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SEZ Permit Guidance Document

Prepared for the Tahoe Regional Planning Agency

November 2020

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1 Introduction

This Stream Environment Zone (SEZ) Permitting Guidance document is intended to assist project applicants and Tahoe Regional Planning Agency (TRPA) planning and code enforcement staff with permitting, inspecting, and closing out of projects that involve SEZ impacts and/or restoration. The document is also intended to be used by certain local jurisdiction staff delegated permitting authority by TRPA pursuant to applicable Memoranda of Understanding (MOUs). TRPA recognizes that this Permitting Guidance document is the first step to improving the permitting process for SEZ projects. To achieve project and basin wide goals more detailed steps may be required in the future and they will be considered following lessons learned from the deployment of this Permitting Guidance document.

1.1 PURPOSE AND NEED

Technical Purpose: Clarify definitions and permitting process associated with projects that involve SEZ impacts and/or restoration. Provide consistent guidance to project applicants and TRPA or Local Jurisdiction staff on what is required in permit applications, how to develop permit conditions, and what should be completed to close out projects.

Overall Need: Currently, many questions surround permitting and the close out of projects that involve impacts and/or restoration of SEZs. In some cases, this results in a lack of predictability in the permitting process, unintended impacts, missed restoration opportunities, and creates barriers to achieving SEZ Thresholds. This Guidance Document is needed to create consistent understanding of SEZ terms and definitions, clarify the permitting process for Projects involving SEZ impacts and/or restoration, and encourage measurable restoration success criteria/metrics for project close out.

1.2 INTENDED AUDIENCE

This guidance is intended for the following audience:

- Project Applicants and Consultants (refer to [Section 2](#))
- TRPA and Local Jurisdiction Staff: Planners and Code Enforcement Staff (refer to [Section 3](#))

2 SEZ Impact/Restoration Checklist - APPLICANT

2.1 PRE-APPLICATION SUBMITTAL ACTIVITIES

2.1.1 Identify and Map SEZ

The first step any applicant must take is to determine the type and extent of SEZ that exists within the project area. TRPA determines the extent of SEZ within a project area through its land capability verification process that requires an applicant to submit an application with an accompanying topographic map. The criteria TRPA uses for identifying an SEZ is set forth in TRPA Code Section 53.9: *A stream environment zone shall be determined to be present if any one of the following key indicators is present or, in absence of a key indicator, where any three secondary indicators coincide; or, if Lo, Co, or Gr soils are present, where two secondary indicators coincide (see below). Plant communities shall be identified in accordance with the definitions and procedures contained in the 1971 report entitled "Vegetation of the Lake Tahoe Region, A Guide for Planning."*

TRPA Code identifies 'key' and 'secondary' indicators of SEZ as follows:

- a. Key Indicators
 - i. Evidence of surface water flow, including perennial, ephemeral, and intermittent streams, but not including rills or man-made channels;
 - ii. Primary riparian vegetation,
 - iii. Near surface groundwater,
 - iv. Lakes or ponds,
 - v. Beach (Be) soil; or
 - vi. one of the following alluvial soils:
 1. Elmira loamy coarse sand, wet variant (Ev) or,
 2. Marsh (Mh)
- b. Secondary Indicators
 - i. Designated floodplain;
 - ii. Groundwater between 20-40 inches,
 - iii. Secondary riparian vegetation; or
 - iv. One of the following alluvial soils:
 - v. Loamy alluvial land (Lo)
 1. Celio gravelly loamy coarse sand (Co); or
 2. Gravelly alluvial land (Gr)

SEZ Types include Riverine, Forested, Meadow, Seeps and Springs, Lacustrine (Lake Tahoe beaches), Lacustrine (lakes and ponds), Fens, Freshwater Estuarine (marsh). Refer to full definitions of SEZ types in *Key SEZ Permitting Terms and Definitions* worksheet (**Attachment 1**). Applicants should use these definitions to identify and map the SEZ by type, in addition to extent.

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The SEZ boundaries and types are to be provided to TRPA on topographic maps provided by the applicant.

2.1.2 Document Impact Amount

Following the mapping of SEZ's within the project area, the next step is to define the amount of impact by type. The TRPA Code does not explicitly define SEZ 'impact' however, the following terms are associated with categories of actions which impact SEZs and are therefore regulated by TRPA. SEZ impacts are further categorized into 'temporary' and 'permanent' actions. Existing TRPA terms which relate to SEZ impact include land *disturbance* and land *coverage*.

The following impact activities require a TRPA permit (except for exempt activities):

- c. **Land Disturbance** - TRPA Code Section 90.2: *Disruption of land that includes alteration of soil, vegetation, surface hydrology, or subsurface hydrology on a temporary or permanent basis, through action including, but not limited to, grading.*
- d. **Land Coverage (Permanent)** (applies to both upland and SEZ) - TRPA Code Section 90.2: *A man-made structure, improvement, or covering, either created before February 10, 1972, or created after February 10, 1972, pursuant to either TRPA Ordinance No. 4, as amended, or other TRPA approval, that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement, or covering. Such structures, improvements, and coverings include, but are not limited to, roofs, decks, surfaces that are paved with asphalt, concrete, or stone, roads, streets, sidewalks, driveways, parking lots, tennis courts, patios; and lands so used before February 10, 1972, for such uses as for the parking of cars and heavy and repeated pedestrian traffic that the soil is compacted so as to prevent substantial infiltration. A structure, improvement or covering shall not be considered as land coverage if it permits at least 75 percent of normal precipitation directly to reach the ground and permits growth of vegetation on the approved species list. See also "Potential Land Coverage." Common terms related to land coverage are:*
 - i. *Hard Coverage—man-made structures as defined above.*
 - ii. *Soft Coverage—compacted areas without structures as defined above.*
- e. **Temporary Land Coverage/Disturbance**: A temporary activity applies to any activity that does not result in permanent land coverage, and may create temporary land coverage or disturbance for an authorized amount of time (typically a year) specified by a temporary TRPA permit.

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2.1.3 Schedule a Pre-application Meeting with TRPA Staff

Encouraged for Projects involving over 1,000 square feet of SEZ impact.

2.1.4 Develop SEZ Impact Mitigation and/or Restoration Plan

Projects are required to mitigate for SEZ impacts by implementing a Mitigation or a Restoration Plan (to be developed by applicant and approved by TRPA) as part of permit conditions unless restoration credits are purchased from an accredited land bank. Project securities are released (permit close out) once the impacted SEZ is mitigated or restored by implementing the respective plan. For projects that are inherently restoration, such as an Environmental Improvement Program project, the mitigation is often the project itself and does not require a separate Mitigation or Restoration Plan.

The Mitigation or Restoration Plan should identify the plan to restore or mitigate for SEZ impacts. As presented below, mitigation or restoration can be associated with existing/historic SEZs or with the creation of new SEZs. The Restoration Plan should seek to achieve in-kind mitigation or restoration according to type of SEZ disturbed, if possible, to ensure the functions and values of impacted SEZ result in no net loss. Implementation of the Plan must result in revegetation and restoration of SEZ function to receive restoration credit.

Restoration or Enhancement (existing or historic SEZ)

- a. **Restoration** (Reestablish the resource/restore functions of historic SEZ)
 - i. Removal of coverage and revegetation
 - ii. Reestablish functions and values of historic SEZ
- b. **Enhancement** (Resource exists, results in uplift in function)
 - i. Habitat is considered enhanced when actions are taken that heighten, intensify or improve one or more habitat functions for the benefit of special status species, water quality, property protection, recreation or scenic quality. Enhancements result in a net gain in function but not in area of the aquatic resource ([TRPA EIP Tracker](#)).
 - ii. Enhancement is the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s) but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area (EPA Definition).

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Establishment/Creation (SEZ does not exist, create new)

- c. **Establishment/Creation:** The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area ([EPA Definition](#)).

Restoration Definitions

TRPA Code Table 21.4-A, SEZ restoration is *the **reestablishment** of the natural functions of areas that, prior to modification, were directly influenced by the presence of surface water or near surface groundwater and that have been identified by TRPA as a stream environment zone. **Reestablishment** includes activities such as the removal of fill material or other encroachments, recontouring, revegetation, or restoration of physical, chemical, and biological attributes. The natural functions of an SEZ include the reestablishment of natural floodplains, the provision of wildlife habitat, protection of the soil resource, and filtration of nutrients and sediments from tributary or storm runoff.*

*An SEZ is considered restored when actions have been taken that reestablish or rehabilitate an SEZ with the goal of returning natural or historic functions and characteristics to a degraded SEZ. Restoration actions can rebuild a former SEZ and result in a gain in both SEZ area and function. **Restoration (TRPA Code Section 30.5.3)** shall result in the area functioning in a natural state (see below) and shall include provisions for permanent protection from further disturbance.*

TRPA Code Section 90.2 **Natural State:** *That condition that is found in nature and not modified by human intervention*

TRPA Code Section 90.2 **Near-natural State:** *Approximating natural conditions*

TRPA Code Section 90.2 **Restoration, or Restored:** *In the context of natural areas, the reestablishment of the primary natural characteristics and functions of the soil, hydrology, vegetation, and other natural features of the natural habitat.*

2.1.5 Selection of Success Criteria

The Mitigation or Restoration Plan should identify measurable 'success criteria' to be applied to the project to ensure the desired outcomes are achieved. Success criteria (also known as performance standards) are based on TRPA's definition of 'revegetation.' TRPA Code does not identify specific success criteria or performance standards (see definitions below) that must be applied to projects. Development and application of success criteria and performance criteria for SEZ mitigation or restoration must be developed as appropriate for each project.

Success criteria must reflect project goals and objectives and state the desired condition of the revegetated site. Criteria may include attributes such as percent

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vegetative cover, soil surface cover, plant survival, soil penetrability, and absence of any visual signs of rills or erosion. The following definitions describe the aforementioned attributes:

- Percent vegetative cover: Cover is generally referred to as the percentage of ground surface covered by vegetation ([NRCS](#)). Percent vegetative cover is a method of measurement determining relative abundance of vegetation based on the amount of space plants take up, rather than the number of plant individuals.
 - Percent vegetative cover can be measured in plots or quadrats by estimating the proportion of the plot area that is covered by vegetation
- Soil surface cover: The amount of soil surface covered by plant or other organic material. Soil surface cover reduces soil erosion, protects topsoil, reduces runoff and moisture loss, among others ([source](#)).
- Plant survival: Survival rate is calculated by counting the number of plants of each species that have survived, divide it by the number of plants originally planted of that species and multiply by 100 to express as a percentage of survival.
- Soil penetrability: Penetrability describes the relative ease with which roots can penetrate soil and potentially extract any stored moisture, nutrients, or toxic elements. The penetrability classes are ([NRCS](#)):
 - *Nonpenetrable*.—Roots cannot penetrate through the solid or compacted parts of the soil.
 - *Penetrable*.—Roots can penetrate through solid or between the component parts of the soil.
- Soil erosion: Soil erosion involves the breakdown, detachment, transport, and redistribution of soil particles by forces of water, wind, or gravity ([NRCS](#)). Six generally accepted principles for addressing erosion are ([USFS](#)):
 1. Reduce erosive forces and increase resisting forces.
 2. Apply good erosion control for good sediment control.
 3. Modify topography or grade.
 4. Limit soil exposure.
 5. Keep runoff velocities low.
 6. Inspect and maintain treatments.
- Rill erosion: Rill erosion is erosion by water in small micro-channels, typically 0.2 to 1.2 inches wide and up to 3 inches deep. It occurs where rain or

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snowmelt contacts bare soil for durations long enough for the water to develop micro-channels ([USFS](#)).

Selection of success criteria/performance measures should be coordinated and approved by TRPA staff prior to SEZ restoration activities. Examples of existing Success Criteria that may be used for a project include the following:

- a. [USACE 'performance standards' \(33 CFR 332.5\)](#): Performance standards are observable or measurable physical (including hydrological), chemical and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives. Performance standards should relate to the objectives of the compensatory mitigation project, so that the project can be objectively evaluated to determine if it is developing into the desired resource type, providing the expected functions, and attaining any other applicable metrics (e.g., acres). Performance standards must be based on attributes that are objective and verifiable. Ecological performance standards must be based on the best available science that can be measured or assessed in a practicable manner. Performance standards may be based on variables or measures of functional capacity described in functional assessment methodologies, measurements of hydrology or other aquatic resource characteristics, and/or comparisons to reference aquatic resources of similar type and landscape position. The use of reference aquatic resources to establish performance standards will help ensure that those performance standards are reasonably achievable, by reflecting the range of variability exhibited by the regional class of aquatic resources as a result of natural processes and anthropogenic disturbances. Performance standards based on measurements of hydrology should take into consideration the hydrologic variability exhibited by reference aquatic resources, especially wetlands. Where practicable, performance standards should consider the expected stages of the aquatic resource development process, in order to allow early identification of potential problems and appropriate adaptive management.
- b. Example Success Criteria as presented TRPA Revegetation Plan Example ([TRPA BMP Handbook, 2014](#)).

2.1.6 Prepare Application Checklist

Prepare and submit a TRPA [Permit Application](#). TRPA staff will review an application for completeness within 30 days from the date of submittal. If additional items are needed or checklist items are lacking, a notice will be sent to you and/or your representative indicating what additional information is needed to make the application complete. If the application is determined to be complete, a notice will be sent to you and/or your representative confirming this determination. Once complete,

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your application is ready to be reviewed by TRPA staff for conformance with TRPA rules and regulations. A complete application notice is not a conceptual approval of your application, nor is it a determination that the information submitted for review is accurate or approvable. TRPA cannot hold incomplete projects for an indefinite period of time. If your project application addresses all items on the checklist, your application will be accepted by TRPA ([TRPA](#)).

A project security will be collected by the reviewing jurisdiction. In most cases, the project security will be based on 110% of the cost of all required Best Management Practices (BMPs). Securities may also be required to ensure compliance with specific conditions of project approval. A security can be posted in several ways: a certificate of deposit, a hold on a personal savings account, a letter of credit, an assignment of personal savings account, a bond (only if security is estimated over \$10,000), or cash. A non-refundable security administration fee is required for all securities. The security plus any interest accrued will be returned upon a final inspection of the completed project. Contact the jurisdiction that issued your permit to schedule a final inspection. Review TRPA permit [Attachment J](#) for an explanation of Security procedures.

2.2 PROJECT IMPLEMENTATION ACTIVITIES

2.2.1 Pre-Construction Meeting

Meet with TRPA onsite to conduct a pre-construction meeting (also referred to as 'pre-grade inspection'). During the meeting, TRPA staff and Applicant will review the project Site Plan; TRPA staff will either approve the project to move to construction phase or identify corrective measures that must be made prior to commencement of construction. The primary purpose of a pre-construction meeting is to ensure temporary erosion control and vegetation protection is properly installed and that appropriate construction equipment staging and material storage areas are identified as needed prior to commencement of construction.

2.2.2 Construction

Construct the project. Intermediate inspections may be performed during the construction process as well ([TRPA](#)). Intermediate inspections ensure the permit conditions are being followed, temporary BMPs are still in place and functional, sites are properly winterized (between October 15 and May 1), and the project is progressing as approved. Also, if a complaint is made, a TRPA inspector will follow up on the complaint and verify whether or not any unauthorized activity is occurring.

2.2.3 Restoration/Revegetation

For projects that impact SEZ, implement Mitigation or Restoration Plan; conduct initial revegetation of impacted existing SEZ and/or implement SEZ creation. This step may take place concurrently with project construction activities.

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2.2.4 Monitoring and TRPA Inspections

Monitor for SEZ restoration success at intervals determined by selected success criteria/performance measures identified in the project’s Mitigation or Restoration Plan. Coordinate with TRPA staff should issues arise with revegetation or restoration success.

2.3 PROJECT CLOSEOUT ACTIVITIES

2.3.1 Success Criteria Documentation

Document results of success criteria monitoring. Once success criteria are achieved and SEZ restoration has occurred, the project security can be returned, and the project closed out.

Per TRPA Code Section 30.5.3B, only land that has been disturbed or consists of hard or soft land coverage shall be eligible for restoration credit. Restoration shall result in the area functioning in a natural state and shall include provisions for permanent protection from further disturbance.

Provisions for permanent protection from further disturbance shall include, but are not limited to, permit conditions, and/or recordation by the owner of deed restrictions or other covenants running with the land on a form approved by TRPA, against parcels in private ownership, permanently assuring that the restoration requirements of subparagraphs 30.4.3.B.5 or 30.5.1.B.5 are satisfied, as applicable. On public lands, TRPA shall obtain appropriate assurance from the public agency that the requirements of subparagraph 30.4.3.B.5 or 30.5.1.B.5, as applicable, are met.

2.3.2 Close Out – Final Inspection and Security Release

A final inspection is made towards the completion of the project to make sure all work was completed properly, and success criteria has been achieved; the area is now considered effectively restored. Once you have fulfilled all the conditions of the permit, contact the TRPA for a security deposit return inspection (final inspection). The security plus any interest accrued will be returned upon successful final inspection of the completed project ([TRPA](#)).

Security release will be partial or full depending on if restoration success criteria is phased and tied to partial security return schedule agreed to in advance. To be coordinated with TRPA.

3 SEZ Impact/Restoration Checklist – TRPA STAFF

3.1 PRE-APPLICATION MEETING

Meet with Applicant for pre-application meeting.

3.2 PERMIT REVIEW AND INITIAL SITE VISIT

Once a permit application is received, conduct an initial site visit to verify land capability, land coverage, and SEZ disturbance amounts as presented in permit application materials.

3.2.1 Review Mitigation or Restoration Plan

Review the proposed Mitigation or Restoration Plan and success criteria. The Mitigation or Restoration Plan should seek to achieve in-kind restoration according to type of SEZ disturbed, if possible, to ensure the functions and values of impacted SEZ are restored. Implementation of the Plan must result in revegetation of the SEZ to get restoration credit.

The Mitigation or Restoration Plan should include a description of the desired condition of the revegetated site that reflects project goals and objectives. Criteria may include attributes such as percent vegetative cover, soil surface cover, plant survival, soil penetrability, and absence of any visual signs of rills or erosion (as described in [Section 2.1.5 – Selection of Success Criteria](#)).

Restoration actions can rebuild a former SEZ and result in a gain in both SEZ area and function. Restoration (TRPA Code Section 30.5.3) shall result in the area functioning in a natural state (see below) and shall include provisions for permanent protection from further disturbance. Only land that has been disturbed or consists of hard or soft land coverage shall be eligible for restoration credit. Construction and Restoration Inspection and Monitoring

3.3 MONITOR

Conduct intermediate inspections during the construction process. Ensure permit conditions are being followed, temporary BMPs are in place and functional, sites are properly winterized (between October 15 and May 1), and the project is progressing as approved.

Conduct inspections/monitor for revegetation and SEZ restoration success. Review monitoring or inspection reports from the applicant describing progress towards achieving success criteria. An SEZ is considered restored when actions have been taken that re-establish or rehabilitate a SEZ with the goal of returning natural or historic functions and characteristics to a degraded SEZ.

3.4 PROJECT CLOSEOUT ACTIVITIES

3.4.1 Review Monitoring Documentation and Conduct Final Inspection

The Applicant will provide documented results of success criteria monitoring. Confirm that results achieve success criteria outline in the Mitigation or Restoration Plan.

Prepare the final inspection checklist with project Applicant. Ensure all required permit conditions have been met and documents provided (ie, final plan sets, restoration documentation).

Conduct final inspection onsite to verify SEZ has been restored to the goals and objectives of the identified success criteria. If final restoration has not been achieved, the Applicant must continue monitoring for success and amend Restoration Plan if necessary.

Per TRPA Code Section 90.2, an SEZ is considered restored once the following occurs: *in the context of natural areas, the reestablishment of the primary natural characteristics and functions of the soil, hydrology, vegetation, and other natural features of the natural habitat.*

3.4.2 Security Release

Once SEZ restoration has occurred, the project can be closed out/securities released. Security release will be partial or full depending if restoration success criteria is phased and tied to partial security return schedule agreed to in advance.

Coordinate with Applicant to obtain provisions for permanent protection from further disturbance shall include, but are not limited to, recordation by the owner of deed restrictions or other covenants running with the land on a form approved by TRPA, against parcels in private ownership, permanently assuring that the restoration requirements of subparagraphs 30.4.3.B.5 or 30.5.1.B.5 are satisfied, as applicable. On public lands, TRPA shall obtain appropriate assurance from the public agency that the requirements of subparagraph 30.4.3.B.5 or 30.5.1.B.5, as applicable, are met.