existing features, roads, parcels and other relevant information.

12.2.B Regional Plan Overlay Maps: The following series of overlay maps at a scale of 1” = 400’ and 1” = 2,000’ are the Regional Plan Overlay Maps.

(1) Plan Area Overlay: The plan area overlay maps relate to the Plan Area Statements and indicate plan area boundaries, special area boundaries, preliminary community plan boundaries, redevelopment and master plan boundaries, hydrologic related areas boundaries, and other relevant information.

(2) Land Capability Overlay: The land capability overlay maps indicate the boundaries of land capability districts, the boundaries of stream environment zones, the boundaries of shorezone tolerance districts, and other relevant information.

(3) Historic Resources Overlay: The historic resources overlay maps indicate the location of archaeological and historic sites determined to be significant by TRPA.
(4) **Prime Fish Habitat Overlay**: The prime fish habitat overlay maps identify the location of spawning areas and habitat of game and forage fish in Lake Tahoe. Spawning and habitat areas targeted for restoration are also identified.

(5) **Stream Habitat Quality Overlay**: The stream habitat quality overlay maps indicate the existing and potential quality (excellent, good, or marginal) of instream fish habitat.

(6) **Special Species Overlay**: The special species overlay maps indicate the location of habitat for threatened, endangered, rare and special interest species and where populations of sensitive or uncommon plants have been observed.

(7) **C.I.P. Overlay**: The capital improvement program overlay maps indicate the type and locations for stream environment zone, water quality and transportation improvements. [To be drafted pursuant to Subsection 12.2.D.]

(8) **Scenic Units Overlay**: The scenic units overlay maps indicate the location of the roadway units, the shoreline units, the recreation areas, and the bicycle trails established by the scenic thresholds. Scenic highway corridors, including specific urban, transition and natural corridor designations are also identified.

(9) **Transportation Corridors CNEL Overlay**: The CNEL corridor overlay maps indicate the location of special noise corridors for highways and the South Lake Tahoe Airport. [To be drafted from Noise Subelement of the Regional Plan for the Lake Tahoe Basin: Goals and Policies.]

(10) **Shorezone Preservation Areas Overlay**: The Shorezone Preservation Area overlay maps indicate the location of sections of the Lake Tahoe shoreline that are in a natural state, and have been determined to warrant additional protection from shorezone development to maintain the significant biological, scenic, and other natural resources.

(11) **Shoreline Character Types Overlay**: The Shoreline Character Type overlay maps indicate four landscape level categories that describe the nearshore and upland backdrop visible from Lake Tahoe. The four categories for Shoreline Character Types for Lake Tahoe are: Naturally Dominated, Visually Sensitive, Visually Modified, and Visually Dominated Shoreline. These are further defined in Code Section 50.5.

12.2.C **Other Maps**: The following maps are official maps of the TRPA but shall not be included in the TRPA Regional Plan Overlay Maps:

(1) **IPES Maps**: The IPES working maps include the Need for Water Quality Improvements (2” = 1 mile), Proximity to Lake Tahoe (2,000 scale) and Rainfall Factor (R) Map (2” = 1 mile).

(2) **Geomorphic Unit Map**: The geomorphic unit map (1971) indicates
the type and location of geomorphic units (Scale: 2” = 1 mile).

(3) **Natural Hazard Maps:** The natural hazard maps indicate locations of avalanche zones, earthquake zones and flooding zones (2,000 scale).

(4) **Pierhead Line Aerial Photographs:** Approximate scale 1” = 400’.

(5) **Source Water Assessment Maps:** The Source Water Assessment Maps indicate the location of drinking water sources serving five (5) or more user service connections in the Region, protection zones around each source, and uses with a higher propensity to contaminate source water. Approximate scale 1” = 2,000’.§

(6) **Westside and Eastside Forest Type Maps:** The Westside and Eastside Forest Types Maps delineate the eastside forest types and westside forest types in the Region.§

12.2.D **Interim Maps:** The following maps are adopted Regional Plan Maps which have not been revised to fit into the Regional Plan Overlay Map system.

(1) **Water Quality Capital Improvements:** Volume IV of the 1988 Water Quality Management Plan for the Lake Tahoe Region, as it may be amended.

(2) **Transportation Capital Improvements:** Volume IV of the 1992 Regional Transportation Plan/Air Quality Plan, as it may be amended.

12.3 **Map Amendment:** Amendments to Regional Plan Overlay Maps shall be processed as plan amendments pursuant to TRPA’s Rules of Procedure. Amendments to the official maps identified in Subsection 12.2.C shall be processed as ordinance amendments. Base maps identified in Subsection 12.2.A shall be amended by resolution.

12.4 **Notice Of Map Amendments:** Amendments to the official TRPA maps which substantially impact properties shall require notice given to affected property owners as provided in TRPA’s Rules of Procedure.

§ Amended 12/15/99
§ Amended 5/23/01
Chapter 13
PLAN AREA STATEMENTS AND PLAN AREA MAPS

Chapter Contents
13.0 Purpose
13.1 Applicability
13.2 Establishment Of Plan Areas And Plan Area Statements
13.3 Relationship To Goals And Policies And The Code
13.4 Relationship To Community Plans
13.5 Content Of Plan Area Statements
13.6 Plan Area Maps
13.7 Plan Area Statement And Plan Area Map Amendment

13.0 Purpose: As set forth in the Goals and Policies, plan area statements provide detailed plans for specific areas. A plan area statement, which is a written text and applicable plan area map, provides specific land use policies and regulations for a plan area. A plan area is the area depicted on the plan area map to which the text relates.

13.1 Applicability: All projects and activities shall be consistent with the provisions of the applicable plan area statement. In the event a redevelopment, specific or master plan governs the plan area, projects and activities also shall be consistent with such plans.

13.2 Establishment Of Plan Areas And Plan Area Statements: The Plan Areas and the related Plan Area Statements are established as depicted on the Plan Area Map of the TRPA Regional Plan Overlay Maps at 1" = 400" and 1" = 2,000', and in the document entitled Regional Plan for the Lake Tahoe Basin, Plan Area Statements.

13.3 Relationship To Goals And Policies And The Code: The Goals and Policies and the Code shall apply to the Plan Area Statements. Plan area statements shall be consistent with the Code.

13.4 Relationship To Community Plans: A plan area statement may be replaced or modified by the adoption of a community plan pursuant to Chapter 14.

13.5 Content Of Plan Area Statements: Each plan area statement shall include the following:

13.5.A Name And Number: Each plan area statement shall have a name and number for identification purposes.
13.5.B Plan Area Designation: Each plan area statement shall be assigned a plan designation. A plan designation shall consist of one of the following five land use classifications and one of the following three management strategies.

(1) Land Use Classifications: The land use classifications are:

(a) Land Conservation Areas: Conservation areas are areas with value as primitive or natural areas, with strong environmental limitations on use, and with a potential for dispersed recreation or low intensity resource management. Conservation areas include:

(i) public lands already set aside for this purpose;

(ii) high-hazard lands, stream environment zones, and other fragile areas, with out substantial existing improvements;

(iii) isolated areas which do not contain the necessary infrastructure for development;

(iv) areas capable of sustaining only passive recreation or nonintensive agriculture; or

(v) areas suitable for low-to-moderate resource management.

(b) Recreation Areas: Recreation areas are areas with good potential for developed outdoor recreation, park use, or concentrated recreation. Lands which are identified as recreation areas include:

(i) areas of existing private and public recreation use;

(ii) designated local, state, and federal recreation areas;

(iii) areas without overriding environmental constraints on resource management or recreational purposes; or

(iv) areas with unique recreational resources which may service public needs, such as beaches and ski areas.

(c) Residential Areas: Residential areas are areas having potential to provide housing for the residents of the Region. In addition, the purpose of this classification is to identify density patterns related to both the physical and manmade characteristics of the land and to allow accessory and non residential uses that complement the residential neighborhood. These lands include:

(i) areas now developed for residential purposes;

(ii) areas of moderate-to-good land capability;
Language to be deleted is **struck-out** in red. New proposed language is **underlined** in blue.

(iii) areas serviced by utilities; or

(iv) areas of centralized location in close proximity to commercial services and public facilities.

(d) **Commercial And Public Service Areas**: Commercial and public service areas are areas that have been designated to provide commercial and public services to the Region or have the potential to provide future commercial and public services. The purpose of this classification is to concentrate such services for public convenience, separate incompatible uses, and allow other non-commercial uses if they are compatible with the purpose of this classification and other goals of the Regional Plan. These lands include:

(i) areas now developed for commercial or public service uses;

(ii) in the case of public services, lands designated for, or in, public ownership;

(iii) areas suitable to encourage the concentration of compatible services;

(iv) areas of good-to-moderate land capability; or

(v) areas with adequate public services and transportation linkages.

(e) **Tourist Areas**: Tourist areas are areas that have the potential to provide intensive tourist accommodations and services or intensive recreation. This land use classification also includes areas recognized by the Compact as suitable for gaming. These lands include:

(i) areas now developed with high concentrations of visitor accommodations and related uses;

(ii) lands on which gaming is a permitted and recognized use;

(iii) lands of good-to-moderate land capability; or

(iv) areas with adequate public services and transportation linkages.

(2) **Management Strategies**: The management strategies are:

(a) **Maximum Regulation**: The maximum regulation designation applies primarily to conservation areas. Areas with this designation shall be strictly regulated to ensure preservation and enhancement of the existing environment, with little or no additional development of residential, commercial, tourist, recreational or public service uses.
(b) **Development With Mitigation**: The development with mitigation designation is the predominant management strategy. Most areas of existing residential or recreational use carry this designation. Areas with this designation can accommodate additional development if the impacts are fully mitigated and the land is capable of withstanding the use. Both onsite and offsite mitigation of environmental impacts from development shall be required.

(c) **Redirection Of Development**: The redirection of development designation is designed primarily to improve environmental quality and community character by changing the direction of development or density through relocation of facilities and rehabilitation or restoration of existing structures and uses. The purpose of this designation is to reduce impervious coverage, restore natural environments, improve the efficiency of transportation systems, improve scenic quality and provide high quality facilities for residents and visitors alike. Local government participation in redevelopment of appropriate areas shall be encouraged.

13.5.C **Special Designations**: Eligibility for a specific planning program shall be limited to those plan area statements with the applicable special designations. Each plan area statement may include special designations for specific planning programs as follows:

(1) **Preliminary Community Plan Areas**: Preliminary boundaries for community plans are set forth on the plan area maps. The areas within preliminary boundaries are eligible for community plans adopted pursuant to Chapter 14 and incentives pursuant to Chapter 33. The final boundaries of community plans shall be as prescribed by the adoptions.

(2) **Eligible For Redevelopment Plans**: Plan areas designated as eligible for redevelopment plans may be considered for adoption of redevelopment plans pursuant to Chapter 15. Additional provisions prescribing eligibility for redevelopment plans are set forth in Chapter 15.

(3) **Transfer Of Development Rights (TDR) Receiving Areas**: The following designations determine which plan areas, or portions thereof, are receiving areas for transfer of the development specified in Chapter 34:

(a) **Existing Development**: The existing development designation determines which areas are eligible for the transfer of existing uses which are permissible uses in the plan area.

(b) **Multi-Residential Units**: The multi-residential unit designation determines which areas are eligible for the transfer of residential development rights.
(4) **Scenic Restoration Areas**: The scenic restoration area designation indicates one or more highway units or shoreline units in the plan area is not in compliance with the Scenic Threshold rating and this area is therefore subject to the scenic quality provisions of Chapter 30.

(5) **Preferred Affordable Housing Areas**: Plan areas with the preferred affordable housing area designation are preferred locations for affordable housing and are eligible for subdivision of post-1987 residential projects pursuant to Subsection 43.4.F. §

(6) **(Deleted)** §

(7) **Preferred Industrial Areas**: Plan areas with the preferred industrial area designation are eligible for the commercial allocation and transfer incentives pursuant to Chapters 33 and 34.

(8) **Shorezone Preservation Areas**: Plan areas with the Shorezone Preservation Area designation have a prohibition on all new shorezone structures, with the exception of shoreline protective structures. Shoreline protective structures are permissible if special use findings can be made pursuant to Agency regulations.

13.5.D **Description**: Each plan area statement shall have a description of location, existing uses and existing environment of the plan area.

13.5.E **Planning Statement**: Each plan area statement shall have a planning statement which sets forth in a summary statement the general planning direction for the plan area.

13.5.F **Planning Considerations**: Each plan area statement shall list under Planning Considerations, the major planning issues and concerns specific to that area. TRPA shall take these considerations into account in all decisions affecting the plan area.

13.5.G **Special Policies**: Each plan area statement shall set forth any special policies addressing issues and concerns for the area that are not adequately addressed by the Goals and Policies.

13.5.H **Permissible Uses**: Pursuant to Chapters 18 and 51, each plan area statement shall list all allowable and special uses that may be permitted in the plan area. Uses may be designated for one or more special areas or shorezone tolerance districts as follows:

1. **General List**: The General List section provides a list of allowed and special uses which may be permitted throughout the land area of a plan area except as modified by subparagraph 13.5.H(2).

2. **Special Areas**: The Special Area section provides a list of one or more special areas within a plan area with a different list of allowed and special uses than the General List.

§ Amended 4/27/2005
(3) Nearshore And Foreshore Of The Shorezone: The Nearshore and Foreshore of the Shorezone section provides a list of allowed and special uses that may be permitted within the nearshore and foreshore of the shorezone tolerance districts.

13.5.I Maximum Densities: Pursuant to Chapter 21, each plan area statement shall designate the maximum densities of use which may be permitted within the plan area.

13.6.J (Deleted) §

13.5.K Maximum Community Noise Equivalent Level: Each plan area statement shall specify the maximum community noise equivalent levels (CNEL) that are permissible within the plan area.

13.5.L Additional Developed Outdoor Recreation: Each plan area statement shall specify the amount of additional recreational capacity subject to the PAOT allocations pursuant to Subsection 33.6.B permissible within that plan area. Additional recreational capacity shall be measured in people at one time (PAOT). Additional recreational capacity beyond that amount specified in the plan area statements may be drawn from pools reserved for summer day uses or overnight uses. Such reserved capacity shall be allocated upon permit approval by TRPA or may be allocated to a specific plan area pursuant to 13.7.A. Allocations shall be consistent with the targets for outdoor recreation set forth in 33.6.A. (4) (c). The pools of reserved recreation capacity shall consist of 1,000 overnight PAOT and 6,761 summer day use PAOT. Other recreation capacity may be specified as appropriate.

13.5.M Improvement Programs: Each plan area statement shall make reference to major improvement or restoration programs which affect the plan area.

13.6 Plan Area Maps: Plan area boundaries and other relevant information shall be depicted on the Plan Area Maps. The Plan Area Maps shall consist of the base map and the plan area and land capability overlays, as described in Chapter 12.

13.6.A Plan Area Boundaries: When uncertainty exists with respect to the boundaries of any plan area or special area because of the scale of the maps, or for any other reasons which make exact boundary determination difficult or uncertain, the precise boundary line shall be established by using the following criteria:

(1) Where plan area boundaries appear to follow the center or right-of-way lines of streets or highways, such lines shall be treated as the plan area boundaries.

(2) Where plan area boundaries appear to be approximately parallel to center or right-of-way lines of streets or highways, such boundaries shall be treated as being parallel to such lines and at distances as indicated on the Plan Area Maps.

§ Amended 04/24/02
Language to be deleted is **struck-out** in red. New proposed language is **underlined** in blue.

(3) Where plan area boundaries appear to follow ownership boundaries, such boundaries shall be the plan area boundaries.

(4) Where plan area boundaries appear to follow land capability or shorezone tolerance district boundaries, such boundaries, as field verified, shall be the plan area boundaries.

13.7 Plan Area Statement And Plan Area Map Amendment: The amendment of a plan area statement or plan area map shall be in accordance with the following procedures:


13.7.B Amendment By Ordinance: Modification of Permissible Uses, Maximum Densities, and assigned Maximum Community Noise Equivalent Levels shall be by ordinance.

13.7.C Amendment By Resolution: Modification of Description, Planning Considerations, and Improvement Programs shall be by resolution.

13.7.D Findings For Plan Area Amendments: Prior to adopting any plan area amendment, TRPA must find:

(1) The amendment is substantially consistent with the plan area designation criteria in Subsections 13.5.B and 13.5.C; and

(2) If the amendment is to expand an existing urban plan area boundary or to add residential, tourist accommodation, commercial, or public service as permissible uses to a non-urban plan area, it must be found that the amendment will make the plan area statement consistent with an adopted policy or standard of the Regional Plan, and that the amendment will satisfy one or more of the following criteria:

(a) The amendment is to correct an error which occurred at the time of adoption, including but not limited to a mapping error, an editing error, or an error based on erroneous information; or

(b) The amendment is to enable TRPA to make progress toward one or more environmental thresholds without degradation to other thresholds as measured by the Chapter 32 indicators; or

(c) The amendment is needed to protect public health and safety and there is no reasonable alternative.

§ Amended 4/25/01
(3) If the amendment is to add multiple-family as a permissible use to a plan area or for one or more parcels, except as provided for in (5) below, the plan area or affected parcel must be found suitable for transit-oriented development (TOD). TRPA shall find that the following factors, or a functional equivalent as provided for in (4) below, are satisfied when determining TOD suitability:

(a) The area must have access to operational transit within a 10 minute walk; and

(b) Neighborhood services within a 10 minute walk, (e.g., grocery/drug stores, medical services, retail stores, and laundry facilities); and

(c) Good pedestrian and bike connections; and

(d) Opportunities for residential infill (at densities greater than 8 units per acre) or infill with mixed uses; and

(e) Adequate public facilities, (e.g., public schools, urban or developed recreation sites, government services, and post offices).

(4) In order for TRPA to find a proposal is the functional equivalent of one of the factors listed in 13.7.D (3), or 13.7.D (5) (a), the proposal must be found to facilitate TOD in a manner that is equal or superior to that feature.

(5) If the amendment is to add multiple-family dwellings as a permissible use to a plan area or for one or more parcels, and would result in deed restricted affordable housing units, the plan area or affected parcel must be found suitable for transit-oriented development (TOD). TRPA shall find that the following factors are satisfied when determining TOD suitability:

(a) access to operational transit within a 10 minute walk, or a functional equivalent as provided for in (4) above; and

(b) neighborhood services; or

(c) public facilities.
Proposed Changes to Chapter 29
HISTORIC RESOURCE PROTECTION

Chapter Contents

29.0 Purpose
29.1 Applicability
29.2 Resource Protection
29.3 Discovery Of Eligible Resources 29.4 Designated Historic Resources
29.5 Eligibility As a Historic Resource
29.6 Projects Relating To Historic Resources
29.7 Exceptions For Historical Structures and Districts

29.0 Purpose: This chapter provides for the recognition, protection, and preservation of the Region’s significant historical, archaeological, and paleontological resources.

29.1 Applicability: Projects and activities affecting sites, objects, structures, or districts, which have been designated by TRPA or are pending for designation, as historic resources, are subject to the provisions of this chapter. Unless the context of the sentence indicates otherwise, designated historic resources shall include resources pending for designation pursuant to Section 29.4.

29.2 Resource Protection: Sites, objects, structures, or other resources, designated as historic resources or for which designation is pending, shall not be demolished, disturbed, removed, or significantly altered, unless TRPA has approved a resource protection plan to protect the historic resources.

29.2.A Discovery of Historic or Cultural Artifacts During Construction: If during the course of a project or activity, a potential archaeological, cultural, or historical resource is discovered, all operations shall stop until a qualified archaeologist has evaluated the potential for significance.

29.2.B Ground Disturbing Activities: A site survey shall be conducted by a qualified archaeologist within project areas with known or newly discovered sites of cultural and/or historic significance prior to any TRPA project approval. If the significant resource is a Washoe site, TRPA shall consult with the Washoe Tribe. If resources are discovered and deemed significant, then Subsections 29.2.D and E will be implemented.

29.2.C Recreational and Human Activity Disturbance: Within project areas where documented or newly discovered significant resources occur, when appropriate, educational/interpretive signs shall be installed to inform the public of the importance of the resource and its sensitivity to disturbance.
29.2.A Resource Protection Plan: Resource protection plans shall be prepared by a qualified professional and may provide for surface or subsurface recovery of data and artifacts and recordation of structural and other data.

29.2.B Protection During Construction: Grading, operation of equipment, or other soil disturbance is prohibited in areas where a designated historic resource is present or could be damaged, except in accordance with TRPA-approved resource protection plan. The resource protection plan shall indicate all such known areas on the site and shall indicate the measures that shall be taken to protect them. See also Section 64.8.

29.2.F Setbacks From Significant Resources in the Shorezone: Where a site has been identified as significant or potentially significant (including submerged sites), shorezone structures and/or shorezone activities shall be adequately setback from the identified resource as determined by TRPA in consultation with a qualified archaeologist, and when appropriate, the Washoe Tribe.

29.3 Discovery Of Eligible Resources: Upon discovery of a site, object, district, structure or other resource, potentially meeting the criteria of Section 29.5, TRPA shall consider the resource for designation as a historic resource and shall consult with the applicable state historic preservation officer (SHPO). If the resource initially is determined to be eligible for designation as a historic resource by the SHPO, TRPA shall consider designation pursuant to Sections 29.5 and 29.4.

29.4 Designated Historic Resources: Designated historic resources shall be shown on the TRPA Historic Resource Map, except that locations of resources found by TRPA to be especially sensitive may be kept confidential in order to protect them from trespassers or vandalism. Such locations shall be recorded in confidential reports or maps of the TRPA. Resources shall be designated as historic according to the following procedure:

29.4.A Nominations For Designations: Nominations for designations may be made by TRPA, a state historic preservation officer, the property owner, or land management agency. The nomination shall be in the form of a report containing information necessary to evaluate the significance of the resource pursuant to Section 29.5. Nominations shall be reviewed by the applicable state’s historic preservation office (SHPO). From the time a nomination report is filed with TRPA until a decision is made pursuant to Subsection 29.4.B, the designation shall be considered pending. Notice of pending designations shall be given by publication and to affected property owners, in accordance with the Rules of Procedure.

29.4.B Review and Approval: TRPA shall review the nomination reports along with the comments of the SHPO, the property owner, and other interested parties, and determine if the resource, pursuant to Section 29.5, is sufficiently significant to be designated as a historic resource.
29.4.C. **Withdrawal of Designation**: The designation of a historic resource may be withdrawn by TRPA based on a request for withdrawal by TRPA, the SHPO, property owner, or land management agency, if the resource is determined not to be significant to be designated as a historic resource. TRPA shall consider the request in the same manner as for approval in Subsection 29.4.B.

29.5 **Eligibility As A Historic Resource**: Sites, objects, structures, districts or other resources, eligible for designation as resources of historical, cultural, archeological, paleontological, or architectural significance locally, regionally, state-wide or nationally, shall meet at least one of the following criteria:

29.5.A **Resources Associated With Historically Significant Events And Sites**: Resources shall exemplify the broad cultural, political, economic, social, civic, or military history of the Region, the states, or the nation, or be associated with events that have made a significant contribution to the broad patterns of history, including regional history. Such resources shall meet one or more of the following criteria:

1. Association with an important community function in the past;
2. Association with a memorable happening in the past; or
3. Contain outstanding qualities reminiscent of an early stage of development in the Region.

29.5.B **Resources Associated With Significant Persons**: Resources that are associated with the lives of persons significant in history, including regional history, such as:

1. Buildings or structures associated with a locally, regionally, or nationally known person;
2. Notable examples, or best surviving works, of a pioneer architect, designer or master builder; or
3. Structures associated with the life or work of significant persons.

29.5.C **Resources Embodying Distinctive Characteristics**: Resources that embody the distinctive characteristics of a type, period, or method of construction, that possess high artistic values, or that represent a significant and distinguishable entity but whose components may lack individual distinction, are eligible. Works of a master builder, designer or architect also are eligible. Resources may be classified as significant if they are a prototype of, or a representative example of, a period style, architectural movement, or method of construction unique in the Region, the states, or the nation.

29.5.D **State And Federal Guidelines**: Archeological or paleontological resources protected, or eligible for protection, under state or federal guidelines, are eligible.
29.5.E **Prehistoric Sites:** Sites where prehistoric archaeological or paleontological resources, which may contribute to the basic understanding of early cultural or biological development in the Region are eligible.

29.6 **Projects Relating To Historic Resources:** As part of the application for a project affecting designated historic resources, TRPA may require a report documenting compliance with the standards to this chapter. The report may be submitted to the applicable state's historic preservation office for review. Projects and activities affecting designated resources shall comply with the following standards:

29.6.A **Additions:** Additions to historic structures, adjacent to a historic structure, within an historic district, or on an historic site, shall be in compliance with Subsection 29.6.D. Additions shall be eligible for the exceptions in Section 29.7, if such construction is required to attain the objectives of that section. Provisions from the Design Review Guidelines may be required as conditions of approval.

29.6.B **Repairs, Maintenance And Reconstruction:** All repairs, maintenance, reconstruction, or other disturbance of designated historic resources shall comply with, and be maintained in accordance with, Subsection 29.6.D. Provisions from the Design Review Guidelines may be required as conditions of approval.

29.6.C **Demolition:** Historic resources shall not be demolished, disturbed, or removed, unless TRPA finds that:

1. The action will not be detrimental to the historic significance of the resource;

2. The action is pursuant to a recovery plan approved by the applicable state historic preservation officer; or

3. It is the only feasible alternative to protect the health and safety of the public.

29.6.D **Construction, Reconstruction, Repair, And Maintenance Standards:** Construction, reconstruction, repair, and maintenance of historic resources shall be in accordance with the U.S. Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

29.7 **Exceptions For Historical Structures And Districts:** To encourage the protection, maintenance, or rebuilding of sites, structures, or districts, designated a historic resource, TRPA may grant exceptions to certain provisions of this Code to allow reconstruction or repairs.
29.7.A **Findings:** Exceptions may be granted if TRPA finds that:

(1) The site, structure, or district is designated as a historic resource; and

(2) The reconstruction, modification, or repair is in the public interest.

29.7.B **Conditions:** Exceptions granted shall be subject to the following conditions:

(1) Modifications shall not increase nonconforming land coverage, exceed the height of the existing structure, or result in an expanded use subject to an allocation under the terms of the Goals and Policies, or Code, unless an allocation has been obtained pursuant to Chapter 33 or transferred pursuant to Chapter 34.

(2) Modifications to a structure shall conform to the standards in Subsection 29.6.D.

(3) Modifications that will endanger or significantly effect the historical, cultural, or architectural significance shall not be made.

29.7.C **Exceptions:** Exceptions from the following Code provisions may be granted:

(1) Chapter 24, Driveway and Parking Standards;

(2) Section 27.1, Paved Roads;

(3) Section 30.5, Site Plan Standards;

(4) Section 30.6, Standards For Building Design;

(5) Section 30.9, Standards For Water Conservation;

(6) Section 30.10, Standards For Combustion Appliances; or

(7) Chapters 50 through 56, inclusive, Shorezone
Chapter 30
DESIGN STANDARDS

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30.0 Purpose: The purpose of this chapter is to ensure that projects are designed and constructed consistent with the Community Design Subelement of the Land Use Element and related elements of the Goals and Policies.

30.1 Applicability: All projects shall comply with the standards set forth in this chapter, except as noted below. In addition, exempt activities, as defined in Chapter 4, shall comply with sections 30.6, 30.9 and 30.10. Substitute design standards shall not apply to the review procedures and standards for projects in the shoreland. Appropriate provisions of the Design Review Guidelines and Scenic Quality Improvement Program may be considered as conditions of project approval.


30.1.C City of South Lake Tahoe Substitutions: The City of South Lake Tahoe Standards and Guidelines for Design, Signage, Parking, Driveway, and Loading Spaces, June 1994, shall apply to the Stateline/Ski Run Community Plan and to the entire City of South Lake Tahoe.

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30.1.D Washoe County Substitutions: The Signage, Parking, and Design Standards and Guidelines for the Community Plans of Washoe County (November 1996), shall apply to the North Stateline, Incline Village Commercial, Incline Village Tourist, and Ponderosa Ranch Community Plans.

30.2 Design Review Guidelines: Design and site planning methods and techniques shall be set forth in a handbook called Design Review Guidelines, except that design review guidelines for the Meyers Community Plan are set forth in the adopted community plan.

30.3 Scenic Quality Improvement Program: Additional design guidelines applicable to specific areas shall be set forth in a document called the Scenic Quality Improvement Program. Provisions of that program shall be required by TRPA, as appropriate, as conditions of project approval.

30.4 Substitution Of Standards And Guidelines: Equal or superior standards and guidelines may be substituted as set forth below:

30.4.A Standards: Equal or superior design standards may be adopted by TRPA pursuant to a community plan, redevelopment plan, specific plan or master plan.

30.4.B Guidelines: Local governments may adopt guidelines consistent with the TRPA Design Review Guidelines and Scenic Quality Improvement Program. TRPA, upon finding the local guidelines are equal or superior to the TRPA guidelines and program, may adopt the local guidelines for application in that jurisdiction.

30.5 Site Design Standards: In accordance with section 30.1, the following site design standards shall apply:

30.5.A General Standards: The general standards are:

(1) Existing natural features outside of the building site shall be retained and incorporated into the site design to the greatest extent feasible. Projects shall be designed to avoid disturbance to rock outcrops and stream environment zones and to minimize vegetation removal and maintain the natural slope of the project site and be consistent with Section 30.14§.

(2) Projects shall be designed to use existing disturbed areas rather than undisturbed areas for the siting of all improvements except when:

(a) The disturbed area is precluded from development by setbacks or other such limitations;

(b) The disturbed lands are classified as sensitive lands and alternative sites classified as nonsensitive exist on the parcel;

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(c) The use of the disturbed lands would require more total disturbance than use of undisturbed lands;

(d) Avoidance of other development impacts are of more importance than the preservation of undisturbed areas; or

(e) The degree of existing disturbance is minor and the area shall be restored as part of the project.

30.5.B Standards For Commercial, Tourist Accommodation, Public Service And Multi-Residential Projects: In addition to the other standards in this section, the standards for commercial, tourist accommodation, public service and multi-residential projects are:

(1) Onsite parking areas shall be provided with landscaped perimeters. Onsite parking areas greater than 1/4 acre in size shall be provided with landscaped islands designed in accordance with the Design Review Guidelines.

(2) A pedestrian circulation system shall be incorporated into the site plan to assure that pedestrians can move safely and easily both on the site and between properties and activities within the neighborhood year round.

(3) Adequate access shall be provided for emergency vehicles and for those persons attempting to render emergency services.

(4) Screening of service yards, maintenance yards, warehousing, outdoor storage and trash and refuse collection areas shall be accomplished by the use of walls, fencing, landscape plantings or combinations thereof. Screening shall be effective in both winter and summer.

(5) Service yards, maintenance yards, warehousing, and outdoor storage areas shall be located in areas which are not highly visible from major transportation corridors, scenic turnouts, public recreation areas or the waters of lakes in the Region.

30.5.C Standards For Snow Storage: The standards for snow storage are:

(1) Parking areas shall be sloped at least two percent to prevent ponding and icing.

(2) Commercial, tourist accommodation, public service, recreation and multi-residential projects shall provide, within the project area, snow storage areas of a size adequate to store snow removed from parking, driveway and pedestrian access areas or have arrangements by means of recorded easements or equivalent arrangements to remove and store accumulated snow offsite.

30.5.D Setback Standards: The setback standards are:

(1) For parcels abutting roadways rated in the TRPA's Scenic Resources Inventory, the minimum building setback from the
right-of-way of such roadways shall be 20 feet. Decks (except decks for off street parking), stairs, canopies, building, or roof overhangs shall not intrude into the 20 foot setback established in this subparagraph. TRPA may approve building setbacks less than 20 feet if the reduced setback is approved by the appropriate local jurisdiction and TRPA finds that the project will not cause a decrease in the numerical ratings assigned to the roadway unit, including the scenic quality rating of the individual resources within each unit, as recorded in the 1982 Scenic Resources Inventory and shown in Tables 13-3 and 13-8 of the Study Report for the Establishment of Environmental Threshold Carrying Capacities, October 1982. The criteria for rating scenic quality as identified in the study report cited herein shall be used to determine if a project will cause a decrease in the numerical rating.

(2) Buildings, other structures and land coverage shall be setback from SEZs in accordance with Chapter 37.

(3) Other setbacks are set forth in Chapter 64.

30.6 Building Design Standards: In accordance with section 30.1, the following building design standards shall apply:

30.6.A General Standards: The general standards are:

(1) The architectural design of a project shall include elements that screen from public view all external mechanical equipment, including refuse enclosures, electrical transformer pads and vaults, satellite receiving disks, communication equipment, and utility hardware on roofs, buildings or the ground.

(2) Roofs, including mechanical equipment and skylights shall be constructed of nonglare finishes and earthtone colors that minimize reflectivity. For this subparagraph, non-glare earthtone colors are defined as Munsell® Colors set forth in Appendix G, TRPA Approved Earthtone Colors, of the Design Review Guidelines, that have a value and chroma of 0-4 or other color systems that are equivalent to the adopted hues, values and chromas of Appendix G.

(3) For all structures visible from the Scenic Threshold Travel Routes and from Public Recreation Area and Bicycle Trails identified in the 1993 Lake Tahoe Basin Scenic Resource Evaluation, subdued colors of earthtone ranges shall be used for the primary color of structures. Colors shall be within a range of natural colors that blend, rather than contrast, with the existing backdrop vegetation and soils color. For this subparagraph, earthtone colors shall be medium to dark and shall meet the Munsell® Colors set forth in Appendix G, TRPA Approved Earthtone Colors, of the Design Review Guidelines or other color systems that are equivalent to

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the adopted hues, values and chromas of Appendix G. TRPA may grant exceptions to this provision pursuant to Section 29.6, for scenic roadway corridors designated as urban, for unique situations such as site character-istics, or as set forth in Section 53.10. Structures in the shoreland that were constructed prior to January 1, 1950 may maintain their historic colors when doing exempt maintenance and repair.


30.7 Landscaping Standards: The following landscaping standards shall apply:

30.7.A Plant Species Permitted: Plant species on the TRPA Recommended Native and Adapted Plant List shall be used for lawns and landscaping.

30.7.B Minimum Plant Sizes And Spacings: For projects other than single family home projects, the following sizes and spacing shall be required for woody plant materials at time of planting:

(1) Trees shall be a minimum six feet tall or 1\(\Omega\) inch caliper size or diameter at breast height;

(2) Shrubs shall be a minimum three gallon pot size where: upright shrubs have a minimum height of 18 inches and minimum spread of 18 inches; and, spreading shrubs have a minimum spread of 18-24 inches.

(3) Groundcovers shall be a minimum four inch pot size or one gallon container and shall be a maximum 24 inches on center spacing.

30.7.C Accent Vegetation: Plant species not found on the TRPA Recommended Native and Adapted Plant List may be used for landscaping as accent plantings. Such plants shall be limited to borders, entryways, flower-beds, and other similar locations to provide accents to the overall native or adapted landscape design.

30.8 Exterior Lighting Standards: In accordance with section 30.1, the following exterior lighting standards shall apply:

30.8.A General Standards: The general standards are:

(1) Exterior lights shall not blink, flash or change intensity. String lights, building or roofline tube lighting, reflective or luminescent wall surfaces are prohibited.

(2) Exterior lighting shall not be attached to trees except for the Christmas season.

(3) Parking lot, walkway, and building lights shall be directed downward.

(4) Fixture mounting height shall be appropriate to the purpose.

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height shall not exceed the limitations set forth in Chapter 22.

(5) Outdoor lighting shall be used for purposes of illumination only, and shall not be designed for, or used as, an advertising display. Illumination for aesthetic or dramatic purposes of any building or surrounding landscape utilizing exterior light fixtures projected above the horizontal is prohibited.

(6) The commercial operation of searchlights for advertising or any other purpose is prohibited.

(7) Seasonal lighting displays and lighting for special events which conflict with other provisions of this section may be permitted on a temporary basis pursuant to Chapter 7.

30.9 **Water Conservation Standards**: The following appliances and fixtures shall be installed in new facilities or when replaced in existing facilities: low flow flush toilets; low flow showerheads (3 gpm rated maximum flow); faucet aerators; and water-efficient appliance (e.g., washing machines and dishwashers).

30.10 **Standards For Combustion Appliances**: All natural gas, oil or propane fired water heaters and space heaters, and all wood heaters, installed within the Region in new facilities, or when replaced in existing facilities, shall meet the standards set forth in Chapter 91.

30.11 **Outdoor Advertising**: The standards for outdoor advertising are set forth in Chapter 26.

30.12 **Scenic Quality Standards**: All projects and activities shall comply with the following standards:

30.12.A **Roadway and Shoreline Unit Scenic Quality**: The project shall not cause a decrease in the numerical ratings assigned to roadway or shoreline units, including the scenic quality rating of the individual resources within each unit, as recorded in the 1982 Scenic Resources Inventory and shown in Tables 13-3, 13-5, 13-8 and 13-9 of the Study Report for the Establishment of Environmental Threshold Carrying Capacities, October 1982. The criteria for rating scenic quality as identified in the study report cited herein shall be used to determine if a project will cause a decrease in the numerical rating.

30.12.B **Roadway and Shoreline Unit Travel Routes**: The project shall not cause a decrease in the 1982 roadway or shoreline travel route ratings as shown in Tables 13-6 and 13-7, respectively, of the Study Report for the Establishment of Environmental Threshold Carrying Capacities, October 1982. The criteria for rating travel routes as identified in the study report cited herein and as further explained in the report entitled A Scenic Analysis Of Principle Travel Routes In The Lake Tahoe Region, 1970, shall be used to determine if a project will cause a decrease in the numerical rating. For projects in the shoreland, Section 30.15 shall be used to determine if it will contribute to a decrease in the numerical rating for a shoreline travel route rating. §

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30.12.C Public Recreation Areas and Bicycle Trails: The project shall not cause a decrease in any numerical sub component threshold rating or total threshold rating assigned to a scenic resource identified in the 1993 Lake Tahoe Basin Scenic Resource Evaluation. Prior to approving a project which may potentially affect an identified scenic resource, TRPA shall find that the project is consistent with applicable recommendations for preserving scenic quality of the affected recreation area or bicycle trail found in the 1993 Lake Tahoe Basin Scenic Resource Evaluation.

30.13 Establishment Of Scenic Highway Corridors: TRPA and other public agencies within the Tahoe Region shall maintain and enhance viewing opportunities, whenever feasible, by establishing scenic highway corridors. TRPA, through the project review process shall ensure that viewsheds and view corridors along the scenic highway corridors are maintained and enhanced.

30.13.A. Designation Of Scenic Highway Corridors: All federal and state highways which lie within the Tahoe Region, and Pioneer Trail are designated as scenic highways.

(1) Urban Corridors: Urban scenic highway corridors are generally urbanized areas where man-made development is the dominant visual feature. When viewed from areas outside of the urban corridor, man-made developments shall blend into the natural environment. Those portions of federal and state highways and, Pioneer Trail, which lie within the urban areas as shown on TRPA's scenic units map overlay are designated as urban scenic highway corridors. The width of urban scenic highway corridors shall include the highway right-of-way and all properties, or portions thereof, up to 300 feet on either side of the highway right-of-way which are visible from the highway.

(2) Transition Corridors: Transition scenic highway corridors are generally areas of transition between urban and natural areas where the built environment is not the dominant visual feature, rather it appears well integrated into and in balance with the natural elements of the landscape. When viewed from areas outside of the transition corridor, man-made developments shall blend into the natural environment. Those portions of federal and state highways, and Pioneer Trail, which lie within the transition areas as shown on TRPA's scenic units map overlay are designated as transition scenic highway corridors. The width of transition scenic highway corridors shall include the highway right-of-way and all properties, or portions thereof, up to 1000 feet on either side of the highway right-of-way which are visible from the highway.

(3) Natural Corridors: Natural scenic highway corridors are generally those areas where natural landscape elements and processes are the dominant visual features. Those portions of federal and state highways which lie within the natural areas as shown on TRPA's scenic units map overlay are designated as natural scenic highway corridors. The width of natural scenic highway corridors shall include the highway right-of-way and all properties, or
portions thereof, up to one-half mile on either side of the highway right-of-way which are visible from the highway.

30.13.B. Scenic Viewpoint Corridor Plan Prepared: The TRPA shall, in cooperation with other interested agencies and private citizens, prepare a comprehensive Scenic Viewpoint Corridor Plan. The purpose of this plan will be the improvement of the public's traveling experience in the Region. The Scenic Viewpoint Corridor Plan shall be a design plan which shall, at a minimum, identify potential scenic viewpoints and pull-off facilities, moving vistas, a signage program identifying the scenic corridor, interpretive signs and displays, opportunities for mass transit service, and implementation of proposed improvements.

30.13.C. Scenic Highway Corridor Design Standards: All projects which are within the scenic highway corridors established in 30.13.A. shall meet the design standards listed in 30.13.C(1) and (2), in addition to other applicable design standards. All projects which are within the natural scenic highway corridor shall also meet the design standards listed in 30.13.C(3) in addition to other applicable design standards.

(1) Utilities:

(a) All new electrical lines which operate at 32 kilovolts or less, including service connection lines, shall be placed underground. Exceptions to this requirement may be allowed, provided TRPA finds that undergrounding would produce a greater environmental impact than above ground installation. If new electrical lines are permitted to be installed above ground, the new lines, poles, and hardware shall be screened from views from scenic highways to the maximum extent possible.

(b) All new communication lines including telephone lines, cable television lines, and service connection lines, shall be placed underground. Exceptions to this requirement may be allowed, provided TRPA finds that undergrounding would produce a greater environmental impact than above ground installation. If new communication lines are permitted to be installed above ground, the new lines, poles, and hardware shall be screened from views from scenic highways to the maximum extent possible.

(2) Highway Fixtures: Guardrails and other highway fixtures, including but not limited to, retaining walls, safety barriers, traffic signals and controllers, light standards, and other structures, shall be limited to the minimum length, height, and bulk necessary to adequately provide for the safety of the highway user. Earth tone colors of dark shades and flat finish shall be used on all highway fixtures. New and replacement guardrails shall not have a shiny reflective finish. Retaining walls and other erosion control devices or structures, shall be constructed of natural materials whenever possible and shall, to the maximum extent possible, be designed and sited as to not detract from the scenic quality of the corridor. Such structures shall incorporate heavy texture or articulated
plane surfaces that create heavy shadow patterns. Adopted community plans may establish equal or superior standards for highway fixtures.

(3) Siting of Development: All projects, excluding signs, driveways, parking for scenic vista points, trailheads, and pedestrian/bicycle paths, shall be sited in such a manner that they are not visually evident from the scenic highway. All projects, when viewed from a distance of not less than 300 feet, should meet the Visual Magnitude/Contrast Ratings for Natural Scenic Highway Corridors established in Appendix D of the Design Review Guidelines.

30.14 § Soil and Vegetation Protection Standards: In accordance with Section 30.1, the following site design standards shall apply:

30.14.A Construction Area Standards: To reduce soil disturbance and damage to vegetation, the area of disturbance during the construction of a structure shall be limited to the area between the footprint of the building and the public road. For the remainder of the site the disturbance area shall not exceed 12 feet from the footprint of the structure, parking area or cut/fill slope. These limits shall be shown on the submitted plan. For structures not adjacent to a public road access reasonable construction and staging area shall be identified. These limits shall be fenced according to Section 65.2. Exceptions require prior TRPA approval and may include:

(1) When it is demonstrated that equipment will need to access an area,

(2) When other site characteristics require a larger area, such as: rock outcrops and topography,

(3) When a landscaping or utility plan clearly demonstrates the need for soil disturbance beyond the 12 foot boundary, or

(4) Storage of construction materials in areas of existing disturbed lands.

30.15 Scenic Quality Review in the Shoreland §§: To make the scenic findings required by Subsection 30.12.B, all projects within the shoreland of any Shoreline Threshold Travel Route shall be reviewed for compliance with the standards set forth below except for projects within marinas with adopted master plans and certified EISs, or structures designated as historic by TRPA, pursuant to Chapter 29.

30.15.A Definitions: The following terms, as used in Section 30.15 shall be defined as:

(1) Lakefront Façade: Surface area of the lakefront elevation(s) for all primary and accessory buildings and other structures, with visible area for a given project area within the shoreland.

(2) Visible Area: Surface area of all structures in the shoreland visible

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from 300 feet offshore and generally perpendicular to and centered on the project area. Surface area blocked by man-made structures in the shorezone shall count as visible area.

(3) **Visual Breaks**: The application of landscaping to man-made structures that results in reducing the contrast and breaking the overall visible area of a structure’s façade. This may be achieved by screening with vegetation, rocks, soil, and other natural appearing materials or by using such techniques between detached structures.

(4) **Visible Structure**: A structure with visible area.

30.15.B **Review Process**: The applicant shall complete a scenic assessment when applying for any activity requiring a TRPA permit; an applicant may apply for a scenic assessment at anytime to document the baseline condition. Review and mitigation of scenic impacts shall be based on Subsection 30.15.C below.

(1) **Scenic Assessment**: A scenic assessment shall be required prior to submittal of a project application for Levels 3, 4, 5, and 6 shorezone projects. The scenic assessment will establish a baseline scenic condition for all following scenic impact analyses. The baseline shall be the existing condition at the time of the first scenic assessment, unless the site is the subject of an existing TRPA approval, by litigation settlement or otherwise, that contains a scenic analysis, in which case the approved scenic analysis shall be the baseline. For purposes of this Section, un-built projects with an active permit shall be considered as existing.

(a) Description of existing scenic conditions in the project area including, but not limited to, structure color and height, existing visible mass from the Lake, types and areas of materials of existing structures, and identification of needed scenic BMPs.

(b) Identify existing vegetation types, location, size, and height.

(c) Photographic inventory of the project area from 300’ and one quarter mile offshore, with at least one photo from center and perpendicular to the project area, and photos of onsite existing conditions.

30.15.C **Levels of Scenic Mitigation**: The following levels of scenic mitigation shall be required based on the level of the activity or project:

(1) **Level 1**: All non-visible projects in the shoreland or projects and activities on existing visible structures in the shoreland that are considered repair or maintenance. This includes exact in-kind replacement. There are no mitigation requirements required except as noted in Level 2.

(2) **Level 2**: All projects and activities on existing visible structures in

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the shoreland that are considered painting, re-siding, re-roofing or similar activities that affect the color of the structure. The mitigation requirements for this level shall be the color requirements set forth in Subsection 30.6.A

(3) **Level 3:** All projects on existing visible structures in the shoreland altering or increasing the lakefront façade area 20 percent or less and the result is 1,500 square feet or less of lakefront façade or non-repair projects on structures adjacent and lakeward of the shoreland. The mitigation requirements for this level shall be the implementation of scenic BMPs in the shoreland. The BMPs shall bring the project area into conformance with a minimum contrast rating score of 21 except where:

(a) it is physically impossible to attain a score of 21 through application of scenic BMPs; or

(b) the cost of the scenic BMPs required to increase the baseline contrast score to 21 exceeds ten percent of the cost of the project; and

(c) if the project is not required to bring the project area into conformance as a result of subparagraphs (a) and (b) above, the applicant shall attain the highest possible score.

(4) **Level 4:** All projects involving existing visible structures in the shoreland which alter or increase the lakefront façade where the altered/added area is 20 percent or less of the existing façade and the result is more than 1,500 square feet of total lake front façade, or where the altered/added area is greater than 20 percent but equal to or less than 50% of the existing lakefront façade, or where the project is a new accessory structure. The mitigation requirements for this level shall be as set forth in Option 1 or Option 2 at the applicant's choice.

(a) **Option 1: Basic Review** The Project shall meet the following mitigation standards:

(i) The project area shall score a minimum of 24 points based on the Contrast Rating System; except where:

(A) it is physically impossible to attain a score of 24 through application of scenic BMPs; or

(B) the cost of the scenic BMPs required to increase the baseline contrast score to 24 exceeds twenty percent of the cost of the project; and

(C) if the project is not required to bring the project area into conformance as a result of subparagraphs (A) and (B) above, the applicant

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shall attain the highest possible score.

(ii) The allowable visible area square footage in the project area shall not exceed 2200 sq. ft. The visible area square footage may be increased by 165 square feet§§ for each additional 10 ft. of linear lake frontage over 100 ft. Existing structures exceeding the 2200 (or as increased by lake frontage) visible square feet standard shall mitigate any additional area square footage on a 1:1.5 square foot basis.

(iii) A minimum building setback from the backshore boundary line shall be 10% of the lot depth not to exceed 20 feet. Each side yard setback shall be 10% of the lot width or the setback established by the local jurisdiction whichever is greater. Existing structures shall not be required to conform to setback standards. No expansion of structures shall be allowed in the setback area. At grade decks, erosion control structures, stairs, and similar structures are permissible in the setback at the allowed land coverage.

(iv) The height standard, including but not limited to the height limitations, findings, and regulations set forth in Chapter 22 for structures shall apply.

(v) Visual breaks shall be required on all structures. At a minimum, breaks shall be spaced along the lakefront façade to provide approximately 250 square feet screening for every 1000 square feet of lakefront facade. A break should extend vertically to two-thirds of the structure height and horizontally to approximately 10 feet. TRPA may approve equal or superior alternatives to this standard.

(b) Option 2: Visual Magnitude System. A project must score a minimum contrast point score for the desired square footage of visual magnitude based on Appendix H §§, Visual Assessment Tool, of the Design Review Guidelines or if non-complying, shall implement Scenic BMPs as required in Option 1 in 4(a) above; and:

(i) The visible façade square footage may be increased by 7.5% for each additional 10 ft. of linear Lake frontage over 100 ft;

(ii) Visual breaks shall be required on all structures. At a minimum, breaks shall be spaced along the lakefront façade to provide approximately 250 square feet screening for every 1000 square feet of lakefront facade. A break should extend vertically

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to two-thirds of the structure height and approximately 10 linear feet horizontally. TRPA may approve equal or superior alternatives to this standard; and
(iii) Existing projects not complying with visual magnitude shall implement visual breaks and improvements that demonstrate a percentage toward attainment determined by the cost of the project over the replacement cost of the structure.

(5) Level 5: All projects in the shoreland altering or increasing the lakefront façade area of an existing visible structure more than 50 percent or proposing a new visible structure exclusive of new accessory structures. The mitigation requirements for this level shall be as set forth in Option 1 or Option 2, at the applicant’s choice.

(a) Option 1: Basic Review. As a result of the project, the project area must score a minimum 28 points based on the Contrast Rating System. The projects shall meet the following mitigation standards:

(i) The allowable visible area square footage in the project area shall not exceed 2200 sq. ft. The visible area square footage may be increased by 165 square feet for each additional 10 ft. of linear lake frontage over 100 ft. Existing structures exceeding the 2200 (or as increased by lake frontage) visible square feet standard shall mitigate any additional area square footage on a 1:2 square foot basis.

(ii) A minimum building setback from the backshore boundary line shall be 10% of the lot depth not to exceed 20 feet. Each side yard setback shall be 10% of the lot width or the setback established by the local jurisdiction, whichever is greater. Existing structures shall not be required to conform to setback standards unless the proposed modification makes it feasible. No expansion of structures shall be allowed in the setback area. At grade decks, erosion control structures, stairs, and similar structures are permissible in the setback at the allowed land coverage.

(iii) The height standard, including but not limited to the height limitations, findings, and regulations set forth in Chapter 22 for structures shall apply.

(iv) Visual breaks shall be required on all structures. At a minimum, breaks shall be spaced along the lakefront façade to provide approximately 250 square feet screening for every 1000 square feet of lakefront facade. A break should extend vertically to two-thirds of the structure height and approximately 10 linear feet horizontally. TRPA may approve equal

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or superior alternatives to this standard.

(b) Option 2: Visual Magnitude System. A project shall attain the minimum contrast point score for the desired square footage of visual magnitude based on Appendix H §§, Visual Assessment Tool, of the Design Review Guidelines or if non-complying, shall implement Scenic BMPs as required in Option 1 in 5(a) above and:

(i) The visible façade §§ square footage may be increased by 7.5% for each additional 10 feet of linear lake frontage over 100 ft;

(ii) Visual breaks shall be required on all structures. At a minimum, breaks shall be spaced along the lakefront façade to provide approximately 250 square feet screening for every 1000 square feet of lakefront facade. A break should extend vertically to two-thirds of the structure height and horizontally to approximately 10 linear feet. TRPA may approve equal or superior alternatives to this standard; and

(iii) Existing projects not complying with visual magnitude shall implement visual breaks and improvements that demonstrate a percentage toward attainment determined by the cost of the project over the replacement cost of the structure. In no case shall the total visible façade square footage exceed the maximum set forth by the visual magnitude system.

(6) Level 6: All projects involving new or existing structures in the shoreland that are visible from the Lake and that qualify as public health and safety projects or Environmental Improvement Program projects. The mitigation requirements for this level shall be established on a case-by-case basis. Projects whose primary purpose is implementation of water quality or scenic BMPs that do not increase the lake front façade and show an improvement in the contrast rating score §§ are exempt from mitigation requirements.

30.15.D General Standards of Review: The following general standards of review shall apply to projects reviewed pursuant to this Section:

(1) Prohibition on Segmenting: Projects may not be segmented in order to qualify for a lower level of mitigation requirements.

(2) Calculation of Cost and Value: Whenever required by this Section, cost estimates and replacement values shall be based on Marshall Swift calculations.

(3) Fire Protection: The applicant shall not submit vegetative screening inconsistent with local fire protection standards. As

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used in this Section, the term “physical impossibility” shall not include inconsistency with local fire protection standards.

30.15.E Independent Review: If there is a disagreement in the application of the standards of this section, the applicant or TRPA staff may elect to pursue the following independent review option:

(1) Third Party Expert Review§§: In the event there is a disagreement in review of a proposed project, a third party expert review consistent with the process outlined in subparagraphs (i) through (iii) may be initiated. The initiator shall fund the review and the third party expert review shall use the same methodology in the Visual Assessment Tool established in Appendix F of the Design Review Guidelines.

(a) Third Party Expert: TRPA shall maintain a list of scenic experts recognized as possessing the necessary qualifications to evaluate impacts to the scenic resources threshold. An expert shall be selected from the list randomly, as long as that expert did not consult on or participate in the design of the proposed project.

(b) The Third Party Expert shall prepare an analysis of the proposed project. The report shall include:

(i) A description of the proposed project; and

(ii) An analysis of the proposed project’s consistency with the standards set forth in this ordinance; and

(iii) Written findings quantifying the project’s impacts and any mitigation, if required.

(c) Use of Third Party Report: The Executive Director shall review the third party expert report and may approve, deny, or require modifications to the project. The expert’s findings shall be included in the review of the project.

(2) Scenic Panel Review: Until November 20, 2004, the applicant or TRPA may elect to initiate a Scenic Panel Review if there is a disagreement in the determination of mitigation required pursuant to this Section. The cost of the panel shall be paid by the initiator. Panels initiated during this period shall continue until the completion of the panel’s review process. An expert panel of three people shall prepare a scenic analysis of the project and its impact including foreseeable reasonable activities on the entire scenic unit. The panel shall recommend appropriate conditions of approval necessary to make the required scenic attainment findings.

(a) TRPA shall select a panel member, the applicant shall select a panel member and the two panel members shall select a

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third member to review the project.
(b) The analysis may include other professionally accepted methods of evaluating scenic impacts. This Subparagraph may be extended beyond the two-year limitation pursuant to the performance review required in Subsection 30.15.F.

(c) Use of Panel Report: The Executive Director shall review the scenic panel report and may approve, deny, or require modifications to the project. The panel's findings shall be included in the review of the project.

30.15.F Marina Master Plans: In developing and approving marina master plans pursuant to Chapter 16, the applicant shall use the contrast rating/visual magnitude system outlined in Appendix H, Visual Assessment Tool, of the Design Review Guidelines or an equal or superior method of evaluating scenic impacts. All significant scenic impacts shall be identified in the environmental document using an approved scenic impact analysis methodology and mitigation measures shall be proposed and incorporated into the master plan to ensure consistency with attainment and maintenance of environmental thresholds.

30.15.G Additional Visual Magnitude: TRPA may permit additional square footage of visual magnitude with visual breaks for a given contrast rating in Appendix H, Visual Assessment Tool, of the Design Review Guidelines as follows:

(1) Public Outdoor Recreation: For public outdoor recreation uses that are subject to Subsection 33.6.C, PAOT allocations, additional square footage of visual magnitude may be permitted if TRPA finds that:

(a) The project is a necessary part of a long range plan for public outdoor recreation; and

(b) The project is consistent with the Recreation Element of the Regional Plan; and,

(c) There is no reasonable alternative which would avoid or reduce the extent of visual magnitude; and

(d) The additional square footage is mitigated pursuant to Subsection 30.15.H§§ below; or

(e) If existing structures in the project area are in excess of that permitted by Option 2 in Levels 4 and Levels 5, the additional square footage permissible is a result of a reduction in the visual magnitude consistent with the following requirements. Existing non-complying projects shall implement improvements that results in a contrast score of 25 or demonstrate a percentage toward attainment determined by the cost of the project over the replacement cost of the structures not to exceed 50 percent, whichever is greater.

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(2) Public Service Facilities: For public service uses, additional square footage of visual magnitude may be permitted if TRPA finds that:

(a) The project is necessary for public health, safety or environmental protection; and

(b) There is no reasonable alternative, which would avoid or reduce the extent of visual magnitude; and,

(c) The additional square footage is mitigated pursuant to Subsection 30.15.H §§ below; or

(d) If existing structures in the project area are in excess of that permitted by Option 2 in Levels 4 and Levels 5, the additional square footage permissible is a result of a reduction in the visual magnitude consistent with the following requirements. Existing non-complying projects shall implement improvements that result in a contrast score of 25 or demonstrate a percentage toward attainment determined by the cost of the project over the replacement cost of the structures not to exceed 50 percent, whichever is greater.

(3) Tourist Accommodation and Commercial Projects in Commercial and Public Service Plan Areas and Tourist Accommodation Plan Areas: Additional square footage of visual magnitude may be permitted for projects in Commercial and Public Service Plan Areas, if TRPA finds that:

(a) The additional square footage is necessary as the use customarily requires increased square footage of lakefront façade than that set forth in Levels 4 and 5; and

(b) There is no reasonable alternative, which would avoid or reduce the extent of visual magnitude; and,

(c) The additional square footage is mitigated pursuant to Subsection 30.15.H §§ below; or

(d) If existing structures in the project area are in excess of that permitted by Option 2 in Levels 4 and Levels 5, the additional square footage permissible is a result of a reduction in the visual magnitude consistent with the following requirements. Existing non-complying projects shall implement improvements that result in a contrast score of 25 or demonstrate a percentage toward attainment determined by the cost of the project over the replacement cost of the structures not to exceed 50 percent, whichever is greater.

§§ Amended 1/22/03
(4) Residential Uses Other Than Single Family Dwelling: Additional square footage of visual magnitude may be permitted for projects, if TRPA finds that:

(a) The additional square footage is necessary as the use customarily requires increased square footage of lakefront façade than that set forth in Levels 4 and 5; and

(b) There is no reasonable alternative, which would avoid or reduce the extent of visual magnitude; and,

(c) The additional square footage is mitigated pursuant to Subsection 30.15.H§§ below; or

(d) If existing structures in the project area are in excess of that permitted by Option 2 in Levels 4 and Levels 5, the additional square footage permissible is a result of a reduction in the visual magnitude consistent with the following requirements. Existing non-complying projects shall implement improvements that result in a contrast score of 25 or demonstrate a percentage toward attainment determined by the cost of the project over the replacement cost of the structures not to exceed 50 percent, whichever is greater.

30.15.H Transfer of Scenic Mitigation Credits (Interim System): Until a permanent scenic mitigation credit system is adopted, certain scenic impacts may be mitigated outside the shoreland as follows:

(1) The mitigation source is the adjacent shorezone project area or other shoreland parcels within the same scenic unit.

(2) Project mitigation requirements shall utilize the Visual Magnitude System outlined in Appendix H, Visual Assessment Tool, of the Design Review Guidelines to calculate the square footage mitigation requirement or mitigation may be determined by the full panel review process.

(3) Mitigation in attainment areas shall be on a one-to-one basis and on a one-to-one and a half basis in non-attainment areas.

(4) All structures in the shoreland, both on the receiving and sending project areas, must have implemented scenic BMPs (21 contrast score rating) to be eligible for transfer of mitigation credits.

(5) TRPA shall require restoration securities, deed restrictions, and inspections as appropriate to assure implementation and documentation of scenic mitigation credit.

(6) This interim system may be utilized:

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(a) To mitigate additional square footage associated with shorezone structures; or

(b) To gain additional square footage when permissible (e.g. for commercial, public service, multi-residential, etc.)

(7) Contributions to TRPA-approved non-profit organizations that have qualifying scenic mitigation projects may be accepted for mitigation credit, provided the mitigation credit can be quantified and tracked.

30.15 I Performance Review: For two years after the adoption of the Scenic Quality Review System, TRPA shall monitor the application of the system. No later than two years from the adoption of the system, TRPA shall prepare a report on the system with recommended amendments, if necessary, and present it to the TRPA Governing Board. A long-term performance review shall be included in the next applicable threshold review.
Chapter 50

THE SHOREZONE

50.0 Purpose: This Chapter introduces the shorezone concepts and designations and procedures and generally implements the TRPA Goals and Policies. Specifically, Policies 4, 5, 6, and 7, Goal 1 of the Shorezone Subelement, Conservation Element of the Goals and Policies establish management strategies and development restrictions with respect to the eight shorezone tolerance districts described in the 1973 Shorezone Plan for Lake Tahoe.

50.1 Applicability: This Chapter shall apply to the lakezone, shorezone and lagoon areas of lakes within the Region.

50.2 Shorezone Tolerance District Standards and Boundaries:

50.2.A All shorezone projects and activities must comply with the applicable Shorezone Tolerance District Standards set forth in this section. The applicable shorezone tolerance district along the shorelines of Lake Tahoe, Fallen Leaf Lake and Cascade Lake that are within the following eight shorezone tolerance districts are shown on the TRPA Shorezone Tolerance District and Land Capability Overlay Maps. The Shorezone Tolerance District Standards must be met, in addition to any other standards in this Chapter. The Shorezone Tolerance District Standards are as follows: [source: 53.1 and 53.2]

(1) Shorezone Tolerance District 1: Tolerance District 1 is comprised of barrier beaches and lakeshore dunes. The barrier beaches commonly separate the lake proper from marshes and wetlands. It is ecologically fragile, thus any substantial use or alternation can lead to excessive sedimentation, beach erosion and water turbidity. The additional District 1 Shorezone Tolerance District Standards are:

(a) Access to the shoreline shall be restricted to planned footpaths which minimize the impact to the backshore.

(b) No drainage or modification of the backshore wetlands shall occur. [source: 53.6.B(1)(3)(4) & (5) covered in
(2) **Shorezone Tolerance District 2**: Tolerance District 2 typically has shorezones comprised of volcanic and morainic debris with slopes thirty percent (30%) or greater, and shorezones comprised of alluvial soils with slopes of nine to thirty percent (9-30%). The potential for disturbance in the nearshore, and for erosion and cliff collapse in the backshore, is high. The additional Shorezone Tolerance District 2 Standards are:

(a) TRPA may require additional or existing development to install and maintain vegetation to stabilize backshore areas, and to protect eroding areas from further destruction.

(b) No project shall be permitted, unless TRPA finds that it is unlikely to accelerate or initiate backshore erosion.

(c) Access to the shoreline shall be restricted to stabilized access ways that minimize the impact to the backshore. [source: 53.7]

(3) **Shorezone Tolerance District 3**: Tolerance District 3 has armored granite shorezones with slopes exceeding thirty percent (30%). There is high erosion potential immediately above the shore, and moderate disturbance potential in the steep nearshore zone. Vegetation removal may lead to mass movement and erosion. The additional Shorezone Tolerance District 3 Standards are the same as those listed in Shorezone Tolerance District 2. [source: 53.7]

(4) **Shorezone Tolerance District 4**: This District has volcanic rock shorelines with a moderate potential for erosion. Erosion potential is increased whenever colluvium of volcanic debris is present, with slopes of stony, sandy loam lying on thirty percent (15%-30%) slopes. Erosion potential is also increased above the shoreline, wherever the shoreline is comprised of moronic debris, or wherever the alluvial shorezone is characterized by steep crumbling cliffs with continuing erosion problems. The additional Shorezone Tolerance District 4 Standards are:

(a) TRPA may require additional or existing development to install and maintain vegetation to stabilize backshore areas, and to protect eroding areas from further destruction.

(b) No backshore activities shall be allowed, unless TRPA finds that the activity will not require the mechanical stabilization of the cliff area, nor will it accelerate cliff crumbling, beach loss or erosion.

(c) Access to the shoreline shall be restricted to stabilized access ways that minimize the impact to the backshore.

(d) Access to buoys shall be designed to cause the least possible environmental harm to the foreshore and
(e) Access to piers, floating platforms, and boat ramps shall be designed to cause the least possible alteration to the natural backshore. [source: 53.8.B]

(5) **Shorezone Tolerance District 5:** This District exhibits armored granite shorezones with slopes of fifteen to thirty percent (15%-30%). It has less erosion potential than similar lands in Shorezone Tolerance District 4. The additional Shorezone Tolerance District 5 standards are the same as those listed for Shorezone Tolerance District 4. [source: 53.8]

(6) **Shorezone Tolerance District 6:** This District is underlain by weathered volcanic or morainic debris, with slopes of five to fifteen percent (5-15%). The additional Shorezone Tolerance District 6 Standards are: [source: 53.9.A(1)]

(a) No vehicular access to the shoreline shall occur, unless TRPA finds that such access will not cause environmental harm.

(b) Boat launching facilities and marinas shall be located where the nearshore shelf is sufficiently wide to enable construction and use without significant shelf erosion. [source: 53.9.B]

(7) **Shorezone Tolerance District 7:** Tolerance District 7 has a comparatively level shorezone underlain by morainic and alluvial materials with slopes of zero to nine percent (0-9%). The additional Shorezone Tolerance District 7 Standards are the same as those listed for Shorezone Tolerance District 6. [source: 53.9.A(2)]

(8) **Shorezone Tolerance District 8:** Tolerance District 8 has a gently sloping, armored granite shorezone, with a high capability for development. These shorelines are in equilibrium, and there is low potential for erosion in the foreshore and nearshore. The backshore possesses a moderate erosion potential in some cases. The additional Shorezone Tolerance District 8 Standards are the same as those listed in Shorezone Tolerance District 6. [source: 53.9.A(3)]

**50.2.B. Boundaries of Shorezone Tolerance District and Backshore Boundaries:** The boundary of the shorezone tolerance district and/or backshore boundary shall reflect the physical and other considerations that characterize these districts and the shorezone. TRPA may make a determination concerning the precise Shorezone Tolerance District Boundaries as part of the project approval on a parcel. Such determination shall only be made after TRPA conducts a field verification in accordance with Chapter 20. No boundary line determination shall result in a major adjustment of the mapped shorezone tolerance districts (e.g., the creation of additional districts, the elimination of districts, etc.). Such major adjustments must be made pursuant to a shorezone tolerance district challenge or a backshore.
boundary challenge pursuant to Appendix A. [source: 53.3]

50.2.C. **Man-modified Challenge:** The applicable shorezone tolerance district overlay maps may be amended through a man-modified challenge pursuant to Appendix A of this Chapter. [source: 53.5]

50.3 **Backshore Delineation:**

50.3.A The lakeward boundary of the backshore is at the highwater line. TRPA shall determine the landward boundaries of the backshore. The landward backshore boundary shall be established utilizing the following methods, whichever establishes the wider backshore. [source: 55.2]

1. **Wave Run-Up:** The area of wave run-up as calculated according to best available science plus ten feet; or

2. **Area of Instability:** The area of instability plus ten feet. The area of instability shall be established pursuant to the following procedures:
   
   (a) The area of instability shall be measured landward from the high water line a horizontal distance equal to 1.5 times the height of the bluff located adjacent to the shoreline. The height of the bluff shall be the difference between the high water elevation and the elevation of the top of the bluff; or

   (b) The area of instability as identified in a report submitted by the applicant and prepared by a licensed geological, geotechnical or soils engineer or engineering geologist. The area of instability established under this provision may be greater or less than such area established under Subparagraph (a), above.

3. The ten feet added to the wave run-up calculation or the area of instability shall be extended if the following method provides a wider backshore delineation: the zone that is delineated by projecting a 3:1 (horizontal:vertical) line from highwater up through the slope to the intersection of the lands above. The 3:1 projected line may be steepened to no more than a 2:1 line based on written recommendations from a licensed engineering geologist, geotechnical engineer, or other qualified professional, who has conducted a subsurface soils investigation on the subject site, and who concluded that the subsurface materials will be competent at the steeper slope. If the projected line does not intersect the lands above the highwater line, no extension of the ten foot addition may occur.

50.3.B **Challenge of Backshore Delineation:** Applicants who do not agree with TRPA's field verification concerning the backshore boundary, may file a challenge pursuant to Appendix A of this Chapter. [source: 55.2 & 53.4 and staff clarifications]
50.3.C **Man-Modified Backshore:** Whenever areas in the backshore have been found to be man-modified pursuant to Subsection 50.2.C, they shall be regulated in accordance with the recommendations contained in the man-modified report approved by TRPA pursuant to Appendix A of this Chapter. [source: 53.5]

50.4 **Shorezone Preservation Areas:** TRPA shall designate areas of the shorezone of Lake Tahoe as Shorezone Preservation Areas and these areas shall be indicated on an appropriate overlay map.

50.4.A **Designation criteria:** Shorezone Preservation Areas shall include those sections of the Lake Tahoe shorezone that have been determined to warrant protection from additional shorezone development affecting significant biological, scenic and other natural resources values and low impact recreation.

50.4.B **New Development Restrictions:** No additional shorezone structures, including piers or buoy fields, shall be permitted in designated Shorezone Preservation Areas, except that (1) shoreline protective structures may be allowed, including minimal pedestrian access structures when reducing unauthorized trails and consolidating access; or (2) plans or projects proposed by another government agency with land management jurisdiction may be allowed, provided that the plan or project is needed to meet the agency’s legal mandate, is prepared in consultation with TRPA, is analyzed under applicable environmental and public review requirements, and demonstrates consistency with TRPA Thresholds.

50.4.C **Existing Structures:** Maintenance, repairs, modifications and expansions to existing structures are allowed as provided under Chapter 54.

50.5 **Shoreline Character Types**

50.5.A **Shoreline Character Types Defined:** The following Shoreline Character Types shall be defined for Lake Tahoe:

1. **Naturally Dominated Shoreline:** Naturally appearing landscapes and compatible culturally modified landscapes in highly scenic locations that can be correlated with shoreline travel route ratings of 13-15, or a rating of 4-5 in the man-made criterion. Shoreline areas within stream-mouth setbacks and Shorezone Preservation Areas shall be assigned to the Naturally Dominated shoreline character type.

2. **Visually Sensitive Shoreline:** Highly scenic or visually vulnerable landscapes exhibiting the influence of man-made modifications within an otherwise natural setting. These landscapes include identified scenic resources such as promontories and cliffs, and highly scenic pale colored beaches with low visual absorption capacity that have a value of 6 or higher on the Munsell Color Chart and have 3 feet vertical height above high water.

3. **Visually Modified Shoreline:** Typical shoreline character with
prominent structures (usually residential) in the immediate background and some shorezone structures, but still with considerable vegetation, or areas with high intensity clustered shorezone structures of limited extent. These areas can be correlated with travel route ratings less than 13 and or a rating of 1-3 in the man-made criterion.

(4) **Visually Dominated Shoreline:** Typical shoreline character associated with marinas in Lake Tahoe. They are areas of high intensity with large, prominent buildings, high densities of boats and buoy fields, commercial or recreational activity. In these locations, shoreline uses are generally water-related and there is often considerable visual clutter associated with an urban, commercial or recreational upland setting.

50.5.B **Shoreline Character Type Designations:** TRPA shall designate on an appropriate overlay map the Shoreline Character Types defined in Section 50.5.A for the entire shoreline of Lake Tahoe.

50.5.C **Development in Designated Shoreline Character Types:** Development in shoreline character types shall be consistent with Chapter 54.

50.6 **Stream-mouth Protection Zones:** TRPA shall designate on an appropriate overlay map areas of the shorezone of Lake Tahoe as Stream-mouth Protection Zones.

50.6.A **Designation Criteria:** Stream-mouth Preservation Areas shall generally represent the historical meander pattern of creek and rivers tributary to Lake Tahoe that support or could with restoration support migrating populations of fish.

50.6.B **Development Restrictions:** No additional shorezone structures shall be permitted in Stream-mouth Protection Zones. Maintenance and repairs to existing structures may be allowed; expansions and modifications of existing structures shall be prohibited. Shorezone structures may only be relocated outside of Stream-mouth protection zones if authorized by other provisions of this Code.

50.6.C **Adjustment in Zones:** TRPA may adjust a Stream-mouth Protection Zone if an applicant can demonstrate that the location for a proposed project is outside of the historical meander pattern for the applicable stream or river. In order to make the necessary demonstration, the applicant shall select from a list of TRPA-approved experts to conduct an applicant-funded historical meander study.

50.6.D **Development Standards:** Development within stream-mouth set backs shall be consistent with the standards set forth in Chapter 54.
Chapter 50

APPENDIX A

Shorezone Tolerance District/Backshore Boundary Challenges; Man-Modified Challenges for Shorezone Tolerance District Designations

Shorezone Tolerance District and Backshore Boundary Challenges: If TRPA or the owner of a littoral parcel concludes that the shorezone tolerance district boundary, or the backshore boundary, has been improperly classified or verified pursuant to Subsections 50.2.A or 50.3.A above, either may initiate a shorezone tolerance district or backshore boundary challenge with respect to such parcel. The person or entity initiating the challenge shall bear the cost thereof. Parcels with 100 linear feet of shoreline or less, shall be charged the fixed fee set by Governing Board resolution. Parcels with more than 100 linear feet of shoreline shall be charged the actual cost that TRPA staff incurs to complete the challenge. [source: 55.9]

1. Experts: One or more experts retained by TRPA shall evaluate the shorezone tolerance district or the backshore boundary challenge. Depending on the nature of the challenge, TRPA may select and utilize, in its discretion, one or more experts who possess the qualification to evaluate the relevant issues raised by the challenge, including geology, soils, geomorphology, hydrology, fisheries, vegetation and other characteristics pertinent to the subject shorezone area. TRPA shall consider data provided in a timely fashion, by any expert(s) retained by the owner. TRPA's experts shall comment on the accuracy of the owner's data. No expert retained by the owner shall serve as an expert for TRPA in the subject challenge. [source: 53.4.A]

2. Report: TRPA's expert(s) shall prepare a report analyzing the shorezone tolerance district challenge or the backshore boundary challenge, as applicable. The report shall include:

a. A description of the parcel.

b. Such information and analysis as are required to deal with the issues raised in the challenge, including the following as relevant: a topographic survey of the parcel and of the shorezone and lakezone directly associated with the parcel, the soil capabilities and limitations, the compositional geometric properties, the surface and groundwater conditions, the geomorphology, the vegetation characteristics and the related environmental factors pertinent to the subject shorezone area, identification of disturbances or limitations on use in the shorezone due to: compositional and geometric properties; surface and subsurface hydrologic conditions; erosion hazard; natural backshore littoral processes and lake bottom material composition; biological characteristics such as fish, wildlife and vegetation; and visual and aesthetic factors.

c. Identification of the shorezone tolerance district that generally exhibits
the characteristics of the section of the shorezone analyzed in the report, or identification of the backshore boundary, as applicable.

d. Additional information required by TRPA to properly assess the merits of the challenge. [source: 53.4.B(1)(2)(3)(4)&(5)]

3. Review of And Action on the Report: The Executive Director shall review the shorezone tolerance district report or the backshore boundary report. If the report recommends that no changes be made, the Executive Director may deny the challenge, subject to an appeal to the Governing Board. If the report recommends a change to the shorezone tolerance district that is sufficiently large to require amendment of the Shorezone Tolerance District Overlay maps, the change shall be approved or denied by the Governing Board. If the report recommends a change to a shorezone tolerance district which is too small to require a map amendment or a change to the backshore boundary, the change shall be approved or denied either by stipulation between TRPA and the owner, or by the Governing Board. A shorezone tolerance district challenge may be approved, if TRPA finds that the pertinent shorezone, due to natural characteristics specifically identified, properly belongs in a different shorezone tolerance district than it is presently classified. A backshore boundary challenge may be approved, if TRPA finds that it was set incorrectly pursuant to Section 50.3.A. [source: 53.4.C new/staff]

4. Notification Procedure: Any appeal of the Executive Director's denial of a challenge, and any action on the report pursuant to Paragraph 3 above, shall be pursuant to notification to affected property owners in accordance with TRPA's Rules of Procedure. [source: 53.4.D]

5. Procedure After Action on Challenge: Once TRPA has completed its action on a Challenge, it shall:

a. Give written notification to the owners of all parcels affected by the action taken.

b. Include the information set forth in the report prepared pursuant to Paragraphs 2 and 3 and the action taken into TRPA's database for purposes of Chapter 38.

c. Recognize, that with respect to the pertinent parcel, the action supersedes the TRPA Shorezone Tolerance District Overlays, or supersedes any previously set Shorezone Boundary.

d. Affix a symbol to the Shorezone Tolerance District Overlays denoting the action. [source: 53.4.E]

6. Amendment of Shorezone Tolerance District Overlay Maps: Amendments to the Shorezone Tolerance District Overlay Maps shall be processed as amendments to the Regional Plan.

a. Minimum Land Area: Amendments to the shorezone tolerance district overlay maps shall be limited to sections of the shoreline that are 400 feet or greater in length.

b. Line Adjustments: Amendment of existing shorezone tolerance district
lines, other than the minor determinations which occur under Subsection 50.2.B, shall be done by amendment to the shorezone tolerance district maps.

**Man-Modified Challenge:** The Shorezone Tolerance District Overlay Maps may be amended for man-modified areas through a man-modified challenge. The person or entity initiating the challenge shall bear the cost thereof. Such challenges may be initiated by TRPA or the owner, provided there is sufficient evidence that requirements below can be met:

1. **Expert(s):** One or more experts shall be retained by TRPA to evaluate the man-modified challenge in accordance with the requirements of Paragraph 1 above.

2. **Man-Modified Report:** TRPA expert(s) shall prepare a report in accordance with the requirements of Paragraph 2 above. In addition, in a successful challenge the report shall contain information demonstrating that the area subject to the challenge was modified by man's placement of fill, dredging, or by grading. Such action must have modified the area in such a substantial fashion that either: it now generally exhibits the characteristics of a different shorezone tolerance district; or, it exhibits different characteristics than all established shorezone tolerance districts. Whenever the area exhibits different characteristics from all established shorezone tolerance districts, the report shall recommend the limitations, standard and regulations that should be applied within the area.

[source: 53.5.B]

3. **Criteria:** TRPA's Shorezone Tolerance District Overlay Maps may be amended if TRPA finds all the following:

   a. Further development will not exacerbate the problems cause by development in shorezones that the original tolerance rating was meant to avoid.

   b. The area no longer exhibits the characteristics of the original shorezone tolerance rating.

   c. Restoration of the area is infeasible because such factors as: the cost thereof, a better cost-benefit ratio would be achieved by offsite restoration, onsite restoration would cause environmental harm, restoration onsite would interfere with an existing legal use, and/or the area is not identified for restoration by any TRPA program.

   d. The impacts from further development shall be mitigated offsite.

   e. The impacts of the losses caused by modification of the area, shall be mitigated as follows:

      - Onsite and offsite mitigation.
      - A maintenance program proposed by the owner and approved by TRPA.
      - Collection of a security, if TRPA deems it necessary, to guarantee mitigation.
f. The area was man-modified, to the extent recognized, prior to February 10, 1972. [source: 53.5.C(1)(2)(3)(4)(5) &(6)]

4. Review, Action, Notice, Procedures and Map Amendment: The man-modified report shall be reviewed and acted upon in accordance with the procedures in Subparagraph B(3) above. Notification shall be in accordance with the notice procedures in Paragraph 4 above. The Procedures After Action, procedures for amendment of the Shorezone Tolerance District Overlay Maps, shall be in accordance with those outlined in Paragraphs 5 and 6 above. [source: 53.5.D, 53.5.E, 53.5.F, 53.5.G].
Chapter 51
PERMISSIBLE USES IN THE SHOREZONE AND LAKEZONE

Chapter Contents

51.0 Purpose
51.1 Applicability
51.2 Permissible Uses and Accessory Structures

51.0 Purpose: This Chapter sets forth the allowable uses and accessory structures in the lakezone, shorezone and lagoon of lakes within the Region. The concept of “use” includes any activity within the Region, whether related to land, water, air or other resources of the Region.

51.1 Applicability: All existing and proposed uses within the lakezone, shorezone and lagoons areas of lakes within the Region shall be identified as one or more of the primary uses listed in this Chapter, except for parcels that are undeveloped or unimproved. Such parcels shall be considered vacant parcels. Vacant parcels are entitled to apply for a use pursuant to the provisions of the Code.

51.2 Permissible Uses and Accessory Structures: This section sets forth permissible uses and accessory structures in the lakezone, shorezone and lagoon areas of lakes within the Region.

51.2.A Classification of Uses and Structures: The primary uses and shorezone accessory structures are classified as "allowed (A)," "special (S)," and "nonconforming." Any use that is not an Allowed Use, a Special Use or a Nonconforming Use as defined in this section (except for temporary activities, uses and structures authorized pursuant to Section 4.2 and Chapter 7) is prohibited. [source: 51.1, clean up]

(1) Allowed: Uses and accessory structures listed in the applicable plan area statements, community plans, redevelopment plans, specific or master plans or Subsection 51.2.B as "allowed" ("A") are appropriate uses for the specific area; and, projects and activities pursuant to such uses may be permitted. Allowed uses are assumed to be compatible with the direction of the Regional Plan and surrounding areas. [source: 51.1.A]

(2) Special: Uses and accessory structures listed in applicable plan area statements, community plans, redevelopment plans, specific or master plans or in Subsection 51.2.B as special ("S"), may be found to be appropriate uses for the specified area; and, projects and activities pursuant to such uses may be permitted. Special Uses shall only be approved, changed, expanded or intensified after TRPA conducts a public hearing in accordance with Article XII of the TRPA Rules of Procedure, and makes the Special Use findings in Subsection 54.3.B. [source: 51.1.B, cleanup]
(3) **Prohibited**: All proposed uses and accessory structures not listed in the applicable plan area statements, community plans, or master plans or Subsection 51.2.B are prohibited. Proposed special uses for which the findings in Subsection 54.3.B cannot be made shall be prohibited uses. [source: 51.1.D]

(4) **Nonconforming**: Uses legally commenced prior to the effective date of the Regional Plan, July 1, 1987, which would be prohibited if new, are nonconforming uses and may be continued, subject to the provisions of Subsections 51.2.E and 51.2.F. Existing development in a special use category for which the findings in Subsection 50.5.B have not been or cannot be made shall be nonconforming uses. Nonconforming structures are addressed in Subsection 51.2.E. [source: 51.1.C]

51.2.B **Permissible Uses in the Lakezone, Shorezone and Lagoons**: All uses within the shorezone (including lagoons) and lakezone shall be identified as one or more of the primary uses listed in this section, except for parcels that are undeveloped or unimproved. Such parcels shall be considered vacant parcels. Vacant parcels are entitled to apply for a use pursuant to the provisions of this Code. The following subsections identify the permissible uses in the shorezone and lakezone areas of the Region. [source: 51.1, 51.2 and rewrite]

(1) **List of Permissible Uses in the Lakezone**: The following uses are permissible throughout the lakezone as either allowed (A) or special (S) uses. Permissible uses which are designated "operations only" shall not be permitted permanent structures or facilities in the lakezone. The uses are defined in Subsection 51.2.D:

(a) Commercial Boating Uses (operations only) (A).
(b) Environmental Improvement Uses (A).
(c) Safety and Navigational Uses (A).
(d) Salvage Uses (operations only) (S).
(e) Tour Boat Use (operations only) (A).
(f) Waterborne Transit Uses (operations only) (A).
(g) Water Supply (Intake Line) Uses (A).
(h) Water-Oriented Outdoor Recreational Concessions (operations only) (A).
(i) Water-Oriented Outdoor Recreational (Dispersed) Uses (A).
(j) Water-Oriented Public Service Uses (operations only) (A).

(2) **List of Permissible Uses in the Shorezone and Lagoons**: The following uses are permissible in the shorezone and lagoons if
they are designated as either Allowed Uses (A) or Special Uses (S) in the applicable plan area statement, or applicable community, specific, master or redevelopment plan. The uses with an asterisk are permissible uses throughout the shorezone and lagoon areas of the Region.

(a) Boat Launching Facility Uses
(b) Beach Recreational Uses (Dispersed)* (A)
(c) Beach Recreational Uses (Intensive)
(d) Commercial Boating Uses
(e) Construction Equipment Storage Uses
(f) Environmental Improvement Uses* (A)
(g) Marina Uses
(h) Safety and Navigational Facility Uses* (A)
(i) Salvage Uses
(j) Tour Boat Use
(k) Waterborne Transit Uses
(l) Water Supply (Intake Line) Uses
(m) Water-Oriented Outdoor Recreational Concession Uses
(n) Water-Oriented Outdoor Recreational (Dispersed) Uses*
(o) Water-Oriented Public Service Uses* (S)
(p) Water-Oriented Scientific Study Uses* (A) [source: 51.2.B, 51.2.C and cleanup]

51.2.C Accessory Uses and Accessory Structures: No new accessory use shall commence, and no new accessory structure shall be built in the lakezone, shorezone or lagoons, unless TRPA determines it is "accessory" to a permissible use located in the same project area. In order to qualify, the accessory use or accessory structure must be a part of the primary use, and must clearly be incidental and secondary to that use. Likewise, the accessory use or the accessory structure must not change the character of the primary use, and must not operate independently of the primary use. See Chapter 18 for definition of accessory use. Regulations for an additional accessory structure and the maintenance, repair, and modification of an existing accessory structure are set forth in Chapter 54.

The following shorezone accessory structures are only permissible in the shorezone (including lagoons), if they are designated as either Allowed (A) or Special (S) in the applicable plan area statement, or applicable community, specific, master or redevelopment plan. Structures not listed are prohibited. Structures with an asterisk are permissible throughout the shorezone. [source: 51.3 and cleanup]
(1) Boat ramps
(2) Breakwaters or jetties
(3) Mooring buoys
(4) Fences
(5) Floating platforms
(6) Piers
(7) Shoreline Protective Structures
(8) Water Intake lines
(9) Structures providing minimal pedestrian access to highwater (e.g. steps or walkways, but not decks) *(A)
(10) Navigational Structures* (A) [source: 51.3, 51.2.C and cleanup]
(11) Scientific Research Structures* (A) [source: 51.3, 51.2.C and cleanup]

51.2.D Lakezone, Shorezone and Lagoon Use Definitions:

Beach Recreational (Dispersed) Uses: Recreational use of a beach that does not require developed support facilities such as road access, picnic sites, or concessions. Dispersed beach recreation usually includes the use of undeveloped shorelines by sunbathers, hikers and swimmers where access is limited to foot trails. Dispersed recreation may be supported by sanitation facilities. These uses exclude camping, burning fires, or dumping trash, or other non-intrusive use. Accessory use structures listed in Subsection 51.2.C may be permitted for single-family residences only. [source: Chapter 18, 51.2.C and Shorezone Partnership]

Beach Recreational (Intensive) Uses: Recreational use of a beach and supported by developed support facilities such as sanitation facilities, parking, picnic sites, and nearshore/foreshore facilities such as multiple-use public piers and buoys. The use includes improved shoreline access points and trails, which have support facilities such as parking and restrooms. [source: Chapter 18, 51.4 and cleanup]

Boat Launching Facility Uses: Recreational use facilities that provide boat launching, parking and short term trailer storage for the general public. Long term storage, mooring and maintenance of boats is included under "marinas." [source: 51.4 and cleanup]

Commercial Boating Uses: Recreation use of pleasure craft or other vessels on a body of water requiring a commercial operators permit from the Coast Guard. This includes water taxis and boat charters. All commercial support facilities shall be located within a marina facility. [source 51.4 and cleanup]
Construction Equipment Storage Uses: Commercial uses which include the storage of equipment, such as barges, pile drives and amphibious vehicles, used for the repair or construction of structures located in the shorezone. Construction equipment storage does not include stock piling of materials, which is prohibited. [source: 51.4 and cleanup]

Environmental Improvement Uses: Resource management projects that are listed in the TRPA Environmental Improvement Program. [source: 51.2.C and cleanup]

Marina Uses: Public recreational establishments providing water-oriented services, such as yachting and rowing clubs; boat rentals; storage and launching facilities; sport fishing activities; excursion boat and sight-seeing facilities; and other marina-related activities, including, but not limited to, fuel sales and boat and engine repair. [source: 51.4 and cleanup]

Safety and Navigation Facility Uses: Public service uses and structures in the shorezone, lagoons, or lakezone whose purpose is the protection of the public health, safety and general welfare or navigation. This includes navigational buoys, lighthouses, weather monitoring devices, and radio communication devices. [source: 51.4 and cleanup]

Salvage Operation Uses: Public service use of bringing a vessel or its cargo to the water’s surface. Storage of salvage equipment is included under construction equipment storage uses. [source: 51.4 and cleanup].

Tour Boat Uses: Recreation use of a vessel rated by the U.S. Coast Guard for more than 30 passengers, where such passengers board and off load at a single site. All tour boats facilities for mooring, fueling and maintaining the vessel, and for storage, are located within a marina facility. [source: 51.4 and cleanup]

Water Borne Transit Uses: Public service use of a vessel for transit of passengers and goods on a regular schedule. This includes facilities for the boarding and off loading of passenger and goods and the mooring and fueling of the vessel. [source: 51.4 and cleanup]

Water Supply (Intake Line) Uses: Public service and private water service facilities that include pipelines and accessory structures, located within a body of water, whose purpose is to draw in and transport water to the backshore or beyond. [source: 51.4 and cleanup]

Water-Oriented Outdoor Recreational Concession Uses: Water-oriented outdoor recreation uses, such as food and beverage facilities at public beaches; fishing guide services; parasailing; ballooning; recreation equipment rental (e.g., boats, wind surfing and beach equipment); but not including, boat slips, boat and engine repair or the sale of fuel. [source: 51.4 and cleanup]

Water-Oriented Outdoor Recreational (Dispersed) Uses: Water-Oriented Outdoor Recreation uses which occur in the shorezone, lagoons or lakezone and which do not require developed facilities. Examples of such uses are recreational boating, windsurfing,
swimming, skin diving, snorkeling, sunbathing, fishing and other such uses. These types of uses include seasonal racing buoys. [source: 51.2.C and cleanup]

**Water-Oriented Public Service Uses:** Public service use pursuant to Chapter 18 which, by its very nature, must be sited in the shorezone or lakezone and is required to protect public health and safety. This includes police and Coast Guard facilities. [source: 51.2.C and 55.4.B]. Dispersed lakezone, lagoon or shorezone law enforcement activities that do not require developed facilities are allowed throughout the Region. [source: 51.2.C and cleanup]

**Water-Oriented Scientific Study Uses:** Facilities and operations that are necessary for the study of the lake environment of the Region. This includes scientific monitoring equipment and studies listed in the Environmental Improvement Program. [source: 51.2.C and cleanup]

51.2.E **Existing Uses:** Uses legally commenced prior to July 1, 1987, are recognized as existing uses and may be continued, except as otherwise set forth in Subparagraphs 51.2.E(1) and (2), below. Continuation of an existing use includes a change in ownership, tenancy, or management, where the nature and character of the existing use remains substantially unchanged. Short-term or seasonal uses existing pursuant to legally issued TRPA permits may continue only for the duration of the permits authorizing them. Neither this section nor this chapter shall be construed as a limitation upon TRPA's authority to regulate all uses, present or future, by permit, prohibition or otherwise. [source: 51.5.A]

(1) **Nonconforming Uses:** If an existing nonconforming use is discontinued for a period of one year or more, any subsequent use shall comply with the use regulations set forth in the plan area statement. Discontinuance of use for periods found by TRPA to be beyond the applicant's control, such as weather caused calamity or governmental seasonal regulations, shall not be counted in establishing discontinuance of use pursuant to this section. [source: 51.5.A]

(2) **Uses Subject to a Specific Program Requiring Discontinuance or Modification of the Uses:** A use subject to a specific program requiring discontinuance or modification of the use shall be discontinued or modified in accordance with the requirements of such program. [source: 51.5.A(2)]

51.2.F **Changes, Expansions or Intensifications of Existing Uses:** Expansions and intensifications of existing uses, or changes in use to the extent permitted by this chapter, are subject to the requirements for a permit set forth in Chapter 50. Modifications, expansions and other changes to structures are governed by other provisions of the Code and are also subject to the requirements in Chapter 54.

(1) **Allowed Uses:** Uses identified as allowed uses may be changed, expanded or intensified in conformance with this Code. Any change, expansion or intensification, resulting in a special use, shall be subject to the special use requirement. [source: 51.5.B(1)]
(2) **Special Uses**: Uses identified as special uses and for which the required findings pursuant to Subsection 50.5.B have been made by TRPA, may be changed, expanded or intensified. Special uses shall only be approved, changed, expanded or intensified in accordance with the procedure contained in Subparagraph 51.2.A(2). [source: 51.5.B]

(3) **Nonconforming Uses**: Uses identified as nonconforming shall not be expanded or intensified. A nonconforming use shall not be changed unless the new use conforms to the use regulations set forth in this Code. Expansions of structures containing a nonconforming use shall not be permitted. Modifications may be permitted only when TRPA finds that the modifications do not increase the extent of nonconformity. [source: 51.5.B(3)]

51.2.G **Public Access**: Nothing may be placed or stored beneath or alongside a shorezone structure that is not otherwise integral to its structure, including the planting of vegetation, that unreasonably interferes with lateral passage in public access areas. [source: new]

51.2.H **Residential and Tourist Accommodation Uses and Related Vessels Prohibited in the Lakezone and Shorezone**: The use of vessels for residential and tourist accommodation purposes on lakes and lagoons in the Region is prohibited. It is prohibited to launch, maintain or moor vessels designed or used for residential or tourist accommodation uses in the lakes and lagoons in the Region. Vessels with more than 700 square feet of improved interior floor area are presumed to be for a residential and/or tourist accommodation use, and the burden is on the owner/operator to rebut the presumption by clear and convincing evidence before launching or mooring the vessel on lakes and lagoons in the Region. Occasional overnight camping on a vessel designed and used for recreational boating that may include ancillary residential amenities (e.g., sleeping cabin, cooking facilities) is not prohibited but shall only occur where expressly allowed by regional, state or federal authorities. [source: new]
Chapter 52

ALLOCATION OF SHOREZONE DEVELOPMENT

Chapter Contents

52.0 Purpose
52.1 Applicability
52.2 Allocation Of Additional Piers
52.3 Application Process For Additional Private Use Piers
52.4 Allocation Of Buoys
52.5 Allocation Of Boat Ramps, Boat Slips and Floating Platforms

52.0 Purpose: This chapter sets forth requirements regulating the rate, timing, and extent of increase allowed for certain structures within the shorezone of Lake Tahoe. In conjunction with other provisions of this Code and the Goals and Policies, the provisions of this chapter distribute and pace growth and development to attain and maintain environmental thresholds.

52.1 Applicability: No person shall construct a project or commence a use or activity in the shorezone, lakezone or lagoons of Lake Tahoe that is regulated pursuant to this chapter without meeting the requirements set forth below.

52.2 Allocation Of Additional Piers: TRPA shall allocate additional piers as follows:

52.2.A Definition Of "Additional Pier": A pier is considered "additional" if it is to be created pursuant to a TRPA approval issued on or after the effective date of the ordinance adopting this Chapter. The following are not "additional" piers:

(1) The repair, reconstruction or replacement, on the same parcel, of an existing pier;

(2) The modification or expansion, on the same parcel, of an existing pier; and,

(3) The relocation or transfer of an existing pier or the conversion of a boat ramp to a pier. [source: new]

52.2.B Maximum Number Of Piers: From [Effective date here] to January 15, 2028, no more than 230 additional private and public use piers may be approved for construction.

(1) Of the maximum total number of additional piers, a maximum of 220 piers may be allocated to private uses. The use of a pier that does not meet the definition of “public use facility” in Chapter 2 shall be considered a private use pier. No more than 10 additional
private use piers may be accepted for application processing per year (as specified in 52.3.A).

(2) Of the total maximum number of additional piers, 10 piers are allocated for public uses. A public use shall meet in full the definition of a “public use facility” in Chapter 2. If the reservation of 10 piers for public use is exhausted prior to January 15, 2028, one additional public use pier per year may be accepted for application processing using the pool of 220 private use piers. If a public use pier is accepted for application processing using one of the private use pier allocations, it shall count against the annual private use pier limitation of ten piers set forth in 52.2.B(1).

(3) Under no circumstances shall additional public use piers be converted to private use. Conversion of a public use pier existing at the time of the adoption of this ordinance to a private use may only occur upon payment of the fee described in Section 55.2.A.

(4) If a permit for an additional pier is voluntarily relinquished as a result of a conservation-oriented acquisition pursuant to the Lake Tahoe Public Access Fund or other public or private fund, the additional pier issued by the permit shall count against the total maximum number of additional piers set forth in Section 52.2.B(1). The littoral parcel associated with the acquisition shall be deed restricted from future pier development. [source: new]

52.2.C Eligibility for Additional Piers: Littoral parcels meeting the following criteria shall be eligible for an additional pier.

(1) For the purposes of this chapter, “littoral parcels” refers only to those parcels that met the Chapter 2 definition of littoral parcel as of July 1, 1987, regardless of another jurisdiction’s regulatory or judicial action concerning those parcels boundaries (e.g., boundary line adjustments, quit claim deeds or quiet title/partition actions). Those parcels that did not meet the Chapter 2 definition as of that date but subsequently become littoral as a result of a TRPA-approved boundary line change may be eligible as a location for the transfer of shorezone development so long as no increase in development potential results.

(2) Private littoral parcels shall be eligible for an additional pier that:

(a) meet the minimum parcel size for a private residence;

(b) could provide necessary upland facilities (e.g., parking, sanitation);

(c) do not have an existing pier;

(d) are not otherwise restricted from additional shorezone development (e.g., via a limiting Plan Area Statement policy, restrictive covenant, or a deed restriction);

(e) meet the location criteria set forth in Chapter 54.4.A; and,
(f) have received a Certificate of Completion indicating adequate implementation of all required water quality best management practices outlined in Chapter 25 for the project area.

(3) Littoral parcels owned by a homeowners’ association meeting the criteria set forth in Section 52.2.C(2)(b) through (f) inclusive.

(4) Littoral parcels owned by a governmental entity meeting the criteria set forth in Sections 52.2.C(2)(b) through (f) inclusive.

(5) For an additional public pier, littoral parcels owned by public entities meeting the criteria set forth in 52.2.C(2)(b) and (d) through (f). [source: new]

52.3 Application Process for Additional Private Use Piers: TRPA shall process applications for additional private use piers under the following procedures.

52.3.A TRPA shall accept preliminary applications for additional private use piers up to and including December 1 (or the following Monday if December 1 falls on a weekend day) of each year for consideration and action, if possible, in the following year. [source: new]

52.3.B TRPA shall accept preliminary applications for additional private piers if they include:

   (1) a project site plan, including but not necessarily limited to, all applicants and parcels included in the project area, the proposed pier location, the linear lake frontage of each parcel, all existing piers within 200 feet of project boundaries, any water intake facilities, and other information as TRPA may deem appropriate;

   (2) a preliminary assessment of the project’s potential to meet all applicable regulatory criteria, including other governmental and associational requirements if any. The preliminary assessment shall address with specificity criteria regarding access, setbacks, scenic requirements and mitigation opportunities; and,

   (3) an application for a scenic assessment pursuant to Chapter 30.15.B. [source: new]

52.3.C Within 45 days of December 1, TRPA shall:

   (1) Rank all applications that meet the criteria set forth in Section 52.3.B based upon the total amount of linear lake frontage included within the application. The total linear lake frontage shall include those parcels that are:

       (a) adjacent to or within the same scenic travel route unit of the parcel upon which the pier is to be located; and,

       (b) eligible for shorezone development under Section 52.2.C or to receive the transfer of shorezone
development, except that TRPA shall include the total linear lake frontage of any length within Stream-mouth Protection Zones or setbacks for water intake lines.

(2) Select for further consideration the 10 applications with the greatest project area linear lake frontage. If two or more applications have the same length of linear lake frontage, those applications shall be further ranked based on the following criteria in the following order until the applications are distinguished for ranking purposes: the greater number of lots retired, those piers proposed to be located in less sensitive shoreline character types, the greatest extent of the most visually sensitive shoreline character type retired. For each of those 10 applications, TRPA shall inform the applicant(s) in writing of additional information necessary to complete the application. And,

(3) Inform all applicants of its determination to proceed on the top rank applications. Applicants whose application TRPA did not rank within the top 10 may submit their application in subsequent years without prejudice. Notwithstanding any other provision of the Code of Ordinances or Rules of Procedure, the selection for processing by TRPA of the top 10 ranked applications may not be appealed to the Governing Board. [source: new]

52.3.D The applicant(s) whose application is selected for further consideration shall submit all information necessary to complete the application and the Lake Tahoe Public Access Fund fee within 60 days of the date of the transmittal from TRPA under Section 52.3.C(2). Upon written request, TRPA may grant an applicant(s) one 30-day extension to the deadline. If the applicant(s) fails to meet the deadlines imposed by this section, TRPA shall withdraw that application and shall select for further consideration the next application in the Section 52.3.C(1) ranking. [source: new]

52.3.E Upon receipt of the information necessary to complete the application, TRPA shall process the application according to the rules of Article V of the Rules of Procedure. [source: new]

52.4 Allocation of Mooring Buoys: TRPA shall regulate the number of buoys on Lake Tahoe under the following criteria. As used in this Chapter, a buoy shall refer to a mooring buoy that is either in use or capable of use to moor watercraft:

52.4.A Permit requirement: No buoy may be placed or maintained in the waters of the Lake Tahoe Region unless it is authorized by a permit from TRPA.

52.4.B Maximum number of buoys on Lake Tahoe: The number of mooring buoys on Lake Tahoe from all sources shall not exceed 6,316. [source: new]

52.4.C Restriction to littoral parcels: Except as provided in Section 52.4.E(3), only littoral parcels shall be eligible to place a mooring buoy and to receive a permit for buoys from TRPA. The term “littoral parcel” shall
have the same meaning as described in Section 52.2.C(1).

52.4.D Maximum number of additional buoys per littoral parcel: Littoral parcels shall be eligible for the following number of buoys.

(1) Private littoral parcels with less than 50 linear feet of lake frontage shall be eligible for one buoy.

(2) Private littoral parcels with 50 linear feet or more of lake frontage shall be eligible for two buoys.

(3) Public parcels or parcels associated with homeowner associations or functionally similar entities shall be eligible for a field of buoys defined by the lake frontage of the littoral parcel(s) as measured from a 50 foot lakeward setback from the high water line, 25 foot side setbacks (as projected according to Section 54.5.B), a maximum 350 foot extension lakeward, and set on a 50 foot grid spacing pattern. For homeowners associations, the number of buoys shall not exceed the number of residential units served.

(4) TRPA shall assign buoys to marinas pursuant to Chapter 16.

(5) At the election of the owner, a littoral parcel shall only be eligible for buoys under one of subsections of this section. If a buoy field currently exists offshore of a littoral parcel, the littoral parcel shall not be eligible for additional buoys. [source: new]

52.4.E Authorization of certain existing buoys:

(1) For owners of littoral parcels, TRPA may authorize a maximum of two existing buoys for littoral parcels with less than 50 linear feet of lake frontage or three existing buoys for littoral parcels with 50 linear feet or more of lake frontage notwithstanding the actual number of buoys existing offshore of littoral parcels, if:

   (a) a littoral parcel owner has received a verified approval prior to 1972 for placement of buoys from a federal or state agency with appropriate jurisdiction; or,

   (b) a littoral owner placed the buoy(s) in Lake Tahoe without appropriate authorization prior to 1972 and the owner establishes by clear and convincing evidence that the buoys have been in continuous use since that time.

(2) For persons who are not littoral parcels owners, TRPA may authorize a maximum of one buoy, if:

   (a) that person or predecessor in interest received an approval prior to 1972 for placement of buoys from either a state or federal agency with appropriate jurisdiction. In the event the pre-1972 buoy approval is from a federal agency, the person must obtain approval for the buoy from the appropriate state agency prior to consideration by TRPA for approval under this section; or,
(b) that person or a predecessor in interest placed the buoy in Lake Tahoe without authorization prior to 1972 and establishes by clear and convincing evidence that the buoys have been in continuous use since that time and has subsequently obtained approval from the appropriate state agency.

(3) Any buoy authorized by TRPA pursuant to 52.4.E(2) shall count towards the maximum number of buoys that may be located lakeward of the littoral parcel under Sections 52.4.D or 52.4.E.

(4) Buoys authorized pursuant to this subsection shall be located at least 50 feet from any other shorezone structure and shall meet all other applicable location and design standards.

(5) A littoral parcel shall not be eligible for additional buoys under Section 52.4.D if TRPA has approved buoys lakeward of that parcel under Section 52.4.E that meet or exceed the number of buoys set forth in Section 52.4.D(1) and (2). [source: new]

52.5 Authorization Of Boat Ramps, Boat Slips and Floating Platforms: TRPA shall authorize additional boat ramps, boat slips and floating platforms on the following basis:

52.5.A Boat Ramps:

(1) TRPA shall authorize no additional private use boat ramps.

(2) TRPA may authorize no more than 6 additional public use boat ramps. [source: new]

52.5.B Floating Platforms:

(1) Subject to 52.5.B(2), TRPA shall authorize no additional floating platforms

(2) A littoral parcel owner may substitute eligibility for one buoy for a floating platform. No watercraft shall be moored to a floating platform or its anchor. [source: new]

52.5.C Boat Slips:

(1) TRPA shall authorize no additional private use slips.

(2) TRPA shall authorize no more than 235 additional public slips. [source: new]
Chapter 53
SHOREZONE PROJECT REVIEW AND EXEMPT ACTIVITIES

Chapter Contents

53.0 Purpose
53.1 Applicability
53.2 General Provisions
53.3 Exempt Activities in the Shorezone and Lakezone
53.4 Qualified Exempt Activities in the Shorezone and Lakezone
53.5 Loss of Exemption

53.0 Purpose: This Chapter implements the TRPA Goals and Policies by setting forth the activities in the shorezone and lakezone that are exempt from permitting requirements and those activities that may qualify for an exemption through the filing of a qualified exempt declaration.

53.1 Applicability: The standards in this Chapter shall apply to the lakezone, shorezone and lagoon areas of lakes within the Region.

53.2 General Provisions: All activities in the lakezones, shorezones and lagoons of lakes within the Region shall comply with the following:

53.2.A An activity which is not specifically exempt (pursuant to Section 53.3), or qualified exempt (pursuant to Section 53.4), or a continuation of an existing use (pursuant to Section 51.2.E), is subject to TRPA review and approval.

53.2.B All activities that are not a permissible use (pursuant to Section 51.2.A), an accessory structure (pursuant to Section 51.2.B), or an existing use (pursuant to Section 51.2.E) are prohibited.

53.2.C No project shall be approved unless the applicable findings can be made in accordance with Chapter 54, and no project shall be built unless the applicant pays all applicable fees. [source: new]

53.2.D Any maintenance, repair or replacement activity pursuant to this chapter shall comply with the shorezone design standards for color and roofs contained in Section 30.6.A and Table 1 of Chapter 54.

53.2.E An exempt or qualified exempt activity shall not create additional land coverage or relocate any existing land coverage. [source: 52.3.C]

53.3 Exempt Lakezone, Shorezone and Lagoon Activities: The following activities are exempt from TRPA review and approval:

53.3.A The ordinary maintenance, repair or partial in-kind replacement of an existing structure, provided that:
(1) no discharge occurs to the waters of the Region and the structure is in accordance with the Shorezone Design Standards in Chapter 54;

(2) temporary construction best management practices are implemented and all below-water construction activities occur from October 16 through April 30, if the structure is within fish spawning habitat;

(3) no disturbance of the backshore, lake substrate or Tahoe Yellow Cress habitat occurs;

(4) the activity complies with Section 30.6.A; and,

(5) the structure is legally existing with respect to TRPA requirements and has not been unserviceable for the last three years. [source: 52.3.C(1) & staff cleanup]

53.3.B The consolidation of one or more parcels, provided that a deed restriction that permanently consolidates the parcels is recorded by the affected owners; no parcel is subdivided or has its boundaries changed (other than by the elimination of the boundary line(s) separating the consolidated parcels); and, no reduction in recreational access occurs through the consolidation. [source: portions from 52.3.B(3) & 4.11, staff cleanup]

53.3.C Water-oriented outdoor recreational (dispersed) uses that do not require the construction of permanent structures. [source: staff cleanup]

53.3.D Water-oriented public service uses that are law enforcement activities that do not require the construction of permanent structures. [source: staff cleanup]

53.3.E Temporary activities which do not create threshold impacts, and which comply with Subsection 4.2.C. [source: 4.2]

53.3.F Water-oriented scientific studies and research projects that do not require the discharge of substances or the placement of structures or the disturbance of land or lake bottom in the lakezone, lagoon or shorezone of the Region. [source: staff cleanup]

53.3.G Beach raking activities covered by an MOU entered into pursuant to Section 4.5. [source: new]

53.4 Qualified Exempt Activities: No TRPA review and approval is necessary for the following activities if the activity fully meets one or more of the categories in this section and the applicant files a properly completed TRPA Qualified Exempt declaration form pursuant to Section 4.3 with TRPA at least five working days before the activity begins: [source: 52.3.C, staff cleanup]

53.4.A Repair, maintenance or partial in-kind replacement of an existing structure that causes a minor amount of shorezone disturbance, or the demolition of an existing structure less than 50-years old. For each category of shorezone project (e.g., pile piers, rock crib piers,
breakwaters, jetties, etc.), the Executive Director shall develop guidance to determine whether an activity will cause a minor amount of shorezone disturbance. To obtain possible credit for land coverage or existing development, TRPA verification is required prior to any demolition. A qualified exempt activity must meet all the following standards:

1. The repair or replacement shall not result in a change of use or an increase in the area or dimensions of the structure, including height, width, length or overall area. [source: staff cleanup]. Any associated excavation, filling or backfilling located above the highwater line (6229.1) elevation or the equivalent highwater line at other lakes is completed within 48-hours, has a volume of no more than three cubic yards, is stabilized to prevent erosion, and does not involve grading activities, in a single event or series, that cumulatively exceeds seven cubic yards. [source 4.3.A(5)]

2. No excavation, grading, or filling occurs below the highwater line (6229.1 elevation or the equivalent highwater line at other lakes). However, activities that involve the replacement of 3 cubic yards or less of rock within an existing rock crib pier or jetty or similar structure that have fallen out of the structure can be accomplished pursuant to this section. Any such work shall not involve handling or distributing clay, silt, or sand embedded in the structure. [source: staff cleanup]

3. This exemption shall not be used to phase a project that would otherwise require a permit, by breaking a project into a series of qualified exempt activities. [source: new/staff]

4. The structure is legally existing and has not been unserviceable for the last three years. [source: 52.3.C(1) & staff cleanup]

5. The repair does not involve the replacement of vertical walls.

6. The applicant shall submit to TRPA, together with the Qualified Exempt Declaration, a water quality BMP completion schedule for the project area. [source: 25.2.B(2)(C)].

7. In shorezone areas containing spawning gravels, construction can only occur between October 1 and May 1 unless TRPA conducts a site analysis in coordination with other appropriate agencies and finds that the proposed activity will not have a detrimental effect on the spawning habitat, spawning fish, incubating eggs, or fry. [source: Shorezone Partnership, staff cleanup]

53.4.B The demolition of structures 50 years or greater in age, provided that the demolition meets all the requirements in Subparagraph (1) above and that the structure, improvement or facility is not designated, pending or eligible for designation, on the Historic Resource Map, and the Qualified Exempt Declaration is accompanied by the results of a TRPA historic determination. [source: 4.3.A(7)]
53.4.C The repair or replacement of an existing anchoring device or chain for a mooring buoy authorized by a TRPA permit. [source: 52.3.C(3)]

53.4.D The repair of an existing fence that complies with the applicable standards for fences in Chapter 54. [source: 52.3.C(2), Shorezone Partnership, staff cleanup]

53.4.E The repair or in-kind replacement of piers, floating swim platforms and shoreline protective structures in Tahoe Keys lagoons. [source: 52.3.C(3)]

53.4.F A change in operation that generates less than 100 additional vehicle trips and adds less than five additional motorized watercraft, provided there is no change from one use classification to another, the resulting use is allowed by this Chapter, there is no increase in threshold impacts (e.g., noise, water quality, etc.), and the applicant pays the applicable TRPA air quality mitigation fee. [source: 52.3.C(6)]

53.4.G Placement of one sign up to 12" x 18" above highwater in size in accordance with the sign standards in Table 1 of Chapter 26 [source: 26.3(13)]

53.4.H Relocation of boulders for navigational purposes provided that the character and habitat function throughout the project area is maintained and the relocation is consistent with Chapter 29. [source: new]

53.5 Loss of Exemption: An exempt or a qualified exempt shorezone activity shall lose its exemption and be reclassified as a project, if TRPA finds that the activity meets the criteria set forth in Section 4.6. [source: 52.3.D]
Chapter 54
SHOREZONE PROJECT FINDINGS AND DEVELOPMENT STANDARDS

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54.0 **Purpose:** The Shorezone Subelement, Conservation Element of the Goals and Policies requires TRPA to regulate the placement of piers, buoys, and other structures in the lakes and lagoons of the Region to avoid degradation of fish habitats, creation of navigational hazards, interference with littoral drift, and interference with the attainment of thresholds and other relevant concerns. The Shorezone Subelement indicates that provisions should be made to allow multiple-use facilities when such uses are intended to reduce the number of single use piers on adjoining properties. Since some existing structures do not conform to the Code standards for structures, Goal 1, Policy 11 of the Subelement requires that for maintenance, repair and modification, TRPA set requirements appropriate for the situation.

54.1 **Applicability:** The standards in this chapter apply to all projects and activities in the shorezone, which includes the nearshore, foreshore and backshore and lagoon areas of Lake Tahoe and other lakes in the Region.

54.2 **Definitions:** As used in this Chapter, the terms listed below shall have the following definitions notwithstanding any other provision in Chapter 2.

- **Expansion:** A change in the dimension, footprint, configuration, exterior feature or substrate disturbance in a shorezone structure that expands its existing volume or visual mass. [source: new]

- **Modification:** A change in the dimension, footprint, configuration, exterior feature or substrate disturbance in a shorezone structure without expanding its existing visual mass. [source: new]
Private use facility: All shorezone facilities that do not meet the definition of a public use facility. [source: new]

Unserviceable: A structure that no longer serves the function for which it was designed. [source: 52.2.D]

54.3 Findings Required for Lakezone, Shorezone, and Lagoon Projects: No project or activity within the lakezone, shorezone, or lagoon of lakes of the Region, shall be approved unless TRPA makes all the applicable findings listed below: [source: 50.3]

54.3.A Findings for all Projects:

1. General Environmental Findings: TRPA must analyze and make the required environmental findings pursuant to Chapter 5. In addition, such environmental findings must demonstrate that the project will not adversely impact littoral processes, fish spawning, backshore stability or on-shore wildlife habitat, including waterfowl nesting areas. [source: 50.3.A(1)(2)(3)(4)]

2. Chapter 6 Findings: Prior to approving any project TRPA must analyze and make the findings pursuant to Chapter 6. [source: Chapter 6]

3. Accessory Facilities Findings: TRPA must find that there are sufficient accessory facilities to accommodate the project. [source: 50.3.B]

4. Compatibility Findings: TRPA must find that the project is compatible with existing shorezone and lakezone uses or structures in the vicinity of the project area or that modifications of existing non-compatible structures will take place to assure compatibility. [source: 50.3.C]

5. Water Dependant Use Findings: TRPA must find that any project in the lakezone, shorezone or lagoon is water-dependant. [source: 50.3.D]

6. Hazardous Material Findings: TRPA must find that measures will be taken to prevent spill or discharges of hazardous materials. [source: 50.3.E]

7. Navigation and Safety Findings: TRPA must find that the project will not adversely impact navigation or create a threat to public safety pursuant to the determination of agencies with jurisdictions over the navigable waters in the Basin. [source: 50.3.G]

8. Other Agency Comment Findings: TRPA must find that it has solicited comments from those public agencies having jurisdiction over the lakezone, shorezone and lagoon, and that all comments received from such agencies were considered prior to taking action on the project. [source: 50.3.H]

9. Construction: Construction and access techniques will be used to minimize disturbance to the ground and vegetation. [source 50.3.F]

54.3.B Additional Findings for Special Use Projects:

1. The project, and the related use, is of such a nature, scale, density, intensity and type to be appropriate for the project area, and the
surrounding area. [source: 18.B(1)]

(2) The project, and the related use, will not injure or disturb the health, safety, environmental quality, enjoyment of property, or general welfare of the persons or property in the neighborhood, or in the Region. [source: 18.B(2)]

(3) The project, and the related use, will not change the character of the neighborhood, detrimentally affect or alter the purpose of any applicable plan area statement, community, redevelopment, specific, or master plan. [source: 18.B(3)]

54.3.C Additional Findings for Public Outdoor Recreation Facilities Creating Coverage or Permanent Disturbance in the Backshore:

(1) The project is a necessary part of a public agency’s long range plans for public outdoor recreation. [source: 55.4.A(1)]

(2) The project is consistent with the recreational element of the goals and policies. [source: 55.4.A(2)]

(3) The project, by its very nature, must be sited in the backshore. [source: 55.4.A(3)]

(4) There is no feasible alternative that avoids or reduces the amount of land coverage or disturbance proposed in the backshore. [source: 55.4.A(4)]

54.3.D Additional Findings for Public Service Facilities Creating Coverage or Permanent Disturbance in the Backshore:

(1) The project is necessary for public health, safety or environmental protection. [source: 55.4.B(1)]

(2) There is no reasonable alternative that avoids or reduces the amount of land coverage or disturbance in the backshore. [source: 55.4.B(2)]

54.3.E Additional Finding for Coverage or Disturbance in the Backshore Created to Allow Access to Structures in the Nearshore or the Foreshore: The amount of land coverage is the minimum that is necessary when all Thresholds are taken into consideration to provide access to an approved or an existing structure or use located in the nearshore or foreshore. [source: 55.4.D]

54.4 General Standards for Shorezone Projects: In addition to applicable requirements elsewhere in this Chapter, projects in the shorezone shall meet the following standards:

54.4.A Vegetation: No naturally occurring vegetation shall be manipulated or disturbed except in accordance with Subparagraph 20.4.B(5). No planting of new vegetation, or manipulation of naturally occurring vegetation, shall be permitted in the shorezone, unless such activities comply with the standards in Subparagraph 20.4.B(5). [source: 52.3.G(1)(c), 52.3.G(2)(c) & 55.4]

54.4.B Public Access:

(1) A subdivision or boundary line adjustment (including lot
consolidation) must provide for specific full mitigation for any resulting loss of public access to the shores of Lake Tahoe or other lakes in the region. Mitigation may include dedication of public access easements to the lake or laterally along the lake where legal access along the shoreline is adversely affected. [source: new]

(2) Structures Crossing Public Access Areas: Projects involving additional or existing structures which cross public easement or public trust areas along the shoreline of Lake Tahoe shall be reviewed to ensure the structures will not interfere with public access pursuant to the following criteria.

(a) Additional Structures: No structure shall unreasonably interfere with legal public access except for accommodations to protect sensitive species or identified cultural or historic resources. Limitations on public access for these purposes shall only be authorized to the minimum extent and time necessary to accomplish the public purpose.

(b) Existing Structures: Replacement, modification or expansion projects shall, to the extent feasible, eliminate structure that unreasonably interferes with legal public access. As used in this subsection, the term “feasible” may include the public purpose accommodations and restrictions identified in subsection (a).

(c) The visible mass of elements of structures necessary to comply with this section shall not count against scenic standards placed on projects elsewhere in this Chapter provided that it presents the minimum visible mass needed for public access. [source: new]

54.4.C Water Quality and other BMPs: All shorezone projects shall install and utilize BMPs on the entire project area in accordance with the BMP standards, including those applicable BMPs attached to this Chapter as Appendix A. [source: new]

54.4.D Special Project Conditions: Any special project conditions of approval shall be guided by the unique characteristics of the project area, and the nature of the backshore (utilizing Policies 1 and 2, Goal #1 of the Shorezone Subelement, Conservation Element of the Goals and Policies), as well as the following objectives:

(1) The protection of significant vistas.

(2) The preservation of the site and shorezone from environmental harm during and after construction.

(3) Protection of views of adjoining development.

(4) Providing sufficient space for proper infiltration of runoff and nutrient uptake through natural processes. [source: 55.7 & 55.8]
54.4.E Coverage and Land Disturbance: No additional coverage or permanent land disturbance shall occur in the backshore unless it is for an authorized shorezone permissible use or accessory structure. The impacts from authorized coverage and disturbance must be mitigated through the application of BMPs, and the restoration at the rate of 1.5 times the backshore area covered or permanently disturbed by the project. Said restoration shall be in-kind in the backshore and shall comply with the restoration standards in Subsection 20.4.C. The allowable base land coverage in the backshore is one percent (1%). However, it shall only be utilized outside of the backshore portion of the parcel unless it is for one of the uses listed above. No erosion control projects, which create coverage or permanent disturbance in the backshore, shall be permitted unless:

(1) The project, program or facility is necessary for environmental protection; and

(2) There is no reasonable alternative, which avoids or reduces the extent of encroachment in the backshore. [source: 55.4]

54.4.F Projects in Spawning Habitat: All projects located in spawning habitat as verified by TRPA and which have the potential to detrimentally impact spawning fish, spawning gravels, the incubating eggs or the emerging fry shall be subject to a case-by-case review by TRPA and the appropriate Fish and Wildlife Agency regarding the applicability of the October to May construction window and to determine whether the project impacts can be mitigated. No new dredging or placement of new or expanded boat ramps shall be permitted in spawning gravels. Any potential impacts shall be mitigated using one of the following options, or a combination thereof:

(1) Replacement "in-kind" of spawning gravels where gravels previously existed. Such replacement must replace the function and value of the existing gravels at a rate of 1.5 to 1.

(2) Restoration and/or enhancement of spawning habitat, where appropriate, at the rate of 1.5 to 1, when it can be found that a complimentary habitat type can be constructed that increases the function and value of the area of spawning gravels left on site. This option requires implementation and funding of an approved monitoring program.

(3) Fund a portion of a spawning habitat restoration and/or enhancement project at a rate of 1.5 to 1 at sites impacted by natural occurrences or disturbed by nonnatural sources prior to 1972. [source: fish study & Shorezone Partnership]

(4) In addition to selecting one of the options above, all man-modified fish habitat areas within the project area that occurred post 1972 shall be restored as part of the project. [source: Shorezone Partnership]

54.4.G Topline Fishing: No projects shall be permitted if such project shall create significant adverse impacts to topline fishing access that cannot be mitigated. TRPA shall make this determination in consultation with California Fish and Game and Nevada Division of Wildlife. [source: Shorezone Partnership]

54.4.H Projects that May Impact Historical/Cultural Resources: Projects that may
impact historical/cultural resources shall comply with the mitigation, construction and survey measures in Chapter 29. Where appropriate, TRPA shall require signage to educate the public that explains the importance of the historical/cultural resources and the sensitivity to disturbances. However, in lieu of the above, at mapped historical Washoe Indian resource sites, TRPA shall, in coordination with the Washoe Tribe, provide educational materials to property owners aimed at encouraging protection of the resources associated with the sites. [source: Shorezone Partnership]

54.4.I Recreation Projects: All projects classified as recreation use shall be required to submit an operating plan demonstrating that spatial conflicts with other recreational uses will not be significant as a result of the project. TRPA shall ensure that shorezone recreational projects are designed to avoid overuse and to avoid conflicts between recreation users. [source: Shorezone Partnership]

54.4.J Projects That May Impact Sensitive or Uncommon Plants: Projects that have the potential to detrimentally impact sensitive or uncommon plants shall comply with the mitigation, construction and survey measures listed in Chapter 75. Where appropriate, TRPA will require interpretive signs to educate the public, designated trails through high-use areas and/or fenced exclosures to protect vulnerable plant populations. [source: Shorezone Partnership]

54.4.K Structures And Uses In Lagoons and Lakes Other Than Lake Tahoe: All projects and activities permitted by this chapter in the nearshore and foreshore of Lake Tahoe may be permitted by TRPA in lagoons and other lakes in the region pursuant to the permissible use regulations set forth in the plan area in which the project or activity is located. The location, design and construction standards for such structures shall be determined using standards in this chapter as guidelines. These standards may be established in memorandums of understanding between TRPA and appropriate homeowner associations. [source: 54.10]

54.4.L Review of Support Facilities: Whenever review of a structure, use or activity is required by the terms of this chapter, such review shall encompass the structures, uses and activities in the backshore, nearshore, foreshore and on the adjacent littoral parcel to ensure adequacy of all facilities related to the structure, use or activity. [source: 54.2]

54.5 Project Location and Design Standards: Projects in the shorezone shall meet the following applicable location and design standards for each structure or activity authorized.

54.5.A Piers.

(1) Location of Additional Piers: Additional piers in the shorezone shall meet the following location standards.

(a) Density of Piers per Parcel: No more than one private use pier shall be located on a littoral parcel. More than one public use pier may be located on a single publicly owned littoral parcel. [source: 54.4.A(1)]

(b) Density of Piers per Shoreline Character Type Segment. For each contiguous segment of shoreline character type within a
Within each contiguous segment of shoreline character type within a scenic unit:

(A) an average of one pier per 100 linear feet of shoreline for visually modified and visually dominated shoreline character types; or

(B) an average of one pier per 200 linear feet of shoreline for visually sensitive shoreline character types.

The average pier density for a contiguous length of shoreline character type within a scenic shoreline travel unit shall be calculated as follows:

\[ D = \frac{(L - X)}{N} \]

Where:

\( D \) = Density of piers per segment of shoreline character type within a scenic unit.

\( L \) = Length in feet of contiguous shoreline character type.

\( X \) = Length in feet of linear lake frontage of littoral parcels that are precluded from locating an additional pier on the parcel as a result of a stream-mouth setback, or a deed restriction, restrictive covenant, plan area statement or similar legal preclusion.

\( N \) = The number of existing private or public piers including those approved but not yet built. [source: new]

Pier Separation and Specific Location: No additional pier shall be located within 50 feet of any existing pier. The pier shall be located on the parcel to minimize impacts to the environment and legal public access. [source: new]

Shorezone Preservation Areas: No additional piers shall be located in Shorezone Preservation Areas under Chapter 50, except as may be provided by Section 50.4.B(2). No additional piers shall be located in Stream-mouth Protection Zones designated under Chapter 50. [source: new]

Prohibition on Additional Single-use Piers: With the following exception, no additional private single use pier shall be located in any scenic shoreline travel route unit not in attainment with the
applicable indicator for the Scenic Environmental Threshold Carrying Capacity. A single use pier may be approved in a non-attainment shoreline travel route unit if the applicant retires the development potential for a pier from another undeveloped littoral parcel that is:

(i) within the same contiguous segment of shoreline character type,

(ii) has at least 50 feet of lake frontage, and

(iii) is otherwise eligible for all shorezone development. [source: new]

(f) Water Intakes: No additional piers shall be located within 1,320 feet of a public water intake unless:

(i) the applicant prepares an assessment of the risk to the public water supply from the pier’s proposed location and submits the risk assessment to both TRPA and the applicable public water purveyor; and,

(ii) the applicable public water purveyor recommends to TRPA that the proposed location of the pier is acceptable or would be acceptable if changes were to be made to the pier’s design, use, location, construction method or other modification. [source: new]

(2) Private Use Pier Design: Private use piers shall conform to the following design standards.

(a) Pier Width: For a single use pier, the maximum pier deck width shall be 6 feet plus one 3-foot wide catwalk. For a multiple-use pier, the maximum pier deck width shall be 10 feet plus two 3-foot wide catwalks. [source: new/54.4.B(1)]

(b) Pier Deck Surface: Pier decks shall be surfaced with wood or other material which is non-reflective, matte finish and in a color to maximize blending with surroundings.

(c) Pier Length: The maximum pier length shall be the lesser of 150 feet from highwater, to lake bottom elevation 6219 feet, Lake Tahoe Datum or to the pier head line. The maximum length of the catwalk shall be 45 feet. For multiple use piers serving 5 or more littoral parcels, TRPA may extend the maximum allowable length beyond the pier head line for the minimum amount necessary to reach navigable water. [source: new/54.4.A(4), 54.4.B(1) & Shorezone Policy Committee]

(d) Pier Head and Directional Orientation: The maximum size for pier head shall be 10 feet by 30 feet. The pier shall extend perpendicularly from the highwater line. No doglegs, “L’s” or other directional deviations shall be allowed. [source: new/54.4.B]
(e) **Pier Deck and Floating Piers**: The maximum elevation for pier decking shall be Elevation 6232.0 feet, Lake Tahoe Datum. An exception to allow this elevation to be increased up to 6234.0 feet may be granted if the additional height is necessary for safety reasons or local wave characteristics represent a substantial threat to the integrity of the structure. No superstructures are permitted. Floating piers shall only be allowed lakeward of the area of the influence of littoral process. [source: 54.4.B(2), Shorezone Partnership, new]

(f) **Maximum Visible Mass**: For single-use piers, the visible mass of the structure shall not exceed 220 square feet as measured from frontal and side viewing angles and an additional 174 square feet may be authorized to permit the inclusion of a low-level boat lift. For multiple-use piers, the visible mass shall not exceed 280 square feet as measured from frontal and side viewing angles and an additional 348 square feet may be authorized to permit the inclusion of two low-level boat lifts. [source: new]

(g) **Boat Lifts**.

(i) **Number**: For single-use piers, one low-level boatlift (maximum 12,000 pound capacity) with forks not exceeding 10 feet in length may be permitted. For multiple-use piers, two low-level boatlifts (maximum 12,000 pound capacity) with forks not exceeding 10 feet in length may be permitted. [source: new/54.4.B]

(ii) **Moorings**: In order to obtain an authorized boatlift, the applicant must permanently retire a legally existing, TRPA-permitted buoy or buoy “eligibility.” As used in this subsection, “retire” means (1) placing a permanent restriction on the project area to preclude the placement of the buoy, and (2) payment of all annual buoy fees as long as the boat lift exists. [source: new]

(iii) Additional platform boatlifts and personal watercraft lifts are prohibited outside of marinas. [source: new]

(h) **Additional Amenities**: Piers may qualify for additional visible amenities (such as a locker, bench or increased width, but not additional boat lifts) if the pier is constructed to less than the maximum allowable design. The additional amenity approved shall not cause the maximum visible mass of the pier to exceed the applicable structure visible mass (excluding the amount allowed for boatlifts). [source: new]

(i) **Foundations**: Piers shall be built using single pilings placed on a minimum of 15-foot centers. Double pilings may only be used where safety or engineering concerns make single pilings infeasible. No pier foundation shall extend above deck or be less than 90% open. Pier heads may be supported by double pilings. TRPA may permit deviation from these standards for floating piers. [source: new/54.4.B]
(j) **Lighting**: Light standards on piers shall be directed downward and only onto the pier deck, and shall not exceed two feet in height above the deck. They shall be the minimum illumination necessary to ensure safety, and shall comply with all applicable standards in Chapter 30. Pier lights for navigational purposes must be approved by the United States Coast Guard and the Army Corps of Engineers. [source: Chapter 30 & new/staff]

(k) **Flag Poles**: A maximum of one flagpole is permitted on any private pier. Flag poles shall be medium or dark in color and shall have a value of 4 or less on the Munsell Color Chart. Flagpoles shall have a non-reflective finish, shall be a maximum of 20 feet high above the pier deck and have a maximum diameter at the base of 6 inches. [source: scenic study]

(l) **Multiple Use Requirements**: Private multiple use piers shall:

(i) serve at least two littoral parcels that satisfy all of the eligibility requirements of Section 52.2.C(2) and all parcels served shall be located within the same scenic unit or be adjacent to each other; and,

(ii) record a deed restriction permanently restricting additional pier development (including the transfer of an existing pier) on all those parcels included within the application for the multiple use pier.

(m) **Non-Conforming Shorezone Structures**: As a condition of approval for any additional private pier, the applicant shall remove or bring into conformance all nonconforming accessory structures in the shorezone of the project area. [source: new]

(3) **Public Use Pier Design**: Public use piers shall conform to the design standards for private use piers except for pier length, width, pier head, pier deck, and maximum visible mass. The extent of the deviation from the standards for these criteria shall be decided on a case-by-case basis depending upon the public needs to be served by the pier consistent with attaining and maintaining thresholds. [source: new]

54.5.B **Buoy**

(1) **Location**: Mooring buoys in the shorezone shall meet the following location standards.

(a) Subject to subsection (d), for littoral parcels with less than 50 linear feet of lake frontage, the single buoy permitted by Section 52.4.D(1) shall be located within the projected parcel boundary lines, at least 50 feet from any other existing structure and within 350 feet lakeward of highwater.

(b) Subject to subsection (d), for littoral parcels with at least 50 linear feet of lake frontage, the two buoys permitted by Section 52.4.D(2) shall be located at least 25 feet from the projected parcel boundary lines, at least 50 feet from any other existing structure
and within 350 feet lakeward of highwater.

(c) Buoy fields shall be located within the grid described in 52.4.D(3), with the exception that buoys may be located beyond 350 feet from highwater if necessary to reach navigable water. The extension lakeward of the 350 foot limitation shall not result in any additional number of buoys allocated to the buoy field under 52.4.D(3).

(d) For the purposes of this section, parcel boundary lines shall be projected perpendicularly to the tangent of the shoreline from highwater. For unique circumstances, such as small coves with a radius insufficient to meet the setback standards of subsections 54.5.B.2(a) and (b), TRPA shall, in consultation with other public agencies having regulatory jurisdiction in the shorezone, draw projection lines to distribute equitably the area among the parcels.

(e) For projects covering multiple parcels, TRPA may aggregate buoy locations to minimize scenic impacts.

(f) No additional buoy fields shall be located within a Shorezone Preservation Area, except as may be authorized under Section 50.4.B(2), or Stream-mouth Protection Zone. [source: new]

(2) Design: Mooring buoys shall comply with the construction specifications set forth in the California Waterway Marking System or as otherwise recommended by the U.S. Army Corp of Engineers or Coast Guard. [source: 54.6.B]

54.5.C Other Structures

(1) Public Boat Ramps:

(a) A boat ramp may be permitted for public facilities that demonstrate the need for a boat ramp based on the multiple-use criteria in Subsection 52.3.B.

(b) Prior to approval, TRPA must approve a water quality mitigation plan that meets the TRPA BMP requirements.

(c) Boat ramps shall not be located in spawning habitat or in a Shorezone Preservation Area, except as may be authorized under Section 50.4.B(2).

(d) The ramp shall be located at a site with a continuous slope of 12 to 15 percent between the highwater line and elevation 6219'. No boat ramp shall be located where this slope exceeds 15 percent.

(e) Boat ramps shall be a maximum of 24 feet wide. Ramp length shall be the minimum necessary to provide access at normal lake elevations.

(f) Ramp excavation shall be minimized to the extent feasible. Unless TRPA determines it infeasible, construction shall be accomplished
by placing a steel grid foundation onto piles and cross members, and by placing pre-cast concrete sections onto the grid. [source: 54.5, 54.8.B, and new/Spawning Study and new/EIS]

(2) **Floating Platforms:**

(a) The maximum size of the floating platform shall be 100 square feet, and the maximum length along any side shall be 15 feet. The maximum deck elevation shall be two feet above the surface of the water. No superstructures are permitted.

(b) The floating platform shall not be placed so that it extends beyond lake bottom elevation 6219.0 feet, Lake Tahoe Datum, or the pierhead line (whichever is less) except as provided in the "low water condition rule" set forth below.

(c) No existing or additional floating platform shall be anchored, tethered or otherwise attached to the backshore or further landward. [source: 54.7.A and 54.7.B, new/Shorezone Partnership and new/staff]

(3) **Shoreline Protective Structures:** Shoreline Protective Structures may be approved by TRPA to prevent erosion in the backshore if:

(a) Structures in the backshore or environmental threshold values will be enhanced by the construction and maintenance of the protective structure;

(b) The protection of structures in the backshore or the enhancement of threshold values more than offset the adverse environmental effects of construction and maintenance of the shoreline protective structure;

(c) Each protective structure has been designed to be sloping and permeable. Bulk heads, gabions and other vertical revetments shall not be permitted unless a sloping permeable revetment is not feasible and the alternative structure will not cause significant erosion or modification of the foreshore;

(d) Each protective structure has been designed so that backshore erosion on adjacent properties will not be accelerated as a result of the erection of the protective structure;

(e) The shoreline protective structure is sufficient strength and depth to prevent movement of backfill materials in lake waters; and

(f) The shoreline protective structure is constructed of natural materials to blend with surrounding backshore or, if man-made materials are necessary, is of earthtone colors. [source:new/54.13]

(4) **Retaining Walls and Erosion Control:** Retaining walls and erosion control structures within the shorezone or along the backshore-upland boundary shall be constructed with natural stone arranged in a natural pattern
without hard outlines or straight edges, and shall be laid back at a natural angle of repose. Vertical walls and all other materials are not permitted to be used to construct walls or erosion control structures, except for emergency situations when no practical alternative exists, as determined by TRPA. All walls shall include vegetation that shall be planted in accordance with the TRPA Design Review Guidelines.

5.13 Fences:

(a) Fences shall be 90 percent open, and shall be maintained free of debris.

(b) No fences shall be placed lakewards of the highwater line, unless TRPA determines that the fence must be placed below the highwater line except,

(1) to protect the health or safety of the general public; or

(2) to protect private property located adjacent to areas of public access in the shorezone from trespass outside of the public easement areas, and that a TRPA-approved signage plan has proven ineffective to prevent trespass or to protect public safety.

(c) Any fences approved below the highwater line shall be designed so that they can be retracted or telescoped landward. Such fences must be telescoped landward whenever lake levels rise in order to prevent them from extending into the Lake.

(d) Fences extending below highwater line that were legally existing prior to 1987 may be repaired or replaced as long as the fence telescopes landward, or is modified to so telescope, and is telescoped landward whenever necessary in order to prevent the fence from extending into the Lake. [source: 54.11.A and 54.11.B(4), new/Shorezone Partnership and new/staff]

5.14 Temporary Structures: Temporary structures shall comply with the provisions on temporary activities, uses and structures contained in Chapter 7 and Subsection 4.2.C.

54.5.D Miscellaneous Design Standards

(1) Signage: Signs in the shorezone shall comply with Chapter 26. Signs on piers shall not be larger than 12 inches high by 18 inches wide by 2 inches thick, unless otherwise required to meet safety regulations. Signs shall not exceed the standard railing height and shall be mounted on railings or on the pier rim joists. Signs that may discourage the use of public access areas are prohibited.

(2) Archeological/Historical Setbacks: Adequate setbacks from TRPA's designated, mapped, or eligible, (pursuant to Chapter 29) historic sites (including submerged sites) shall be established in consultation with a qualified archaeologist, and if a Washoe site, the Washoe tribe. [source: 54.4.A(5), 54.5.A(2), 54.6.A(3), 54.7.A(2) and new/Shorezone Partnership and new/staff]
(3) **Safety/Navigational/Research Devices**: Safety, navigational or research structures shall only be permitted when TRPA determines that the device is necessary to protect the health and safety of the general public and protect navigation for the general public, and for Lake Tahoe, when recommended by the U.S. Army Corps of Engineers or the U.S. Coast Guard. [source: 54.9]

(4) **Low Water**: When lake levels are at or below elevation 6225', TRPA may authorize the temporary placement of mooring buoys and floating platforms further lakewards than 350 feet from the highwater line, if TRPA determines that low lake levels create a navigational hazard, that temporary lakeward relocation is necessary in order to obtain a safe mooring depth, is the minimum extension necessary to reach navigable water, and the relocated structure will not create a navigational hazard. No mooring buoys or floating platforms may be located further lakeward than elevation 6129' and TRPA may not authorize replacement of these structures in order to accommodate lake elevations lower than 6223'. [source: new/Shorezone Partnership]

(5) **Prohibited Structures, Facilities and Permanent Accessory Structures**: No superstructures are allowed on piers or floating platforms. Permanent umbrellas, plant containers, flower pots, and furniture other than benches are not permitted on piers. [source: 54.4.B(4) and (5), 54.14 and new/Shorezone Partnership]

(6) **Access**: Structures or projects in the backshore that provide access to the nearshore or foreshore, shall be sized no larger than necessary to provide safe and functional access and shall meet all applicable mitigation requirements. When feasible, access structures shall be built at grade level. [source: 55.4.D]

(7) **Color**: The color of structures, including fences, shall be compatible with its surroundings. Subdued colors in earthtones and woodtone ranges shall be used for the primary color of the structure. Hues shall be within a range of natural colors that blend, rather than contract, with the existing vegetation and earth hues. Earthtone colors are considered to be shades of reddish-brown, brown, tan, ochre, umber, sand and dark green. Colors shall be medium to dark and shall meet the Munsell® Color value as set forth in Appendix G (TRPA Approved Earthtone Colors) to the Design Review Guidelines or other color systems that are equivalent to the adopted hues, values and chromas of Appendix G. Structures in the shorezone that were constructed prior to January 1, 1950 may maintain their historic colors when undertaking exempt repair and maintenance. [source: 53.10.A]

(8) **Roofs**: Roofs shall be composed of nonglare earhtone or wood tone materials that minimize reflectivity. Metal roofs shall be compatible with their surroundings and composed of non-glare earhtone colors. Metal roof colors shall meet the Munsell® Color value as set forth in Appendix G (TRPA Approved Earhtone Colors) to the Design Review Guidelines that have a value and chroma of 0-4 or other color systems that are equivalent to that range of adopted hues, values and chromas of
54.6  **Scenic Protection:** All projects in the shorezone unless specifically excepted, shall meet the following standards to protect scenic resources.

54.6.A  **Excepted Projects:** The permitting of up to three buoys per littoral parcel shall not require a scenic assessment, shoreland improvements, or visible mass offsets. [source:new]

54.6.B  **Scenic Assessments:** Shorezone project applicants shall submit a complete application for a scenic assessment pursuant to Section 30.15.B with each application. [source: 30.15.B/new]

54.6.C  **Shoreland Improvements:**

(1) The shoreland of the project area, including all parcels involved in the application, shall meet a contrast rating of 25 or comply with the Visual Magnitude/Contrast Rating Table in Appendix H of the Design Review Guidelines as modified for additional linear lake frontage and including visual breaks.

(2) The applicant may demonstrate compliance with Subsection (1) of this Section either as a composite of the project area or individually for each parcel.

(3) For projects that do not create additional visible mass or those projects whose only additional mass is created pursuant to 54.4.B, the shoreland need not meet the requirements of Subsection (1) of this Section if it is physically impossible to do so, provided as much improvement as possible shall be made.

(4) The shoreland improvements required by subsection (1) shall not be used to meet any environmental benefit obligation required by other provisions of this Code. [source: new]

54.6.D  **Visible Mass Offset:**

(1) For private use piers, each square foot of additional visible mass allowed by Section 54.5.A(2)(f) shall be mitigated:

(a) on a 1:1 basis in the shorezone or shoreland of the project area in shoreline travel units in attainment with scenic thresholds.

(b) on a 1:1.5 basis in the shorezone or shoreland of the project area in shoreline travel units not in attainment with scenic thresholds.

(2) For boatlifts on additional or existing piers, the visible mass of the boatlifts shall be mitigated on a 1:1.5 basis in the shorezone in the scenic unit of the project. The scenic offset requirement for boatlifts shall occur in addition to any obligation to maintain the existing visible mass of an existing pier.

(4) For other structures including public piers, additional visible mass shall be mitigated on a 1:1.5 basis in non-attainment scenic units and on a 1:1
basis in attainment scenic units. The mitigation shall occur in the scenic unit of the project.

(5) Mitigation pursuant to this Section may either be removal or screening of visible structure or use of the Visual Assessment Tool described in Appendix H of the Design Review Guidelines. [source: new]

54.6.E Scenic Banking: Existing visible mass on littoral parcels may be removed and banked onsite using the Visual Assessment Tool described in Appendix H of the Design Review Guidelines upon completion of a scenic assessment pursuant to Section 30.15.B. Banked visible mass may be used to offset additional visible mass only for projects in the same scenic unit. [source: new]

54.7 Non-Exempt Repairs, In-Kind Replacements, Modifications or Expansions of Existing Piers: The following standards shall apply to the modification or expansion of any existing pier, including any superstructure on the pier.

54.7.A Non-Exempt Repairs and In-Kind Replacements to Existing Piers: Existing conforming and non-conforming piers may be repaired and replaced in-kind if the repair or replacement results in a net benefit to any environmental threshold carrying capacity except recreation.

54.7.B Modifications of Existing Piers:

(1) Piers that conform to development standards: Existing piers that conform to development standards may be modified if the modification results in a net benefit to any environmental threshold carrying capacity except recreation and is consistent with development standards.

(2) Piers that do not conform to development standards: Existing piers that do not conform to development standards may be modified if:

(a) the modification results in a net benefit to any environmental threshold carrying capacity except recreation;

(b) brings the structure into greater compliance with development standards; and

(c) does not increase the degree of nonconformance with any development standard. [source: new]

54.7.C Expansions of Existing Piers:

(1) Piers that conform to development standards: Existing piers that conform to development standards may be expanded to the extent allowed.

(2) Piers that do not conform to development standards: Existing piers that do not conform to development standards may not be expanded unless:

(i) the expansion is limited to an existing boat house and does not increase the functional capacity of the pier; and

(ii) the effect of the expansion is to increase contrast rating of the structure; and
(iii) the expansion is the absolute minimum necessary to accomplish the scenic quality improvement. [source: new]

54.7.D Removal of Nonconforming Accessory Structures: As a condition of approval for any in-kind replacement, modification or expansion of an existing pier, the applicant shall remove or bring into conformance all nonconforming accessory structures in the shorezone of the project area. [source: new]

54.8 Non-Exempt Repairs, Modifications or Expansions of Other Shorezone Structures: The following standards shall apply to the repair, modification or expansion of shorezone structures other than piers.

54.8.A Non-Exempt Repairs and Modifications of Other Structures:

1. Unserviceable Structures: No repairs or modifications shall be made to structures which have been unserviceable for the last three years or more unless the structure is brought into full compliance with the development standards in this Chapter.

2. Structures that conform to development standards: Existing structures that conform to development standards may be repaired or modified to the extent allowed by development standards if the repair or replacement results in a net benefit to any environmental threshold carrying capacity except recreation.

3. Structures that do not conform to development standards: Existing structures that do not conform to development standards may be repaired or modified if the structure is brought into conformance with all development standards. [source: new]

54.8.B Expansions of Other Structures:

1. Structures that conform to development standards: Existing structures that conform to development standards may be expanded to the extent allowed.

2. Structures that do not conform to development standards: No expansions of non-conforming structures shall be permitted. [source: new]

54.8.C No maintenance, repair or modification project shall cause an existing structure to become more non-conforming with any of the development standards in this Chapter. [source: new]

54.9 Relocation, Transfer or Conversion of Existing Structures: Under the following standards, certain existing structures may be relocated within a parcel (including on a boundary line for a multi-use structure), transferred to another parcel or converted from one type of structure to another.

54.9.A Relocations:

1. Only existing piers or buoys may be relocated.

2. Relocated piers or buoys shall meet all development standards for additional structures in this Chapter except that relocated piers need not
meet the location standards set forth in Sections 54.5.A(1)(b) (density) and (e) (single use prohibition). [source: new]

54.9.B Transfers:

1. Only existing piers, buoys and private slips may be transferred.

2. Piers, buoys or slips constructed as a result of a transfer shall meet all development standards for additional structures in this Chapter, including but not limited to density standards and multiple and single use requirements.

3. Both the sending and receiving parcels in transfers shall meet all scenic protection requirements.

4. A transfer of an existing pier may occur only if the newly constructed pier is a multiple use structure or qualifies as a single use pier pursuant to 54.5.A(1) regardless of the location of the receiving parcel.

5. The sending parcel shall be permanently restricted from development of additional pier, buoys or slips.

6. Private slips may only be transferred if they are converted to public use. [source: new]

54.9.C Conversions:

1. Existing boat ramps located in spawning habitat may be converted to a pier if:

   a. the existing boat ramp is completely removed and the spawning habitat restored,

   b. a net reduction in habitat disturbance occurs; and,

   c. the pier constructed as a result of a conversion meets all development standards for additional structures in this Chapter.

2. Buoys and boathouses may be converted to boatlifts and buoys converted to floating platforms pursuant to applicable provisions in Chapters 52 and 54.

54.10 Marinas [source: 54.12 and new/staff]

54.10.A Master Planning: All new marinas, and all expansions of existing marinas, shall be constructed in accordance with a marina master plan (pursuant to Chapter 16), and appropriate level of environmental analysis (pursuant to Chapter 5). The Chapter 5 environmental analysis procedure utilized, shall evaluate the public need for the marina.

54.10.B Required Facilities: Any new marina, and any expansion of 10 or more boatslips, 10 or more mooring buoys or 4 or more parking spaces at an existing marina, shall contain and operate the following facilities for use by the general public.
(1) Boat washing facilities connected to a sewer system or other acceptable alternative,

(2) Adequate parking facilities for all marina activities,

(3) Water treatment systems for waters contained within marinas, including boat washing facilities; and,

(4) Public restrooms, fueling facilities with emergency and standard shut-off systems, a chemical fire retardant distribution systems, regulatory signing, trash receptacles, and pump-out facilities for boat sewage.

54.10.C Implementation Requirement, Schedule and Monitoring: All marinas shall implement Subsections 54.10.B(1), (3) and (4) and Chapter 25 BMPs. For a reasonable period of time after construction, TRPA may require monitoring of water quality, current patterns and intensities, wind patterns, shore alterations, and other conditions that the marina may have altered. Marinas must implement remedial measures necessary to mitigate adverse impacts discovered by such monitoring. All existing pump-out facilities at marinas must be maintained and be available for public use.

54.10.D All commercial charter and tour boat facilities shall be located within a marina facility.

54.10.E Limitation on Fueling Facilities: Fueling facilities shall only occur within a marina.

54.10.F Monitoring and Certification of Permitted Use: All marina owners shall monitor and only allow permitted uses of their marina slips or moorings. Marina owners shall not provide slips or moorings to any person who uses a slip or mooring for residential and tourist accommodation uses. Marina owners shall provide to TRPA an annual certification under the penalty of perjury that the slips or moorings in their marina have not been used for residential or tourist accommodation uses during the past year.

54.11 Dredging: All filling, dredging, excavation, and grading in the shorezone and lakezone shall be conducted as follows:

54.11.A Filling: There shall be no fill placed in the shorezone or lakezone, except as connected with approved bypass dredging, shoreline protective structures, beach nourishment, fish habitat enhancement or restoration, or as otherwise found by TRPA to be beneficial to Threshold attainment.

54.11.B Beach Nourishment: When beaches are artificially nourished with fill material, not obtained from the shorezone or lakezone, only nonorganic, chemically and biologically inert material shall be used.

54.11.C Maintenance Dredging: TRPA may permit maintenance dredging in facilities that have been previously legally dredged. TRPA must find that the dredging is necessary to maintain an existing use, and is either to dredge within the previously dredged footprint, or to dredge elsewhere within the same facility if it is necessary to maintain an existing use. TRPA may also permit the removal of accumulated materials on the lakeward access of an existing boat ramp provided that the removal is necessary to maintain an existing use. All
maintenance dredging must comply with TRPA's approved dredging BMPs, and must include the installation of all upland BMPs pursuant Chapter 25. [source: new/Shorezone Partnership, & dredging study]

54.11.D New Dredging: There shall be no removal of materials within the lakezone or shorezone, except at those locations where removal or rearrangement is found by TRPA to be beneficial to existing shorezone conditions and water quality and clarity. [source: 54.14.C]

54.11.E Disturbance in Spawning Habitat: No dredging, filling, grading or other project or activity shall cause the permanent loss of spawning gravels. Disturbances shall not occur between May 1 and October 1. Whenever a project has potential to cause temporary siltation of spawning gravel in spawning habitat, such habitat shall be restored within 60 days, or before May 1 (whichever is sooner). [source: fish study, EIS, Shorezone Partnership]

54.11.F Temporary Structures in Lieu of Dredging: TRPA may permit temporary structures which extend beyond lake bottom level 6219’ or beyond the pierhead line. Such extension may be permitted whenever low lake levels prevent or reduce access to open water recreation, and dredging cannot be permitted pursuant to this Chapter. Permits for these temporary structures, shall comply with the procedures in Chapter 7. All temporary structures approved under this provision must be removed once the lake levels remain above 6225’ for a period of six months. The elevation in this subsection shall operate as a guideline for lagoons and other lakes in the Region. [source: 54.14.D, staff & Shorezone Partnership]

54.11.G Grading and Excavation in the Backshore: Grading and excavation in the backshore area are regulated by Chapters 20, 54, and 61 through 65 of the Code. The regulations for stream zones shall apply to the backshore unless stated otherwise.

54.12 Maintenance of Shorezone Structures: Existing structures in the shorezone shall be maintained in a serviceable condition. Derelict structures or structures unserviceable for more than three years shall be removed. Owners of buoys shall inspect and maintain floats and chains at least every two years to prevent loss or damage to boats. Buoy owners must present proof of inspection and maintenance when paying any fee relating to buoy permitting or mitigation.

54.13 Mitigation Fee Requirements: To provide funds to attain and maintain thresholds and to mitigate any possible degradation, projects in the shorezone shall contribute to mitigation funds as follows:

54.13.A Lake Tahoe Public Access Fund: TRPA shall assess a fee for each additional private-use pier approved on Lake Tahoe. The fee shall be $100,000 and shall be increased annually, if appropriate, based upon the consumer price index for the region. After receiving input from an advisory board, TRPA may use the fees collected for, inter alia, the reduction of shorezone development potential, acquisition or improvement of public access to Lake Tahoe (with priority to non-motorized recreational access) and backshore restoration. No more than 10% of fees collected may be used for fund administration or staff costs. All funds shall be allocated to non-profit or public agencies. [source: new]

54.13.B Buoy Fees: All permittees of mooring buoys shall be subject to the following
(1) A $500.00 one-time buoy fee for the second and all subsequent private buoys permitted per littoral parcel. Homeowner association and marina buoy fields are exempt from this fee.

(2) An annual fee of $175.00 for each buoy. The annual buoy fee shall be paid to TRPA for every permitted buoy regardless of whether it is in use or not, previously permitted by TRPA or some other agency or converted to another form of boat mooring (e.g., a boatlift). At least every 5 years, TRPA shall review and increase, if appropriate, the annual fee to reflect the actual cost of mitigation and enforcement of buoy regulations.

(3) The fees required by this section shall be in addition to any other fees assessed by other public agencies. [source: new]

54.13.C Fisheries Mitigation Fee: For any project that adds, modifies or expands a pier, boat slip or boat ramp in fish spawning habitat, TRPA shall assess a $5,000.00 mitigation fee. This fee shall be used to fund fish habitat restoration projects. TRPA shall review and increase, if appropriate, this fee annually to reflect the actual cost of restoration projects. [source: new]

54.14 Motorized Watercraft: The operation of motorized watercraft shall be subject to the following standards, except that operation of watercraft for the protection of public health and safety shall be exempt from the standards.

54.14.A No Wake Zone: The creation of a wake or speeds in excess of 5 MPH by motorized watercraft within 600 feet of the waterline of Lake Tahoe shall be prohibited. [source:54.16.A]

54.14.B Prohibition of Motorized Watercraft on the Tributaries of the Region: The operation of motorized watercraft on the tributaries of the Region, exclusive of other lakes in the Region, shall be prohibited. The prohibition shall commence at a line across the mouth of the tributary representing an extension of the existing water line across the mouth. [source:54.16.B]

Chapter 54

APPENDIX A

Best Management Practices

SHOREZONE PRACTICES

BMP-SP Shorezone Practices
BMP-65 Protection of Shorezone Vegetation
BMP-66 Revetments
BMP-67 Bulkheads
BMP-68 Jetties
BMP-69 Breakwaters
BMP-70 Beach Nourishment
BMP-71 Dredging
BMP-72 Turbidity Curtain
BMP-73 Pump-out Facilities
BMP-74 Boat and Marina Maintenance
BMP-75 Boat Ramp Construction Methods and Design Standards
BMP-76 Boat Ramp Vehicle Source Control
BMP-77 Boating Discharge Control

Scenic Best Management Practices

BMP SP SHOREZONE PRACTICES

Definition

Shorezone practices include various methodologies and structures designed to protect the shoreline and backshore. The methodologies generally are procedures to identify and delineate existing and potentially unstable backshore areas and to designate setbacks from those areas for additional development. The structures designed to protect the shoreline and backshore include native vegetation, revetments, bulkheads, jetties, breakwaters, and beach nourishment.

Purpose

To prevent catastrophic erosion and loss of property and damage to developed areas from wave and wind action, to protect the shoreline and unstable backshore areas, and to reduce turbidity and water quality discharges to the lake.
Applicability

Applicable to projects and activities located in the shorezone along eroding and/or unstable shorelines. Activities in the shorezone have historically been subjected to special policies and ordinances.

Advantages

1. Structures protect the backshore from erosion.
2. Structures add stability to unstable backshore areas.
3. Structures protect backshore and foreshore structures from adverse impacts by lake processes.
4. Structures prevent catastrophic shoreline retreat.
5. Structures provide reasonable assurance of compliance with water quality discharge standards.
6. Setbacks protect new development from backshore erosion and shoreline retreat.
7. Setbacks allow for natural beach formation and dynamic fluctuations within the backshore.
8. Setbacks account for erosion rates along the shoreline and provide safer areas for additional development.

Disadvantages

1. Could modify the natural regimen of shorezone processes, especially littoral drift and natural beach nourishment.
2. Could decrease functionality of SEZ and Be soils areas within the shorezone through direct or indirect alteration during construction.
3. Static structures could accelerate erosion in foreshore and/or downdrift areas within each littoral cell.
4. Static shoreline protective structures that are located in highly dynamic areas may require frequent beach nourishment and/or replenishment to maintain a dynamic equilibrium and to prevent accelerated erosion.
5. Dynamic shoreline protection structures may require periodic maintenance and replenishment to maintain effectiveness.

Planning Criteria

The shorezone is a highly dynamic system, conditioned in part by the exchange of energy and materials with the neighboring environment, and in part by the shorezone’s own capacity for internal regulation. The shorezone must not be evaluated by itself. It must be viewed as a dynamic zone that is located between the inland watersheds and the deeper portions of Lake
Tahoe. The watersheds are sources of both energy and sediments, and any interference with them will generate changes in the shorezone. The Lake waters provide fetch for wind-generated waves and currents, while the deeper portions of the Lake receive shorezone sediment, which may be lost. Any disturbance of the system, for instance by dredging or construction of structures in the shorezone, may generate changes throughout the system. Therefore, caution shall be used in identifying unstable backshore areas and in designing proper shoreline protection that accounts for the dynamics in the shorezone.

Shorezones vary in their sensitivity to physical disturbance and their relative stabilities. Many factors influence shorezone stability. Major factors are: shorezone geology, the geomorphic setting, the deliver and removal of sediment in the littoral zone, wave action, the presence of active geologic processes, the slope of the nearshore shelf, the backshore shelf, and littoral zone sediment transport. Each of these factors either in combination or singularly affects stability of the shorezone. Multiple facets for each of these factors combine to form complex sets of interrelated dependencies that define the shorezone stability for each segment of the Lake. An analysis of only the physical composition, geometry, and geomorphology of shorezone materials resulted in the development of eight shorezone tolerance districts. The ordering of the tolerance districts from one to eight is based solely on an increasing tolerance, or decreasing sensitivity to disturbance from upland activities and does not reflect the other major factors, especially wave and littoral processes, to determine relative shorezone stability, as listed above.

The most sensitive shorezone type is Tolerance District 1, which consists of barrier beaches and lakeshore dunes (Moory and Moody, 1996). Barrier beach shorezones of this district typically form a low sandy barrier separating the Lake from marshes and wetlands. Younger barrier beaches commonly have lagoon type areas behind the barrier berm. The areas behind older barrier beach berms are usually filled with a larger accumulation of sediment and are, generally, not as wet as the lagoon and marsh behind the younger berms. The younger and older barrier beaches may be easily breached through strong wave action, especially if the normal updrift sand supply is disrupted through an interference with littoral drift. The lakeshore dunes are highly erodible and are similarly as sensitive to disturbance as the barriers beaches. Although the Lake waves may not erode the entire dune deposit during any one storm, the dune soils lack any appreciable binder and are highly susceptible to wind erosion. Also, because the dunes lack appreciable vegetation, the soils do not have the capacity to filter and remove suspended and dissolved nutrients from the water column. Surface waters that contain fertilizers are quickly infiltrated into the dune sands and the nutrients are commonly discharged directly to the groundwater. Because of the proximity of the lakeshore dunes to the Lake, the contaminated groundwater rapidly reaches the Lake without being filtered. Projects and activities planned for Tolerance District 1 areas shall be tightly controlled because of the soils sensitivity to disturbance, susceptibility to erosion, and lack of capability to treat impacted surface and groundwater.

Shorezones of Tolerance Districts 2, 4, 6 and 7 delineate shorelines made of either volcanic, alluvial, or morainic materials. The Districts are separated solely on the slope measurements with District 2 being the steepest and District 7 containing the most shallow slopes. This ranking does not differentiate between the relative stability of the different materials. In general, alluvial and old lakebed deposits are less stable and more erodible than most volcanic andesite flows. For example, mass wasting of the Rubicon and El Dorado Beach bluffs has been a problem in the past and is expected to continue to be a problem and possibly worsen if the Lake level remains high for long periods of time.
Significant differences can be demonstrated in Tolerance Districts of the same classification simply because of exposure to waves. For example, Glenbrook Bay has backshore composed of deposits of younger lakebeds that are easily eroded. Starting at Slaughterhouse Creek on the north and proceeding south, the shorezone changes simply because of exposure to wave action. Because the younger lakebeds erode easily, those exposed at the north exhibit a steep eroding escarpment, although they form wide beaches further south. Similarly, McKinney Bay starting at the Madden Creek outlet south to Chambers Landing exhibits different character due to the exposure to wave action. Deepwater comes nearshore near the Madden Creek outlet, while to the south a shelf protects the beach.

The presence of deepwater nearshore increases wave action on the backshore. Under these conditions, shorezones composed of the same geologic substrate will show a different landform character. However, the backshore substrate is responding identically to the forces acting on it from the Lake. These Tolerance Districts are less sensitive than District 1 but are still subject to high rates of erosion.

Tolerance Districts 3, 5 and 8 delineate shorelines that consist of armored granite with slopes over 30 percent for District 3 and less than 10 percent for District 8. Armored granite shorelines are the most stable and least erodible of all types at Lake Tahoe. Although the erosivity of the soils overlying the granitic bedrock increases with increasing slope, the stability of the granitic bedrock, as related to Lake process, remains the same. It is important to note that because armored granite shorelines are the least erodible and most stable, sandy beaches are not commonly formed and associated with them. However, sandy pocket beaches are found along many areas along the Lake’s east shore. These pocket beaches signify relatively stable accumulations of sediment that have been washed and sorted by the Lake waves. The sediment has been derived from a combination of weathering of the granitic bedrock and periodic deposition from upland alluvial and colluvial processes.

The eight Tolerance Districts have the following general geomorphic characteristics:

<table>
<thead>
<tr>
<th>District</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Young and old barrier beach and lakeshore dune deposits, composed of Be soils;</td>
</tr>
<tr>
<td>2</td>
<td>Volcanic and morainic shorezones with slopes over 30% and alluvial shorezones of 9-30% slope;</td>
</tr>
<tr>
<td>3</td>
<td>Armored granite shorezones with slopes exceeding 30%;</td>
</tr>
<tr>
<td>4</td>
<td>Volcanic and morainic shorezones with 15-30% slopes and alluvial shorezones with slopes of 0-9%;</td>
</tr>
<tr>
<td>5</td>
<td>Armored granite shorezones with slopes of 15-30%;</td>
</tr>
<tr>
<td>6</td>
<td>Shorezones of volcanic rock and morainic debris with 5-15% slopes;</td>
</tr>
<tr>
<td>7</td>
<td>Shorezones of morainic and alluvial materials of 0-9% slope;</td>
</tr>
<tr>
<td>8</td>
<td>Gently sloping (0-9%) armored granite shorezones.</td>
</tr>
</tbody>
</table>

The various geomorphic characteristics and other criteria shall be utilized when mapping the upland limit of each Shorezone Tolerance District. The upland limit of each district is also known.
as the backshore boundary. All factors that affect the stability of the shorezone, as listed above, shall be evaluated to properly delineate the backshore boundary. The landward backshore boundary shall be established utilizing the following methods, whichever establishes the wider backshore:

a. Measuring landward from the high water line, 1.5 times the height of the bluff or berm adjacent to the shoreline and adding ten feet thereto (the height of the bluff or berm shall be the difference between the high water elevation and the elevation of the top of the bluff or berm), or

b. Having the landward boundary of the area of instability determined by a licensed geologist, geotechnical engineer, or soil scientist and adding ten feet thereto. The area of instability within the backshore shall be determined as the area above the normal high water line (el. 6,299.1) that contains one or more of the following characteristics:

   (i) Slopes greater than 2:1 (horizontal:vertical);

   (ii) Area of wave runup;

   (iii) Be soils;

   (iv) Soil and/or rock lacking competency that may exhibit features indicative of impending slope movement such as, landslide evidence, scarps, tension cracks, excessive slope creep, hummocky topography, seeps, joint plane(s) intersecting slope surfaces, and areas significantly void of native vegetation;

   (v) Area within the natural and/or historic meanders of stream mouths; and

   (vi) Slopes undercut by either wave action or stream bank erosion.

Utilizing the criteria listed above results in the upland area of instability delineated as a fixed landward limit. However, the fixed upland limit does not account for dynamic changes in the shoreline. For example, unstable shoreline bluffs, west of Tahoe City, have been experiencing slope failure and landslides. Because of the landslides, the top edge of the bluff has moved upland over the span of a few years. Unfortunately, the upland backshore boundary has not moved because it was delineated as a fixed limit. Since the backshore boundary is fixed and not dynamic, previously stable uplands have become less stable but are still denoted as stable.

To disclose potentially unstable areas that acknowledge backshore boundaries as dynamic, a landward setback shall be delineated for all lands, except for those composed entirely of competent bedrock. The landward setback shall be delineated by which ever method establishes the widest zone: either ten feet or the zone that is delineated by projecting a 3:1 (horizontal:vertical) line from high water up through the slope to the intersection of the lands above. The 3:1 projected line may be steepened to no more than a 2:1 line based on written recommendations from a licensed engineering geologist, geotechnical engineer, or soils engineer, who has conducted a subsurface soils investigation on the subject site, and who has concluded that the subsurface materials will be competent at the steeper slope. If the projected line does not intersect the lands above the high water line, then the setback shall be ten feet. If the site specific slope stability analysis has not been conducted, then the setback shall be ten feet. This method of assigning a setback is considered interim until specific backshore boundary evaluation criteria have been established from an analysis of the various shorezone erosion
rates. All additional development within the backshore setback shall conform to the provisions set forth under SEZ setbacks.

Once the unstable backshore lands have been properly identified, certain shoreline protective structures may be employed to thwart impending loss of property. These structures include various static and dynamic methods and are described in BMPs 66–70.

**BMP 66. REVETMENTS**

**Definition**

Revetments are sloping structures composed of rock or other material that are built along the Lake edge through which water may permeate. Static, or hard, revetments are designed to resist movement from the forces of the Lake waves but are somewhat flexible. Dynamic, or soft, revetments are designed using engineered gravel, cobble, or sand berms where significant wave action is expected to shape and reshape the revetment as it defends the shoreline. Beach nourishment (BMP-70) is a specific type of dynamic revetment.

**Purpose**

To prevent backshore erosion, to reduce turbidity and nutrient input, to reduce wave run-up, and to reduce wave scour at the base of bulkheads.

**Applicability**

Applicable to eroding shorezones where development is threatened from erosion of the backshore. Slopes steeper than 1.5:1 are generally unsuitable for revetments unless flattened.

**Advantages**

1. To prevent backshore erosion.
2. To reduce wave run-up.
3. To protect backshore developments from wave action and shoreline retreat.
4. Dynamic structures directly address the cause of backshore erosion problems by adding material to the littoral system.
5. Gently sloped and highly permeable structures made of natural material allow native vegetation to be planted.

**Disadvantages**

1. Static structures may increase downdrift beach erosion.
2. May eliminate usable beach area below the high-water line.
3. Protect only the land immediately behind them and provide no protection to adjacent shores.
4. Dynamic structures may require nourishment that could be costly if frequent nourishment is needed.
5. Static revetments usually require intensive site preparation prior installation, including removal of native vegetation, excavation of a keyway to foot the base layer, and turbidity curtains to contain discharges if construction occurs below Lake levels.

**Planning Criteria**

Revetments are designed to protect bluffs and backshore development from wave action. Revetments protect only the land immediately behind them and provide no protection to adjacent areas. Erosion may continue on adjacent shores and may be accelerated near the revetment by wave reflection from static structures. However, the erosion is not as serious as with vertical barrier structures, such as, bulkheads. A down-drift shore may experience increased erosion if formerly supplied with material eroded from the now protected area. If a beach is to be retained adjacent to a revetment, additional structures such as beach nourishment, or breakwaters, or groins may be necessary. Designs of static revetments differ greatly from the criteria used to design dynamic revetments. Other revetment designs utilize a static type structure, more for retention and stabilization of backshore slopes, fronted with a dynamic structure.

A typical static revetment is composed of large rocks or boulders forming a layer at least two feet thick, ten to twenty feet wide, and of variable length along the shoreline. The design of static revetments involves three important criteria: the armor layer, filter layer, and toe protection. The armor must be stable against movement by waves. The underlying filter layer supports the armor against the settlement, allows groundwater drainage through the structure, and prevents the soil beneath from being washed through the armor by waves or groundwater seepage. The toe protection prevents settlement or removal of the revetment’s lakeward edge. Overtopping of the revetment, which may result in erosion, can be limited by designing the structure height greater than the expected run-up height, or by protecting the area above the revetment with a protective apron of rock riprap. Flanking, the lateral erosion along the sides of barrier structures, can be prevented by typing each end into adjacent shorezone protection structures or the existing shoreline. As the adjacent shoreline retreats, however, the ends must be extended in order to maintain contact. The toe of the revetment must also be protected by a rock apron.

The armor layer of a revetment maintains its position under wave action either through the weight of, or interlocking between, the individual units. Static revetments are either flexible, semi-rigid, or rigid. Flexible armor retains its protective qualities even with severe distortion, such as when the underlying soil settles or scour causes the toe of the revetment to sink. Quarrystone, riprap, and gabions are examples of flexible armor. A semi-rigid armor layer, such as interlocking concrete blocks, can tolerate minor distortion, but the blocks may be displaced if moved too far to remain locked to surrounding units. Once one unit is completely displaced, such revetments have little reserve strength and generally continue to lose units (unravel) until complete failure occurs. Rigid structures may be damaged and fall completely if subjected to differential settlement of loss of support by underlying soil. Grout-filled mattresses of synthetic fabric and reinforced concrete slabs are examples of rigid structures.

A typical dynamic revetment is a berm or wedge composed of gravel, cobble, sand, or a combination of different rock sizes and placed within the foreshore. The rock shall be rounded to subrounded clasts of relatively hard material that resist mechanical breakdown from abrasion with other clasts. The berm or wedge of material is placed along the shoreline in amounts sufficient to absorb and attenuate wave energy. The packet of material is designed to be shaped and reshaped by the Lake waves. The material size should be slightly larger than the native lakebed substrate present along the shoreline. Material that is the same size or smaller
may be rapidly carried away from the site from the incoming waves. Material that is too large may cause wave reflection scour at the toe of the structure, which could result in increased erosion along the shoreline.

Observed berm crest heights on adjacent areas should always be measured first to estimate appropriate cross-sectional areas of a proposed dynamic revetment. If natural dynamic berms are not present in the vicinity of the location for the proposed dynamic revetment, then an estimated volume can be calculated per the methodologies given by Ahrens (1995):

\[
\text{Estimated berm crest height } (R_c) \approx \text{ Maximum predicted wave runup } (R) \text{ on riprap revetments}
\]

Determine a minimum cross-sectional area of the dynamic revetment \((V_t)\) by using a minimum safe ratio:

\[
V_t \geq 5R_c^2
\]

**Installation**

Revetments must be designed and installed by a qualified professional.

**Maintenance**

Revetments must be inspected periodically for signs of scour at the top, base or sides and repaired immediately. Access over the structure must be maintained in order to prevent any disturbance or displacement of armor material.

**Effectiveness**

If properly designed and installed, revetments prevent backshore erosion. However, the static structures often contribute to the erosion of the downdrift shoreline by eliminating a source of littoral sediment. Sloping rock revetments are more cost effective than the other vertical barrier walls. Structures that incorporate dynamic components into their design are preferred over most other methods where shorelines are eroding and the littoral cells are lacking in an adequate sediment supply to maintain a dynamic equilibrium. Caution should be taken when designing a particular revetment type because not all areas can be effectively protected by either a dynamic or static revetment. The chosen revetment design may not prevent erosion from unanticipated heavy wave action or other geologic hazard.

**BMP 69. BREAKWATERS**

**Definition**

Breakwaters are man-made structures usually aligned parallel to shore that dissipate the energy of approaching waves.

**Purpose**

To protect the shoreline, to dissipate the energy of approaching waves, and to shelter a boat mooring area.

**Applicability**

Applicable mainly to marinas or areas where calm waters are desired, such as a safe swimming area.
Advantages

1. Dissipate the energy of approaching waves and reduce their ability to erode the beach.
2. Provide calm waters desirable for boat mooring or swimming activities.

Disadvantages

1. Disrupt the natural pattern of littoral drift.
2. Reduce the ability of waves to transport sediment.
3. Trap and accumulate sediment behind the structure.
4. Deprive downdrift beaches of their normal sand supply.

Planning Criteria

In contrast to bulkheads and revetments, breakwaters are installed out in the water rather than directly on shore, to dissipate the energy of approaching waves and to form a low-energy shadow zone on their landward side. Any small decrease in wave height reduces the ability of waves to transport sediment. Sand moving along the shore is trapped behind the structure and can accumulate. As a result, downdrift beaches are deprived of their normal sand supply and may suffer increased erosion.

Breakwaters are either fixed or floating and solid permeable. Floating breakwaters are constructed of buoyant materials such as logs and are permeable. Breakwaters can be constructed of gabions or staked rock and are usually solid structures. However, openings must be designed in the fixed breakwater in order that the structure is permeable to water and sediment. The effectiveness of fixed, permeable breakwaters in dissipating wave energy depends on their height and porosity. Floating breakwaters function at or near the water’s surface and must be firmly anchored to the lake bottom to prevent their displacement. Floating breakwaters are particularly advantageous where offshore slopes are steep and fixed breakwaters would be too expensive because of water depths. Fixed breakwaters are most economical when the slope is gentle and the high water level at the proposed site is less than about four feet deep.

Installation

Breakwaters must be designed and installed by qualified professionals.

Maintenance

If properly installed according to the design criteria, fixed breakwaters require little maintenance. Floating breakwaters tend to require more maintenance because debris and other material can accumulate on the breakwater. Undermining of fixed structures can occur and loss of material during storms is common.

Effectiveness

Breakwaters can be very effective in dissipating the energy of approaching waves. Unfortunately, solid and/or fixed breakwaters can significantly affect the natural pattern of littoral drift. Floating breakwaters and permeable fixed breakwaters are recommended because they distribute sediment more evenly.

BMP 70. BEACH NOURISHMENT
**Definition**

Beach nourishment is the artificial placement of natural material in the shorezone from sources outside of the eroding system to address the problem of a sediment budget deficit. Sand, gravel and cobble are the typical materials used to nourish beaches. Beach replenishment differs from nourishment in the type of material placed on the beach. Replenishment involved a direct replacement of the material lost with similarly sized material (e.g. sand replenished with sand). Nourishment involves addition of material to the system; the added material may be the same size but is most commonly slightly larger (e.g. gravel beach nourished with small cobble).

**Purpose**

To serve as a sacrificial barrier that will provide protection to the backshore, to protect an eroding shoreline, to provide additional recreational space by extending the beach area, or to restore a beach to its dimensions prior to any erosion.

**Applicability**

Applicable to beaches and dynamic revetments experiencing erosion and loss of material.

**Advantages**

1. Protects an eroding shoreline.
2. Provides some protection to the backshore.
3. Provides additional recreational space by extending the beach area.
4. Restores an eroded beach to its prior dimensions.
5. Provides a sink for dredged material.
6. Attempts to maintain or restore the dynamic equilibrium of a beach.
7. Often preferred to structural barriers that create artificial boundary conditions and generate unwanted side-effects.
8. Provide a new supply of material to the littoral transport system.
9. Maintains prime fish habitat spawning gravel.

**Disadvantages**

1. Increased sediment loads could clog marina inlets.
2. May increase turbidity if the materials are not washed free of silts and clays prior to placement in the shorezone.
3. May require frequent application if erosion rates are high.

**Planning Criteria**
Artificial beach nourishment can be accomplished by mechanical means, such as suction dredging of offshore deposits (by-pass dredging) or overland hauling and dumping by trucks. Only nonorganic, chemically and biologically inert material shall be used. The resulting beach functions as an eroding buffer zone and provides an adequate material supply for beaches experiencing erosion. The rate of which the new fill erodes depends on the relative coarseness of the fill material in relation to the native beach material. Ideally, the fill material and native beach materials should be slightly larger in terms of grain size. Generally, if the fill material is coarser than the native material, the fill will erode more slowly whereas if it is finer, it will erode more quickly. Where a beach is eroding, it should be apparent that the native materials are incapable of sustaining the beach. Thus to add material of smaller or similar grain size will only continue the erosion and transport of the beach fill into deeper waters. Thus on an eroding shore where shorezone energy remains constant, the grain size of the fill materials should exceed that of the native beach materials. In addition to grain size, beach slope is another important design criteria. The shape of the fill material should parallel the existing profile and slope on the theory that the original beach was in equilibrium with the wave energy, and the new beach will eventually assume a similar shape. There is a relationship between the grain size and beach slope. Generally, the coarser the material, the steeper the beach slope that will result. The addition of coarser material will produce a somewhat steeper beach profile in the foreshore and the new beach will converge on the old beach beneath the surface, preferably just beyond the depth of serious wave action. Also, if beach fill is placed over a short length of shoreline, it may create a projection that is subjected to increased wave action. Thus, it is preferable to make the transition to the existing shoreline over a longer distance.

**Installation**

Any beach replenishment must be designed and installed by qualified professionals. If the fill material is to be obtained from dredging project, soil samples of lake bottom sediments must be collected from the area and evaluated for the presence of fine grains and organic horizons. Fine grains consisting of silt and clay sized particles will temporarily increase water turbidity in the localized area being dredged. Abundant organics could promote algae growth when stirred up by dredging. Materials used for beach replenishment require approval by TRPA.

**Maintenance**

The maintenance of beach fills depend on how quickly it erodes and the coarseness of the fill material. Thus, periodically more fill may be required as erosion continues.

**Effectiveness**

Beach nourishment projects generally have a relatively low initial cost, but periodic renourishment increases the maintenance costs. Beach nourishment is probably the most cost effective and aesthetically pleasing method of protecting the shoreline.

**BMP 71 DREDGING**

**Definition**

Dredging is the removal or rearrangement of lake bottom sediments which are lakeward of the high water line.

**Purpose**
To allow continued use of marinas, harbors, and boat launching facilities.

**Applicability**

Applicable mainly to marinas and boat docking areas which have filled with sediment. If the accumulated sediment is not removed, the material may be disturbed and resuspended each time a motorized watercraft moves over the area. Resuspension of sediments may cause a temporary loss of water clarity, however, the impacts to water quality from nutrient inputs may be variable; subsequent lake bottom disturbance by propeller or jet action may not be significant, particularly over natural nearshore sediments which have been washed by wave action. Where bioavailable nutrients have been previously washed, significant nutrient loading increases should not occur.

Dredging may be necessary for safe navigation. Other shorezone projects may require dredging as part of the project, such as replacement of water lines or sewer mains that are buried in the lake bottom.

**Advantages**

1. Can improve water quality conditions in certain instances.
2. Can reduce overall turbidity.
3. Allows for safe navigation.
4. Bypass dredging can provide sand for littoral drift processes disrupted by channels, jetties, or breakwaters, and replenish downdrift beach areas.
5. Clean sand which has been dredged may be used for beach replenishment projects.

**Disadvantages**

1. Dredging processes can increase local turbidity and resuspend nutrients.
2. Removing dredging material from the Lake and exporting it out of the Basin is costly.
3. Dredging is not a permanent solution to channel and harbor filling by littoral processes because these processes will continue to deposit sediment.
4. Water quality may be impacted by dredging activities as a result of environmental control failures, the discharge of soluble nutrients upon removal of environmental controls, and operator error.

**Planning Criteria**

For general guidance, refer to BMP-SP, Shorezone Practices. Dredging needs, dredging methodology, and dredging environmental controls should be additionally guided by the recommendations and mitigation measures described in the report entitled *Impacts of Marina Dredging on Lake Tahoe Water Quality*, Tahoe Research Group, University of California – Davis, October, 1996 (Marina Dredging Report).
Dredging is generally prohibited by TRPA, with some exceptions. One of these exceptions is maintenance dredging*. Maintenance dredging refers to the dredging of areas that have been previously dredged to maintain authorized lake bottom elevations. Maintenance dredging may be permitted in order to continue an existing use.

*New dredging is also allowed provided additional findings can be made. New dredging leads to additional, future maintenance dredging activity, thereby potentially increasing overall loading impacts on water quality. Additional impacts due to new dredging activities are described in the Marina Dredging Report.

Dredging Equipment Types-Advantages and Disadvantages

Several factors must be considered in selection of an appropriate dredge. These include: physical and chemical characteristics of the sediments to be dredged, site characteristics, ability to use silt curtains to isolate dredge area, amount of material to be dredged, cost constraints, and dredges available. There are two basic types of dredging equipment available: Mechanical and suction dredges.

Mechanical dredges, which include Bucket Dredges, Clamshells, Draglines, Watertight Grab Bucket Excavators and, Backhoes, can remove a variety of sediment types effectively, and produce spoils which are similar in water content and density to the original sediments. These dredges have high sediment resuspension characteristics and should only be used in turbidity curtain enclosed areas. Production rate is generally low.

Hydraulic dredges, which include Suction, Rotational cutter head, Horizontal cutter head, and Interconvertible dredges (such as the Aquamog Dredge), remove and transport sediments through pipelines as a liquid slurry. Solids are removed from the slurry either through settling in spoils impoundment basins or through mechanical solids separators. These dredges have low to moderate sediment resuspension characteristics. Hydraulic dredging can remove larger volumes of material than most mechanical dredges. Finding appropriate space for large capacity disposal sites is one disadvantage.

Specialized dredges include the Cable Arm Clamshell and the Eddy Pump. An environmentally efficient bucket type dredge, the Cable Arm Clamshell produces sediment resuspension which is about one third that of conventional buckets. The Cable Arm clamshell may have applications in large harbors at Lake Tahoe which contain finer unconsolidated sediments. It should be considered for future testing. The Eddy Pump should be considered for testing of its ability to remove sediments while causing low resuspension in Lake Tahoe. This dredge has capability to remove high concentrations of solids (> 70%) while apparently creating very low turbidity.

Operational Controls: Operational controls are important for minimizing sediment resuspension. For bucket dredges, these include hoist speed, deliberated placement of material and avoiding smoothing of the bottom. For hydraulic cutter dredges, these may include careful control of cutter pressure, engine RPM, cutter RPM, and dredge pull speed.

Bypass Dredging: Most of the environmental concerns about dredging center around altered chemical and physical parameters and their effects on water quality. The resuspension of bottom sediment during dredging operations increases turbidity. However, much of the resuspended material may be inorganic and chemically inert, consisting of graded material such as sand and gravel. This material resettles at a rate largely dependent on particle size and
turbulence in the area. Colloidal size particles, such as clay and silt, can remain in suspension almost indefinitely.

One of the greatest concerns associated with resuspended sediments is the potential to increase nutrient levels. Fine sediment particles have vast surface areas, which act as effective adsorbers of many types of chemicals that may be released from the particles as a result of the resuspension caused by dredging. Phosphorous is the greatest concern in this respect because of its adsorption to fines and its potential for increasing primary productivity. Ammonium nitrogen may also cause problems for similar reasons. When resuspended particles are of organic origin, they present another problem. Organics do not settle out quickly, making them easily resuspended and transported during dredging. The fact that the organics are biodegradable presents a potential oxygen depletion problem. Resuspended fine organics become rapidly coated with bacteria and subsequent, rapid decomposition may totally deplete dissolved oxygen concentrations within these turbid areas.

As a result of the problems associated with resuspension of sediments during dredging operations, there is much controversy regarding the concept of dredging and water quality. Dredging could be viewed as the ideal lake restoration technique. It can remove accumulated products due to runoff and erosion, remove sediment and attached nutrients, and return sediment to the watershed where it originated. In practical terms, this is, of course, impossible. However, by careful selection of dredging method for each project, the impacts of dredging on water quality can be dramatically reduced.

The Lahontan Regional Water Quality Control Board (LRWQCB) adopted strict standards with the objective of minimizing short and long-term water quality impacts of dredging operations in that portion of Lake Tahoe under the jurisdiction of the State of California. The Nevada Division of Environmental Protection has adopted similar standards. LRWQCB and TRPA have adopted specific ordinances regulating dredging operations in Lake Tahoe. The intent of the ordinances is to prevent excessive turbidity and the spread of nutrients. Project proponents may easily determine what regulations apply to their project through consultation with the Project Review Committee, an interagency group consisting of agencies with jurisdiction in Lake Tahoe’s shorezone (See below for typical regulatory framework by Region/State)

**Measures Required of Dredging Projects**

The report entitled *Impacts of Marina Dredging on Lake Tahoe Water Quality*, Tahoe Research Group, University of California – Davis, October, 1996 (Marina Dredging Report) discusses eight mitigation measures which reduce impacts of dredging on water quality. All eight mitigation measures shall be required unless the nature of the project allows TRPA to determine that no significant impact will occur if the mitigation measure is waived.

1. Seasonal limitations (dredging during the summer) to avoid severe weather.
2. Use of turbidity barriers.
3. Disposal of dredge slurry produced by hydraulic dredges to sanitary sewer.
4. Use of flocculants in settling basins.
5. Prevention of discharge into the Lake from spoils dewatering.
6. Completion of a pre-dredging analysis of lakebed material and water quality monitoring plan in consultation with TRPA.

7. Use of specialized dredging equipment designed to reduce impacts to water quality.

8. Requirements on operational controls to minimize turbidity.

**Additional Measures Required**

If not sufficiently dewatered, dredging spoils shall be placed in water-tight trucks to prevent discharge of sediment laden water to roadways. Limits shall be set on the extent of turbidity of waters which are permitted to escape the dredging area or commingle with the water of Lake Tahoe (typically 20 Nephelometric Turbidity Units, or NTUs). Turbidity curtains must be checked frequently and repaired or replaced if necessary (See BMP72). Turbidity curtains may not be required when hydraulic dredges are used, and the discharge standard of 20 NTUs can be maintained. Oil booms must be onsite to provide cleanup in case of any spills. During periods of high wind and wave action, the construction activity which is causing degraded water quality within the curtained area should cease until weather conditions improve.

**Installation**

Any dredging activity must be conducted by a qualified professional. Prior to dredging, a pre-dredging analysis may be required to determine the nature of the material to be dredged. Pre-dredge analysis may reveal constituents in lakebed material which if removed, may enhance water quality. Conversely, constituents may be revealed which, if disturbed, may pose an unusual threat to water quality. Leaving the lakebed undisturbed maintains a protective cap created by the uppermost layers of the lakebed. Pre-dredge analysis determines what types of equipment will most effectively remove the material with the least impact to water quality, and will also assist determination of an appropriate disposal site for spoil material.

All required permits must be acquired prior to the commencement of any dredging activities. The table below indicates agencies with jurisdiction over most dredging activities by region and state:

**Lake Tahoe Region:**

- Tahoe Regional Planning Agency
- U.S. Army Corps of Engineers

**California:**

- California Regional Water Quality Control Board-Lahontan Region
- California Department of Fish and Game
- California State Lands Commission

**Nevada:**

- Nevada Division of State Lands
- Nevada Division of Wildlife (Comments to Division of State Lands)
- Nevada Department of Environmental Protection (Comments to Division
Maintenance

Maintenance of the dredge area is itself a project and subject to this BMP.

Effectiveness

Maintenance dredging can be an effective practice in lieu of placement of artificial barriers to prevent sedimentation of channels and marinas. The export of the material, however, may be detrimental to conditions downshore in the direction of littoral drift.

BMP 72 TURBIDITY CURTAIN

Definition

A floating sediment (turbidity) barrier or temporary plastic or other impermeable barrier used around a disturbed area adjacent to the shoreline or in the water. Includes suspended curtains. May include an absorbent diaper to contain petroleum products. Turbidity curtains are often called silt curtains, turbidity barriers, or turbidity screens. Turbidity screens may be permeable. Turbidity curtains or barriers are typically impermeable.

Purpose

To retain the resuspended sediment generated during construction activities within the disturbed area, including dredging activities, by controlling dispersion.

Applicability

Applicable to any construction activities conducted within the shorezone or underwater which will result in disturbance of soil or lake bottom sediments which could discharge to the Lake, including dredging activities.

Advantages

Retains sediment and turbid water within the disturbed area. Localizes turbidity plumes, reducing visual impacts. Allows some leached nutrients to re-adsorb to sediments and settle.

Disadvantages

Severe weather may cause turbidity curtains to fail in unprotected areas. Limited to use during fair weather periods when wind induced wave action is minimal.

Planning Criteria

Where construction or dredging activities are expected to result in water quality which exceeds surface discharge standards, the curtain material must be totally impermeable. The curtain must be anchored to the lake bottom. Water quality is usually most degraded towards the bottom of
the water column. Typically, the bottom of the curtain will contain a pocket for the placement of a heavy chain. This anchor mechanism maybe augmented with the placement of loosely filled sandbags over the curtain on the lake bottom. Commercial turbidity curtains are available and should be used for larger or open-water projects. Smaller projects may be protected by turbidity curtains that are constructed for one time use only. Turbidity curtain design should be approved for use on a project by project basis prior to installation.

Turbidity curtain material should be nylon reinforced. The use of a turbidity curtain on cobbly or rocky lake substrates usually requires the use of sandbags to chink voids between rock through which turbid water would otherwise escape. Freeboard height must be adjusted to prevent waves from overtopping the curtain, yet be low enough to prevent high winds from blowing curtain off the lake bottom.

Turbidity curtains which are subject to hydraulic pressure due to the removal or addition of water during the project may fail. If possible, head should be directed towards the impacted area. Head which is directed within a curtained area will cause failure through the curtain bottom. It may be necessary to divert run off flows around a curtained area to prevent head-induced discharges.

**Installation**

Turbidity curtains should be installed at least five feet from the edge of excavation or dredging to prevent equipment from damaging the curtain.

**Maintenance**

Inspections should be made at least twice daily, and the curtain repaired or improved if turbidity plumes are observed. During poor weather conditions where wind and wave action may compromise the performance of a turbidity curtain, inspections should occur at least hourly, and repairs or improvements completed immediately if plumes are detected. During periods of high wind and wave action, the construction activity which is causing degraded water quality within the curtained area should cease until weather conditions improve.

Maintenance activities often require the use of divers. Divers should be available to perform maintenance or repair tasks in the event severe weather, boat propellers, or equipment damages the curtain.

**Effectiveness**

There are no turbidity curtains currently available which will maintain positive performance during severe storms. Larger waves will overtop the curtain, creating positive head inside the curtain, which may lead to curtain failure. The energy contained in waves and currents during storms may pull the curtain off the lake bottom or cause lateral curtain anchors to fail.

**BMP 74 BOAT AND MARINA MAINTENANCE**

**Definition**

Boat and marina maintenance includes those facilities and services necessary for the maintenance and operation of small pleasure craft.
Purpose
To restrict the release of potential pollutants such as petroleum products and toxic marine paints.

Applicability
Applicable to marinas and other areas where boats may be refueled or maintained.

Advantages
Prevents the release of potential pollutants into Lake Tahoe.

Planning Criteria
Marinas are a potential source of hazardous discharges of petroleum products and toxic marine paints. Refueling of boats at marinas must be conducted by qualified personnel. Fuel hose endings must be totally manual. An absorbent material in a bucket or tray must be placed under the hose ending on the dock to catch drops after filling. The operator must always be careful not to spill fuel over open Lake water. Each marina should carry sufficient absorbent material (diapers and oil booms) to provide cleanup in case of any spills.

Refueling of boats outside of marinas is common and requires attention to protect water quality. Recreational concessions which rent small boats and personal watercraft often refuel from gas cans or larger containers on dollies. New concessions should be required to refuel their rental fleet at the nearest marina. Existing concessions should refuel personal watercraft over an impervious surface (such as vinyl sheeting) which can contain spilled fuel. Fuel containers should be stored in a contained area to prevent accidental spills in the shorezone. Absorbent diaper material should be available to contain/clean spills.

Any boat refinishing, especially the sanding and scraping of the hull prior to repainting, must be conducted in such a manner that no scrapings, sandings, or paint particles can enter Lake Tahoe. This material must not be washed into Lake waters. U.S. Environmental Protection Agency and the State of California restricts the sale of tributyltin (TBT), and the sale, rent, or lease of vessels which do not comply with the limitations on the use of TBT paint. Although TBT compounds make paint last longer than paints treated with other compounds to prevent the growth of organisms on boat hulls, TBT is highly toxic. Vessels painted with TBT before January 1, 1998 may still be used, but not repainted with TBT paint. Thus, any marinas where boat hulls are being refinshed must be careful to prevent paint particles containing TBT from entering the waters of Lake Tahoe.

Major repairs of boat engines and outdrives should be completed in an enclosed building with floor drains that discharge to a waste oil holding tank. Minor maintenance of boats outside of buildings should take place over paved surfaces with drainage conveyance to a grease/oil separator.

Installation
Any refueling of watercraft must be conducted by a trained operator. All fueling facilities must have on hand sufficient absorbent material and qualified personnel to use it in case of spills.
Written spill clean-up procedures shall be prepared and quickly available in marina and concession offices.

**Maintenance**

An inspection program of all marinas with refueling capabilities and paint refinishing facilities is necessary in order to insure that potential pollutants are not being released to the open Lake water.

**Effectiveness**

Compliance with the refueling and repainting practices is a very effective way of preventing the discharge of toxic pollutants directly to Lake Tahoe.

**BMP 75 BOAT RAMP CONSTRUCTION METHODS AND DESIGN STANDARDS**

**Definition**

Boat ramp construction methods and design standards include measures to protect water quality during construction of boat ramps, and to ensure proper siting for optimum performance and to reduce impacts to littoral processes.

**Purpose**

To minimize impacts due to dredging operations which may be required during boat ramp construction; to minimize future maintenance dredging needs; to minimize vehicle intrusion into the Lake.

**Applicability**

Applicable to the construction of new boat ramps, and the expansion of existing boat ramps.

**Advantages**

1. Minimizes discharges of turbid waters into the Lake during construction.
2. Minimizes maintenance dredging needs which may cause additional discharges of turbid waters.
3. Prevents vehicle intrusion into the Lake which may result in the discharge of contaminates to surface waters.

**Disadvantages**

1. Due to slope limitations, restricts the number of locations available for new boat ramps.
2. May restrict the ability to expand existing boat ramps depending upon existing topography.
3. Limits the ability to modify existing backshore topography to accommodate desired boat ramp length and slope.

**Planning Criteria**

The construction of boat ramps often requires grading below the water line (dredging) to establish optimal length and slope for the completed boat ramp facility. To minimize the extent of dredging required, siting of new boat ramps should be restricted to existing backshore slopes of 15 percent or less, and to existing foreshores which are at least a continuous 12 to 15 percent from high water to elevation 6,219 feet. Steeper backshore and foreshore slopes require extensive grading, dredging, and/or filling to decrease the slope of the finished approach to the boat ramp, and the boat ramp itself.

The construction of boat ramps on shallow foreshore slopes may result in frequent maintenance requirements due to accumulation of sediments. Lateral transport of lakebed sediments is more prevalent on shallow slopes consisting of finer-grained sediments. Shallow boat ramp slope may result in tow vehicles driving into the Lake to reach sufficiently deep waters, particularly during low water years.

In addition to correct siting, construction techniques that minimize excavation above and below the water line should also be considered. An example of such a technique includes the placement of a steel grid foundation onto piles and cross members, followed by the installation of precast concrete sections placed in the above grid.

If dredging is required to site the boat ramp, pre-project water quality monitoring shall be required consistent with the mitigation measures required for all dredging projects (See BMP 71 –Dredging.) Monitoring results that demonstrate mean interstitial waters concentration of constituents exceeding TRPA surface water discharge standards by more than 50 percent, shall dictate boat ramp construction techniques limitations. In this circumstance, only techniques that do not require cast-in-place concrete and avoid substantial alteration of the existing shorezone contours shall be allowed.

**Installation**

Design and installation of boat ramps must be completed by qualified professionals. Dredging required during construction must be completed with mitigation measures employed to minimize impacts to water quality (See BMPs 71 and 72.)

**Maintenance**

Maintenance of boat ramps usually consists of the removal of accumulated sediments which vehicles must then drive across to reach water depths sufficient to release a boat. Removal of sediments may cause impacts similar to dredging. Mitigation measures should be appropriately employed.

**Effectiveness**

If properly constructed, impacts typically encountered during and subsequent to boat ramp construction activities will be minimized if not avoided entirely.
BMP 76 BOAT RAMP VEHICLE SOURCE CONTROL

Definition

Boat ramp vehicle source control consists of practices, such as inspections, alternative boat launching methods, and facilities, such as vehicle wash stations, which prevent discharges to the lake during boat launching.

Purpose

To prevent the discharge of road grime solids, salts, greases, and oils directly to the lake during boat launching, and to prevent the introduction and spread of invasive weeds.

Applicability

Applicable to construction of new boat launching facilities, and to the retrofit of existing boat launching facilities, and to the operation of existing boat launching facilities during low water conditions.

Advantages

1. Can improve water quality conditions, particularly at boat launching facilities with poor water circulation.

2. Reduces overall turbidity.

3. May prevent petroleum hydrocarbon accumulations within lake bottom substrates at launching facilities.

4. Can prevent the introduction of invasive flora and fauna from other navigable waters.
**Disadvantages**

1. Inspections are costly and may result in undesirable confrontations.
2. Close proximity to groundwater may limit treatment ability of a vehicle wash station without an associated lift station.
3. If not enforced, voluntary compliance with vehicle washing may not occur.
4. Treatment facilities require periodic maintenance.
5. Parking space may be reduced by a wash station and associated staging areas.
6. Certain elements of a vehicle wash station may require scenic quality mitigation.
7. The cost to implement alternative launching methods, such as the use of tractors, may not be feasible at all boat launching facilities.

**Planning Criteria**

Inspections would detect accumulations of road grime on vehicles, trailers, and boats which should be removed prior to maneuvering the vehicles into the lake. Lake access could be denied until the contaminants are removed from the vehicles.

Vehicle washing stations are used to remove accumulations of sediment, greases, and oils from vehicles, trailers, and boats prior to launching. A station requires a water source, a paved area dedicated to washing, drainage improvements, and treatment improvements to reduce or eliminate impacts to surface and groundwater which may be close to the surface at boat launching facilities. Not unlike a boat washing facility at a marina, vehicle washing stations are intended primarily to wash tow vehicles and boat trailers. Boats may also be washed. Invasive flora and fauna attached to hulls and motors should also be removed prior to launching to prevent their introduction into the Lake.

A pre-cast grease and oil separator or equivalent constructed device must be installed to collect solids, greases, and oils. In the event an infiltration facility cannot be provided at the wash station/boat launch facility due to proximity to ground water, treated discharges may be collected in a sump, and pumped to a suitable infiltration facility with adequate infiltration capacity. In the event an infiltration facility cannot be feasibly constructed or reached, treated discharges may be pumped to a sanitary sewer provided utility discharge standards are met, and a discharge agreement has been reached with the utility. Discharge to sewer may not always be feasible due to discharge standard or cost constraints.

The use of tractors to launch boats during low water conditions may be implemented to prevent tow vehicles from becoming stuck in the Lake. During low lake levels, tow vehicles may be required to travel farther than normal into Lake waters to reach adequate boat launching water depths. The towing of trailers out of the Lake results in disturbance to lake bottom sediments. Tractors are more likely to successfully launch a boat without becoming stuck and/or significantly disturbing lake bottom sediments.

**Installation**
Vehicle wash stations must be designed and installed by qualified professionals. If tractors are used to launch boats, they must be steam cleaned prior to use, and periodically checked for leaks from crankcases, cooling systems, or hydraulic and fuel lines.

**Maintenance**

Treatment facilities at vehicle wash stations must be periodically inspected for accumulations of solids, and the solids disposed at an approved site. Grease and oil diapers in sand/oil separators must be inspected and replaced prior to their end of useful life.

**Effectiveness**

Launching of boats with vehicles that are laden with sediments, oils, and greases results in direct discharges of the above elements to the surface waters of the Lake. Discharge standards may be exceeded, particularly early in the boating season, as vehicles, trailers, and boats are most likely to be covered with road grime. Providing a vehicle wash station will direct common vehicle contaminants to treatment facilities where such contaminants may be removed and not discharged to surface waters.

**BMP 77 BOATING DISCHARGE CONTROL**

**Definition**

Control measures employed to reduce or eliminate the discharge of contaminates and nutrients from boats.

**Purpose**

To reduce or eliminate impacts to water quality due to discharges originating from boats.

**Applicability**

Applicable to all boats and marine vessels which are moored or operated on the Lake. Also see BMP 73 - Pump-Out Facilities, and BMP 74 - Boat and Marina Maintenance.

**Advantages**

1. Improves water quality and clarity by reduction or elimination of impacts due to discharges of non-combustion petroleum products and human waste from boats.

2. Providing additional restroom facilities may decrease localized impacts due to overcrowded conditions at existing recreation sites with restrooms.

**Disadvantages**

1. Enforcement of the use of boating discharge control measures may be difficult.

2. The success of boating discharge control measures will depend upon the ability to initiate and continue an intensive public education program.
3. New restroom facilities may require expensive sewer hook-up, and extensive scenic quality mitigation. New restrooms may create parking demand which cannot always be accommodated. Restrooms require extensive maintenance, and must be winterized for year-round use.

4. New restroom facilities may attract people to sites they otherwise may not have considered visiting. The addition of restroom facilities to otherwise primitive sites changes the site’s character, which attracts some recreationists, and repels others.

**Planning Criteria**

Boats which are equipped with bilge pumps, either manual or automatic, can discharge bilge water into the Lake. Bilge water may be contaminated with waste petroleum products. The use of bilge sponges will reduce the amount of petroleum based contaminates discharged into the Lake during pump operation. Bilge sponges should be made available to the public at marinas, boat ramps, and other public boat launch facilities. Boat launch facilities should maintain hazardous materials depots available to the public for disposal of spent bilge sponges.

A common problem with recreational boaters on smaller vessels is the absence of a head; If restroom facilities are not conveniently located, boaters may urinate directly overboard into the Lake. The use of a waste containment device which can be closed and easily stowed can reduce the occurrence of this direct discharge to the Lake, provided the device is emptied to sewered facilities ashore. Commercial porta-potties are suitable for runabouts and larger vessels. Smaller boats may rely on devices as simple as an appropriately labeled container with a screw-top lid.

Providing convenient restroom facilities at boat launching sites will prevent discharges of human waste directly to the Lake from boats and from shore, and provide a dump facility for waste containment devices.

On protected lakes and reservoirs, offshore, floating restrooms may be provided. Use of offshore restrooms on Lake Tahoe is not feasible; severe storms could upset an offshore platform and result in a major discharge.

**Installation**

Bilge sponges and urine containment devices are easily placed in boats by the boat owner. Restroom facilities require extensive planning, design, and construction by professionals. Hazardous materials depots must be installed in accordance with local health and fire district ordinances.

**Maintenance**

Bilge sponges must be replaced after their useful life and disposed of properly. Hazardous materials depots must be emptied in accordance with local health and fire district ordinances.

**Effectiveness**

Boating discharge control measures can be very effective, but only if used regularly. Diligent use of these BMPs depends upon an intensive public education effort. A public education program aimed at boating discharge prevention must be developed, implemented, and
continued as long as boats are trailered into the region. Enforcement of the use of discharge containment devices is costly and likely to be ineffective when compared to public education programs.
Scenic Best Management Practices

1) Verification of Scenic Best Management Practices: Prior to final inspection of a shorezone project or prior to the transfer of scenic points, the applicant shall demonstrate that Scenic Best Management Practices (Scenic BMPs) have been provided on the littoral parcel or the shoreland parcel.

If the permit is for additional shorezone development, the applicant shall post a security acceptable to TRPA to ensure that all Scenic BMPs will be installed prior to completion of the project. Projects proposing to transfer scenic points only must provide the Scenic BMPs prior to transfer.

2) Scenic Best Management Practices (BMPs) for New Shorezone Development and Certain Repairs and Modifications to Existing Shorezone Development: The following Scenic BMPs must be provided on all portions of the littoral parcel or project area within the shoreland and on all existing and proposed structures which are visible from lakes of the Region.

   (a) Contrast Rating: Scenic BMPs shall be implemented in the shoreland. The BMPs shall bring the project area into conformance with a minimum contrast rating score of 21 except where:

      (i) it is physically impossible to attain a score of 21 through application of scenic BMPs; or

      (ii) the cost of the scenic BMPs required to increase the baseline contrast score to 21 exceeds ten percent of the cost of the project; and

      (iii) if the project is not required to bring the project area into conformance as a result of subparagraphs (a) and (b) above, the applicant shall attain the highest possible score.

   (b) Revegetation of Eroded and Disturbed Areas. Eroded or disturbed areas shall be revegetated with permanent vegetation over at least 75% of the eroded or disturbed area, provided TRPA determines the area can be revegetated. In the event revegetation is not feasible, alternative stabilization treatments that reduce any existing scenic impacts may be required. Major structural stabilization of eroded or disturbed areas shall not be required to comply with this Scenic BMP.

   (c) Placement of Shoreline Access Structures. All new shoreline access structures and all modified portions of existing shoreline access structures located in unscreened locations shall be placed at grade unless TRPA determines that they should be elevated for erosion control purposes.

3) Exception to Scenic BMPs: In the case where a project in Lake Tahoe proposes to retire more than 50 scenic points, the Scenic BMP requirements pursuant to this section shall not be required.
Proposed Changes to Chapter 75
SENSITIVE AND UNCOMMON PLANT PROTECTION AND FIRE HAZARD REDUCTION

Chapter Contents

75.0 Purpose
75.1 Applicability
75.2 Sensitive Plants and Uncommon Plant Communities
75.3 Vegetation Management To Prevent The Spread Of Wildfire

75.0 Purpose: This chapter sets forth standards for the preservation and management of vegetation of significant scenic, recreational, educational, scientific, or natural values of the Region, and for management of vegetation to prevent the spread of wildfire.

75.1 Applicability: This chapter applies to all projects and activities which could have a detrimental effect on designated sensitive plants or uncommon plant communities, and to all areas where vegetation may contribute to a significant fire hazard.

75.2 Sensitive Plants and Uncommon Plant Communities: Designation of plants for special significance is based on such values as scarcity and uniqueness. The following standards shall apply to all sensitive plants and uncommon plant communities. The sensitive plants are: Rorippa subumbellata (Tahoe yellow cress), Silene invisia (Galena Creek rock cress), Lewisia longeipetala (long-petaled lewisia), Draba asterophora v. macrocarpa (Tahoe draba), Draba asterophora v. asterophora (star draba). The uncommon plant communities are; deepwater plants of Lake Tahoe, Grass Lake (sphagnum bog), Osgood Swamp, Hell Hole (sphagnum bog), Pope Marsh, Taylor Creek Marsh, Upper Truckee River Marsh, and Freel Peak cushion plant community. In addition, the following standards shall apply to other plants or plant communities identified later for such distinction by state or federal endangered species acts or other listings of significance. The general locations of TRPA identified sensitive plants habitat and uncommon plant communities are depicted on the TRPA Special Species map overlay.

75.2.A Sensitive Plants: Projects and activities in the vicinity of sensitive plants and/or their associated habitat, shall be regulated to preserve sensitive plants and their habitat. All projects or activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat, shall fully mitigate their significant adverse effects. Those projects and activities that cannot fully mitigate their significant adverse effects are prohibited. Measures to protect sensitive plants and their habitat include, but are not limited to:

(1) Fencing to enclose individual populations or habitat;
(2) Restrictions on access or intensity of use;

(3) Modifications to project design as necessary to avoid adverse impacts;

(4) Dedication of open space to include entire areas of suitable habitat; or

(5) TRPA-authorized restoration of disturbed habitat on-site or off-site.

(6) Where Tahoe yellow cress habitat is present but the plant has not been found, manipulation of the substrate may be permitted (i.e., raking, clearing of vegetation, removing of relocating substrate material) with TRPA authorization only.

(7) The construction of any structure within the backshore or foreshore at sites that contain Tahoe yellow cress shall be prohibited when the location of the colony is such that construction could not avoid disturbing Tahoe yellow cress.

(8) At sites where Tahoe yellow cress is present, no beach raking shall be allowed unless the population can be adequately protected.

(9) At sites where Tahoe yellow cress is present but is not within the footprint of the proposed structure, the plants shall be protected. For all project sites where Tahoe yellow cress has been found, a management plan shall be prepared and submitted to TRPA which identifies measures to protect the habitat and population beyond construction.

(10) On public beaches, additional mitigation shall be required to direct foot traffic away from Tahoe yellow cress, or walkways that direct foot traffic through a plant colony without compromising the plants. Interpretive displays that direct foot traffic away from TYC colonies and educate the public to the sensitivity of the plant to human disturbances on public beaches shall be required where Tahoe yellow cress is present.

TRPA authorization is required prior to any activities that will be changing soil structure, i.e., raking, in the vicinity of sensitive plants or their habitat.

Additional mitigation measures may be required on publically owned beaches to direct foot traffic away from plants and/or their habitat when fence exclosures are not appropriate.

75.2.B Uncommon Plant Communities: Uncommon plant communities shall be managed and protected to preserve their unique ecological attributes and other associated values. Projects and activities that significantly adversely impact uncommon plant communities, such that normal ecological functions or natural qualities of the community are impaired, shall not be approved.
75.3 Vegetation Management To Prevent The Spread Of Wildfire: Within areas of significant fire hazard, as determined by local, state or federal fire agencies, flammable or other combustable vegetation may be removed, thinned, or manipulated, up to 30 feet from any structure to prevent the spread of wildfire. Sufficient quantities of residual vegetation should remain in this 30 foot zone to stabilize the soil and prevent erosion. Whenever possible, vegetation in this zone should be thinned, tapered, cut back, or otherwise selectively manipulated, rather than removed entirely. Revegetation with approved species may be required where vegetative ground cover has been eliminated or where erosion problems may occur.
Required Plan Area Statement/Community Plan Amendments

Designated locations for Shorezone Preservation Areas

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Designated Shorezone Character Types - PAS and CP Amendments

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*Shouldn't Cascade Properties be in here?*
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## Changes to Permissible Uses:

**Inclusion of Chapter 51 in Shorezone Permissible Use paragraph**  
All PASs and CPs that contain lake shorezones

**Removal of Seaplanes as a permissible use**  
In all PAS everywhere it is currently a permissible (i.e. Homewood/Commercial PAS 159)

**Replacement of Water Intake Lines Uses**  
Replacement of Water Intake Lines Uses with Water Supply (Intake Lines) in all PASs and CPs where water intake lines are currently permissible.

**Adding (Intensive) to all Beach Recreation Uses currently permissible in the PASs and CPs**

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