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Cannon Beach Forest Corridor

VEGETATION MANAGEMENT PLAN

CH2M Hill
In association with
Parametrix Inc.

For the Oregon Department of Transportation

Pacific Coast Scenic Byway

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Introduction

Oregon's Pacific Coast Scenic Byway is one of the most scenic travel experiences in the nation. The highway's character contributes to both local residents' quality of life and the coastal tourism economy. The recently completed corridor management plan for the highway is a community-based strategy for maintaining the highway's scenic character into the future.

One of the recurring themes of the management plan is the importance of the highway's "fit" with the surrounding landscape. The parts of the highway that are most important to coastal residents are those where the road enhances the experience of the surrounding natural environment, making travelers feel that they are in the landscape, rather than just passing through it.

Along with its role as a scenic byway, Highway 101 serves a wide range of other purposes including serving local and commercial traffic. Inevitably, there are conflicts between the requirements for the highway's different roles. Finding the right balance between competing needs requires ongoing commitment and attention. The Oregon Department of Transportation, corridor communities, and corridor residents all have a voice in finding that balance.

One of the elements that defines the highway's character is its roadside vegetation. The highway right-of-way is wider than the highway itself, and one of the Department of Transportation's responsibilities is to manage the long, narrow strips of vegetation that border the road. Roadside vegetation is an important component of the regional ecosystem, contributing to the highway's fit with the surrounding landscape, and providing a buffer between the highway and adjacent land uses. Usually, it has to fill all of these roles in a limited space, caught between the highway pavement and adjacent roadside ownerships and development.

Alders lean towards the highway in the Cannon Beach Forest Corridor

This plan for managing the roadside vegetation in the Cannon Beach Forest Corridor has been developed as one of the tools for implementing the goals identified in the corridor management plan. The forest corridor is a special part of the highway, and maintaining its character will require special attention in the future. The goal of the plan is to develop a feasible roadside vegetation management approach for this segment of US 101 that maintains both traveler safety and the corridor's scenic character.

The plan addresses three core issues for corridor vegetation management:

- Goals for future management of the corridor.
- Protocols for community-based review and approval of vegetation management actions.
- Guidelines for evaluation of individual tree and stand management activities.

These guidelines can serve as the framework for the development and approval of future vegetation management projects. The plan includes principles and goals which future management projects will implement.

This section of the corridor is bordered by conifers on both sides of the highway

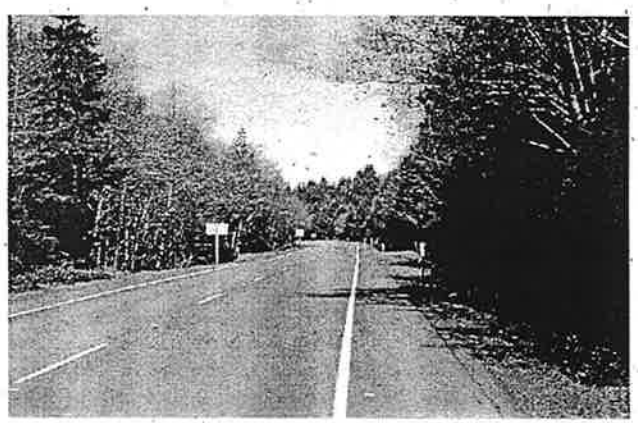
Need for a Vegetation Management Plan

The Pacific Coast Scenic Byway Corridor Management Plan (CMP) goal for the future management of this segment of the highway is to maintain or enhance its current scenic character. The forest corridor is identified as one of the features that defines the character of the highway, and significantly contributes to the travel experience. The character of the highway through the City of Cannon Beach is also identified as an important issue in the City's Comprehensive plan transportation policies.

On-site evaluation of the roadside forest by the Oregon Department of Transportation (ODOT) and City of Cannon Beach foresters showed that standard ODOT maintenance procedures would need to be modified to meet these goals. Discussions between the City of Cannon Beach and ODOT indicated that this could be an opportunity for effective partnership for planning and implementing a long-term management strategy.

Cannon Beach stands out as one of the coastal communities that has been proactive in developing policies to protect and enhance community character in the face of development pressure and demographic changes. The City's tree removal ordinance (see appendix II) recognizes the legitimate public interest in the maintenance of mature vegetation in the city. The City's ordinance requires a permit for the removal of any tree larger than 6" in diameter.

The City and ODOT share many goals for the management of 101—maintaining highway safety, maintaining the highway's scenic character, and responding to the interests and concerns of residents and highway users.



The upper photo shows the highway where the canopy is most-developed. The lower photo is more open.

Except in urbanized areas with developed streetscapes, ODOT is responsible for roadside vegetation management for all state highways. Vegetation management serves several purposes:

1. **Traveler Safety**
   - Maintain site distance for curves and intersections
   - Maintain a clear recovery zone for vehicles leaving the paved surface
   - Protect against branches and trees falling onto the highway

2. **Maintenance of the Physical Integrity of the Highway**
   - Maintain the stability of cut and fill slopes
   - Maintain drainage facilities
   - Protection of paving and subgrades

3. **Maintenance of Highway Character and a Positive Travel Experience**
   - Maintain and enhance the native landscape character
   - Provide and maintain opportunities for scenic views
   - Provide a visually diverse setting for the highway
   - Maintain the right-of-way as a foreground that complements the adjacent natural landscape.

Physical Setting for the Forest Corridor

The Cannon Beach Forest Corridor stretches from the Cannon Beach viewpoint at the north to the Silver Point viewpoint at the south. The north end of the corridor is elevated as the highway leaves the Necanicum River valley and climbs over the arm of Sugarloaf Mountain that extends to form Tillamook Head. Moving south the highway loses elevation, crossing Ecola Creek while the roadbed is still filled significantly above the underlying grade, and then leveling out as it crosses through the wetland system that is incorporated into the city's

The Sitka Spruce

Yet the majesty of the Sitkas is not all in their size, but rather in the noble bearing of the crowns, the monumental cleanly straightness of their boles. The branches of this king of Spruces have an upward sweep suggestive of strength and rejoicing; from these the branchlets hang down in a beautiful weeping habit, and the twigs too, ending in the pendant cones. The young tree, and the trees by the side of the highway with room to expand, are clothed to the base in thick-set numberless boughs. The ancients of the deep woods, on the contrary, have tall bare trunks—and what trunks! The strains and stresses above, perhaps, and the boggy nature of the ground beneath, have resulted in greatly swollen and buttressed bases, whence the roots start, claw-like, from the stem and grip the earth as if to balance the immense superstructure. Above, the trunks soar, columnar and incredible, to disappear in the canopies of crowding, lesser trees; their own crowns may be quite shut away from you, far overhead. But the voice of the varied thrush may drift down to you, where the bird in the Sitka's topmost branches faces the sunlight that never penetrates below.

From A Natural History of Western Trees
by Donald Culross Peattie

wastewater treatment facility. The highway landscape opens to the dunes approaching Tolovana Park, then rises back into forest before reaching Silver Point. The highway is in cut at the north end of the section, and in fill for a long section as the highway drops towards the south.

Adjacent land uses are mixed, and include forestry, residential, and wetlands (including Cannon Beach's sewage treatment plant). Vegetation along the highway is mixed coniferous and deciduous forest. The dominant trees include alder, Sitka spruce, and western hemlock. In a few locations along the corridor the overhanging branches of roadside alders extend to create a sense of a "tunnel" over the highway, one of the few places that this occurs along US 101. Cannon Beach residents value this tunnel effect that provides a sense that the highway is carefully fit into the surrounding forest. In other sections of the corridor the highway is bordered by conifers that provide a visual barrier separating the highway from adjacent land uses. Understory plants are generally low with salal the dominant groundcover. In some areas dense overstory and mid-story plants inhibit understory growth. In several locations the forested strip adjacent to the highway is narrow and doesn't effectively screen views to residential development from the highway.

The corridor can be understood as five connected landscape units— each with a different character, and different management needs:

- Cannon Beach Viewpoint and North Entry— The Cannon Beach viewpoint is one of the first views to the Pacific for southbound travelers. Continuing south, the highway cuts through the ridge of Tillamook Head, then begins to drop down towards the beach. This section of the highway is also the north entry to the city of Cannon Beach. Currently, the existing intersection is planned to be redeveloped with new grade-separated access.
- Cannon Beach North Entry to Sunset Boulevard Entry—The road continues to drop towards Tolovana, and the roadside trees crowd up to the road.

The Western Hemlock

[A]bundant, almost omnipresent in its range ...Hemlocks seem, in the Northwest, to fill all the spaces not forcibly occupied by other trees...in general it is simply the commonest, most continuously distributed, of the trees of the great coniferous rain forests of the Northwest coast.

Fortunate it is, then, that it is so beautiful a tree. In its early life, when it takes the form of a broad-based cone, its branches have a deliciously youthful gesture, as of uplifted arms. In age the reverse is true; the branches, becoming old and heavily laden with branchlets, bend down at the tips, and the twigs are often pendant too, so there is something of the "weeping" habit about a specimen 200 and 300 years old—or perhaps only half "weeping"—gracefully resigned, rather, to the burdens and the dignities of age.

The Western Hemlock is notable for the way that its long, lash-like leader shoot nods over at the tip, like the end of an old-fashioned buggy whip!..

From A Natural History of Western Trees
by Donald Culross Peattie

edge, forming a complete canopy in some locations. This section of the highway is the best example of the forested corridor. Where the highway is on fill, trees are close to the edge of the pavement, and the canopy drapes low over the highway.

- Sunset Boulevard Entry to Tolovana Park—the highway begins to level out as it curves westward. Conifers start to become the more common roadside trees, and there is a larger clear space between the edge of pavement and the tree line.
- Tolovana Park Beach
  As the highway drops down to the level of the beach, roadside trees become shorter, less common, and are held further back from the highway. At the Warren Beach road intersection the landscape is open with views towards the beach, and dune scrub mixed with forest.
- Tolovana Park to Silver Point—The highway begins to rise back into the forest in this area until it reaches the Silver Point viewpoint. The roadside forest in this area is dominated by conifers.

Management recommendations for each of the units are described in a later section.

Composition and Character of the Roadside Forest

Forest stands are dynamic systems. Both species composition and spatial patterns of distribution change through time. The roadside trees along the Cannon Beach section of US 101 are relatively young. Most of them are the first generation of trees to grow in the area disturbed by the construction of the highway. Management guidelines for the highway are each steps to work with the dynamic processes of roadside forest development to reach the long-term goals of developing a sustainable, safe, and beautiful roadside ecosystem. The

The Oregon [Red] Alder

Every trout and salmon fisherman of the Northwest coast, surely, knows the Oregon Alder. For from Alaska to the Redwood belt of California it overleans, with its flickering, beechen shade, almost every trout pool, laving its roots in the clear, cool water. And since it grows most abundantly near the sea it is sure to be found on almost all the salmon runs, where the great king salmon comes up from the ocean to find the fresh waters where it was born, there to spawn and there to die...

The bark is the loveliest feature of the tree. It is, in youth, a soft grayish white, quite as pleasing as any Aspen's or Beech's bark and almost as lovely as a Birch's though it never peels. As the trees grow older, irregular low lumpy growths appear on the boles; these are generally blackish. And the very rainy or foggy climate of this Alder's range induces long lines of dark green moss to grow, especially on the north and west. The resultant mottling of colors is exquisitely subtle and harmonious. One could not ask for a lovelier sylvan presence than this.

From A Natural History of Western Trees
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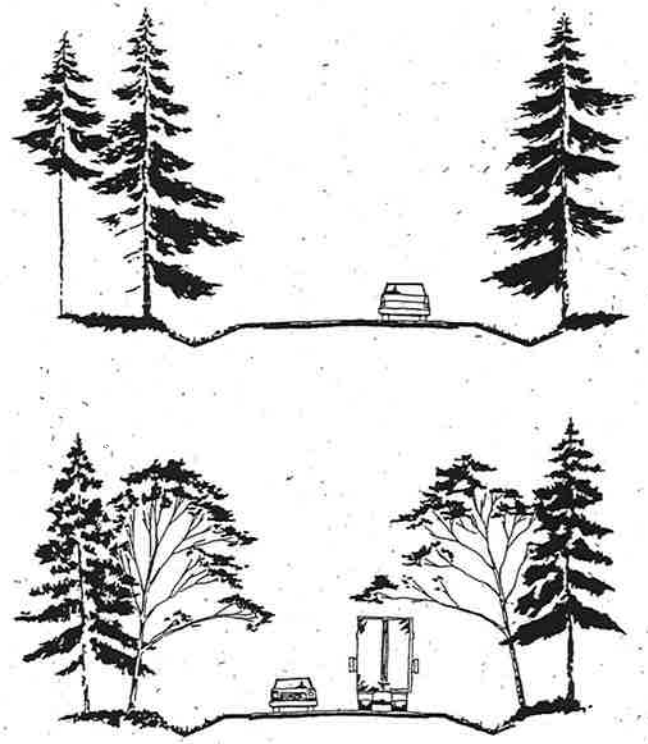
dominant trees in the roadside forest each have their own particular character that contribute to the forest stand:

- **Alder** is the most common deciduous roadside tree, and the most important tree forming the canopy over the roadway. Alder is an early-succession tree that establishes best in full sun and disturbed soil. In the US 101 corridor the canopy opening created by the highway provides the light gap that encourages alder establishment in the area nearest the highway.

  Alder is strongly phototropic, growing towards available light. Since the light source for roadside alders is the gap directly over the paved surface, these trees tend to grow at an angle towards the road. Lower limbs often become overextended as they grow towards the highway to capture light. Alder stands are generally dense, limiting the ability of individual trees to develop balanced crowns. Roadside alder stands are typically mixed with conifers, and their growth pattern is also influenced by the proximity and size of the conifers in the second tier of vegetation back from the roadside.

  Alder generally develops a high canopy. Where alder grow without conifers behind them they form a poor screen to adjacent land uses. Where stands of roadside alder are backed by large forest tracts they provide a visual access into the forest.

- **Sitka Spruce** is a common conifer of the Oregon coastal region, often growing to enormous size. The largest conifers in the corridor are spruce, although hemlock are more abundant, especially in the youngest age classes. In forest stands spruce tend to "self-prune" their lower branches, leaving tall straight trunks with smaller branch stubs from the base of the tree extending to the live foliage. Sitka Spruce are somewhat shade-tolerant and may establish in light gaps in closed forests. In this section of the highway corridor they do not seem to be establishing as well as hemlock.



These typical sections illustrate the difference in highway character between portions of highway bordered by conifers and portions bordered by alder.

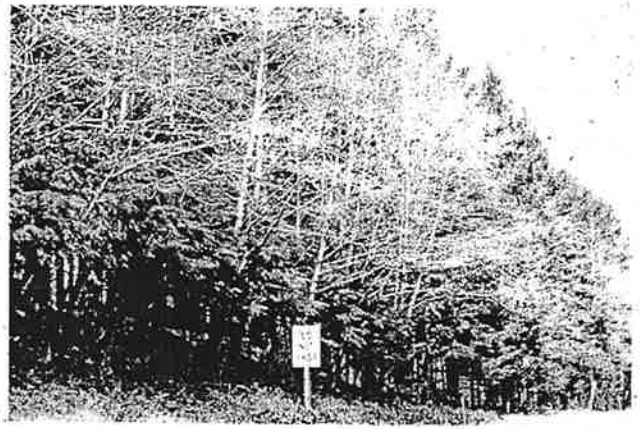
- **Western Hemlock** is the most common conifer in the corridor, although most hemlock are smaller and younger than the remaining spruce. Hemlock are shade tolerant, allowing them to establish in the understory of the existing roadside forest. Larger hemlocks tend to retain their lower branches more frequently than spruce, especially when they are not directly shaded by adjacent trees. Many of the young hemlock in the corridor form dense, overcrowded stands.

The combination of the establishment and growth patterns of roadside forest species and the unique edge conditions of the roadside environment indicate several management issues to be resolved.

Roadside Vegetation and Highway Character

Roadside vegetation plays an important part in defining the visual character and driving experience of the highway. Roadside vegetation affects the perceived width of the highway, can provide a visual buffer between the road and adjacent development, and helps to knit the highway into the surrounding landscape.

Native vegetation is an expression of the local climate and regional ecological variation, some of the natural features that the Pacific Coast Scenic Byway plan is intended to reinforce and celebrate. Coastal native plant communities differ from inland communities. Also, coastal plants are often shaped by prevailing winds into unique forms that are an integral part of the coast's sense of place. The changes in roadside vegetation along the Pacific Coast Scenic Byway help travelers to understand where they are as the highway winds back and forth to and away from the coast, and helps to underscore the diversity and rhythm of the travel experience.



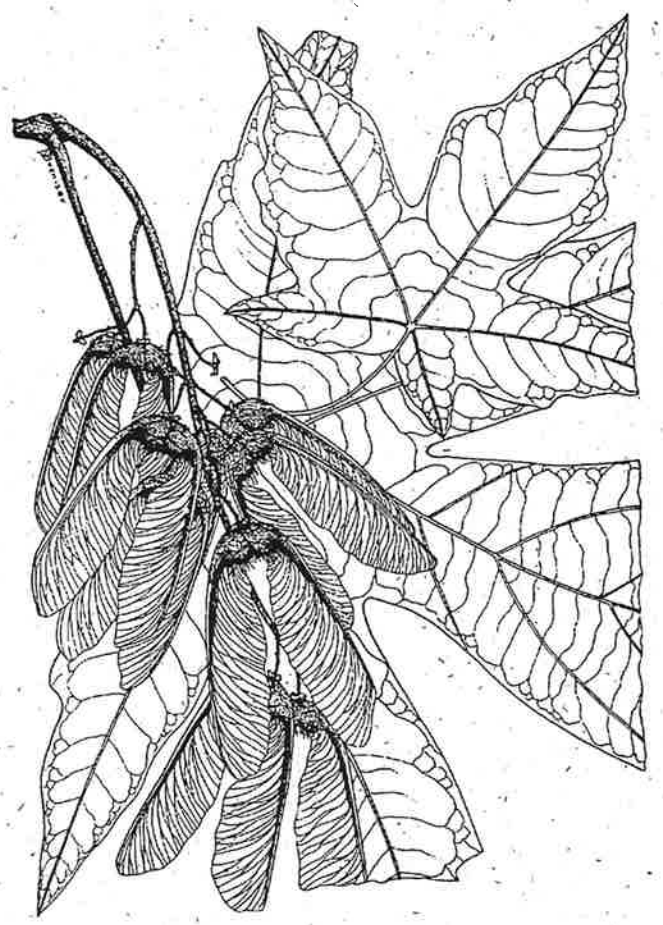
and block

Along much of the forest corridor alders emerge from a background of conifers. This forms an attractive edge, but it can also promote the development of alders that are hazards to fall on the highway.

The vegetation along the coast varies from forest to marshland, dune to pasture, streetscape to windswept headland. Those variations provide an important sense of change and orientation to the landscape. The Cannon Beach forest corridor is one of the few forested stretches of the highway on the north coast, with the characteristic mix of tree species that makes the coastal forest so different from inland or alpine woodlands.

Also, of course, the experience of the highway through the Cannon Beach forest corridor is defined by the outstretched limbs of alders as they form a near canopy over the highway. In a landscape of predominantly coniferous trees alders, maple, and other less common deciduous vegetation provide seasonal change and daily movement. Leaves glow bright green in spring, mature into deeper mid-summer green, and eventually turn and drop in the fall. The mossy gray bark and russet crown of alders in winter is one of the northwest's most characteristic landscape scenes.

when mixed with conifer-forest



Guidelines for Managing Roadside Vegetation

The desired future character of the Cannon Beach Forest Corridor can be summarized in a few fairly simple goals. Management approaches that are flexible, but consistent with these long-term goals, can maintain and enhance the character of the forest corridor and protect its unique sense of place.

Goals and Objectives

Goals:

- Manage for the long-term health and character of the roadside forest by encouraging the development of mixed age, mixed species forest stands.
- Maintain and enhance the sense of enclosure through the corridor to the greatest extent that is compatible with traveler safety.

Objectives:

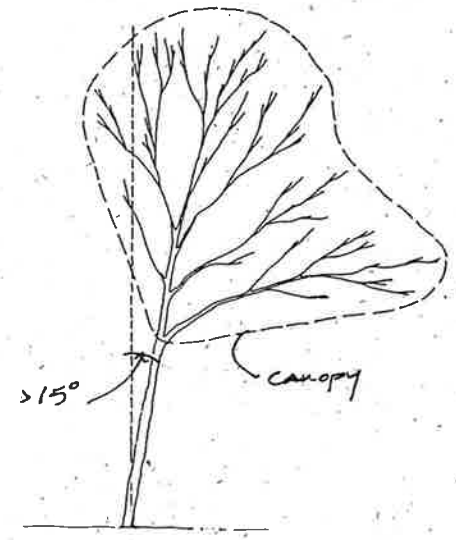
- Identify and remove hazard limbs and trees to maintain a safe traveling environment.
- Manage proactively to encourage mixed age and species stands throughout the corridor.
- Develop vegetation management methods that have the least impact on visual integrity consistent with maintaining public safety. Where possible prune limbs prior to removing trees, and selectively remove individual trees rather than stands.
- Encourage shade-tolerant conifers as visual buffers where residential development is adjacent to the highway.
- Encourage or plant native evergreen understory shrubs where visual buffers are needed beneath deciduous trees and conifers with open lower branches.

Managing Roadside Vegetation Hazards

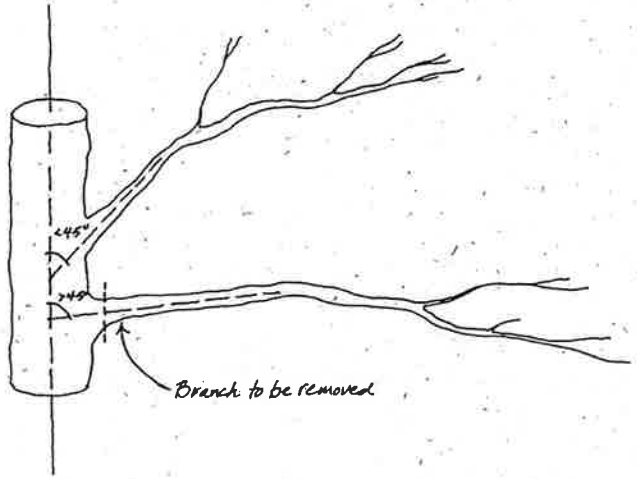
Maintaining a reasonable level of highway safety is ODOT's highest priority for the corridor. The most significant hazards from roadside vegetation are trees or limbs falling into the travelway. Because the highway is generally either in cut or fill with a narrow section, maintaining a clear recovery zone is not a significant issue for most of the corridor. Trees that are an immediate threat to public safety are an action priority for identification and removal.

Managing alders is the significant challenge for maintaining both the safety and character of the corridor. Alders often grow in the narrow fringe between coniferous forest and the cleared operational zone of the highway. In several locations along the corridor alders grow with excessive lean, low exposed branches, inadequate space for crown development, and in overcrowded conditions. Each of these conditions can lead to the development of highway safety hazards. Management strategies for these conditions must maintain public safety and the character of the forest corridor:

- **Identify and selectively remove trees that are an immediate hazard:** Determination of hazard status will be the only criteria for removal of trees 6" dbh and larger. Factors that contribute to the determination of hazard include the tree's overall health, growth habit and geometry. For permitting purposes, the City's evaluation standards will be used as a basis for evaluation, with trees scoring 7 or higher being considered a hazard and appropriate for removal. Trees leaning towards the road with a 15° or greater lean from vertical, and 85% or more of crown section outside of the axis of the tree (figure xx) will also be considered appropriate for removal at the discretion of ODOT personnel and the City arborist.



This alder, leaning beyond 15 degrees and with a majority of its crown to one side of vertical needs careful inspection to ensure that it is not too hazardous for the highway roadside.



Pruning low-hanging branches can remove a hazard while retaining trees important to the highway's visual character.

- **Where individual branches on an otherwise sound tree are a safety hazard, remove branches by pruning rather than removing the tree.** Remove branches extending into the travelway with less than 16' vertical clearance above the highway. Branches extending into the travelway that are more than 45° out of vertical at the trunk may also be removed.

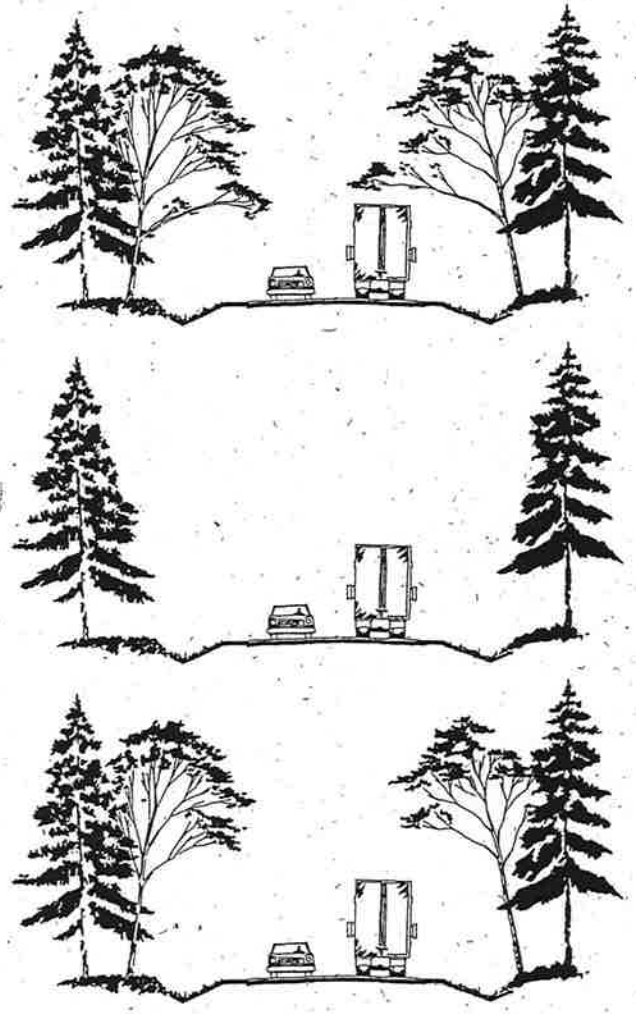
Managing for Future Stand Health and Character

Management of trees 6" dbh and below is critical to the future character of the highway corridor. Managing for the long term health of these trees will ensure that the overall character of the road is maintained through time, and will contribute to reducing future safety hazards. Selective pruning or removal of trees below 6" dbh prior to the development of a hazardous condition can help to maintain alders in the roadside forest mix and minimize safety concerns.

- **Manage for the development of mixed age, mixed species stands.** Develop conditions to allow alders to grow safely as part of a mixed roadside forest. Selectively thin overstocked stands to provide room for upright growth and balanced canopy development. Provide openings to allow the establishment of young alder at safe distances from the roadside. Encourage the establishment and growth of Sitka spruce.

- **Select locations where alders can be encouraged to develop into a canopy:** Several locations along the highway currently support young alder stands that have the potential to develop into a canopy extending over the highway. Manage for the future development of these stands by selective thinning where trees are overstocked, and selective removal of "second row" trees to allow for healthy canopy development.

- **Selectively thin stands of young western hemlock to allow the development of a full branch structure:** Where the highway is adjacent to nearby residential development encourage the development of a continuous conifer screen with live branches to block views .



These drawings illustrate the effects of different approaches to managing a hazard from roadside limbs. At top, low-hanging limbs are vulnerable to wind, snow, or collision damage; middle, the effects of removing trees with hazard limbs; bottom, the pruning hazardous limbs can maintain most of the character of the highway while reducing safety concerns.

Landscape Unit Management Recommendations

Cannon Beach Viewpoint and North Entry

The Cannon Beach Viewpoint is the first opportunity for southbound travelers to see the ocean from the highway. The north entry to Cannon Beach is planned for reconstruction in the near future. There are opportunities in this landscape unit to enhance the view from the highway, and to develop landscape strategies for the proposed intersection improvements that complement the adjacent native landscape.

Landscape Unit Visual Character Goals:

- Manage vegetation at the Cannon Beach viewpoint to maintain an open ocean view.
- Revegetate new entrance with native species consistent with existing roadside vegetation and the landscape enhancement section of this plan.
- Revegetate existing cut slopes not redeveloped for new entry.

Cannon Beach North Entry to Sunset Boulevard Entry

This section of the roadway is generally on fill as the highway crosses Ecola Creek and drops towards Tolovana. Portions of this area include mature alder canopies over the highway.

Landscape Unit Visual Character Goals:

- Maintain alders at the road edge to provide a sense of enclosure over the highway.
- Prune existing trees as necessary to remove dangerous limbs.
- Manage understory conifers to provide room for healthy crown development of roadside alders.
- Encourage development of young alders to extend the existing canopy along the highway.

Suggested Plants for Construction Revegetation:

Trees:
Sitka Spruce
Western Hemlock
~~*Shore Pine*~~
Vine Maple
Western Redcedar
Port Orford Cedar (root-rot resistant varieties)

Shrubs
California Wax-Myrtle
California Hazelnut
Red-Flowering Currant
Tall Oregon Grape
Red Elderberry
Indian Plum
Snowberry
Mock Orange
Ocean Spray
Evergreen Huckleberry

Where possible use nursery-grown plant stock of local origin.

Sunset Boulevard Entry to Tolovana Park

This area is currently characterized by conifers at the road edge, and includes some adjacent development visible from the highway. This section of the highway includes a long curve, which increases the sense of horizontal enclosure.

Landscape Unit Visual Character Goals:

- Manage vegetation to encourage the safe development of alders as a canopy over the highway. Select candidate trees for encouragement and provide space for continued growth and balanced canopy development.
- Thin overcrowded hemlock in the understory. Select trees to retain with solid lower branching.
- Incorporate enhancement plantings into the understory to increase screening

Tolovana Park Beach

This area is open and includes the second Cannon Beach entry, and views into the community of Tolovana Park.

Landscape Unit Visual Character Goals:

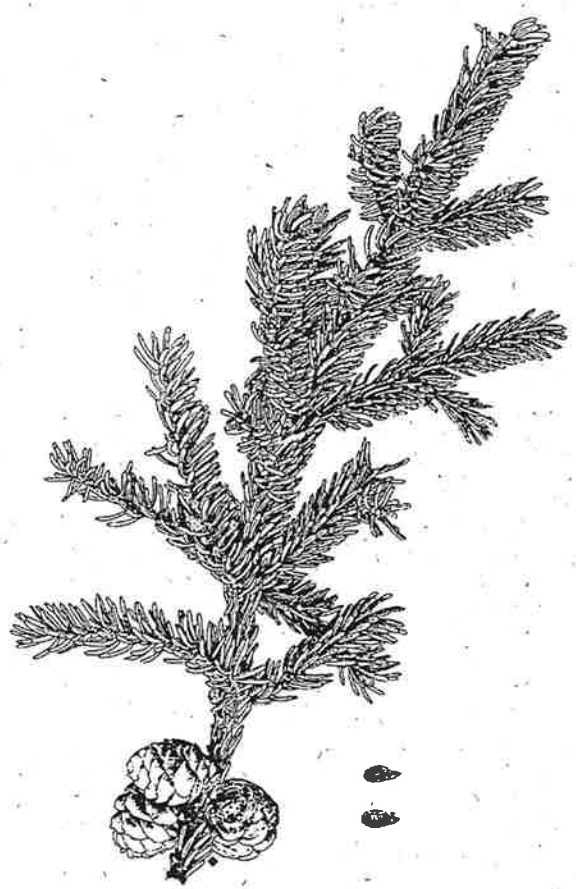
- Enhance roadside with low, sun-tolerant native plantings to add color and variety.
- Allow the development of trees as sight distance and clear zone considerations allow.
- Continue control / removal of noxious weeds in the right-of-way.

Tolovana Park to Silver Point

This section of the highway rises from the intersection at Tolovana Park back into coniferous forest. At the end of the forest corridor the Silver Point Viewpoint offers a panoramic view over the Pacific Coast to the south. The Silver Point Viewpoint is currently funded for improvements.

Landscape Unit Visual Character Goals:

- Manage vegetation to encourage the safe development of alders as a canopy over the highway. Select candidate trees for encouragement and provide space for continued growth and balanced canopy development.
- Thin overcrowded hemlock in the understory.
- Revegetate Silver Point Viewpoint following construction with native plants typical of the surrounding landscape.
- Manage vegetation at Silver Point to maintain an open ocean view.



Notification and Approval Process

The City of Cannon Beach and ODOT have a shared interest in US 101's roadside. Successful management of the roadside to meet both groups' interests depends on the maintenance of goodwill and an effective working relationship. The intent of a management plan is to provide a framework for future agreements between the city and ODOT prior to individual ODOT vegetation management projects. ODOT has primary responsibility for managing the roadside vegetation in the corridor, and will be responsible for planning, staffing and scheduling vegetation management projects. The City will have a role in evaluating project plans to determine their potential impact to the City's interest in the corridor, and working with ODOT to develop projects that meet both ODOT's and the City's goals. ODOT's responsibilities include developing projects that are consistent with consensus management goals and providing adequate lead-time for review. The City is responsible for developing and implementing a timely and predictable review process.

This plan includes areas outside of the City of Cannon Beach, but which are important to the city's character. Vegetation management activities in these portions of the corridor are not subject to the Cannon Beach Tree Protection ordinance or permitting process. ODOT will coordinate with the city including notification submittal of a project plan for review and comment prior to significant vegetation management actions.

Relationship of the Plan to Individual Management Projects

The vegetation management plan is separate from individual vegetation management projects that will be undertaken using the plan as a guideline. The plan describes a set of principles and long-term goals that are acceptable to ODOT and the City. The value of the plan should be to increase the predictability of the relationship between ODOT and the City.

Collaborative Development of Vegetation Management Projects

To ensure effective coordination of vegetation management activities between ODOT and the City, each individual vegetation management project will be submitted to the City for review. ODOT will prepare a short project brief describing the purpose and scope of the management project. Based on the project description, the City will evaluate their interest in the project and make a determination that the project fits in one of the three following categories:

1. **No Concern:** The project is consistent with the management plan and the City's goals, and may proceed without a permit or further review.

2. **Concern:** The project does not require a tree removal permit, but the City requests further coordination in developing and reviewing the project.

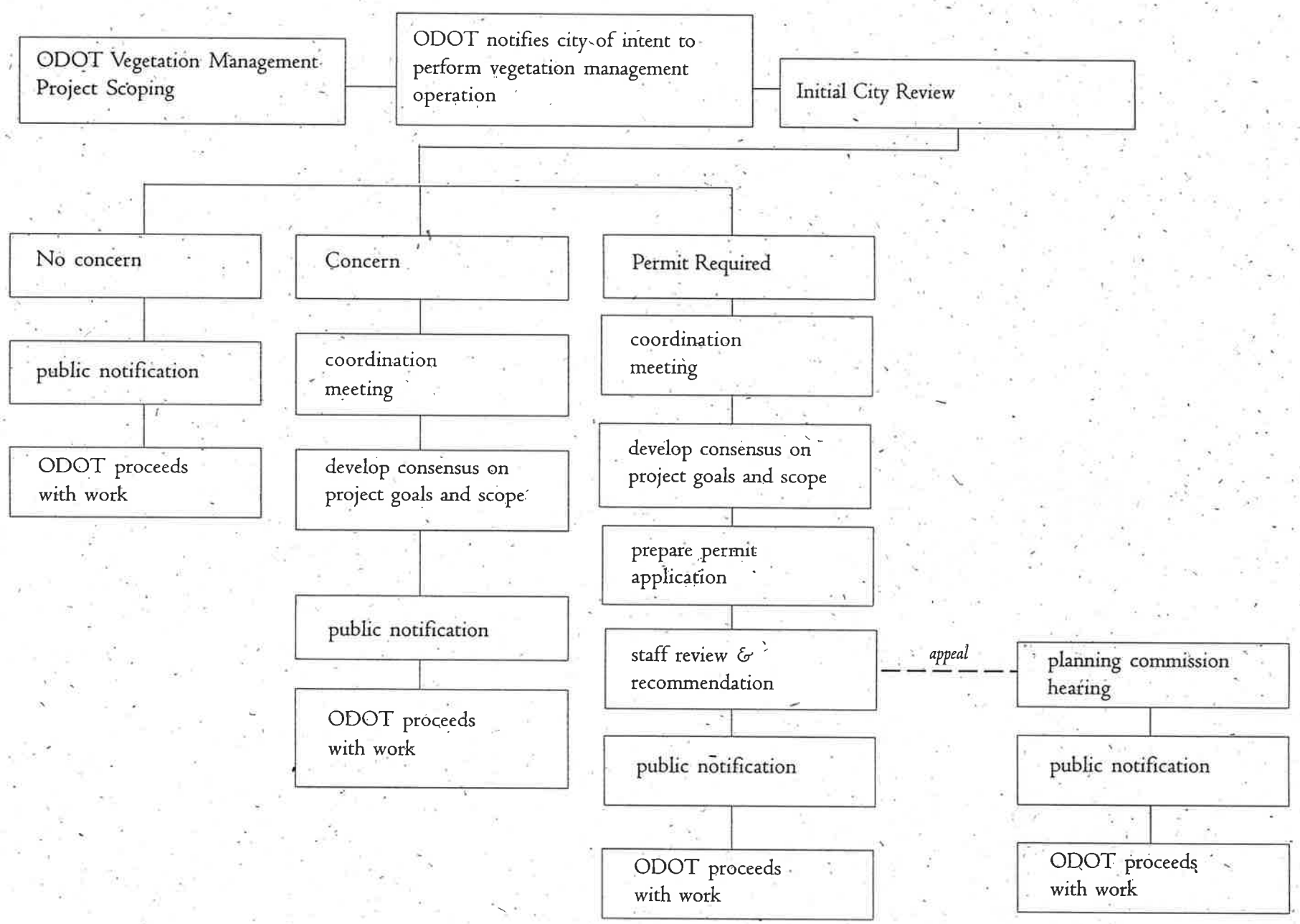
3. **Permit Required:** The project will require a permit for the removal of trees of 6" dbh and larger. ODOT and the City will coordinate in the development of the project, preparation of a permit application and completion of the permit review process.

City involvement in projects where no permit is required will be determined on a case-by-case basis. A typical review process might include a project review meeting between ODOT and City staff, and an on-site review with ODOT staff and the City arborist.

Public Notice of Vegetation Management Projects

All vegetation management projects will be preceded by public notice that the project has been reviewed and approved by the City. Notice should be given prior to any significant marking or flagging of the project.

Coordination & Approval Process for Individual Vegetation Management Projects



Roadside Enhancements

Several locations along the Oregon Coast have been enhanced with the addition of carefully placed native understory shrubs. Adding evergreen understory plants can provide seasonal flowers and enhance the visual screening between the highway and adjacent development. Enhancement plantings are effective where the roadside forest is narrow and is either made up of alders or conifers without lower branches. Enhancement plantings should be simple and natural. The intent is to blend into the natural character of the roadside forest, rather than to stand out as a contrasting element.

Enhancement plantings are an opportunity for partnership between ODOT and the City in stewardship of the forest corridor. Where ODOT could have a role in providing partial funding for plants, volunteers would be needed for plant installation and for minor maintenance until the plants become established.

Suggested Enhancement Planting List

Trees

- Shore pine — *Pinus contorta*
- Western redcedar — *Thuja plicata*
- Vine Maple — *Acer circinatum*

Shrubs

- Coast rhododendron — *Rhododendron macrophyllum*
- Evergreen huckleberry — *Vaccinium ovatum*
- Red-flowering currant — *Ribes sanguineum*
- California wax myrtle — *Myrica californica*
- Tall Oregon grape — *Mahonia aquifolium*

Top: Conifers can be effective visual screens when they retain their lower branches.

Bottom: Where conifers do not retain lower branches, enhancement plantings can help to buffer views from the highway to adjacent development.

Phase I- a five year work plan concept

YEAR I

- Document existing visual character of the corridor with video log and photos from key viewpoints.
- Identify and prune hazard limbs extending over the travelway.
- Identify and selectively remove 30 to 50% of hazard trees 6" dbh and greater.
- Identify and selectively remove 50% to 75% of hazard trees 6" dbh and below.

YEAR 2

- Document visual character following bud break and evaluate impact of Year I activities
- Identify and prune hazard limbs extending over the travelway.
- Identify and selectively remove second 30 to 50% of hazard trees 6" dbh and greater.
- Identify and selectively remove remaining hazard trees 6" dbh and below.

YEAR 3

- Document visual character at beginning of season and evaluate impact of Year 2 activities
- Identify and prune hazard limbs extending over the travelway.
- Identify and selectively remove remaining hazard trees 6" dbh and greater.
- Identify and selectively remove 10-15% of trees 6" dbh and below where spacing is too close for healthy stand development.

YEAR 4

- Document visual character at beginning of season and evaluate impact of Year 3 activities
- Identify and prune hazard limbs extending over the travelway.
- Identify and selectively remove 20-30% of remaining trees 6" dbh and below where spacing is too close for healthy stand development.
- Identify and install evaluation locations for understory enhancement plantings.

YEAR 5

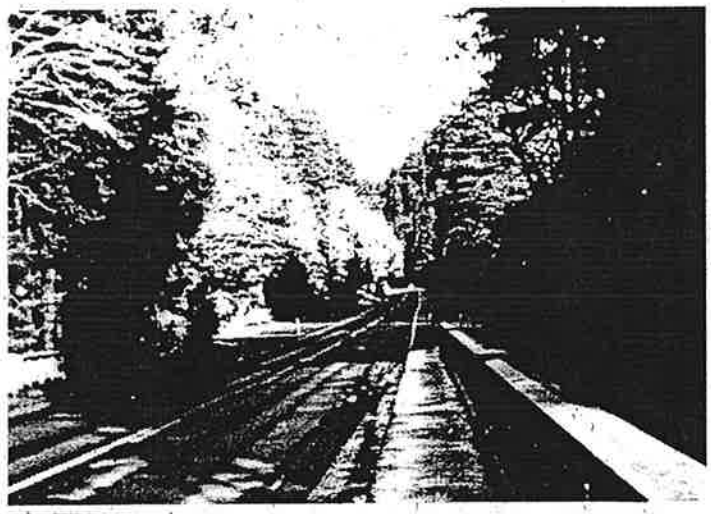
- Document visual character at beginning of season and evaluate impact of Year 4 activities
- Identify and prune hazard limbs extending over the travelway.
- Identify and selectively remove 20-30% of remaining trees 6" dbh and below where spacing is too close for healthy stand development.

Appendix I

Pacific Coast Scenic Byway Corridor Management Plan Feature Sheet

Pacific Coast Scenic Byway

TREE LINED CORRIDOR CANNON BEACH AREA



This serene, tree-lined stretch of the Highway is a pleasurable visual experience for 101 travelers. The trees also provide a vegetative barrier for private property owners along the route. The City of Cannon Beach has long devoted efforts to protect these trees.

Intrinsic Qualities: Scenic
Type: Defining
Region: Cannon
District: Cannon Beach
Location: MP 29-31, along U.S. 101 through Cannon Beach UGB
Managing Authority: City of Cannon Beach, ODOT
Existing Management Status: Managed in accordance with City tree removal ordinance. Recognized as needing different vegetative management treatment

Management Goals

Stewardship

Objectives:

- Preserve the corridor

Strategies:

- Implement city tree removal ordinance

Implementation Steps:

- ODOT can make an application under the tree removal ordinance
- City and ODOT can work cooperatively on vegetation management

Contact:
ODOT District 1
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Astoria, OR 97103
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SCENIC OVERLOOK—MILEPOST 28 SOUTH OF HIGHWAY 26 JUNCTION

This vantage point offers the first view of the ocean on Highway 101 traveling south. The site contains a replica of the cannon that was washed ashore in 1846 from the wreck of the schooner Shark.

Intrinsic Qualities: Scenic, Historic
Type: Defining
Region: Cannon
District: Cannon Beach
Location: MP 28, South of Hwy. 26 Junction
Managing Authority: ODOT
Existing Management Status: Managed and maintained by ODOT District 1

Strategies:

- Implement operational improvements
- View is fairly open now but small alders are growing and need to be managed

Implementation Steps:

- Work with ODOT to provide parking and circulation striping
- ODOT will coordinate view maintenance or enhancement tree removal actions with Cannon Beach

Management Goals

Access

Objectives:

- Optimize safety
- Improve parking facilities and circulation
- Vegetation management to maintain views

Contact:
ODOT District 1
Chuck Curtis, District Manager
350 West Marine Drive
Astoria, OR 97103
Phone (503) 325-7222

Appendix II

City of Cannon Beach Tree Removal Ordinance

Chapter 17.70

TREE REMOVAL

Sections:

17.70.010	**Purpose.**
17.70.015	**Tree removal without a permit prohibited.**
17.70.020	**Permit issuance—Criteria.**
17.70.030	**Additional requirements.**

17.70.010 Purpose.

A. The purpose of this chapter is to establish protective regulations for trees within the city in order to better control problems of soil erosion, landslide, air pollution, noise, wind and destruction of scenic values and wildlife habitat, as well as the protection of trees as a natural resource which establishes the wooded character of the city.

B. The intent is not to prohibit the removal of trees completely, or to require extraordinary measures to build structures; rather the intent is to stop the wanton and oftentimes thoughtless destruction of that vegetation which has a beneficial effect on the value of property, and on the city in general. (Ord. 96-18 § 1(part): Ord. 79-4 § 1 (4.600) (1))

17.70.015 Tree removal without a permit prohibited.

A. No person shall remove a tree (tree removal) without first obtaining a permit from the city pursuant to this chapter, unless the tree removal is exempted by provisions of this chapter. Application for a tree removal permit shall be made on forms prescribed by the city.

B. For the purposes of the chapter, a "tree" is defined as any woody plant having at least one well-defined stem at least six inches in diameter measured at a height of four and one-half feet above the natural grade. All tree measures specified in this chapter shall be measured at a height of four and one-half feet above the natural grade. (Ord. 96-18 § 1(part))

17.70.020 Permit issuance—Criteria.

The city shall issue a tree removal permit if the applicant demonstrates that one of the following criteria is met:

A. The necessity to remove a tree which poses a safety hazard. The applicant must demonstrate that the condition or location of the tree presents a clear public safety hazard or a foreseeable danger of property damage to an existing structure and such hazard or danger cannot reasonably be alleviated by pruning or treatment of the tree.

Where an applicant identifies a safety hazard as the reason for tree removal, the city will conduct its evaluation in accordance with International Society of Arboriculture (ISA) standards.

B. The necessity to remove a tree damaged by storm, fire, or other injury and which cannot be saved by pruning.

C. The necessity to remove a dying tree. A "dying tree" means that the tree is diseased, infested with insects or rotting and cannot be saved by reasonable treatment or pruning, or must be removed to prevent spread of the infestation of disease to other trees.

D. The necessity to remove a tree(s) in order to construct a structure or development approved or allowed pursuant to the

Cannon Beach Municipal Code, including required vehicular and utility access.

E. The necessity to remove a tree where required to provide solar access to a solar energy system or to provide for space heating purposes. No tree measuring more than twenty-four inches in diameter may be removed for solar access purposes unless there is at least one remaining tree on the lot that is at least twenty-four inches in diameter. For purposes of this subsection, "solar energy system" means a device employed in the collection of solar radiation for the purpose of heating or cooling a building, the heating of water or the generation of electricity.

F. The need to remove a tree for the health and vigor of the surrounding trees.

G. The tree is to be removed for landscape purposes subject to the following conditions:

1. The tree(s) to be removed under this criterion cannot exceed ten inches in diameter;

2. A landscape plan for the area affected by the tree removal is approved by the city;

3. The landscape plan incorporates a replacement tree(s) for trees to be removed. The replacement tree shall be at least six feet in height or have a two-inch caliper; and

4. The city shall review the property one year after the approval of the tree removal permit. The purpose of the review is to ensure that the approved landscape plan has been implemented. (Ord. 96-18 § 1 (part): Ord. 90-10 § 1 (Appx. A § 41); Ord. 79-4 § 1 (4.600) (2))

17.70.030 Additional requirements.

A. For actions which require the issuance of a building permit, tree removal shall occur only after a building permit has been issued for the structure requiring the removal of the tree(s).

B. Dead trees may be cut at the owner's discretion without a permit. "Dead" means that the tree is lifeless or less than ten percent of the crown is alive.

C. The retention of trees shall be considered in the design of partitions, subdivisions or planned developments; placement of roads and utilities shall preserve trees wherever possible. The need to remove trees shall be considered in the review process for partitions, subdivisions or planned developments.

D. The preservation of trees shall provide a basis for consideration of a setback reduction or variance.

E. If the condition of a tree presents an immediate danger of collapse and if such potential collapse represents a clear and present hazard to persons or property, a tree removal permit is not required prior to tree removal. However, within seven days after the tree removal, the tree owner shall make application for an after-the-fact permit. For the purposes of this subsection, "immediate danger of collapse" means that the tree is already leaning, with the surrounding soil heaving and there is a significant likelihood that the tree will topple or otherwise fail and cause damage before a tree removal permit can be obtained. "Immediate danger of collapse" does not include hazardous conditions that can be alleviated by pruning or treatment. Where a safety hazard exists, as defined by this subsection, the city may require its removal. If the tree has not been removed after forty-eight hours, the city may remove the tree and charge the costs to the owner.

F. The city may require the replanting of trees to replace those being removed. Tree replanting shall be in conformance with the city's tree replacement policy.

G. Decisions on the issuance of a tree removal permit may be appealed to the planning commission in accordance with Section 17.88.140(A).

H. For tree removal requests of trees located in a street right-of-way, property owners within one hundred feet of the tree(s) requested for removal shall be notified of the proposed action. In making its decision on such a tree removal request, the city shall consider property owner comments received within ten days of the date of the mailing of the property owner notification. To be considered, property owner comments must address the tree removal criteria of Section 17.70.020. Property owners who have commented on the tree removal request shall be notified of the city's decision and may appeal that decision in accordance with Section 17.70.030(G).

I. Tree pruning does not require a permit. However, tree pruning which has the effect of causing the tree to die is prohibited.

J. Tree topping is prohibited except for where: (1) trees have been severely damaged in a storm; and (2) required for utility line maintenance when other pruning practices are impractical. "Tree topping" is defined as the severe cutting back of limbs to stubs within the tree's crown to such a degree so as to remove the normal canopy and disfigure the tree.

K. A monthly report on tree removal permit actions shall be made to the planning commission.

L. If a tree is removed without a tree removal permit, a violation may be determined by measuring the stump at the surface of the cut. A stump that is twenty-two inches or more in circumference or seven inches or more in diameter shall be considered prima facie evidence of a violation of this chapter. Proof of violation of this chapter shall be deemed prima facie evidence that such violation is that of the owner of the property upon which the violation is committed. (Ord. 97-30 § 1; Ord. 96-18 § 1(part): Ord. 90-10 § 1 (Appx. A § 42); Ord. 89-3 § 1 (part); Ord. 79-4 § 1 (4.600)(3))