

Alta Planning Commission



Staff Report

To: Alta Planning Commission

From: Chris Cawley, Assistant Town Administrator

Re: Wildfire Prevention, Preparedness, and Mitigation in Alta

Date: May 21, 2019

Attachments: Alta CWPP, Utah Wildland-Urban Interface Code; SLCO FCOZ language regarding wildfire, defensible space

Background:

While some consider Alta to be relatively safe from catastrophic wildfire due to our high elevation, plentiful annual precipitation, and generally (currently) healthy forest, the Town of Alta needs to take a more proactive role in acknowledging and preparing for the potential that small or large wildfires could occur in or near Alta, resulting in risks to life and safety, devastating impacts to environmental health and watershed function, local and regional economic impacts, and damage to private property. Very small wildfires do routinely occur in and around Alta every summer, caused by lightning strikes or unattended campfires, and while they often go out on their own, occasionally responders from Unified Fire Authority (UFA) or the United States Forest Service (USFS) actively suppress fires as dictated by fire behavior, location, and other factors.

Many agencies and organizations have responsibility for various aspects of wildfire preparedness in the Cottonwood Canyons, and the town's specific responsibility has evolved somewhat in recent years due to changes in state law. Specifically, in 2017, the State of Utah created the [Utah Cooperative Wildfire System](#), which allows the state to bear the costs of catastrophic wildfire suppression on non-federal lands incurred by local governments and fire service districts. To obtain this benefit, local entities must maintain an annual financial "participation commitment" that is based on factors including the amount of *Wildland-Urban Interface* present in a community (all Alta development qualifies), a 10-year average of wildfire suppression costs in the jurisdiction, and a local risk assessment developed by the State of Utah under a technical model that is applied across the state. Entities that "opt-in" to this program must identify and implement actions every year to address wildfire prevention, preparedness, and mitigation, and must develop a Community Wildfire Preparedness Plan (CWPP).

Alta's Community Wildfire Preparedness Plan:

The town began the process of developing a CWPP in October of 2018 by hosting a public meeting attended by community members and representatives from numerous agencies including UFA, USFS, and the Utah Department of Natural Resources-Division of Forestry, Fire, and State Lands (FFSL). FFSL is the state agency charged with managing local entity participation in the Utah Cooperative Wildfire System, and with facilitating development of local CWPP's. Attendees at this meeting discussed Alta's risk assessment, our community profile, and projects the town could undertake to fulfill our participation commitment. Following the meeting, town staff met with UFA, USFS, and FFSL staff to complete the CWPP template, and the attached CWPP was presented to the Alta Town Council in April.

The most important component of the CWPP is PART III: RISK REDUCTION GOALS/ACTIONS. This section includes a list of projects Alta can undertake to satisfy our annual participation commitment under the Utah Cooperative Wildfire System and to generally pursue the goal of community wildfire preparedness. The projects currently listed in our CWPP include a variety of ongoing and more active measures the town and our partners can pursue to support wildfire preparedness, including fire fuels mitigation projects and individual property assessments.

Please note that the CWPP is more like a record of future plans and actions taken than it is a complete document that represents a project done in the past. FFSL has tentatively accepted our CWPP and expects we will update the document routinely, as projects are completed and elements of our community profile change over time.

Alta Planning Commission Role in Wildfire Preparedness

The Alta Planning Commission can support the cause of wildfire preparedness in Alta by considering whether regulatory measures commonly adopted in Wildland Urban Interface communities would be appropriate in the Town of Alta. Such measures include:

1. Requiring, or allowing property owners to create, **defensible space** around structures. Defensible space is defined in the 2006 Utah Wildland Urban Interface Code as *"An area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur."*
2. Requiring ignition-resistant construction, per a schedule of permitted materials and subject to levels of fire hazard.
3. Regulation of development on steep slopes.
4. Landscaping other vegetation management regulations

5. Subdivision design standards providing for wildland fire response equipment access, water supply, etc.

Examples of Other Jurisdictions' Wildfire-related Land Use and Development Regulations

2006 Utah Wildland-Urban Interface Code (WUI Code): This is a template of land-use and building codes developed by the International Code Council and the State of Utah that speaks to all the measures described above. The WUI Code has been adopted, in whole or in part, by jurisdictions including:

- Draper City
- Park City
- Salt Lake County (applies to unincorporated areas including Big Cottonwood Canyon)
- Summit County

SLCO Foothill and Canyons Overlay Zone, Section 19.17.110 – Tree and Vegetation Protection: allows limited tree removal “to protect structures from fire consistent with the Utah Wildland Urban Interface Code,” and goes on to specifically require “appropriate defensible space,” as determined by UFA in a the *UFA Wildland-Urban Interface Site Plan/Development Review Guide*.

State of Utah

**Community Wildfire
Preparedness Plan**
For the Wildland – Urban Interface

Town of Alta, Utah



April 15, 2019



Department of Natural Resources
Division of Forestry, Fire and State Lands
1594 W North Temple, PO Box 145703, Salt Lake City, UT 84114-5703

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Alta Wildfire Preparedness Plan

Declaration and Concurrence Page

This list needs to be customized to the individual plan. Provide the names and affiliations of all cooperators. This page will then be signed after all cooperators have reviewed the plan and concur with its contents.

Community Member/Landowner

NAME	AFFILIATION
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SIGNATURE	DATE
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Community Member/Landowner

NAME	AFFILIATION
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SIGNATURE	DATE
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Alta Wildfire Preparedness Plan

Declaration and Concurrence Page, continued

NAME	AFFILIATION
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Alta Wildfire Preparedness Plan

INTRODUCTION

Over 600 of Utah's communities have been classified as "at risk" of wildfire. The safety of the citizens of any community and the protection of private property and community infrastructure is a shared responsibility between the citizens; the owner, developer or association; and the local, county, state and federal governments. **The primary responsibility, however, remains with the local government and the citizen/owner.**

The purpose of wildfire preparedness planning is to...

- Motivate and empower local government, communities, and property owners to organize, plan, and take action on issues impacting the safety and resilience of values at risk
- Enhance levels of fire resilience and protection to the communities and infrastructure
- Identify the threat of wildland fires in the area
- Identify strategies to reduce the risks to structures, infrastructure and commerce in the community during a wildfire
- Identify wildfire hazards, education, and mitigation actions needed to reduce risk
- Transfer practical knowledge through collaboration between stakeholders toward common goals and objectives

Outcomes of wildfire preparedness planning...

- Facilitate organization of sustainable efforts to guide planning and implementation of actions:
1. Fire adapted communities 2. Resilient landscapes 3. Safe and effective fire response
- Improve community safety through:
 - ✓ Coordination and collaboration
 - ✓ Public awareness and education
 - ✓ Firefighter training
 - ✓ Fuel modification
 - ✓ Improved fire response capabilities
 - ✓ Fire prevention
 - ✓ Development of long-term strategies

RESOURCES

For resources to complete a wildfire preparedness plan for your community, consider organizations such as the following:

- ✓ Local / Primary fire protection provider
- ✓ Local Resource, Conservation and Development Districts
- ✓ Utah Division of Forestry, Fire and State Lands
- ✓ Utah State Fire Marshal (Dept. of Public Safety)
- ✓ Utah Division of Emergency Management
- ✓ Utah Living With Fire
- ✓ Local fire agencies
- ✓ Local emergency management services
- ✓ USDA Forest Service
- ✓ U.S. Department of Interior Agencies
- ✓ Utah Resource Conservation Districts
- ✓ Utah Soil Conservation Districts

STATEMENT OF LIABILITY

The activities suggested by this template, associated checklist and guidance document, the assessments and recommendations of fire officials, and the plans and projects outlined by the community wildfire council, are made in good faith according to information available at this time. The Utah Division of Forestry, Fire and State Lands assumes no liability and makes no guarantees regarding the level of success users of this plan will experience. Wildfire still occurs, despite efforts to prevent it or contain it; the intention of all decisions and actions made under this plan is to reduce the potential for, and the consequences of, wildfire.

Last revised March 2016

This document provides the outline for and specifies the information recommended for inclusion in a wildfire preparedness plan. **Completed Community Wildfire Preparedness Plans should be submitted to the local Area Manager or Fire Management Officer with the Utah Division of Forestry, Fire and State Lands for final concurrence.**

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Alta Wildfire Preparedness Plan

PLANNING OVERVIEW

Briefly describe the overall planning process that took place to complete this plan. Be sure to include a timeline of the events/meetings, the organizations and partners that participated, a description of why this planning process was initiated, and the overall intended outcome of the process, and how outcomes were accomplished. This is much like the information described above (purpose and outcome) but tailored to your community. If desired, please acknowledge any individuals or organizations that were essential to accomplishing the final plan.

1. Chris-Katie G met in August, scheduled first public meeting
2. Chris, Katie, Jay, and Riley met in September.
3. First community CWPP meeting, October 2, 2018
4. UFA-TOA-FFSL community tour, October 25, 2018
5. UFA-TOA CWPP meeting re: community assessment, goals sections, January 23, 2019
6. Presentation to Alta Town Council, 4/15/19

The purpose of wildfire preparedness planning is to...

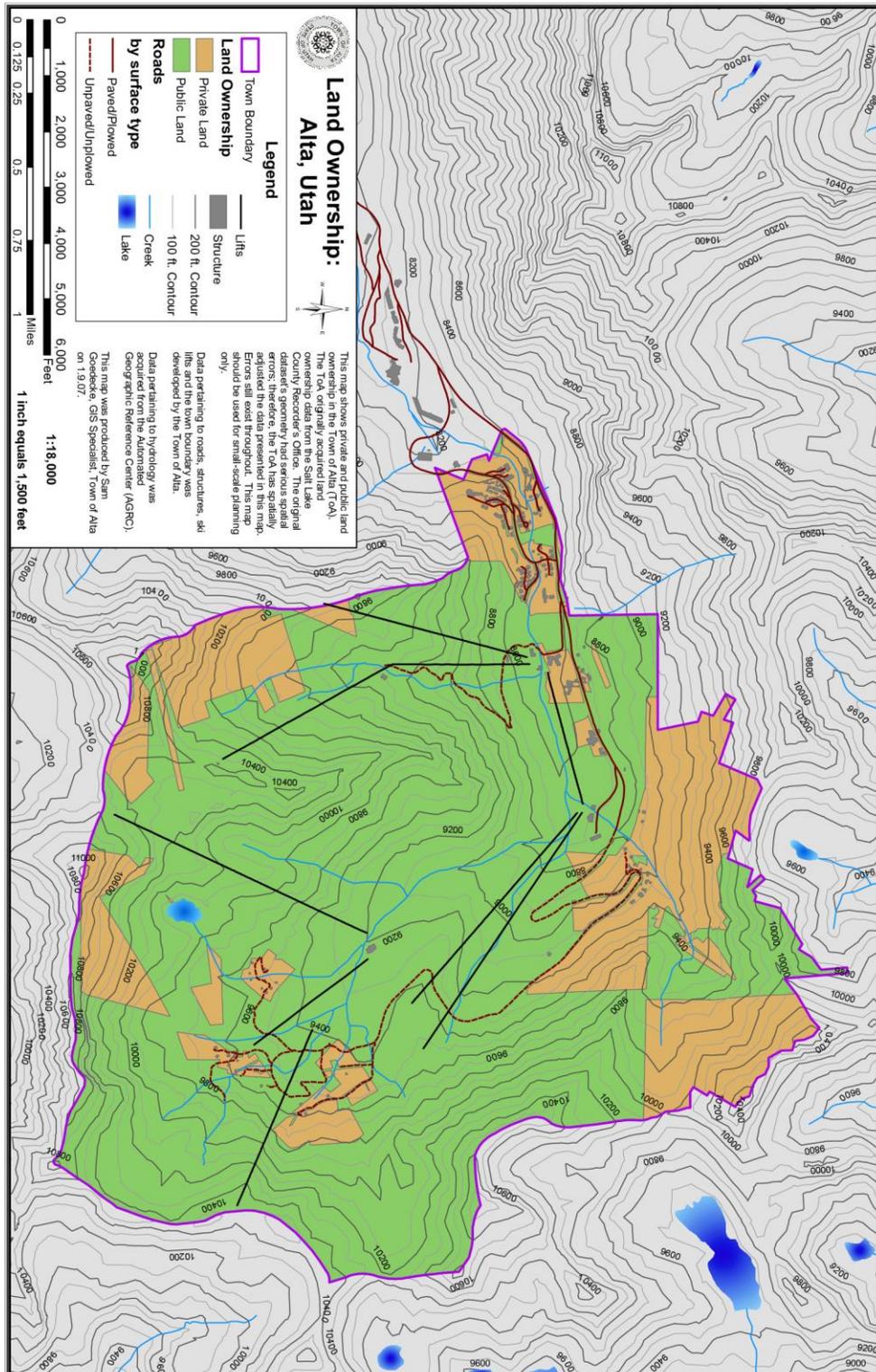
- Motivate and empower local government, communities, and property owners to organize, plan, and take action
- Enhance levels of fire resilience and protection
- Identify the threat of wildland fires in the area
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PLAN OVERVIEW MAP Area of Interest



Alta Wildfire Preparedness Plan

PARTNERSHIPS AND COLLABORATION

Briefly describe surrounding lands and the partners involved in coordinating the fuels treatments identified in the CWPP. This section can be added to as new projects and partners are developed. Community buy-in and desires to support and move these projects forward is critical to overall success.

Examples –

The Town of Alta exists amidst a complex arrangement of jurisdictions from every level of government, including local, state, and federal entities. Much of the land within the town's boundaries is owned and managed by the Uinta-Wasatch-Cache National Forest, Salt Lake Ranger District, and nearly all this federal land is within a special use permit held by Alta Ski Area. The southern border of Alta is the Salt Lake County-Utah County line, and it is also the boundary between the Salt Lake Ranger District and the Pleasant Grove Ranger District of the Forest. Salt Lake City Department of Public Utilities and Salt Lake Valley Health Department have jurisdiction under state law to manage watershed protection and water quality in Alta. The Town of Alta provides law enforcement locally, although Unified Police Department of Greater Salt Lake patrols greater Little Cottonwood Canyon. Unified Fire Authority provides fire protection services.

Alta Wildfire Preparedness Plan

Restricting Covenants, Ordinances, etc. (Attach as appendix)	
For example, home association bylaws may have requirements regarding building construction materials or vegetation removal, or regarding access in a gated community.	
Source	Details
Town of Alta Code	Weeds removal, 4-1-5; Requirements for Preservation or Replacement [of vegetation]. 9-3-3: "in order to obtain approval to remove mature trees, a person must show that the failure to remove a mature tree will constitute extreme hardship"

Access
Directions to community
Utah State Route 210 (SR-210), otherwise known as Little Cottonwood Canyon Road, is the sole vehicle access to Alta, and it is also the only way out of the canyon. Certain neighborhoods are inaccessible by automobile between November and June, or longer.
All-weather access
Access to Alta via SR 210 is frequently compromised throughout the winter season due to avalanche hazard and poor roadway conditions. Access can also be compromised by flooding, debris flows, wildfire, hazmat incidents, or automobile crashes.
Seasonal access
Some residential properties in the Grizzly Gulch area, and some ski area facilities, are inaccessible to wheeled vehicles during winter and much of spring due to deep snow cover. Many such properties are accessible via snowcat groomed road grades. Some seasonal cabins in upper Albion Basin are not accessible via snowcat groomed road grades.

Roads								
	None	Some	All	Adequate	Inadequate	% Pavement	% gravel	% dirt
Road signs present				x		60	40	
Will support normal flow of traffic		x		x				
Are loop roads		x						

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Are dead-end roads		x						
Turnaround space available at end of road for emergency equipment (based on turning radius listed in the guidance document)		x		x				
<i>Notes/comments:</i>								
Driveways								
		Adequate	Inadequate	No	Few	Most	All	
Most driveways width and height clearance, road grades and vegetation appearance are...		x				x		
Individual homeowners have posted their name and address						x		
<i>Notes/comments:</i>								

Structures						
	None	Few	Some	Many	Most	All
Wood frame construction			x			
Have wood decks or porches		x				
Have wood, shake or shingle roofs		x				
Are visible from the main subdivision road					x	
<i>Notes/comments:</i>						

Bridges, Gate, Culverts, other			
	No	Some	All
Bridges support emergency equipment			x

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Gate provides easy access to emergency equipment			x
Culverts are easily crossed by emergency equipment			x
<i>Notes/comments:</i>			

Utilities						
	Below ground	Above ground	Provided by	Phone number	% marked with a flag or other highly visible means	% utilized
Telephone service	x		Century Link, Syringa	877-837-5738, 800-454-7214		
Electrical service	x	x	RMP	888-221-7070		
Are there homes utilizing propane?		21				
Are there homes utilizing natural gas?	59		Dominion	801-324-5111		
<i>Notes/comments: Cellular providers with equipment stations in Alta including Verizon, AT&T, T-Mobile, and Sprint.</i>						

List locations of propane tanks above ground:		
Owner	Address, lat/long, etc.	Size
Albion Basin, West Grizzly, 21 and 3	Albion Basin: 40°34'39.3"N 111°36'47.4"W West Grizzly: 40°35'35.6"N 111°37'43.6"W	
Backyard gas grills?		
R.A.X. Hellgate, Blackjack, Mt. Baldy	Blackjack Cliffs GazEx: 40°34'52.1"N 111°38'36.2"W Hellgate Cliffs GazEx: 40°35'30.4"N 111°39'01.3"W Mt. Baldy OBell'x: 40°34'02.3"N 111°37'57.9"W	1000 G propane tanks;

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		O'bell-x removed out-of-season
<i>Notes/comments:</i>		

Primary Water Sources			
Approximate % homes using central water system		75	
Approximate %homes using individual wells		25	
Approximate % homes having additional private water source		21 seasonal cabins, 1 SF home	
Water provided by	Town of Alta system provides water under SLC contract. SLCO Service Area #3 provides water to some West Alta properties, also under SLC contract. Seasonal cabins and upper mountain facilities maintain individual systems and separate contracts.	Phone	801-742-3522: Town of Alta Office
<i>Notes/comments:</i>			

List locations of water sources:		
Owner	Address, lat/long, etc.	Accessible
TOA/Bay City	40°35'32.2"N 111°37'52.5"W	yes
S.A. #3/Wasatch Drain	40°35'00.0"N 111°39'05.3"W (not in Alta)	yes
ASL springs, Basin systems	Numerous...	
<i>Notes/comments:</i>		

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PART II:

RISK ASSESSMENT

Estimated Values at Risk	
Provide an approximation of the estimated current values of residential and commercial property in the area. The County Assessor should be able to assist with this information.	
Estimated values at risk of commercial and residential property	\$ 301,859,420
Year	2017

Natural Resources at Risk
Describe the natural resources at risk in the area, such as watershed, forest products, wildlife, recreation tourism, etc.
<p style="text-align: center;">Watershed, forest products, wildlife, ski resort infrastructure (local and regional economy), dispersed recreation infrastructure</p>

The following information is based on the Communities At Risk (CARs) list that was developed cooperatively at the local and state level to assist land management agencies and other stakeholders in determining the scope of the WUI challenge and to monitor progress in mitigating the hazards in these areas. This information is updated annually through the interagency fuel groups. Input the fields that are reflected on the state list found on our website at forestry.utah.gov.

Fire Occurrence: Number of fires in the area for the last 10 years _____ to _____

- 0 **No Risk**
- 1 **Moderate** 0 to 1 fire/township
- 2 **High** 2 to 14 fires/township
- 3 **Extreme** Greater than 14 fires/township

Total _____

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Area Fire History			
Month/Year of fire	Ignition point	Ignition source	Acres burned

Numerous small fires have started in upper Little Cottonwood Canyon, with ignition sources including lightning, and various human-related causes such as smoldering campfires. These fires have either burned out naturally or they've been contained and suppressed by firefighters

Fuel Hazard: Assess the fuel conditions of the landscape and surrounding the community

- 0 No Risk**
- 1 Moderate** (Moderate to low to control, fire intensities would generally cause moderate damage to resources based on slope, wind speed and fuel. Vegetation Types: Ponderosa pine/mountain shrub, grassland, alpine, dry meadow, desert grassland, Ponderosa pine, Aspen and mountain riparian.)
- 2 High** (High resistance to control, high to moderate intensity resulting in high to moderate damage to resources depending on slope, rate of spread, wind speed and fuel loading. Vegetation Type: Maple, mountain shrubs, sagebrush, sagebrush/perennial grass, salt desert scrub, Black Brush, Creosote and Greasewood.)
- 3 Extreme** (High resistance to control, extreme intensity level resulting in almost complete combustion of vegetation and possible damage to soils and seed sources depending on slopes, wind speed, rate of spread and fuel loading.)

Total _____

Values Protected: Evaluate the human and economic values associated with the community or landscape, such as homes, businesses and community infrastructure.

- 0 No Risk**
- 1 Moderate** (Secondary Development: This would be seasonal or secondary housing and recreational facilities.)
- 2 High** (Primary Development: This would include primary residential housing, commercial and business areas.)
- 3 Extreme** (Community infrastructure and community support: This would be water systems, utilities, transportation systems, critical care facilities, schools manufacturing and industrial sites. It may also include valuable commercial timber stands, municipal watersheds and

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areas of high historical, cultural and/or spiritual significance which support and/or are critical to the well-being of the community.)

Total _____

Insurance Rating	
Provide the current insurance rating for the community	
ISO Fire Insurance Rating:	Ask Jay

Protection Capabilities: Insurance Services Organization (ISO) rating for the community will serve as an overall indicator of the protection capabilities.

- Extreme 3 ISO Rating 10
- High 2 ISO Rating 7 to 9
- Moderate 1 ISO Rating of 6 or lower

Total _____

Fire Occurrence	Fuel Hazard	Values Protected	Fire Protection Capabilities	Overall Rating
2	2	3	2	9
Total: 4-7 Moderate, 8-11 High, 12 Extreme				9

The following information is based on the Utah Wildfire Risk Assessment Portal (UWRAP) and Area of Interest (AOI) Summary Reporting Tool. Reports are generated using a set of predefined map products developed by the West Wide Wildfire Risk Assessment (2012) project. The UWRAP provides a consistent, comparable set of scientific results to be used as a foundation for wildfire mitigation and prevention planning in Utah.

Wildland Development Areas (WUI): Data set is derived using modeling techniques abased on the Where People Live and population count data available to government agencies from the Department of Homeland Security.

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Wildland Development Area (WUI) Impacts: Data set is derived using a Response Function modeling approach. To calculate the Wildland Development Area Impact Response Function Score, the Wildland Development Area housing density data was combined with flame length data and Response Functions assignments to represent potential impacts.

Wildfire Risk: combines the likelihood of a fire occurring (Threat), with those of areas of most concern that are adversely impacted by fire (Fire Effects). Wildfire Threat Index is derived from historical fire occurrence, landscape characteristics including surface fuels and canopy fuels, percentile weather derived from historical weather observations and terrain conditions. Fire Effects are comprised of Value Impacts and Suppression Difficulty.

	Total Acres AOI for each Category with the percentages added		
	WUI	WUI Impacts	Wildfire Risk
Low (1-4)	~2300 acres	~700 acres	17,082/38.3%
Moderate (5-7)	~330 acres	~200 acres	22,895/51.2%
High (8-10)	~250 acres	21 acres	4,653/10.4%

Including maps from the UWRAP report may also be beneficial in this section. Consider using the following as an example.

- Location Specific Ignitions
- Ignition and Fire occurrence density
- Water Impacts
- Rate of Spread
- Suppression Difficulty
- Fire Effects

Alta Wildfire Preparedness Plan

Past Accomplishments	
Prevention	<ul style="list-style-type: none"> <i>The ski area annually removes trees that are deemed hazard from within the ski area, which include trees that threaten the lift lines, and dead or blown over trees within the ski area that threaten the safety of the skiers. Annual removal varies from year to year, but it can also be considered fuel reduction.</i>
Preparedness	<ul style="list-style-type: none"> <i>Alta Ski Area assisted the Forest Service in conducting a fuel inventory in 2015 of forest stands within Alta Ski Area special use permit. Continued inventory schedule is still to be determined with the Forest Service.</i>
Mitigation	<ul style="list-style-type: none"> <i>Alta Ski Area has an active revegetation or restoration program that seeks to restore disturbed lands by stabilizing these soils as rapidly as possible with native vegetation. Disturbed soils by nature are more vulnerable to post fire watershed degradation.</i>
Maintenance	<ul style="list-style-type: none"> <i>All occupied structures owned by Alta Ski Area are equipped with a Fire Sprinkler system and are checked by certified specialists annually.</i>
Note	<p><i>This information represents responses to a questionnaire distributed by Town of Alta staff to attendees at the CWPP kickoff meeting in October, 2018.</i></p>

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PART III: RISK REDUCTION GOALS/ ACTIONS

Goals of Plan: Provide a brief statement under the Prevention, Preparedness, Mitigation and Maintenance goals. These should align with the pillars of the National Cohesive Strategy and the Utah Catastrophic Wildfire Reduction Strategy (1. Resilient Landscapes 2. Fire Adapted Communities 3. Wildfire Response).

Identification of Actions: Provide detailed project information. These projects/actions can be mapped/tracked in the Utah WRA portal and should be consistent with a Cooperative Agreement in compliance with the Wildfire Policy if applicable.

GOAL A: PREVENTION (~25% of Participation)– Activities directed at reducing the occurrence of fires, including public education, law enforcement, personal contact.

Goal A.1 –			
Action(s):	Timeline:	Community Lead:	Priority:
Firewise Day-ACE	July 2019	Chris	High
Summer program brochure/personnel	April-June 2019	Chris & Maura	Medium
Alta Marshals Office-USFS LEO: Enforcement	Ongoing	Mike	High
<i>Notes, updates, and monitoring:</i>			

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GOAL B: PREPAREDNESS (Maximum 25% of Participation) – Activities that lead to a state of response readiness to contain the effects of wildfire to minimize loss of life, injury, and damage to property. Including access to home/community, combustibility of homes/structures and creating survivable space.

Goal B.1 – Evaluate, upgrade and maintain community wildfire preparation			
Action(s):	Timeline:	Community Lead:	Priority:
Address/signage inventory and upgrade	2019-2020	Chris Cawley	low
EM training-ICS courses, etc.	Spring-summer 2019	Chris Cawley	high
Property Assessment	Summer-fall 2019	Chris Cawley	high
<i>Notes, updates ,and monitoring</i>			

Goal B.2 – Educate community members to prepare for and respond to wildfire.			
Action(s):	Timeline:	Community Lead:	Priority:
Consider CERT (Community Emergency Response Team) Program	2020	Chris Cawley	low
<i>Notes, updates ,and monitoring</i>			

Goal B.3 – Address identified regulative issues impacting community wildfire prevention and response needs.			
Action(s):	Timeline:	Community Lead:	Priority:
Consider vegetation removal ordinance update	2019-2020	John Guldner	medium

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<i>Notes, updates ,and monitoring</i>			

Goal B.4 – Evaluate response facilities and equipment.			
Action(s):	Timeline:	Community Lead:	Priority:
UFA Station 113 training, maintenance, and investment	Ongoing	UFA 113	High
Fire hydrant access	Ongoing	All	medium
<i>Notes, updates ,and monitoring</i>			

GOAL C: MITIGATION (~50% of Participation) – Actions that are implemented to reduce or eliminate risks to persons, property or natural resources including fuel treatments and reduction.

Goal C.1 – Decrease fuels within the community to reduce wildfire impact in and around the community.			
Action(s):	Timeline:	Community Lead:	Priority:
Chipper day: Basin, Creek subdivision, Peruvian Estates, etc, grizzly	August 2019	Chris-Katie G.	High
Property assessment follow-up	Summer-fall, 2019	UFA 113, UFA Wildland Bureau	Medium
<i>Notes, updates ,and monitoring</i>			

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Goal C.2 – Work with local, state and federal fire officials to decrease fuels on private and adjacent public lands to reduce wildfire intensity and impact in and around the community.			
Action(s):	Timeline:	Community Lead:	Priority:
Ski Area Projects	Ongoing	Maura Olivos	high
<i>Notes, updates ,and monitoring</i>			

GOAL D: MAINTENANCE – the process of preserving actions that have occurred including fuel treatments and reduction.

Goal D.1 - Regularly evaluate, update and maintain project commitments.			
Action(s):	Timeline:	Community Lead:	Priority:
Update CWPP in November	Annual, fall	Chris Cawley	medium
<i>Notes and updates</i>			

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PART IV: CONTACTS

The contacts in this part identify community resources that can be used to complete the goals of the plan.

Planning Committee Member List			
Name	Affiliation	Phone Number	E-mail
Chris Cawley	Town of Alta	603-731-8074	Ccawley@townofalta.com
Katie Gibble	FFSL	801-678-1655	kgibble@utah.gov
Jay Torgersen	UFA	801.824.3716	jtorgersen@unifiedfire.org
Dominic Burchett	UFA	801-558-5444	dburchett@unifiedfire.org
Maura Olivos	Alta Ski Area	801-742-3333	molivos@alta.com

Commercial Entities				
Organization	Contact Person	Phone Number	E-mail	Address
Alta Ski Area	Maura Olivos	801-742-3333	molivos@alta.com	
Alta Peruvian Lodge	Todd Collins	801-742-3000	collins@altaperuvian.com	
Goldminers Daughter	Ross Olson	801-742-2300	ross@skigmd.com	
Alta Lodge	Cliff Curry	801-742-3500	Cliffcurry@altalodge.com	
Rustler Lodge	Tom Pollard	801-742-4200	tomp@rustlerlodge.com	
Snowpine Lodge	Dave Eichel	801-742-2000	Dave@snowpine.com	

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Formal Associations			
Organization	Contact Person	Phone Number	E-mail
Powder Ridge Association	Matt Rollins		
Village at Sugarplum	Jay Yenny		
Blackjack Condos	Matt Springer		
Albion Basin Cabin Owners	Del Draper		
Grizzly Gulch	Roger Bourke		
West Grizzly?			
Peruvian Estates?			
Alta Chalets	Dan Ketner		

Media Support			
Organization	Contact Person	Phone Number	E-mail

Schools				
School	Contact Person	Phone Number	E-mail	Address

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Transportation			
Organization	Contact Person	Phone Number	E-mail
UDOT	Shawn Lambert		
UTA	Bill Humphries		

Private Equipment Capabilities				
Type of Equipment	Contact Person	Phone Number	E-mail	Address
Various	Maura Olivos	801-742-3333		
Loaders	Scott Eilber			

Other			
Organization	Name	Phone Number	E-mail

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APPENDIX

Appendix A:

Contents:

Appendix B:

Contents:

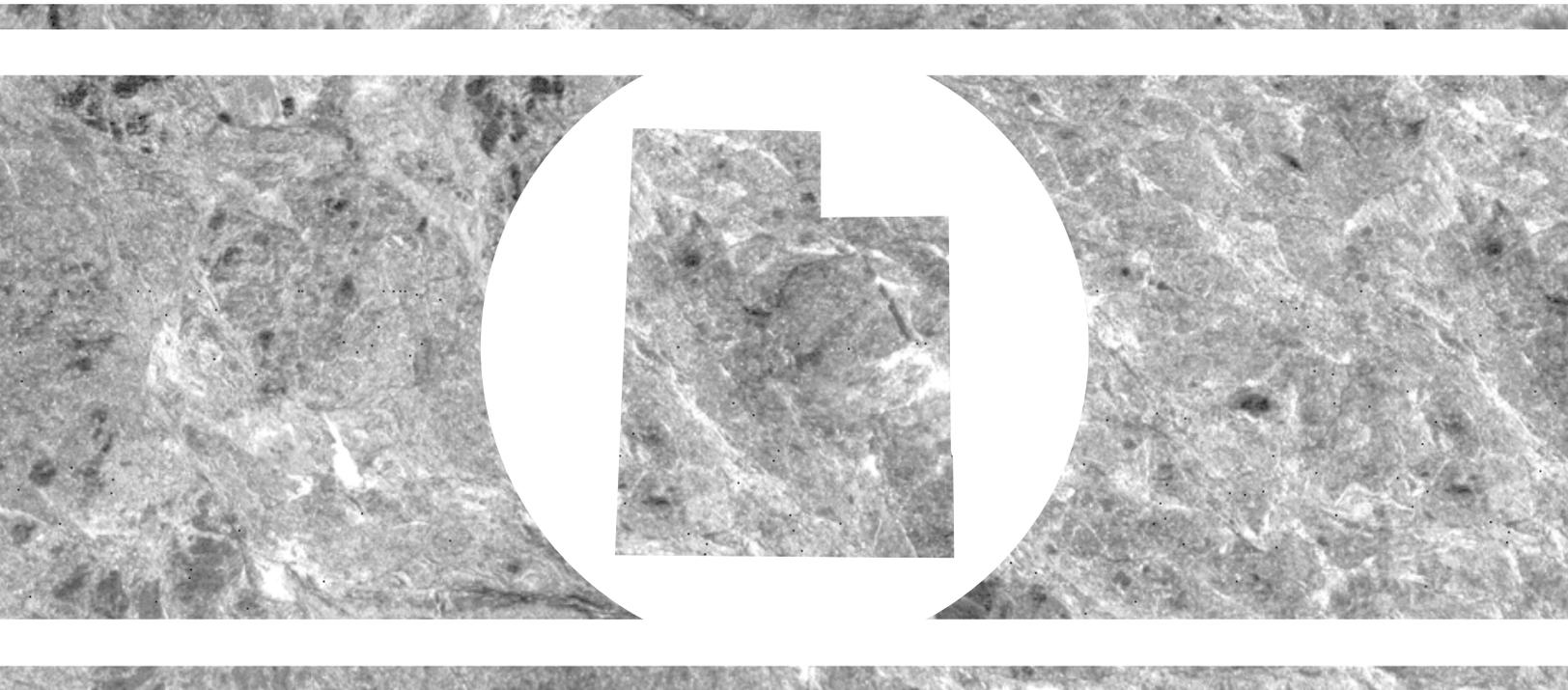
Appendix C:

Contents:

Appendix D:

Contents:

2006 UTAH WILDLAND-URBAN INTERFACE CODE



2006 Utah Wildland-Urban Interface Code

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PREFACE

Introduction

Internationally, code officials recognize the need for a modern, up-to-date code addressing the mitigation of fire in the urban-wildland interface. The *International Wildland-Urban Interface Code*[™], in this 2003 edition, is designed to bridge the gap between enforcement of the *International Building Code*[®] and *International Fire Code*[®] by mitigating the hazard of wildfires through model code regulations, which safeguard the public health and safety in all communities, large and small.

This comprehensive urban-wildland interface code establishes minimum regulations for land use and the built environment in designated urban-wildland interface areas using prescriptive and performance-related provisions. It is founded on data collected from tests and fire incidents, technical reports and mitigation strategies from around the world. This 2003 edition is fully compatible with all the *International Codes*[™] (“I-Codes”[™]) published by the International Code Council[®] (ICC[®]), including the *International Building Code*[®], *ICC Electrical Code*[™], *International Energy Conservation Code*[®], *International Existing Building Code*[®], *International Fire Code*[®], *International Fuel Gas Code*[®], *International Mechanical Code*[®], *ICC Performance Code*[™], *International Plumbing Code*[®], *International Private Sewage Disposal Code*[®], *International Property Maintenance Code*[®], *International Residential Code*[®] and *International Zoning Code*[®].

The *International Wildland-Urban Interface Code* provisions provide many benefits, including the model code development process, which offers an international forum for fire safety professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

Development

This is the first edition of the *International Wildland-Urban Interface Code* (2003) and is the culmination of an effort initiated in 2001 by the ICC and the three statutory members of the International Code Council: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International (SBCCI). The intent was to draft a comprehensive set of regulations for mitigating the hazard to life and property from the intrusion of fire from wildland exposures and fire from adjacent structures, and preventing structure fires from spreading to wildland fuels. Technical content of the 2000 *Wildland-Urban Interface Code*, published by the International Fire Code Institute, was utilized as the basis for the development, followed by the publication of the 2001 Final Draft. This 2003 edition is based on the Final Draft, with changes approved in the 2002 ICC Code Development Process. A new edition such as this is promulgated every three years.

With the development and publication of the family of *International Codes* in 2000, the continued development and maintenance of the model codes individually promulgated by BOCA (“BOCA National Codes”), ICBO (“Uniform Codes”) and SBCCI (“Standard Codes”) was discontinued. The 2003 *International Codes*, as well as their predecessors—the 2000 *International Codes*—are intended to be the successor set of codes to those codes previously developed by BOCA, ICBO and SBCCI.

The development of a single family of comprehensive and coordinated *International Codes* was a significant milestone in the development of regulations for the built environment. The timing of this publication mirrors a milestone in the change in structure of the model codes, namely, the pending consolidation of BOCA, ICBO and SBCCI into the ICC. The activities and services previously provided by the individual model code organizations will be the responsibility of the consolidated ICC.

This code is founded on principles intended to mitigate the hazard from fires through the development of provisions that adequately protect public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Adoption

The *International Wildland-Urban Interface Code* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction’s laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page v addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

Maintenance

The *International Wildland-Urban Interface Code* is kept up-to-date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the Code Development Cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Code and Standard Development Department of the International Code Council.

Although the development procedure of the *International Wildland-Urban Interface Code* assures the highest degree of care, ICC and the founding members of ICC—BOCA, ICBO and SBCCI—their members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions, because ICC and its founding members do not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

Authority

The Division is required to establish minimum standards for a wildland fire ordinance and specify minimum standards for wildland fire training, certification and wildland fire suppression equipment in accordance with subsections 65A-8-6(3)(a) and 65A-8-6(3)(b). This requirement is promulgated under general rule-making authority of subsection 65A-1-4(2).

ORDINANCE

The *International Codes* are designed and promulgated to be adopted by reference by ordinance. Jurisdictions wishing to adopt the 2003 *International Wildland-Urban Interface Code* as an enforceable regulation for the mitigation of fire in the urban-wildland interface should ensure that certain factual information is included in the adopting ordinance at the time adoption is being considered by the appropriate governmental body. The following sample adoption ordinance addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

Minimum Standards for Wildland Fire Ordinance

The division uses the *International Wildland-Urban Interface Code* as a basis for establishing the minimum standards discussed in this document. A county ordinance that at least meets the minimum standards should be in place by September 2006.

The Division incorporates by reference the 2003 *International Code Council Wildland-Urban Interface Code* as the minimum standard for wildland fire ordinance in conjunction with Utah requirements.

SAMPLE ORDINANCE FOR ADOPTION OF THE *INTERNATIONAL WILDLAND-URBAN INTERFACE CODE*

ORDINANCE NO. _____

An ordinance of the [JURISDICTION] adopting the 2003 edition of the *International Wildland-Urban Interface Code* as currently amended by the division of Forestry, Fire and State Lands, regulating and governing the mitigation of hazard to life and property from the intrusion of fire from wildland exposures, fire from adjacent structures and prevention of structure fires from spreading to wildland fuels in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefor; repealing Ordinance No. _____ of the [JURISDICTION] and all other ordinances and parts of the ordinances in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as the *International Wildland-Urban Interface Code*, 2003 edition, including Appendix Chapters [FILL IN THE APPENDIX CHAPTERS BEING ADOPTED], as published by the International Code Council, be and is hereby adopted as the Urban-Wildland Interface Code of the [JURISDICTION], in the State of [STATE NAME] for regulating and governing the mitigation of hazard to life and property from the intrusion of fire from wildland exposures, fire from adjacent structures and prevention of structure fires from spreading to wildland fuels as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Urban-Wildland Interface Code on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this ordinance.

Section 2. The following sections are hereby revised:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 3. That Ordinance No. _____ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE ORDINANCE OR ORDINANCES IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in the *Wildland-Urban Interface Code* hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 2 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the [JURISDICTION'S KEEPER OF RECORDS] is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect [TIME PERIOD] from and after the date of its final passage and adoption.

Section 8. Specific boundaries of natural or man-made features of wildland-urban interface areas shall be as shown on the wildland area interface map. The legal description of such areas is as described as follows: [INSERT LEGAL DESCRIPTION]

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CHAPTER 1

ADMINISTRATION

SECTION 101 GENERAL

101.1 Scope. The provisions of this code shall apply to the construction, alteration, movement, repair, maintenance and use of any building, structure or premises within the urban-wildland interface areas in this jurisdiction.

Buildings or conditions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition, use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a distinct danger to life or property.

Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new buildings or structures.

101.2 Objective. The objective of this code is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and property. Regulations in this code are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels.

The development and use of property in wildland-urban interface areas is a potential threat to life and property from fire and resulting erosion. Safeguards to prevent the occurrence of fires and to provide adequate fire-protection facilities to control the spread of fire in wildland-urban interface areas shall be in accordance with this code.

This code shall supplement the jurisdiction's building and fire codes, if such codes have been adopted, to provide for special regulations to mitigate the fire- and life-safety hazards of the wildland-urban interface areas.

101.3 Retroactivity. The provisions of the code shall apply to conditions arising after the adoption thereof, conditions not legally in existence at the adoption of this code, to conditions which, in the opinion of the code official, constitute a distinct hazard to life or property.

101.4 Additions or alterations. Additions or alterations may be made to any building or structure without requiring the existing building or structure to comply with all of the requirements of this code, provided the addition or alteration conforms to that required for a new building or structure.

Exception: Provisions of this code that specifically apply to existing conditions are retroactive. See Section 601.1 and Appendix A.

Additions or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any of the provisions of this code nor shall such additions or alterations cause the existing building or structure to become unsafe. An unsafe condition shall be deemed to have been created if an addition or alteration will cause the existing building or structure to become structurally

unsafe or overloaded; will not provide adequate access in compliance with the provisions of this code or will obstruct existing exits or access; will create a fire hazard; will reduce required fire resistance or will otherwise create conditions dangerous to human life.

101.5 Maintenance. All buildings, structures, landscape materials, vegetation, defensible space or other devices or safeguards required by this code shall be maintained in conformance to the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance of buildings, structures, landscape materials and vegetation.

SECTION 102 AUTHORITY OF THE CODE OFFICIAL

102.1 Powers and duties of the code official. The code official is hereby authorized to administer and enforce this code, or designated sections thereof, and all ordinances of the jurisdiction pertaining to designated wildland-urban interface areas. For such purposes, the code official shall have the powers of a law enforcement officer.

102.2 Interpretations, rules and regulations. The code official shall have the power to render interpretations of this code and to adopt and enforce rules and supplemental regulations to clarify the application of its provisions. Such interpretations, rules and regulations shall be in conformance to the intent and purpose of this code.

A copy of such rules and regulations shall be filed with the clerk of the jurisdiction and shall be in effect immediately thereafter. Additional copies shall be available for distribution to the public.

102.3 Liability of the code official. The code official charged with the enforcement of this code, acting in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered personally liable for damages that may accrue to persons or property as a result of an act or by reason of an act or omission in the discharge of such duties. A suit brought against the code official or employee because of such act or omission performed by the code official or employee in the enforcement of any provision of such codes or other pertinent laws or ordinances implemented through the enforcement of this code or enforced by the code enforcement agency shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom shall be assumed by this jurisdiction. The code enforcement agency or its parent jurisdiction shall not be held as assuming any liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

102.4 Other agencies. When requested to do so by the code official, other officials of this jurisdiction shall assist and coop-

erate with the code official in the discharge of the duties required by this code.

**SECTION 103
COMPLIANCE ALTERNATIVES**

103.1 Practical difficulties. When there are practical difficulties involved in carrying out the provisions of this code, the code official is authorized to grant modifications for individual cases on application in writing by the owner or a duly authorized representative. The code official shall first find that a special individual reason makes enforcement of the strict letter of this code impractical, the modification is in conformance to the intent and purpose of this code, and the modification does not lessen any fire protection requirements or any degree of structural integrity. The details of any action granting modifications shall be recorded and entered into the files of the code enforcement agency.

If the code official determines that difficult terrain, danger of erosion or other unusual circumstances make strict compliance with the vegetation control provisions of the code detrimental to safety or impractical, enforcement thereof may be suspended, provided that reasonable alternative measures are taken.

103.2 Technical assistance. To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a building or premises subject to the inspection of the code official, the code official is authorized to require the owner or the person in possession or control of the building or premises to provide, without charge to the jurisdiction, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the code official and the owner and shall analyze the fire safety of the design, operation or use of the building or premises, the facilities and appurtenances situated thereon and fuel management for purposes of establishing fire hazard severity to recommend necessary changes.

103.3 Alternative materials or methods. The code official, in concurrence with approval from the building official and fire chief, is authorized to approve alternative materials or methods, provided that the code official finds that the proposed design, use or operation satisfactorily complies with the intent of this code and that the alternative is, for the purpose intended, at least equivalent to the level of quality, strength, effectiveness, fire resistance, durability and safety prescribed by this code. Approvals under the authority herein contained shall be subject to the approval of the building official whenever the alternate material or method involves matters regulated by the *International Building Code*.

The code official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

**SECTION 104
APPEALS**

104.1 General. To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code, there shall be and hereby is created a board of appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters. The code official, building official and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The board of appeals shall be appointed by the legislative body and shall hold office at their discretion. The board shall adopt reasonable rules and regulations for conducting its investigations and shall render decisions and findings in writing to the code official, with a duplicate copy to the applicant.

104.2 Limitations of authority. The board of appeals shall not have authority relative to interpretation of the administrative provisions of this code and shall not have authority to waive requirements of this code.

**SECTION 105
PERMITS**

105.1 General. When not otherwise provided in the requirements of the building or fire code, permits are required in accordance with Section 105.

105.2 Permits required. Unless otherwise exempted, no building or structure regulated by this code shall be erected, constructed, altered, repaired, moved, removed, converted or demolished unless a separate permit for each building or structure has first been obtained from the code official.

When required by the code official, a permit shall be obtained for the following activities, operations, practices or functions within an wildland-urban interface area:

1. Automobile wrecking yard;
2. Candles and open flames in assembly areas;
3. Explosives or blasting agents;
4. Fireworks;
5. Flammable or combustible liquids;
6. Hazardous materials;
7. Liquefied petroleum gases;
8. Lumberyards;
9. Motor vehicle fuel-dispensing stations;
10. Open burning;
11. Pyrotechnical special effects material;
12. Tents, canopies and temporary membrane structures;
13. Tire storage;
14. Welding and cutting operations; or
15. Other activities as determined by the code official.

105.3 Work exempt from permit. Unless otherwise provided in the requirements of the building or fire code, a permit shall not be required for the following:

1. One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15 m²) and

the structure is located more than 50 feet (15 240 mm) from the nearest adjacent structure.

2. Fences not over 6 feet (1829 mm) high.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

The code official is authorized to stipulate conditions for permits. Permits shall not be issued when public safety would be at risk, as determined by the code official.

105.4 Permit application. To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the code enforcement agency for that purpose. Every such application shall:

1. Identify and describe the work, activity, operation, practice or function to be covered by the permit for which application is made.
2. Describe the land on which the proposed work, activity, operation, practice or function is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building, work, activity, operation, practice or function.
3. Indicate the use or occupancy for which the proposed work, activity, operation, practice or function is intended.
4. Be accompanied by plans, diagrams, computation and specifications and other data as required in Section 106 of this code.
5. State the valuation of any new building or structure or any addition, remodeling or alteration to an existing building.
6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as may be required by the code official.

105.5 Permit approval. Before a permit is issued, the code official, or an authorized representative, shall review and approve all permitted uses, occupancies or structures. Where laws or regulations are enforceable by other agencies or departments, a joint approval shall be obtained from all agencies or departments concerned.

105.6 Permit issuance. The application, plans, specifications and other data filed by an applicant for a permit shall be reviewed by the code official. If the code official finds that the work described in an application for a permit and the plan, specifications and other data filed therewith conform to the requirements of this code, the code official is allowed to issue a permit to the applicant.

When the code official issues the permit, the code official shall endorse in writing or stamp the plans and specifications APPROVED. Such approved plans and specifications shall not be changed, modified or altered without authorization from the code official, and all work regulated by this code shall be done in accordance with the approved plans.

105.7 Validity of permit. The issuance or granting of a permit or approval of plans, specifications and computations shall

not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or conceal the provisions of this code or other ordinances of the jurisdiction shall not be valid.

105.8 Expiration. Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the building, use or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the building, use or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days.

Any permittee holding an unexpired permit may apply for an extension of the time within which work may commence under that permit when the permittee is unable to commence work within the time required by this section for good and satisfactory reasons. The code official may extend the time for action by the permittee for a period not exceeding 180 days on written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit shall be extended more than once.

105.9 Retention of permits. Permits shall at all times be kept on the premises designated therein and shall at all times be subject to inspection by the code official or other authorized representative.

105.10 Revocation of permits. Permits issued under this code may be suspended or revoked when it is determined by the code official that:

1. It is used by a person other than the person to whom the permit was issued.
2. It is used for a location other than that for which the permit was issued.
3. Any of the conditions or limitations set forth in the permit have been violated.
4. The permittee fails, refuses or neglects to comply with any order or notice duly served on him under the provisions of this code within the time provided therein.
5. There has been any false statement or misrepresentation as to material fact in the application or plans on which the permit or application was made.
6. When the permit is issued in error or in violation of any other ordinance, regulations or provisions of this code.

The code official is allowed to, in writing, suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error or on the basis of incorrect information supplied, or in violation of any ordinance or regulation or any of the provisions of this code.

SECTION 106 PLANS AND SPECIFICATIONS

106.1 General. Plans, engineering calculations, diagrams and other data shall be submitted in at least two sets with each application for a permit. When such plans are not prepared by an architect or engineer, the code official may require the applicant submitting such plans or other data to demonstrate that state law does not require that the plans be prepared by a li-

censed architect or engineer. The code official may require plans, computations and specifications to be prepared and designed by an architect or engineer licensed by the state to practice as such even if not required by state law.

Exception: Submission of plans, calculations, construction inspection requirements and other data, if it is found that the nature of the work applied for is such that reviewing of plans is not necessary to obtain compliance with this code.

106.2 Information on plans and specifications. Plans and specifications shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations.

106.3 Site plan. In addition to the requirements for plans in the *International Building Code*, site plans shall include topography, width and percent of grade of access roads, landscape and vegetation details, locations of structures or building envelopes, existing or proposed overhead utilities, occupancy classification of buildings, types of ignition-resistant construction of buildings, structures and their appendages, roof classification of buildings, and site water supply systems.

106.4 Vegetation management plans. When utilized by the permit applicant pursuant to Section 502, vegetation management plans shall be prepared and shall be submitted to the code official for review and approval as part of the plans required for a permit. See Appendix B.

106.5 Fire protection plan. When required by the code official pursuant to Section 405, a fire protection plan shall be prepared and shall be submitted to the code official for review and approved as a part of the plans required for a permit.

106.6 Other data and substantiation. When required by the code official, the plans and specifications shall include classification of fuel loading, fuel model light, medium or heavy, and substantiating data to verify classification of fire-resistive vegetation.

106.7 Vicinity plan. In addition to the requirements for site plans, plans shall include details regarding the vicinity within 300 feet (91 440 mm) of property lines, including other structures, slope, vegetation, fuel breaks, water supply systems and access roads.

106.8 Retention of plans. One set of approved plans, specifications and computations shall be retained by the code official for a period of not less than 90 days from date of completion of the work covered therein; and one set of approved plans and specifications shall be returned to the applicant, and said set shall be kept on the site of the building, use or work at all times during which the work authorized thereby is in progress.

SECTION 107 INSPECTION AND ENFORCEMENT

107.1 Inspection.

107.1.1 General. All construction or work for which a permit is required by this code shall be subject to inspection by the code official and all such construction or work shall

remain accessible and exposed for inspection purposes until approved by the code official.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid.

A survey of the lot may be required by the code official to verify that the mitigation features are provided and the building or structure is located in accordance with the approved plans.

107.1.2 Authority to inspect. The code official shall inspect, as often as necessary, buildings and premises, including such other hazards or appliances designated by the code official for the purpose of ascertaining and causing to be corrected any conditions that could reasonably be expected to cause fire or contribute to its spread, or any violation of the purpose of this code and of any other law or standard affecting fire safety.

107.1.3 Reinspections. To determine compliance with this code, the code official may cause a structure to be reinspected. A fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

Reinspection fees may be assessed when the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested or for deviating from plans requiring the approval of the code official.

To obtain a reinspection, the applicant shall pay the reinspection fee as set forth in the fee schedule adopted by the jurisdiction. When reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

107.2 Enforcement.

107.2.1 Authorization to issue corrective orders and notices. When the code official finds any building or premises that are in violation of this code, the code official is authorized to issue corrective orders and notices.

107.2.2 Service of orders and notices. Orders and notices authorized or required by this code shall be given or served on the owner, operator, occupant or other person responsible for the condition or violation either by verbal notification, personal service, or delivering the same to, and leaving it with, a person of suitable age and discretion on the premises; or, if no such person is found on the premises, by affixing a copy thereof in a conspicuous place on the door to the entrance of said premises and by mailing a copy thereof to such person by registered or certified mail to the person's last known address.

Orders or notices that are given verbally shall be confirmed by service in writing as herein provided.

107.3 Right of entry. Whenever necessary to make an inspection to enforce any of the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in any building or on any premises any condition that makes such building or premises unsafe, the code official is authorized to enter such building or premises at all reasonable times to inspect the same or to perform any duty authorized by this code, provided that if such building or premises is occupied, the code official shall first present proper credentials and request entry; and if such building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other persons having charge or control of the building or premises and request entry.

If such entry is refused, the code official shall have recourse to every remedy provided by law to secure entry. Owners, occupants or any other persons having charge, care or control of any building or premises, shall, after proper request is made as herein provided, promptly permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

107.4 Compliance with orders and notices.

107.4.1 General compliance. Orders and notices issued or served as provided by this code shall be complied with by the owner, operator, occupant or other person responsible for the condition or violation to which the corrective order or notice pertains.

If the building or premises is not occupied, such corrective orders or notices shall be complied with by the owner.

107.4.2 Compliance with tags. A building or premises shall not be used when in violation of this code as noted on a tag affixed in accordance with Section 107.4.1.

107.4.3 Removal and destruction of signs and tags. A sign or tag posted or affixed by the code official shall not be mutilated, destroyed or removed without authorization by the code official.

107.4.4 Citations. Persons operating or maintaining an occupancy, premises or vehicle subject to this code who allow a hazard to exist or fail to take immediate action to abate a hazard on such occupancy, premises or vehicle when ordered or notified to do so by the code official shall be guilty of a misdemeanor.

107.4.5 Unsafe conditions. Buildings, structures or premises that constitute a fire hazard or are otherwise dangerous to human life, or which in relation to existing use constitute a hazard to safety or health or public welfare, by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster damage or abandonment as specified in this code or any other ordinance, are unsafe conditions. Unsafe buildings or structures shall not be used. Unsafe buildings are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal, pursuant to applicable state and local laws and codes.

SECTION 108 CERTIFICATE OF COMPLETION

No building, structure or premises shall be used or occupied, and no change in the existing occupancy classification of a building, structure, premise or portion thereof shall be made until the code official has issued a certificate of completion therefor as provided herein. The certificate of occupancy shall not be issued until the certificate of completion indicating that the project is in compliance with this code has been issued by the code official.

Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other pertinent laws and ordinances of the jurisdiction. Certificates presuming to give authority to violate or cancel the provisions of this code or other laws or ordinances of the jurisdiction shall not be valid.

CHAPTER 2

DEFINITIONS

SECTION 201 GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words stated in the present tense include the future; words stated in the masculine gender include the feminine and neuter, and the singular number includes the plural and the plural the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in other *International Codes*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have their ordinarily accepted meanings such as the context implies.

SECTION 202 DEFINITIONS

ACCESSORY STRUCTURE. A building or structure used to shelter or support any material, equipment, chattel or occupancy other than a habitable building.

APPROVED. Approval by the code official as the result of review, investigation or tests conducted by the code official or by reason of accepted principles or tests by national authorities, or technical or scientific organizations.

BRUSH, SHORT. Low-growing species that reach heights of 1 to 3 feet. Sagebrush, snowberry and rabbitbrush are some varieties.

BRUSH, TALL. Arbor-like varieties of brush species and/or short varieties of broad-leaf trees that grow in compact groups or clumps. These groups or clumps reach heights of 4 to 20 feet. In Utah, this includes primary varieties of oak, maples, chokecherry, serviceberry and mahogany, but may also include other species.

BUILDING. Any structure used or intended for supporting or sheltering any use or occupancy.

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of the *International Building Code*, or the building official's duly authorized representative.

CERTIFICATE OF COMPLETION. Written documentation that the project or work for which a permit was issued has been completed in conformance with requirements of this code.

CODE OFFICIAL. The official designated by the jurisdiction to interpret and enforce this code, or the code official's authorized representative.

DEFENSIBLE SPACE. An area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

DRIVEWAY. A vehicular ingress and egress route that serves no more than two buildings or structures, not including accessory structures, or more than five dwelling units.

FIRE AREA. The floor area, in square feet (square meters), used to determine the adequate water supply.

FIRE CHIEF. The chief officer or the chief officer's authorized representative of the fire department serving the jurisdiction.

FIRE PROTECTION PLAN. A document prepared for a specific project or development proposed for the wildland-urban interface area. It describes ways to minimize and mitigate the fire problems created by the project or development, with the purpose of reducing impact on the community's fire protection delivery system.

FIRE WEATHER. Weather conditions favorable to the ignition and rapid spread of fire. In wildfires, this generally includes high temperatures combined with strong winds and low humidity.

FIRE-RESISTANCE-RATED CONSTRUCTION. The use of materials and systems in the design and construction of a building or structure to safeguard against the spread of fire within a building or structure and the spread of fire to or from buildings or structures to the wildland-urban interface area.

FLAME SPREAD RATING. As used herein refers to rating obtained according to tests conducted as specified by a nationally recognized standard.

FUEL BREAK. An area, strategically located for fighting anticipated fires, where the native vegetation has been permanently modified or replaced so that fires burning into it can be more easily controlled. Fuel breaks divide fire-prone areas into smaller areas for easier fire control and to provide access for fire fighting.

FUEL, HEAVY. Vegetation consisting of round wood 3 inches (76 mm) or larger in diameter. The amount of fuel (vegetation) would be 6 tons per acre or greater.

FUEL, LIGHT. Vegetation consisting of herbaceous and round wood less than 1/4 inch (6.4 mm) in diameter. The amount of fuel (vegetation) would be 1/2 ton to 2 tons per acre.

FUEL, MEDIUM. Vegetation consisting of round wood 1/4 to 3 inches (6.4mm to 76 mm) in diameter. The amount of fuel (vegetation) would be 2 to 6 tons per acre.

FUEL MODIFICATION. A method of modifying fuel load by reducing the amount of nonfire-resistive vegetation or altering the type of vegetation to reduce the fuel load.

DEFINITIONS

FUEL MOSAIC. A fuel modification system that provides for the creation of islands and irregular boundaries to reduce the visual and ecological impact of fuel modification.

FUEL-LOADING. The oven-dry weight of fuels in a given area, usually expressed in pounds per acre (lb/a) (kg/ha). Fuel loading may be referenced to fuel size or timelag categories, and may include surface fuels or total fuels.

GREENBELT. A fuel break designated for a use other than fire protection.

HAZARDOUS MATERIALS. As defined in the *International Fire Code*.

HEAVY TIMBER CONSTRUCTION. As described in the *International Building Code*.

INSURANCE SERVICES OFFICE (ISO). An agency that recommends fire insurance rates based on a grading schedule that incorporates evaluation of fire fighting resources and capabilities.

LEGISLATIVE BODY. The governing body of the political jurisdiction administering this code.

LOG WALL CONSTRUCTION. A type of construction in which exterior walls are constructed of solid wood members and where the smallest horizontal dimension of each solid wood member is at least 6 inches (152 mm).

MULTILAYERED GLAZED PANELS. Window or door assemblies that consist of two or more independently glazed panels installed parallel to each other, having a sealed air gap in between, within a frame designed to fill completely the window or door opening in which the assembly is intended to be installed.

NONCOMBUSTIBLE. As applied to building construction material means a material that, in the form in which it is used, is either one of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material conforming to ASTM E 136 shall be considered noncombustible within the meaning of this section.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over $\frac{1}{8}$ inch (3.2 mm) thick, which has a flame-spread rating of 50 or less. Flame-spread rating as used herein refers to rating obtained according to tests conducted as specified in ASTM E 84.

“Noncombustible” does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classed as noncombustible that is subject to increase in combustibility or flame-spread rating, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

NONCOMBUSTIBLE ROOF COVERING. One of the following:

1. Cement shingles or sheets.
2. Exposed concrete slab roof.
3. Ferrous or copper shingles or sheets.

4. Slate shingles.

5. Clay or concrete roofing tile.

6. Approved roof covering of noncombustible material.

SLOPE. The variation of terrain from the horizontal; the number of feet (meters) rise or fall per 100 feet (30 480 mm) measured horizontally, expressed as a percentage.

STRUCTURE. That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some manner.

TREE CROWN. The primary and secondary branches growing out from the main stem, together with twigs and foliage.

UNENCLOSED ACCESSORY STRUCTURE. An accessory structure without a complete exterior wall system enclosing the area under roof or floor above.

WILDFIRE. An uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

WILDLAND. An area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities.

WILDLAND URBAN INTERFACE. The line, area or zone where structures or other human development (including critical infrastructure that if destroyed would result in hardship to communities) meet or intermingle with undeveloped wildland or vegetative fuel.

CHAPTER 3

WILDLAND-URBAN INTERFACE AREAS

SECTION 301 WILDLAND-URBAN INTERFACE AREA DESIGNATIONS

301.1 Declaration. The legislative body shall declare the wildland-urban interface areas within the jurisdiction. The urban-wildland interface areas shall be based on the maps created in accordance with Section 301.

301.2 Mapping. In cooperation, the code official and the Division of Forestry, Fire and State Lands (FFSL) wildfire representative (per participating agreement between county and FFSL) will create or review Wildland-Urban Interface Area maps, to be recorded and filed with the clerk of the jurisdiction. These areas shall become effective immediately thereafter.

301.3 Review of wildland-urban interface areas. The code official and the FFSL wildfire representative shall reevaluate and recommend modification to the wildland-urban interface areas in accordance with Section 301.1 on a three-year basis or more frequently as deemed necessary by the legislative body.

CHAPTER 4

WILDLAND-URBAN INTERFACE AREA REQUIREMENTS

SECTION 401 GENERAL

401.1 Scope. Wildland-urban interface areas shall be provided with emergency vehicle access and water supply in accordance with this chapter.

401.2 Objective. The objective of this chapter is to establish the minimum requirements for emergency vehicle access and water supply for buildings and structures located in the wildland-urban interface areas.

401.3 General safety precautions. General safety precautions shall be in accordance with this chapter. See also Appendix A.

SECTION 402 APPLICABILITY

402.1 Subdivisions.

402.1.1 Access. New subdivisions, as determined by this jurisdiction, shall be provided with fire apparatus access roads in accordance with the *International Fire Code* and access requirements in accordance with Section 403.

402.1.2 Water supply. New subdivisions as determined by this jurisdiction shall be provided with water supply in accordance with Section 404.

402.2 Individual structures.

402.2.1 Access. Individual structures hereafter constructed or relocated into or within wildland-urban interface areas shall be provided with fire apparatus access in accordance with the *International Fire Code* and driveways in accordance with Section 403.2. Marking of fire protection equipment shall be provided in accordance with Section 403.5 and address markers shall be provided in accordance with Section 403.6.

402.2.2 Water supply. Individual structures hereafter constructed or relocated into or within wildland-urban interface areas shall be provided with a conforming water supply in accordance with Section 404.

Exceptions:

1. Structures constructed to meet the requirements for the class of ignition-resistant construction specified in Table 503.1 for a nonconforming water supply.
2. Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m²).

SECTION 403 ACCESS

403.1 Restricted access. Where emergency vehicle access is restricted because of secured access roads or driveways or where immediate access is necessary for life-saving or fire-fighting purposes, the code official is authorized to require a key box to be installed in an accessible location. The key box shall be of a type approved by the code official and shall contain keys to gain necessary access as required by the code official.

403.2 Driveways. Driveways shall be provided when any portion of an exterior wall of the first story of a building is located more than 150 feet (45 720 mm) from a fire apparatus access road. Driveways shall provide a minimum unobstructed width of 12 feet (3658 mm) and a minimum unobstructed height of 13 feet 6 inches (4115 mm). Driveways in excess of 150 feet (45 720 mm) in length shall be provided with turnarounds. Driveways in excess of 200 feet (60 960 mm) in length and less than 20 feet (6096 mm) in width shall be provided with turnouts in addition to turnarounds.

A driveway shall not serve in excess of five dwelling units.

Driveway turnarounds shall have inside turning radii of not less than 30 feet (9144 mm) and outside turning radii of not less than 45 feet (13 716 mm). Driveways that connect with a road or roads at more than one point may be considered as having a turnaround if all changes of direction meet the radii requirements for driveway turnarounds.

Driveway turnouts shall be an all-weather road surface at least 10 feet (3048 mm) wide and 30 feet (9144 mm) long. Driveway turnouts shall be located as required by the code official.

Vehicle load limits shall be posted at both entrances to bridges on driveways and private roads. Design loads for bridges shall be established by the code official.

403.3 Fire apparatus access road. When required, fire apparatus access roads shall be all-weather roads with a minimum width of 20 feet (6096 mm) and a clear height of 13 feet 6 inches (4115 mm); shall be designed to accommodate the loads and turning radii for fire apparatus; and have a gradient negotiable by the specific fire apparatus normally used at that location within the jurisdiction. Dead-end roads in excess of 150 feet (45 720 mm) in length shall be provided with turnarounds as approved by the code official. An all-weather road surface shall be any surface material acceptable to the code official that would normally allow the passage of emergency service vehicles to protect structures and wildlands within the jurisdiction.

403.4 Marking of roads. Approved signs or other approved notices shall be provided and maintained for access roads and driveways to identify such roads and prohibit the obstruction thereof or both.

All road identification signs and supports shall be of noncombustible materials. Signs shall have minimum 4-inch-high (102 mm) reflective letters with 1/2 inch (12.7 mm) stroke on a contrasting 6-inch-high (152 mm) sign. Road identification signage shall be mounted at a height of 7 feet (2134 mm) from the road surface to the bottom of the sign.

403.5 Marking of fire protection equipment. Fire protection equipment and fire hydrants shall be clearly identified in a manner approved by the code official to prevent obstruction.

403.6 Address markers. All buildings shall have a permanently posted address, which shall be placed at each driveway entrance and be visible from both directions of travel along the road. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the road on which the address is located.

Address signs along one-way roads shall be visible from both the intended direction of travel and the opposite direction.

Where multiple addresses are required at a single driveway, they shall be mounted on a single post, and additional signs shall be posted at locations where driveways divide.

Where a roadway provides access solely to a single commercial or industrial business, the address sign shall be placed at the nearest road intersection providing access to that site.

403.7 Grade. The gradient for fire apparatus access roads and driveways shall not exceed the maximum approved by the code official. It will be up to the code official to ascertain the standard based on local fire equipment grade not to exceed 12 percent.

SECTION 404 WATER SUPPLY

404.1 General. When provided in order to qualify as a conforming water supply for the purpose of Table 503.1, an approved water source shall have an adequate water supply for the use of the fire protection service to protect buildings and structures from exterior fire sources or to suppress structure fires within the wildland-urban interface area of the jurisdiction in accordance with this section.

404.2 Water sources. The point at which a water source is available for use shall be located not more than 1,000 feet (305 m) from the building and be approved by the code official. The distance shall be measured along an unobstructed line of travel.

Water sources shall comply with the following:

1. Man-made water sources shall have a minimum usable water volume as determined by the adequate water supply needs in accordance with Section 404.5. This water source shall be equipped with an approved hydrant. The water level of the water source shall be maintained by rainfall, water pumped from a well, water hauled by a tanker, or by seasonal high water of a stream or river. The design, construction, location, water level maintenance, access, and access maintenance of man-made water sources shall be approved by the code official.
2. Natural water sources shall have a minimum annual water level or flow sufficient to meet the adequate water supply needs in accordance with Section 404.5. This wa-

ter level or flow shall not be rendered unusable because of freezing. This water source shall have an approved draft site with an approved hydrant. Adequate water flow and rights for access to the water source shall be ensured in a form acceptable to the code official.

404.3 Draft sites. Approved draft sites shall be provided at all natural water sources intended for use as fire protection for compliance with this code. The design, construction, location, access and access maintenance of draft sites shall be approved by the code official.

The pumper access point shall be either an emergency vehicle access area alongside a conforming access road or an approved driveway no longer than 150 feet (45 720 mm). Pumper access points and access driveways shall be designed and constructed in accordance with all codes and ordinances enforced by this jurisdiction. Pumper access points shall not require the pumper apparatus to obstruct a road or driveway.

404.4 Hydrants. All hydrants shall be designed and constructed in accordance with nationally recognized standards. The location and access shall be approved by the code official.

404.5 Adequate water supply. Adequate water supply shall be determined for purposes of initial attack and flame front control by the local jurisdiction. NFPA 1142 may be used as a reference.

404.6 Fire department. The water system required by this code can only be considered conforming for purposes of determining the level of ignition-resistant construction (see Table 503.1).

404.7 Obstructions. Access to all water sources required by this code shall be unobstructed at all times. The code official shall not be deterred or hindered from gaining immediate access to water source equipment, fire protection equipment or hydrants.

404.8 Identification. Water sources, draft sites, hydrants and fire protection equipment shall be clearly identified in a manner approved by the code official to identify location and to prevent obstruction by parking and other obstructions.

404.9 Testing and maintenance. Water sources, draft sites, hydrants and other fire protection equipment required by this code shall be subject to periodic tests as required by the code official. Code official shall establish a periodic testing schedule. Costs are to be covered by the water provider. All such equipment installed under the provisions of this code shall be maintained in an operative condition at all times and shall be repaired or replaced where defective. Additions, repairs, alterations and servicing of such fire protection equipment and resources shall be in accordance with approved standards. Mains and appurtenances shall be installed in accordance with NFPA 24. Water tanks for private fire protection shall be installed in accordance with NFPA 22. The costs are to be covered by the water provider.

404.10 Reliability.

404.10.1 Objective. The objective of this section is to increase the reliability of water supplies by reducing the exposure of vegetative fuels to electrically powered systems.

404.10.2 Clearance of fuel. Defensible space shall be provided around water tank structures, water supply pumps and pump houses in accordance with Section 603.

404.10.3 Standby power. Stationary water supply facilities within the wildland-urban interface area dependent on electrical power supplied by power grid to meet adequate water supply demands shall provide functional standby power systems in accordance with the ICC *Electrical Code* to ensure that an uninterrupted water supply is maintained. The standby power source shall be capable of providing power for a minimum of two hours.

Exceptions: When approved by the code official, a standby power supply is not required where the primary power service to the stationary water supply facility is underground or there is an on-site generator.

SECTION 405 FIRE PROTECTION PLAN

405.1 Purpose. The plan is to provide a basis to determine overall compliance with this code, for determination of Ignition Resistant Construction (IRC) (see Table 503.1) and for determining the need for alternative materials and methods.

405.2 General. When required by the code official, a fire protection plan shall be prepared and approved prior to the first building permit issuance or subdivision approval.

405.3 Content. The plan shall be based upon a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space and vegetation management.

405.4 Cost. The cost of fire protection plan preparation and review shall be the responsibility of the applicant.

405.5 Plan retention. The fire protection plan shall be retained by the code official.

CHAPTER 5

SPECIAL BUILDING CONSTRUCTION REGULATIONS

SECTION 501 GENERAL

501.1 Scope. Buildings and structures shall be constructed in accordance with the *International Building Code* and this code.

Exceptions:

1. Accessory structures not exceeding 120 square feet (11 m²) in floor area when located at least 50 feet (15 240 mm) from buildings containing habitable spaces.
2. Agricultural buildings at least 50 feet (15 240 mm) from buildings containing habitable spaces.

501.2 Objective. The objective of this chapter is to establish minimum standards to locate, design and construct buildings and structures or portions thereof for the protection of life and property, to resist damage from wildfires, and to mitigate building and structure fires from spreading to wildland fuels. The minimum standards set forth in this chapter vary with the critical fire weather, slope and fuel type to provide increased protection, above the requirements set forth in the *International Building Code*, from the various levels of hazards.

SECTION 502 FIRE HAZARD SEVERITY

The fire hazard severity of building sites for all buildings hereafter constructed, modified or relocated into wildland-urban

interface areas shall be established in accordance with Appendix C.

The fire hazard severity is allowed to be reduced by implementing a vegetation management plan in accordance with Appendix B.

SECTION 503 IGNITION-RESISTANT CONSTRUCTION

503.1 General. Buildings and structures hereafter constructed, modified or relocated into or within wildland-urban interface areas shall meet the construction requirements in accordance with Table 503.1. Class 1, Class 2 or Class 3 ignition-resistant construction shall be in accordance with Sections 504, 505 and 506, respectively.

SECTION 504 CLASS 1 IGNITION-RESISTANT CONSTRUCTION

504.1 General. Class 1 ignition-resistant construction shall be in accordance with Section 504.

504.2 Roof covering. Roofs shall have a Class A roof covering or a Class A roof assembly. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers.

**TABLE 503.1
IGNITION-RESISTANT CONSTRUCTION^a**

DEFENSIBLE SPACE ^c	FIRE HAZARD SEVERITY					
	Moderate Hazard		High Hazard		Extreme Hazard	
	Water Supply ^b		Water Supply ^b		Water Supply ^b	
	Conforming ^d	Nonconforming ^e	Conforming ^d	Nonconforming ^e	Conforming ^d	Nonconforming ^e
Nonconforming	IR 2	IR 1	IR 1	IR 1 N.C.	IR 1 N.C.	Not Permitted
Conforming	IR 3	IR 2	IR 2	IR 1	IR 1	IR 1 N.C.
1.5 x Conforming	Not Required	IR 3	IR 3	IR 2	IR 2	IR 1

a. Access shall be in accordance with Section 402.

b. Subdivisions shall have a conforming water supply in accordance with Section 402.1.

IR 1 = Ignition-resistant construction in accordance with Section 504.

IR 2 = Ignition-resistant construction in accordance with Section 505.

IR 3 = Ignition-resistant construction in accordance with Section 506.

N.C. = Exterior walls shall have a fire-resistance rating of not less than 1-hour and the exterior surfaces of such walls shall be noncombustible. Usage of log wall construction is allowed.

c. Conformance based on Section 603.

d. Conformance based on Section 404.

e. A nonconforming water supply is any water system or source that does not comply with Section 404, including situations where there is no water supply for structure protection or fire suppression.

504.3 Protection of eaves. Eaves and soffits shall be protected on the exposed underside by materials approved for a minimum of 1-hour fire-resistance-rated construction. Fascias are required and must be protected on the backside by materials approved for a minimum of 1-hour fire-resistance-rated construction or 2-inch (51 mm) nominal dimension lumber.

504.4 Gutters and downspouts. Gutters and downspouts shall be constructed of noncombustible material.

504.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction on the exterior side or constructed with approved noncombustible materials.

Exception: Heavy timber or log wall construction.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

504.6 Unenclosed underfloor protection. Buildings or structures shall have all underfloor areas enclosed to the ground with exterior walls in accordance with Section 504.5.

Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

504.7 Appendages and projections. Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be a minimum of 1-hour fire-resistance-rated construction, heavy timber construction or constructed of approved noncombustible materials.

When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5.

504.8 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire protection rating of not less than 20 minutes.

504.9 Exterior doors. Exterior doors shall be approved noncombustible construction, solid core wood not less than 1³/₄ inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 504.8.

Exception: Vehicle access doors.

504.10 Vents. Attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed 1/4 inch (6.4 mm).

Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Underfloor ventilation openings shall be located as close to grade as practical.

504.11 Detached accessory structures. Detached accessory structures located less than 50 feet (15 240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction, heavy timber, log wall construction or constructed with approved noncombustible materials on the exterior side.

When the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5 or underfloor protection in accordance with Section 504.6.

Exception: The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy-timber construction.

See Section 504.2 for roof requirements.

SECTION 505

CLASS 2 IGNITION-RESISTANT CONSTRUCTION

505.1 General. Class 2 ignition-resistant construction shall be in accordance with Section 505.

505.2 Roof covering. Roofs shall have at least a Class A roof covering, Class B roof assembly or an approved noncombustible roof covering. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers.

505.3 Protection of eaves. Combustible eaves, fascias and soffits shall be enclosed with solid materials with a minimum thickness of 3/4 inch (19 mm). No exposed rafter tails shall be permitted unless constructed of heavy timber materials.

505.4 Gutters and downspouts. Gutters and downspouts shall be constructed of noncombustible material.

505.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction on the exterior side or constructed with approved noncombustible materials.

Exception: Heavy timber or log wall construction.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

505.6 Unenclosed underfloor protection. Buildings or structures shall have all underfloor areas enclosed to the ground, with exterior walls in accordance with Section 505.5.

Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

505.7 Appendages and projections. Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be a minimum of 1-hour fire-re-

sistance-rated construction, heavy timber construction or constructed with approved noncombustible materials.

When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5.

505.8 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire-protection rating of not less than 20 minutes.

505.9 Exterior doors. Exterior doors shall be approved noncombustible construction, solid core wood not less than 1³/₄-inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 505.8.

Exception: Vehicle access doors.

505.10 Vents. Attic ventilation openings, foundation or underfloor vents or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed 1/4 inch (6.4 mm).

Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Underfloor ventilation openings shall be located as close to grade as practical.

505.11 Detached accessory structures. Detached accessory structures located less than 50 feet (15 240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction, heavy timber, log wall construction, or constructed with approved noncombustible material on the exterior side.

When the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5 or underfloor protection in accordance with Section 505.6.

Exception: The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy-timber construction.

See Section 505.2 for roof requirements.

SECTION 506

CLASS 3 IGNITION-RESISTANT CONSTRUCTION

506.1 General. Class 3 ignition-resistant construction shall be in accordance with Section 506.

506.2 Roof covering. Roofs shall have at least a Class A roof covering, Class C roof assembly or an approved noncombustible roof covering. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers.

506.3 Unenclosed underfloor protection. Buildings or structures shall have all underfloor areas enclosed to the ground with exterior walls.

Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

506.4 Vents. Attic ventilation openings, soffit vents, foundation or underfloor vents or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed 1/4 inch (6.4 mm).

SECTION 507

REPLACEMENT OR REPAIR OF ROOF COVERINGS

The roof covering on buildings or structures in existence prior to the adoption of this code that are replaced or have 25 percent or more replaced in a 12-month period shall be replaced with a roof covering required for new construction based on the type of ignition-resistant construction specified in accordance with Section 503.

CHAPTER 6

FIRE PROTECTION REQUIREMENTS

SECTION 601 GENERAL

601.1 Scope. The provisions of this chapter establish general requirements for new and existing buildings, structures and premises located within wildland-urban interface areas.

601.2 Objective. The objective of this chapter is to establish minimum requirements to mitigate the risk to life and property from wildland fire exposures, exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels.

SECTION 602 AUTOMATIC FIRE SPRINKLER SYSTEMS DELETED

SECTION 603 DEFENSIBLE SPACE

603.1 Objective. Provisions of this section are intended to modify the fuel load in areas adjacent to structures to create a defensible space.

603.2 Fuel modification. In order to qualify as a conforming defensible space for individual buildings or structures on a property, fuel modification shall be provided within a distance from buildings or structures as specified in Table 603.2. For all other purposes, the fuel modification distance shall not be less than 30 feet (9144 mm) or to the property line, whichever is less. Distances specified in Table 603.2 shall be measured on a horizontal plane from the perimeter or projection of the building or structure as shown in Figure 603.2. Distances specified in Table 603.2 may be modified by the code official because of a

site-specific analysis based on local conditions and the fire protection plan.

Persons owning, leasing, controlling, operating or maintaining buildings or structures requiring defensible spaces are responsible for modifying or removing nonfire-resistive vegetation on the property owned, leased or controlled by said person.

Trees are allowed within the defensible space, provided the horizontal distance between crowns of adjacent trees and overhead electrical facilities or unmodified fuel is not less than 10 feet (3048 mm). Deadwood and litter shall be regularly removed from trees.

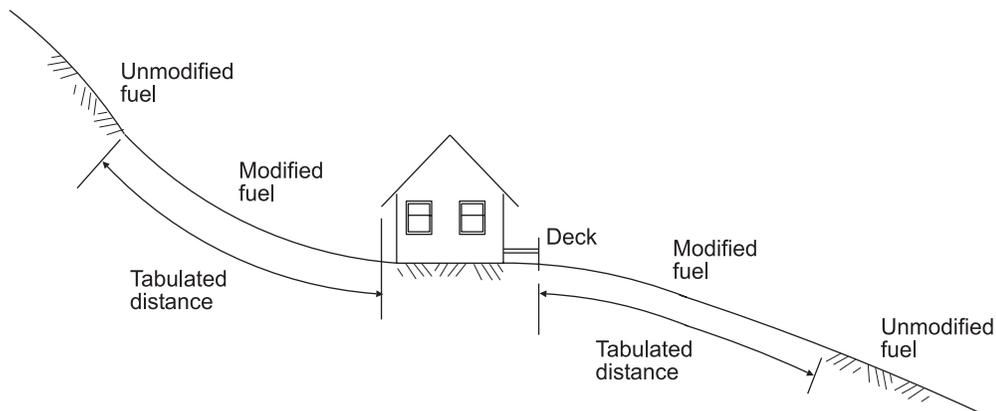
Where ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants are used as ground cover, they are allowed to be within the designated defensible space, provided they do not form a means of transmitting fire from the native growth to any structure.

**TABLE 603.2
REQUIRED DEFENSIBLE SPACE**

WILDLAND-URBAN INTERFACE AREA	FUEL MODIFICATION DISTANCE (feet)
Moderate hazard	30
High hazard	50
Extreme hazard	100

For SI: 1 foot = 304.8 mm.

603.3 Community fuel modification zones. Fuel modification zones to protect new communities shall be provided when required by the code official in accordance with Section 603, in order to reduce fuel loads adjacent to communities and structures.



**FIGURE 603.2
MEASUREMENTS OF FUEL MODIFICATION DISTANCE**

603.3.1 Land ownership. Fuel modification zone land used to protect a community shall be under the control of an association or other common ownership instrument for the life of the community to be protected.

603.3.2 Fuel modification zone plans. Fuel modification zone plans shall be approved prior to fuel modification work and shall be placed on a site grading plan shown in plan view. An elevation plan shall also be provided to indicate the length of the fuel modification zone on the slope. Fuel modification zone plans shall include, but not be limited to the following:

1. Plan showing existing vegetation.
2. Photographs showing natural conditions prior to work being performed.
3. Grading plan showing location of proposed buildings and structures, and set backs from top of slope to all buildings or structures.

SECTION 604 MAINTENANCE OF DEFENSIBLE SPACE

604.1 General. Defensible spaces required by Section 603 shall be maintained annually, or as necessary in accordance with Section 604.

604.2 Modified area. Nonfire-resistive vegetation or growth shall be kept clear of buildings or structures, in accordance with Section 603, in such a manner as to provide a clear area for fire suppression operations.

604.3 Responsibility. Persons owning, leasing, controlling, operating or maintaining buildings or structures are responsible for maintenance of defensible spaces. Maintenance of the defensible space shall include modifying or removing nonfire-resistive vegetation and keeping leaves, needles and other dead vegetative material regularly removed from roofs of buildings and structures.

604.4 Trees. Individual trees and/or small clumps of trees or brush crowns, extending to within 10 feet (3048 mm) of any structure, shall be pruned to maintain a minimum horizontal clearance of 10 feet (3048 mm). Tree crowns within the defensible space shall be pruned to remove limbs located less than 6 feet (1829 mm) above the ground surface adjacent to the trees.

Portions of tree crowns that extend within 10 feet (3048 mm) of the outlet of a chimney shall be pruned to maintain a minimum horizontal clearance of 10 feet (3048 mm).

Deadwood and litter shall be regularly removed from trees.

SECTION 605 SPARK ARRESTERS

Chimneys serving fireplaces, barbecues, incinerators or decorative heating appliances in which solid or liquid fuel is used, shall be provided with a spark arrester. Spark arresters shall be constructed of woven or welded wire screening of 12 USA standard gage wire (0.1046 inch) (2.66 mm) having openings not exceeding 1/2 inch (12.7 mm).

The net free area of the spark arrester shall not be less than four times the net free area of the outlet of the chimney.

SECTION 606 LIQUEFIED PETROLEUM GAS INSTALLATIONS

606.1 General. The storage of LP-gas and the installation and maintenance of pertinent equipment shall be in accordance with the *International Fire Code* or, in the absence thereof, recognized standards.

606.2 Location of containers. LP-gas containers shall be located within the defensible space in accordance with the *International Fire Code*.

SECTION 607 STORAGE OF FIREWOOD AND COMBUSTIBLE MATERIALS

Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. When required by the code official, storage of firewood and combustible material stored in the defensible space shall be located a minimum of 30 feet (9144 mm) from structures and separated from the crown of trees by a minimum horizontal distance of 15 feet (4572 mm).

Firewood and combustible materials not for consumption on the premises shall be stored so as to not pose a hazard. See Appendix A.

APPENDIX A

GENERAL REQUIREMENTS (optional)

SECTION A101 GENERAL

A101.1 Scope. The provisions of this appendix establish general requirements applicable to new and existing properties located within urban-wildland interface areas.

A101.2 Objective. The objective of this appendix is to provide necessary fire-protection measures to reduce the threat of wild-fire in an urban-wildland interface area and improve the capability of controlling such fires.

SECTION A102 VEGETATION CONTROL

A102.1 General. Vegetation control shall comply with this section.

A102.2 Clearance of brush or vegetative growth from roadways. The code official is authorized to require areas within 10 feet (3048 mm) on each side of portions of fire apparatus access roads and driveways to be cleared of nonfire-resistive vegetative growth.

Exception: Single specimens of trees, ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants used as ground cover, provided they do not form a means of readily transmitting fire.

A102.3 Clearance of brush and vegetative growth from electrical transmission and distribution lines.

A102.3.1 General. Clearance of brush and vegetative growth from electrical transmission and distribution lines shall be in accordance with Section A102.3.

Exception: Section A102.3 does not authorize persons not having legal right of entry to enter on or damage the property of others without consent of the owner.

A102.3.2 Support clearance. Persons owning, controlling, operating or maintaining electrical transmission or distribution lines shall have an approved program in place that identifies poles or towers with equipment and hardware types that have a history of becoming an ignition source, and provides a combustible free space consisting of a clearing of not less than 10 feet (3048 mm) in each direction from the outer circumference of such pole or tower during such periods of time as designated by the code official.

Exception: Lines used exclusively as telephone, telegraph, messenger call, alarm transmission or other lines classed as communication circuits by a public utility.

A102.3.3 Electrical distribution and transmission line clearances.

A102.3.3.1 General. Clearances between vegetation and electrical lines shall be in accordance with Section A102.3.3.

A102.3.3.2 Trimming clearance. At the time of trimming, clearances not less than those established by Table A102.3.3.2 shall be provided. The radial clearances shown below are minimum clearances that shall be established, at time of trimming, between the vegetation and the energized conductors and associated live parts.

**TABLE A102.3.3.2
MINIMUM CLEARANCES BETWEEN VEGETATION
AND ELECTRICAL LINES AT TIME OF TRIMMING**

LINE VOLTAGE	MINIMUM RADIAL CLEARANCE FROM CONDUCTOR (feet)
2,400-72,000	4
72,001-110,000	6
110,001-300,000	10
300,001 or more	15

For SI: 1 foot = 304.8 mm.

Exception: The code official is authorized to establish minimum clearances different than those specified by Table A102.3.3.2 when evidence substantiating such other clearances is submitted to and approved by the code official.

A102.3.3.3 Minimum clearance to be maintained. Clearances not less than those established by Table A102.3.3.3 shall be maintained during such periods of time as designated by the code official. The site-specific clearance achieved, at time of pruning, shall vary based on species growth rates, the utility company-specific trim cycle, the potential line sway due to wind, line sag due to electrical loading and ambient temperature and the tree's location in proximity to the high voltage lines.

Exception: The code official is authorized to establish minimum clearances different than those specified by Table A102.3.3.3 when evidence substantiating such other clearances is submitted to and approved by the code official.

**TABLE A102.3.3.3
MINIMUM CLEARANCES BETWEEN VEGETATION AND
ELECTRICAL LINES TO BE MAINTAINED**

LINE VOLTAGE	MINIMUM CLEARANCE (inches)
750-35,000	6
35,001-60,000	12
60,001-115,000	19
115,001-230,000	30.5
230,001-500,000	115

For SI: 1 inch = 25.4 mm.

A102.3.3.4 Electrical power line emergencies. During emergencies, the utility shall perform the required work to the extent necessary to clear the hazard. An emergency

can include situations such as trees falling into power lines, or trees in violation of Table A102.3.3.3.

A102.4 Correction of condition. The code official is authorized to give notice to the owner of the property on which conditions regulated by Section A102 exist to correct such conditions. If the owner fails to correct such conditions, the legislative body of the jurisdiction is authorized to cause the same to be done and make the expense of such correction a lien on the property where such condition exists.

SECTION A103 ACCESS RESTRICTIONS

A103.1 Restricted entry to public lands. The code official is authorized to determine and publicly announce when urban-wildland interface areas shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of urban-wildland interface areas, except public roadways, inhabited areas or established trails and campsites that have not been closed during such time when the urban-wildland interface area is closed to entry, is prohibited.

Exceptions:

1. Residents and owners of private property within urban-wildland interface areas and their invitees and guests going to or being on their lands.
2. Entry, in the course of duty, by peace or police officers, and other duly authorized public officers, members of a fire department and members of the Wildland Firefighting Service.

A103.2 Trespassing on posted private property.

A103.2.1 General. When the code official determines that a specific area within an urban-wildland interface area presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be restricted or closed until changed conditions warrant termination of such restriction or closure. Such areas shall be posted in accordance with Section A103.2.2.

A103.2.2 Signs. Approved signs prohibiting entry by unauthorized persons and referring to this code shall be placed on every closed area.

A103.2.3 Trespassing. Entering and remaining within areas closed and posted is prohibited.

Exception: Owners and occupiers of private or public property within closed and posted areas; their guests or invitees; authorized persons engaged in the operation and maintenance of necessary utilities such as electrical power, gas, telephone, water and sewer; and local, state and federal public officers and their authorized agents acting in the course of duty.

A103.3 Use of fire roads and defensible space. Motorcycles, motor scooters and motor vehicles shall not be driven or parked on, and trespassing is prohibited on, fire roads or defensible space beyond the point where travel is restricted by a cable, gate or sign, without the permission of the property owners. Vehicles shall not be parked in a manner that obstructs the entrance to a fire road or defensible space.

Exception: Public officers acting within their scope of duty.

Radio and television aerials, guy wires thereto, and other obstructions shall not be installed or maintained on fire roads or defensible spaces, unless located 16 feet (4877 mm) or more above such fire road or defensible space.

A103.4 Use of motorcycles, motor scooters, ultralight aircraft and motor vehicles. Motorcycles, motor scooters, ultralight aircraft and motor vehicles shall not be operated within urban-wildland interface areas, without a permit by the code official, except on clearly established public or private roads. Permission from the property owner shall be presented when requesting a permit.

A103.5 Tampering with locks, barricades, signs and address markers. Locks, barricades, seals, cables, signs and address markers installed within urban-wildland interface areas, by or under the control of the code official, shall not be tampered with, mutilated, destroyed or removed.

Gates, doors, barriers and locks installed by or under the control of the code official shall not be unlocked.

SECTION A104 IGNITION SOURCE CONTROL

A104.1 General. Ignition sources shall be in accordance with Section A104.

A104.2 Objective. Regulations in this section are intended to provide the minimum requirements to prevent the occurrence of wildfires.

A104.3 Clearance from ignition sources. Clearance between ignition sources and grass, brush or other combustible materials shall be maintained a minimum of 30 feet (9144 mm).

A104.4 Smoking. When required by the code official, signs shall be posted stating NO SMOKING. No person shall smoke within 15 feet (4572 mm) of combustible materials or nonfire-resistant vegetation.

Exception: Places of habitation or in the boundaries of established smoking areas or campsites as designated by the code official.

A104.5 Equipment and devices generating heat, sparks or open flames. Equipment and devices generating heat, sparks or open flames capable of igniting nearby combustibles shall not be used in urban-wildland interface areas without a permit from the code official.

Exception: Use of approved equipment in habitated premises or designated campsites that are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

A104.6 Fireworks. Fireworks shall not be used or possessed in urban-wildland interface areas.

Exception: Fireworks allowed by the code official under permit in accordance with the *International Fire Code* when not prohibited by applicable local or state laws, ordinances and regulations.

The code official is authorized to seize, take, remove or cause to be removed fireworks in violation of this section.

A104.7 Outdoor fires.

A104.7.1 General. No person shall build, ignite or maintain any outdoor fire of any kind for any purpose in or on any urban-wildland interface area, except by the authority of a written permit from the code official.

Exception: Outdoor fires within inhabited premises or designated campsites where such fires are in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill and are a minimum of 30 feet (9144 mm) from any combustible material or nonfire-resistive vegetation.

A104.7.2 Permits. Permits shall incorporate such terms and conditions that will reasonably safeguard public safety and property. Outdoor fires shall not be built, ignited or maintained in or on hazardous fire areas under the following conditions:

1. When high winds are blowing,
2. When a person 17 years old or over is not present at all times to watch and tend such fire, or
3. When a public announcement is made that open burning is prohibited.

A104.7.3 Restrictions. No person shall use a permanent barbecue, portable barbecue, outdoor fireplace or grill for the disposal of rubbish, trash or combustible waste material.

A104.8 Incinerators, outdoor fireplaces, permanent barbecues and grills. Incinerators, outdoor fireplaces, permanent barbecues and grills shall not be built, installed or maintained in urban-wildland interface areas without approval of the code official.

Incinerators, outdoor fireplaces, permanent barbecues and grills shall be maintained in good repair and in a safe condition at all times. Openings in such appliances shall be provided with an approved spark arrestor, screen or door.

Exception: When approved by the code official, unprotected openings in barbecues and grills necessary for proper functioning.

A104.9 Reckless behavior. The code official is authorized to stop any actions of a person or persons if the official determines that the action is reckless and could result in an ignition of fire or spread of fire.

A104.10 Planting vegetation under or adjacent to energized electrical lines. No vegetation shall be planted under or adjacent to energized power lines that, at maturity, shall grow within 10 feet (3048 mm) of the energized conductors.

SECTION A105 CONTROL OF STORAGE

A105.1 General. In addition to the requirements of the *International Fire Code*, storage and use of the materials shall be in accordance with Section A105.

A105.2 Hazardous materials. Hazardous materials in excess of 10 gallons (37.8 L) of liquid, 200 cubic feet (5.66 m³) of gas, or 10 pounds (4.54 kg) of solids require a permit and shall comply with nationally recognized standards for storage and use.

A105.3 Explosives. Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within urban-wildland interface areas, except by permit from the code official.

A105.4 Combustible materials.

A105.4.1 General. Outside storage of combustible materials such as, but not limited to, wood, rubber tires, building materials or paper products shall comply with the other applicable sections of this code and this section.

A105.4.2 Individual piles. Individual piles shall not exceed 5,000 square feet (465 m²) of contiguous area. Piles shall not exceed 50,000 cubic feet (1416 m³) in volume or 10 feet (3048 mm) in height.

A105.4.3 Separation. A clear space of at least 40 feet (12192 mm) shall be provided between piles. The clear space shall not contain combustible material or nonfire-resistive vegetation.

SECTION A106 DUMPING

A106.1 Waste material. Waste material shall not be placed, deposited or dumped in urban-wildland interface areas, or in, on or along trails, roadways or highways or against structures in urban-wildland interface areas.

Exception: Approved public and approved private dumping areas.

A106.2 Ashes and coals. Ashes and coals shall not be placed, deposited or dumped in or on urban-wildland interface areas.

Exceptions:

1. In the hearth of an established fire pit, camp stove or fireplace.
2. In a noncombustible container with a tightfitting lid, which is kept or maintained in a safe location not less than 10 feet (3048 mm) from nonfire-resistive vegetation or structures.
3. Where such ashes or coals are buried and covered with 1 foot (305 mm) of mineral earth not less than 25 feet (7620 mm) from nonfire-resistive vegetation or structures.

SECTION A107 PROTECTION OF PUMPS AND WATER STORAGE FACILITIES

A107.1 General. The reliability of the water supply shall be in accordance with Section A107.

A107.2 Objective. The intent of this section is to increase the reliability of water storage and pumping facilities and to protect such systems against loss from intrusion by fire.

A107.3 Fuel modification area. Water storage and pumping facilities shall be provided with a defensible space of not less than 30 feet (9144 mm) clear of nonfire-resistive vegetation or growth around and adjacent to such facilities.

Persons owning, controlling, operating or maintaining water storage and pumping systems requiring this defensible

space are responsible for clearing and removing nonfire-resistive vegetation and maintaining the defensible space on the property owned, leased or controlled by said person.

A107.4 Trees. Portions of trees that extend to within 30 feet (9144 mm) of combustible portions of water storage and pumping facilities shall be removed.

A107.5 Protection of electrical power supplies. When electrical pumps are used to provide the required water supply, such pumps shall be connected to a standby power source to automatically maintain electrical power in the event of power loss. The standby power source shall be capable of providing power for a minimum of two hours in accordance with the ICC *Electrical Code*.

Exception: A standby power source is not required where the primary power service to pumps are underground as approved by the code official.

SECTION A108 LAND USE LIMITATIONS

A108.1 General. Temporary fairs, carnivals, public exhibitions and similar uses must comply with all other provisions of this code in addition to enhanced ingress and egress requirements.

A108.2 Objective. The increased public use of land or structures in urban-wildland interface areas also increases the potential threat to life safety. The provisions of this section are intended to reduce that threat.

A108.3 Permits. Temporary fairs, carnivals, public exhibitions or similar uses shall not be allowed in a designated urban-wildland interface area, except by permit from the code official.

Permits shall incorporate such terms and conditions that will reasonably safeguard public safety and property.

A108.4 Access roadways. In addition to the requirements in Section 403, access roadways shall be a minimum of 24 feet (7315 mm) wide and posted NO PARKING. Two access roadways shall be provided to serve the permitted use area.

When required by the code official to facilitate emergency operations, approved emergency vehicle operating areas shall be provided.

APPENDIX B

VEGETATION MANAGEMENT PLAN

Vegetation management plans shall be submitted to the code official for review and approval as part of the plans required for a permit. Vegetation management plans shall describe all actions that will be taken to prevent a fire from being carried toward or away from the building. A vegetation management plan shall include at least the following information:

1. A copy of the site plan.
2. Methods and timetables for controlling, changing or modifying areas on the property. Elements of the plan shall in-

clude removal of slash, snags, vegetation that may grow into overhead electrical lines, other ground fuels, ladder fuels and dead trees, and the thinning of live trees.

3. A plan for maintaining the proposed fuel-reduction measures.

To be considered a fuel modification for purposes of this code, continuous maintenance of the clearance is required.

UTAH FIRE RESISTIVE SPECIES

*Adapted from "Utah Forest Facts: Firewise Plants for Utah Landscapes"
Utah State University Extension, 2002*

Grasses

Agropyron cristatum (Crested Wheatgrass)
Agropyron smithii (Western Wheatgrass)
Buchloe dactyloides (Buffalograss)
Dactylis glomerata (Orchardgrass)
Festuca cinerea and other species (Blue Fescue)
Lolium species (Rye Grass)
Poa pratensis (Kentucky Bluegrass)
Poa secunda (Sandberg Bluegrass)

Herbaceous Perennials

Achillea clavennae (Silvery Yarrow)
Achillea filipendulina (Fernleaf Yarrow)
Achillea - other species & hybrids (Yarrow)*
Aquilegia - species & hybrids (Columbine)
Armeria maritime (Sea Pink, Sea Thrift)
Artemisia stelleriana (Beach Wormwood, Dusty Miller)
Artemisia - other species & hybrids (Various names)*
Bergenia – species & hybrids (Bergenia)
Centranthus ruber (Red Valerian, Jupiter's Beard)
Cerastium tomentosum (Snow-in-summer)
Coreopsis auriculata var. *Nana* (Dwarf Mouse Ear Coreopsis)
Coreopsis – other perennial species (Coreopsis)
Delosperma nubigenum (Hardy Ice Plant)
Dianthus plumarius & others (Pinks)
Erigeron hybrids (Fleabane)*
Gaillardia X grandiflora (Blanket Flower)
Geranium cinereum (Hardy Geranium)
Geranium sanguineum (Bloody Cranesbill, Bloodred Geranium)

Geranium species (Geranium)
Hemerocallis species (Daylily)
Heuchera sanguinea (Coral Bells, Alum Root)
Iberis sempervirens (Evergreen Candytuft)
Iris species & hybrids (Iris)
Kniphofia species & hybrids (Red-hot Poker)
Lavandula species (Lavender)
Leucanthemum X superbum (Shasta Daisy)
Limonium latifolium (Sea-lavender, Statice)
Linum species (Flax)
Liriope spicata (Lily-turf)
Lupinus species & hybrids (Lupine)*
Medicago sativus (Alfalfa)
Oenothera species (Primrose)
Papaver species (Poppy)
Penstemon species & hybrids (Penstemon)
Perovskia atriplicifolia (Russian Sage, Azure Sage)
Potentilla nepalensis (Nepal Cinquefoil)
Potentilla tridentata (Wineleaf Cinquefoil)
Potentilla verna (tabernaemontani) (Spring Cinquefoil; Creeping Potentilla)
Potentilla – other non-shrubby species & hybrids (Cinquefoil, Potentilla)*
Salvia species & hybrids (Salvia, Sage)*
Sedum species (Stonecrop, Sedum)
Sempervivum tectorum (Hen and Chicks)
Stachys byzantina (Lamb's Ear)
Yucca filamentosa (Yucca)

continued

APPENDIX B

Shrubs and Woody Vines

Atriplex species (Saltbush)
Ceanothus americanus (New Jersey Tea)
Ceanothus ovatus & others (Ceanothus)
Cistus species (Rock-rose)
Cotoneaster dammeri (Bearberry Cotoneaster)
Cotoneaster horizontalis (Rockspray or Rock Cotoneaster)
Cotoneaster – other compact species (Cotoneaster)
Hedera helix (English Ivy)
Lonicera species & hybrids (Honeysuckle)
Mahonia repens (Creeping Oregon Grape)
Parthenocissus quinquefolia (Virginia Creeper)
Prunus besseyi (Sand Cherry)
Purshia tridentata (Bitterbrush, Antelope Bitterbrush)
Pyracantha species (Firethorn, Pyracantha)
Rhamnus species (Buckthorn)
Rhus trilobata (Skunkbush Sumac)
Rhus – other species (Sumac)
Ribes species (Currant, Gooseberry)
Rosa rugosa & other hedge roses (Rugosa Rose)
Shepherdia canadensis (Russet Buffaloberry)
Syringa vulgare (Lilac)
Vinca major (Large Periwinkle)
Vinca minor (Dwarf Periwinkle, Common Periwinkle)

Trees

Acer species (Maple)
Betula species (Birch)
Cercis canadensis (Eastern Redbud)
Populus tremuloides (Quaking Aspen)
Populus – other species (Poplar, Cottonwood)
Salix species (Willow)

**** Plants or groups of plants marked with an asterisk (*) can become weedy in certain circumstances, and may even be noxious weeds with legal restrictions against their planting and cultivation. Check with your local Extension office or State Department of Agriculture for information on noxious weeds in your area.***

Note: Some of the listed plants may not be considered “water-wise” or drought-tolerant for arid climates.

APPENDIX C

FIRE HAZARD SEVERITY FORM

This appendix is to be used to determine the fire hazard severity.

A. Subdivision Design	Points		
1. Ingress/Egress		C. Topography	
Two or more primary roads	1__	Located on flat, base of hill, or setback at crest of hill	1__
One road	10__	On slope with 0-20% grade	5__
One-lane road in, one-lane road out	15__	On slope with 21-30% grade	10__
		On slope with 31% grade or greater	15__
2. Width of Primary Road		At crest of hill with unmitigated vegetation below	20__
20 feet or more	1__		
Less than 20 feet	5__		
		D. Roofing Material	
3. Accessibility		Class A Fire Rated	1__
Road grade 5% or less	1__	Class B Fire Rated	5__
Road grade 5-10%	5__	Class C Fire Rated	10__
Road grade greater than 10%	10__	Nonrated	20__
		E. Fire Protection—Water Source	
4. Secondary Road Terminus		500 GPM hydrant within 1,000 feet	1__
Loop roads, cul-de-sacs with an outside turning radius of 45 feet or greater	1__	Hydrant farther than 1,000 feet or draft site	5__
Cul-de-sac turnaround	5__	Water source 20 min. or less, round trip	10__
Dead-end roads 200 feet or less in length	8__	Water source farther than 20 min., and 45 min. or less, round trip	15__
Dead-end roads greater than 200 feet in length	10__	Water source farther than 45 min., round trip	20__
		F. Siding and Decking	
5. Street Signs		Noncombustible siding/deck	1__
Present but unapproved	3__	Combustible siding/no deck	5__
Not present	5__	Noncombustible siding/combustible deck	10__
		Combustible siding and deck	15__
B. Vegetation (IUWIC Definitions)		G. Utilities (gas and/or electric)	
1. Fuel Types		All underground utilities	1__
Surface		One underground, one aboveground	3__
Lawn/noncombustible	1__	All aboveground	5__
Grass/short brush	5__		
Scattered dead/down woody material	10__	Total for Subdivision	
Abundant dead/down woody material	15__	Moderate Hazard	50–75
Overstory		High Hazard	76–100
Deciduous trees (except tall brush)	3__	Extreme Hazard	101+
Mixed deciduous trees and tall brush	10__		
Clumped/scattered conifers and/or tall brush	15__		
Contiguous conifer and/or tall brush	20__		
2. Defensible Space			
70% or more of lots completed	1__		
30% to 70% of lots completed	10__		
Less than 30% of lots completed	20__		

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Salt Lake County Foothill and Canyons Overlay Zone

19.72.110 - Tree and vegetation protection.

- A. Purpose. Protection of existing tree and vegetation cover is intended to:
1. Preserve the visual and aesthetic qualities of the county's foothills and canyons.
 2. Encourage site design techniques that preserve the natural environment and enhance the developed environment.
 3. Control erosion, slippage, and sediment run-off into streams and waterways.
 4. Increase slope stability.
 5. Protect wildlife habitat and migration corridors.
 6. Conserve energy, in proximity to structures, by reducing building heating and cooling costs.
- B. Applicability. These provisions apply to all development in the foothills and canyons overlay zone, with the following exceptions:
1. The removal of dead or naturally fallen trees or vegetation to protect public health, safety, and welfare.
 2. The selective and limited removal of trees or vegetation necessary to obtain clear visibility at driveways or intersections, to perform authorized field survey work, or to protect structures from fire consistent with the Utah Wildland-Urban Interface Code.
 3. The removal of trees or vegetation on land zoned or lawfully used for agricultural and forestry activities, including tree farms, or pursuant to approved forest management programs. In the event a site is substantially cleared of trees pursuant to such legitimate activities, no development or site plan applications for other types of development may be accepted by the county within thirty-six months from the date of the clearing.
 4. The director has discretion to administratively offer relief of the standards in this section by up to twenty-five percent if either of the following circumstances applies:
 - a. The modification is designed to yield:
 - i. More effective preservation of existing mature trees, vegetation, riparian areas, rock outcrops, or other significant natural features of the site;
 - ii. Less visual impact on the property or on the surrounding area; or
 - iii. Better protection of wildlife habitat; or,
 - b. Strict application of the standard(s) would render a site undevelopable.
- C. Tree/Vegetation Removal.
1. Outside the Limits of Disturbance. No trees or vegetation may be removed outside the approved limits of disturbance unless specifically exempted by this section.
 2. Within the Limits of Disturbance. Significant trees removed from within the limits of disturbance shall be replaced as set forth in this section.
 3. Wildfire Hazards and Tree/Vegetation Removal. Defensible space is defined as the required space between a structure and wildland area that, under normal conditions, creates a sufficient buffer to slow or halt the spread of wildfire to a structure. Appropriate defensible space surrounding a structure is established in Utah Wildland-Urban Interface Code incorporated in UFA Wildland-Urban Interface Site Plan/Development Review Guide. A copy of the approved fire protection plan shall be submitted to the zoning administrator for incorporation into the final approval documents.

4. Tree/Vegetation Removal for Views Prohibited. No trees or vegetation may be removed solely for the purpose of providing open views to or from structures on a site.

D. Replacement of Significant Trees.

1. When a significant tree is removed from inside the established limits of disturbance, which removal is not required by wildland-urban interface standards referenced in C.3. above, the applicant or developer shall replace such tree(s) on the lot, according to the following schedule and requirements:
 - a. A significant tree that is removed shall be replaced by two trees with a minimum size of one inch caliper for deciduous trees and a minimum height of four feet for coniferous trees in locations on the lot that are appropriate, feasible, and practical, and that comply with fire requirements and standards, as determined by the zoning administrator.
 - b. Replacement trees shall be maintained through an establishment period of at least two years. The applicant shall post a bond in the amount of ten percent of the value of all replacement trees guaranteeing their health and survival during the first year of the establishment period.
2. If the remainder of the lot outside the permitted limits of disturbance is heavily wooded, defined as areas of trees with canopies that cover eighty percent of the area, and is not suitable to the planting of replacement trees, the requirement to plant replacement trees requirement may be waived by the zoning administrator.
3. Planting replacement trees may be allowed by the zoning administrator on parcels within the subdivision or adjoining open space or forest service land upon the written consent of the property owner or representative of the property owner of the parcel(s) where the trees are being planted. In order to minimize disturbance of public land, saplings may be used in lieu of the larger trees listed in subsection 1.(a) above at the rate of ten saplings per required replacement tree, for trees planted on publicly owned land.

E. Revegetation and Land Reclamation Plan.

1. On a parcel of land that has been or will be altered from its natural condition by man-made activities, a revegetation and land reclamation plan prepared and certified by a qualified professional may be required for review and approval by the director. The plan shall incorporate the elements of the fire protection plan, and shall indicate a timeframe for revegetation that is acceptable to the county and that takes into account optimal seasonal growing conditions.
2. The revegetation and land reclamation plan shall depict the type, size, number, and location of any vegetation and trees to be planted and illustrate how the site will be recontoured with sufficient topsoil to ensure that vegetation is successful. All new trees shown on the plan shall:
 - a. Comply with the Vegetation Clearance Guidelines of the Wildland-Urban Interface Code;
 - b. Be spaced no closer than twenty feet on center; and,
 - c. Be on the Utah Fire Resistive Species list in the Wildland-Urban Interface Code.
3. Any slope exposed or created in new development shall be landscaped or revegetated with native or adapted trees and plant material. New vegetation shall be equivalent to or exceed the amount and erosion-control characteristics of the original vegetation cover in order to mitigate adverse environmental and visual effects.
4. On man-made slopes of twenty-five percent or greater, plant materials with deep rooting characteristics shall be selected to minimize erosion and reduce surface runoff. The planting basin shall be kept level with a raised berm around the base of the plant to help retain moisture.
5. Topsoil that is removed during construction may be conserved for later use on areas requiring revegetation or landscaping, such as cut-and-fill slopes.
6. The land reclamation plan may not include landscaping or other elements that conflict with the approved fire protection plan.

F. Tree/Vegetation Protection During Construction and Grading Activities.

1. Limits of disturbance, as established in Section 19.72.160, shall be shown on the final plans for development and shall be clearly delineated on site with fencing or other separation methods approved by the director prior to the commencement of excavation, grading, or construction activities on the site.
2. Within the limits of disturbance, fencing, at a minimum, shall be placed around each significant tree that will not be removed and around stands of twelve or more smaller trees. Such fencing shall be placed at the edge of the individual or outermost tree's drip zone. No construction, grading, equipment or material storage, or any other activity is allowed within the drip zone, and the fencing must remain in place until all land alteration, construction, and development activities are completed.
3. If it is necessary to fill over the root zone, compacted soils shall be avoided by sandwiching fabric, rocks, and more fabric under the area to be filled.
4. If fill creates a tree well or depression around a tree or shrubs, such area shall be filled in or drained so that the vegetation is not drowned by the pooling of rainfall or irrigation.
5. If a significant tree that will not be removed has roots that are cut, the branches shall be trimmed by an amount equal to the percent of roots that were lost. Cutting more than thirty percent is prohibited. Roots shall be pruned cleanly prior to digging and not ripped off by heavy equipment. If the tree whose roots have been cut dies within a two year period, the replacement provision in section D above applies.
6. Utility trenches near trees shall be avoided. If a line must be near a tree, tunneling, auguring, or other mitigation measures shall be used.

G. Tree Removal not Authorized by this Section.

1. If a significant tree(s) is removed contrary to any provision in this section, the person(s) responsible for the removal shall pay to the county the value of the tree(s).
 - a. The value of the tree(s) shall be determined by a tree appraiser who is an ISA (International Society of Arboriculture) certified arborist with at least five years of experience appraising trees using the appraisal methods outlined in the current edition of "The Guide for Plant Appraisal," authored by the Council of Tree and Landscape Appraisers (CTLA). The appraiser shall prepare an appraisal report using these methods, and adding to the value from these methods an analysis of the tree(s) contributory value, i.e., the value that the tree(s) contributed to the overall value of the property on which they were located.
 - b. The appraiser shall be chosen by the person(s) responsible for the removal and the county.
 - c. The person(s) responsible for the removal shall pay the cost of the appraisal.
2. If a significant tree(s) is removed contrary to this section, all development and county permitting and processing of the land use application shall be put on hold for up to sixty days from the date of county's discovery of removal. During that time, the county will inventory the significant tree(s) that were removed, and the process of valuing the tree(s) that were removed shall commence, pursuant to paragraph 1 above.
3. The person(s) responsible for removing the significant tree(s) shall pay for the cost of site restoration, including the removal of the stump(s). The stump(s) may not be removed until an appraisal is completed pursuant to paragraph 1. above.
4. The person(s) responsible for removing the significant tree(s) shall also replace the tree(s) in accordance with the provisions in this section. The bond referenced in subsection (D)(1)(b) of this section shall be a surety bond for those that unlawfully remove trees.

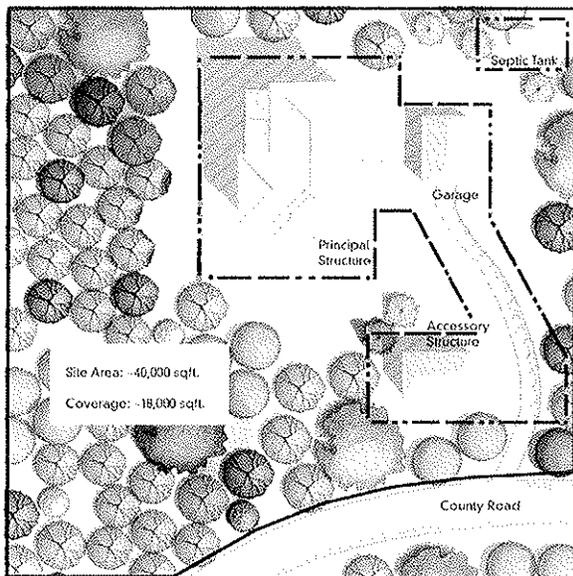
In addition to the civil penalties provided in paragraphs 1—4 of this subsection (G), the person(s) responsible for removing the significant tree(s) may also be subject to criminal prosecution as a Class B misdemeanor for each significant tree unlawfully removed.

(Ord. No. 1808, § I, 3-14-2017)

19.72.160 - Limits of disturbance.

- A. Scope and General Requirements. "Limits of disturbance" must be established on the site plan, indicating the specific area(s) of a site where construction and development activity must be contained. (See Figure 19.72.8).

FIGURE 19.72.8: ILLUSTRATION OF LIMITS OF DISTURBANCE



- B. Purpose for Limits of Disturbance. Limits of disturbance are established for the following purposes:
1. Minimizing visual impacts from the development including, but not limited to: screening from adjacent and downhill properties, ridgeline area protection, and protection of scenic views.
 2. Erosion prevention and control including, but not limited to, protection of steep slopes and natural drainage channels.
 3. Fire prevention and safety including, but not limited to, location of trees and vegetation near structures.
 4. Preservation of tree cover, vegetation, and the site's natural topography.
 5. Conservation of water including, but not limited to, preservation of existing native vegetation, reduction in amounts of irrigated areas, and similar considerations.
 6. Wildlife habitat protection including, but not limited to, preservation of critical wildlife habitat and migration corridors and routes.
 7. Stream corridor and wetland protection and buffering.
- C. Limits of Disturbance May Be Noncontiguous. Limits of disturbance necessary to accommodate proposed development may be noncontiguous in order to best achieve the above purposes.
- D. Maximum Limits of Disturbance.

1. For single family residential uses on lots or parcels less than one acre in size, the limits of disturbance are limited to twenty thousand square feet.
 2. For single family residential uses on lots or parcels one acre in size or greater, the limits of disturbance are limited to twenty thousand square feet plus an additional square footage of twenty percent of the acreage over one acre.
 3. For all other uses, the maximum limits of disturbance shall be determined by the director on a case by case basis in harmony with the purposes of FCOZ stated in 19.72.010 to accomplish the purposes set forth in subsection B of this section.
- E. Modification of Limits of Disturbance.
1. The director has discretion to administratively increase the limits of disturbance by a maximum of twenty-five percent where applicable upon satisfaction of the criteria set forth below:
 - a. The modification is designed to yield:
 - i. More effective preservation of existing mature trees, vegetation, riparian areas, rock outcrops, or other significant natural features of the site;
 - ii. Less visual impact on the property or on the surrounding area; or
 - iii. Better protection of wildlife habitat; or,
 - b. Strict application of the standard(s) would render a site undevelopable.

(Ord. No. 1808, § I, 3-14-2017)

Photo: Noah Wetzel

Preliminary Dark Sky Assessment

All photos from Wednesday, April 17, 2019

Chris Cawley, Assistant Town Administrator



- April 16, 2019
- 10:00 PM to 12:00 AM
- Partly cloudy skies, partially obscured full moon
- A quiet time of the year in Alta...could have been quieter
- Assessment limited in geographic, technical scope

This Assessment Considered:

1. Lighting Shielding

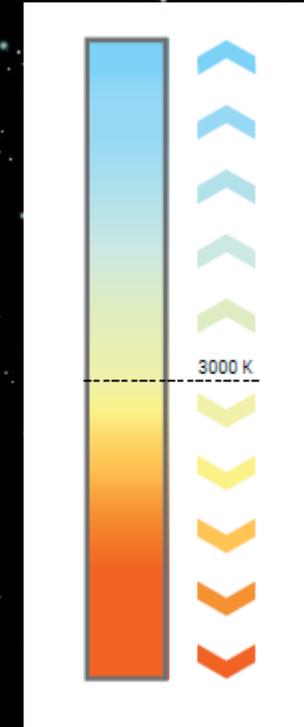
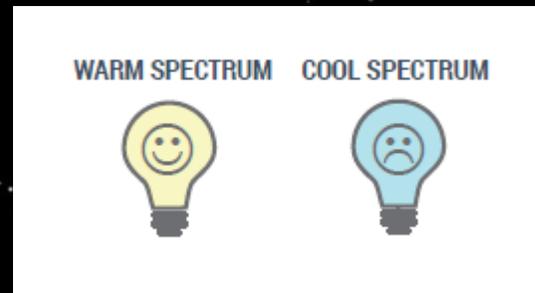
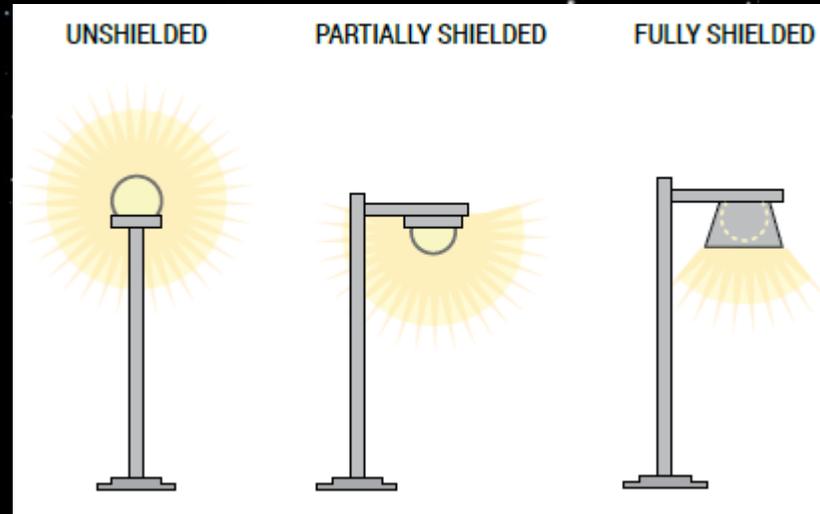
- Light trespass?
- Glare?
- Skyglow?

2. Appropriate Lighting Levels

- Brightness?
- Clutter?
- Reflection?

3. Lighting Color

- Kelvin?
- Color Spectrum?



Light only what you need, only when you need, and only how much you need...

Albion Basin



Bay City Tunnel
(Town of Alta Water System)



Upper Albion Parking



Albion Ticket Office, Albion Sign Lighting,
Rustler/Snowpine East View

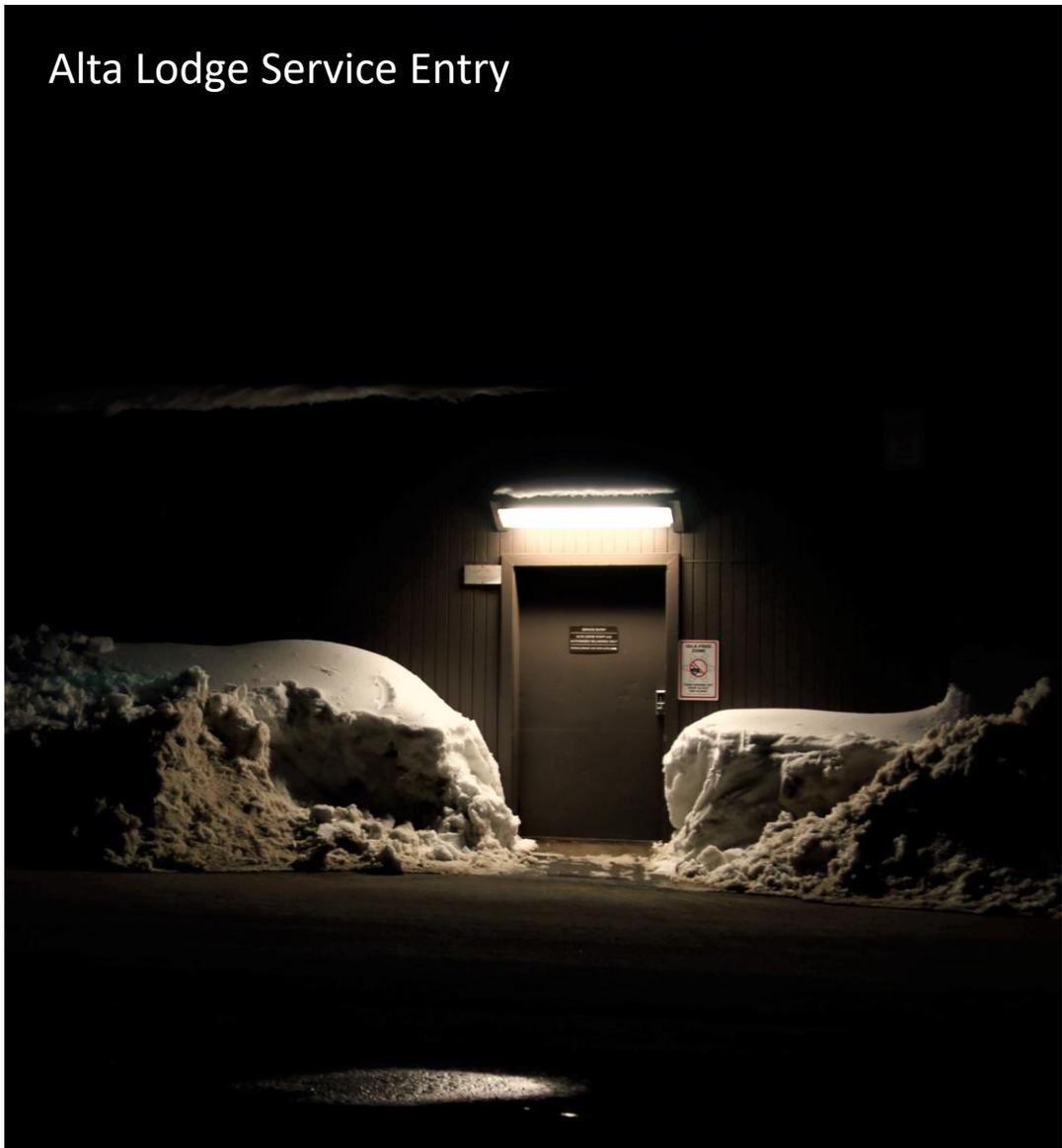


Snowpine Lodge Entrance

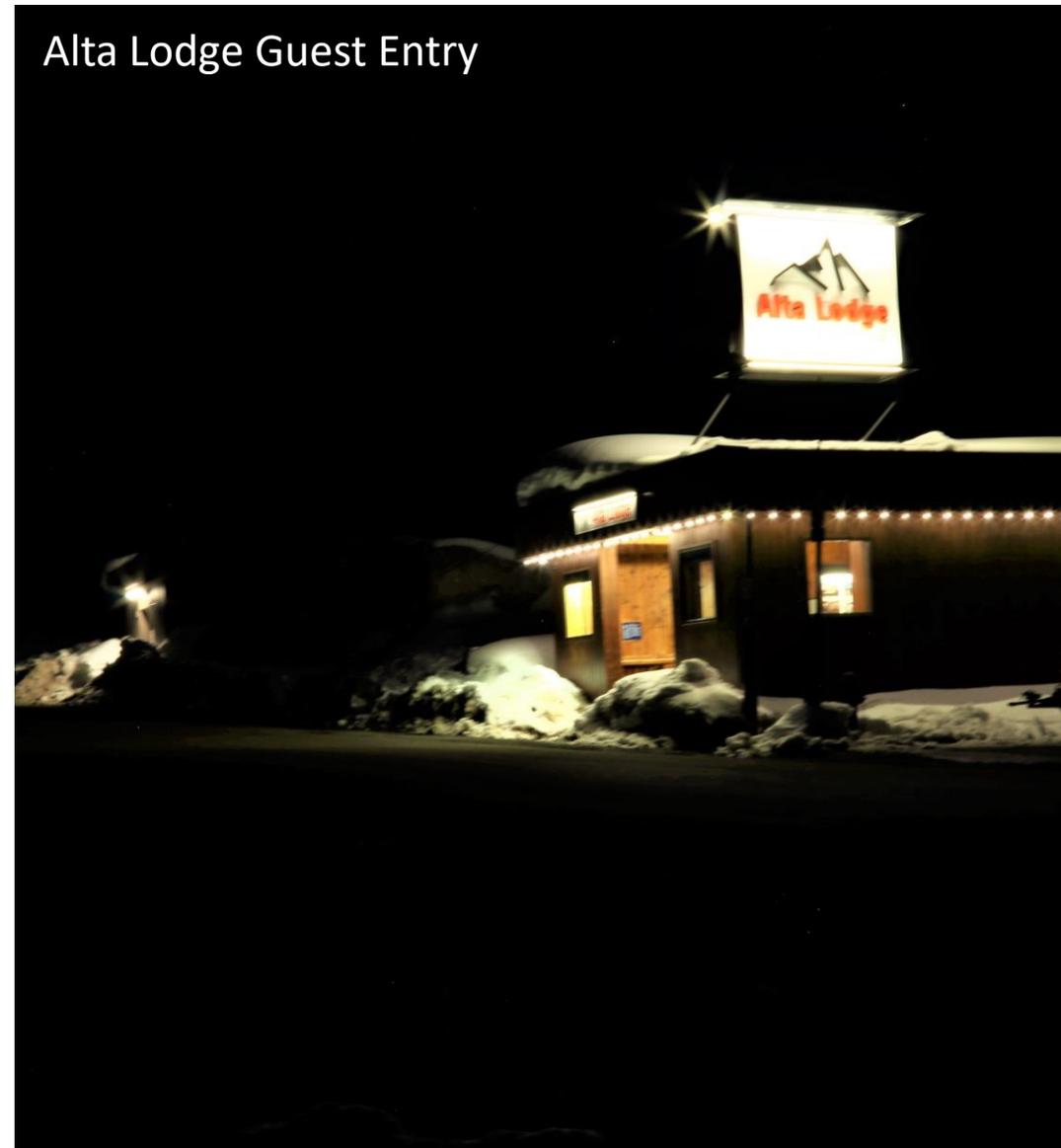


Rustler/Snowpine East View

Alta Lodge Service Entry



Alta Lodge Guest Entry





Our Lady of the Snows



Town of Alta Buildings



Goldminers Daughter



Buckhorn/Skier Services



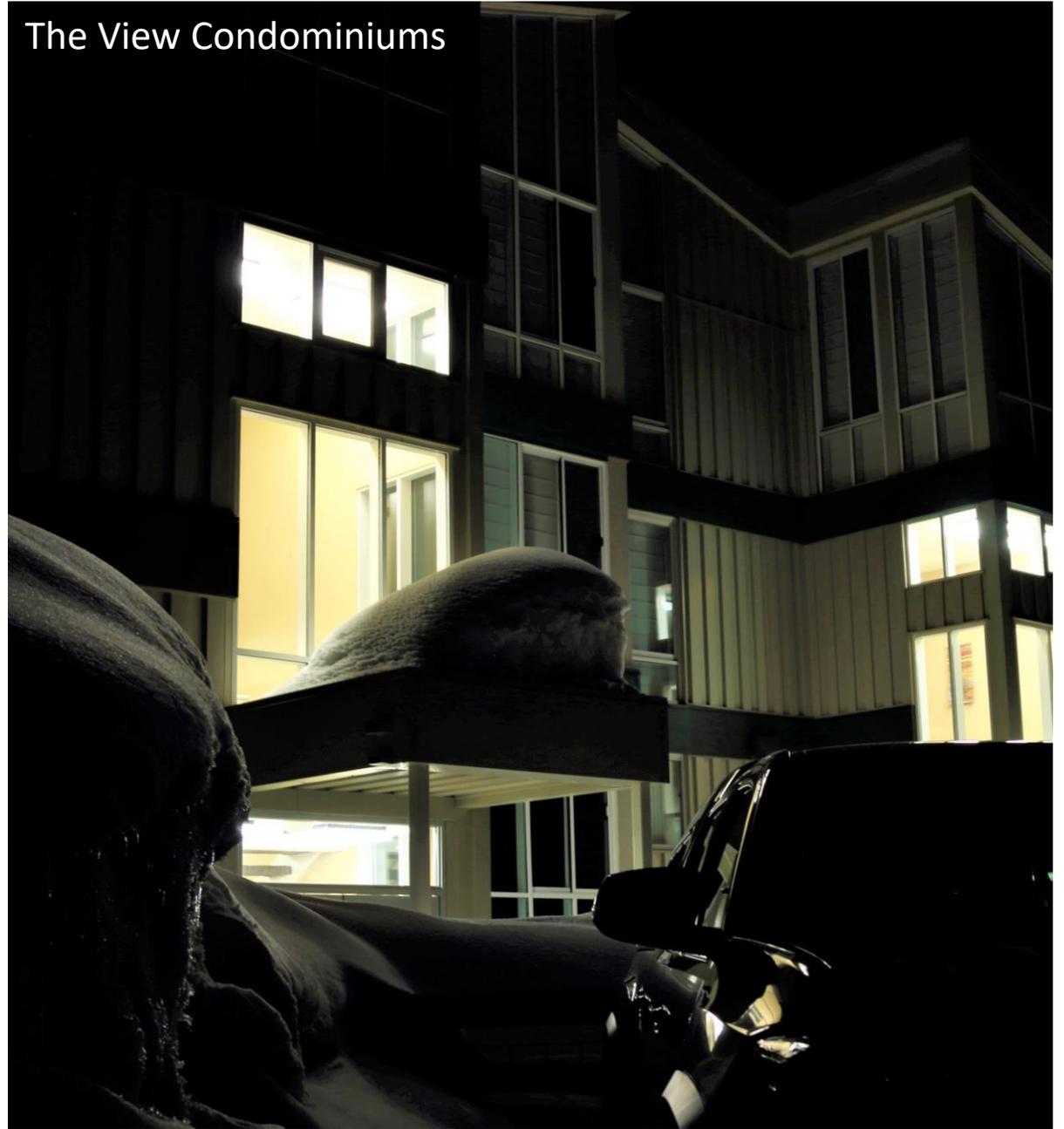
Peruvian Lodge Entry



Power Ridge House



Blackack Condominiums



The View Condominiums



Hellgate Condominiums



Ben Hame



Wildcat Chalet

Conclusions:

- It's pretty dark in Alta, at least for most of the year. Unshielded light fixtures
- Some properties appear to be out of compliance with 10-12-6, Off-street Parking Requirements, which provides that "Parking area lighting shall not direct or reflect light to adjacent uses or roads."
- Town of Alta buildings and fixtures are among the worst offenders: Office, Central, Bay City, Grizzly light are unshielded, very bright, "fluorescent" in color.
- Town lacks a more comprehensive lighting regulation. Term "lighting" only appears in regulations pertaining to off-street parking and signage.

Next Steps:

- Is there a need to adopt a lighting ordinance?
- Consider model ordinances:
 - Grand County
 - Illuminating Engineering Society
 - International Dark Sky Association
- Pursue designation as an International Dark Sky Community
 - Formal audit?

EXAMPLE LIGHTING AUDIT LOG

There are different ways to log your lighting audit information. One simple way is to record the information on a spreadsheet. The following is an example spreadsheet from the Federal Department of Energy's Exterior Lighting Guidelines. **Some data points can be captured during the day while other data points will require a nighttime visit.**

FIXTURE/LENSES				LAMP								
ITEM NUMBER	LOCATION DESCRIPTION	AGE	CONDITION (soiled, cracked, etc.)	LAMP TYPE	AGE	CONDITION (soiled, cracked, ect.)	SYSTEM WATTAGE	MODEL NUMBER	MANUFACTURER	PERCEIVED COLOR (blue, white, amber)	OCCUPANT TYPES (age, work, activities, etc.)	SHIELDING (none, partially, fully shielded)
001	Flood light outside City Hall entrance	7 yrs.	slightly cracked	halogen	2 yr.	good condition	150 W	# OFTR 200Q 120 LP WH M12	Hal's Halogen Factory	white	city employees/ citizens	partially
002	Area lighting in City Hall parking lot/ NW corner	10 yrs.	good condition	metal halide	5 yr.	soiled	250 W	# OAL12 150M 120 PER LP R2	ABC Lighting Co.	bluish-white	city employees/ citizens	partially
003	Post Office entrance wallpack	8 yrs.	soiled	high pressure sodium	1 yr.	soiled	252 W	# TDD150SL 120 M2	Light Manufacturing Inc.	amber	post office staff/ patrons	none

OFF STREET PARKING REQUIREMENTS

10-12-6: MAINTENANCE AND DEVELOPMENT OF PARKING AREAS:

C. Lighting: The lighting of parking areas shall be so designed to allow the safe use of facilities by both vehicles and pedestrians at all times. Parking area lighting shall not direct or reflect light to adjacent uses or roads. The final design, including the selection of lighting fixtures, shall be approved by the planning commission acting on the recommendation of the technical review committee.

SIGN REQUIREMENTS

10-13-13: LIGHTED SIGNS:

A. A lighted sign shall not be installed which permits the light to penetrate beyond the property in such a manner as to annoy or interfere with the use of adjacent properties.

B. Such lights alleged to violate the above by the adjacent property owners or building official shall be subject to a public hearing before the planning commission as to the validity of the alleged violation. If such light is determined to be in violation, the owner of said light shall take appropriate corrective action as directed.

10-6D-15: CONSTRUCTION DOCUMENTS APPROVAL:

In order to determine compliance with this article and to promote orderly and harmonious development of canyon areas, construction documents for all projects shall be approved by the building official prior to the issuance of any building permits. Applications for building permits shall be accompanied by plans, specifications and other documents with sufficient data and at a reasonable scale to describe all existing and proposed conditions, including, but not limited to, topography, grading, roads and walks, buildings, utilities, vegetation, exterior materials, color schedules, and other such information as may be required to ensure compliance with the provisions of this article. The building official may seek the recommendation of the land use authority prior to approval of any project. Applications may be approved as submitted, approved subject to conditions, or disapproved. (Ord. 2008-O-7, 6-12-2008; amd. Ord. 2014-O-5, 12-11-2014)

Proposed Changes to Land Use Code

Outdoor Lighting and Sign Illumination Standards

Section 2.11.4 (Resort Commercial District)

F. Signage

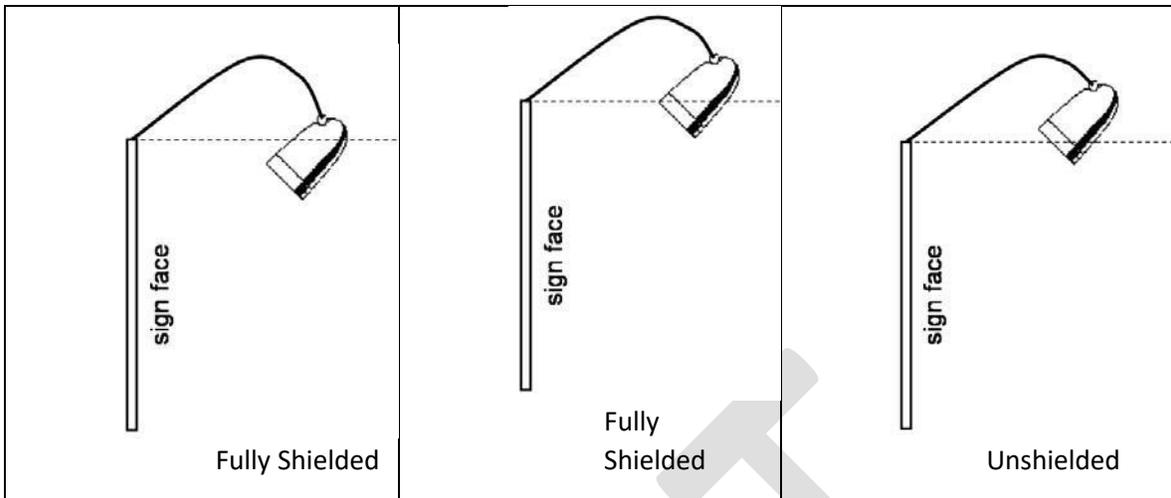
All signs shall comply with the requirements of Section 6.5.

Section 6.5.5(D) Permitted Signs Illumination

1. Signs may be unlighted, lighted externally, lighted internally, or backlit. All sign lighting must be designed, directed, and shielded in such a manner that the light source is not visible beyond the property boundaries where the sign is located. Lighting for signs must be directed such that only the sign face is illuminated. All lighted signs must have stationary and constant lighting. All sign lighting is included in the calculation of total light output for a property.
 - a. Standards for Externally Illuminated Signs:
 1. Lighting for externally illuminated signs must be aimed and shielded so that light is directed only onto the sign face and does not trespass onto adjacent streets, roads or properties or into the night sky.
 2. Lighting for externally illuminated signs must be mounted at the top of the sign (or within 2 feet of the top of a wall mounted sign), except for freestanding monument style signs which may be illuminated by ground mounted lighting.
 3. Lighting shall consist of no more than four (4) individual fixtures (or lamps) per sign face and produce a maximum of 40,000 lumens per fixture.
 4. All sign lighting shall be included in the calculation of total light output.

[Image below to be updated for clarity. Purpose of image is to show that fully shielded lighting prevents light from emanating above the horizontal plane of the top of a sign]

Permitted and Prohibited External Sign Lighting Configurations	
Allowed	Not Allowed



b. Standards for Internally Illuminated Signs:

1. Only sign text areas and logos may be illuminated on an internally illuminated sign.
2. Internally illuminated signs shall use semi-opaque materials for sign text and logos such that the light emanating from the sign is diffused. Transparent or clear materials are not allowed for sign text and logos. Non-text portions of the sign (e.g., background and graphics other than the logo) shall be made of completely opaque material.

c. Standards for Backlit Signs:

1. The light source shall not be visible.
2. Backlit signs shall only allow indirect illumination to emanate from the sign. For example, signs that create a "halo" effect around sign copy are allowed.

d. Standards for Illuminated Window Signs

1. Businesses may display a maximum of two (2) illuminated window signs positioned to be primarily visible outside the business structure.
2. Illuminated window signs shall not exceed four (4) square feet in area.
3. Illuminated window signs shall not be illuminated when the business is closed.

Section 6.6 – Outdoor Lighting

6.6.1 Purpose

The purposes of this chapter are to:

- A. Encourage outdoor lighting practices that will minimize light pollution, glare, light trespass and sky glow to curtail the degradation of the night time visual environment;
- B. Prevent lighting nuisances on properties located in and adjacent to Grand County;
- C. Promote energy conservation;
- D. Improve night-time safety, utility, security, and productivity;
- E. Develop an attractive nighttime appearance in the County;
- F. Minimize lighting health risks arising from inappropriate quantities and qualities of lighting;
- G. Prevent unnecessary or inappropriate outdoor lighting;
- H. Minimize nighttime impacts on nocturnal wildlife;
- I. Facilitate the economic development potential of astro-tourism, and the enhancement of the visitor experience in the Moab Area;
- J. Maintain the rural atmosphere of the County; and
- K. Encourage quality outdoor lighting through the use of efficient bulbs and light sources, fully shielded light fixtures, and limits on the location and uses of outdoor lighting.

6.6.2 Scope and Applicability

- A. All lighting should be purpose driven.
- B. All exterior outdoor lighting installed after the effective date of this section in all zones in the County shall conform to the requirements established by this section. This section does not apply to indoor lighting.
- C. All existing outdoor lighting that does not meet the requirements of this chapter and is not exempted by this chapter shall be considered a nonconforming use or part of a nonconforming structure subject to the five (5) year amortization schedule outlined in Section 6.6.10(B)(3) of this LUC.

6.6.3 Definitions

For the purpose of this section, certain words, phrases and terms shall have the meaning assigned to them by this section.

“Accent or Architectural Lighting” means lighting of building surfaces, landscape features, statues, and similar items for the purpose of decoration, ornamentation, creation of visual hierarchy, sense of liveliness, or other purpose unrelated to safety, business operation, or essential lighting function.

“Backlight” means all the light emanating behind a luminaire.

“B.U.G. Rating” means backlight, up-light, and glare rating, which exists on a scale of zero to five (0 to 5) and describes the light output of a luminaire.

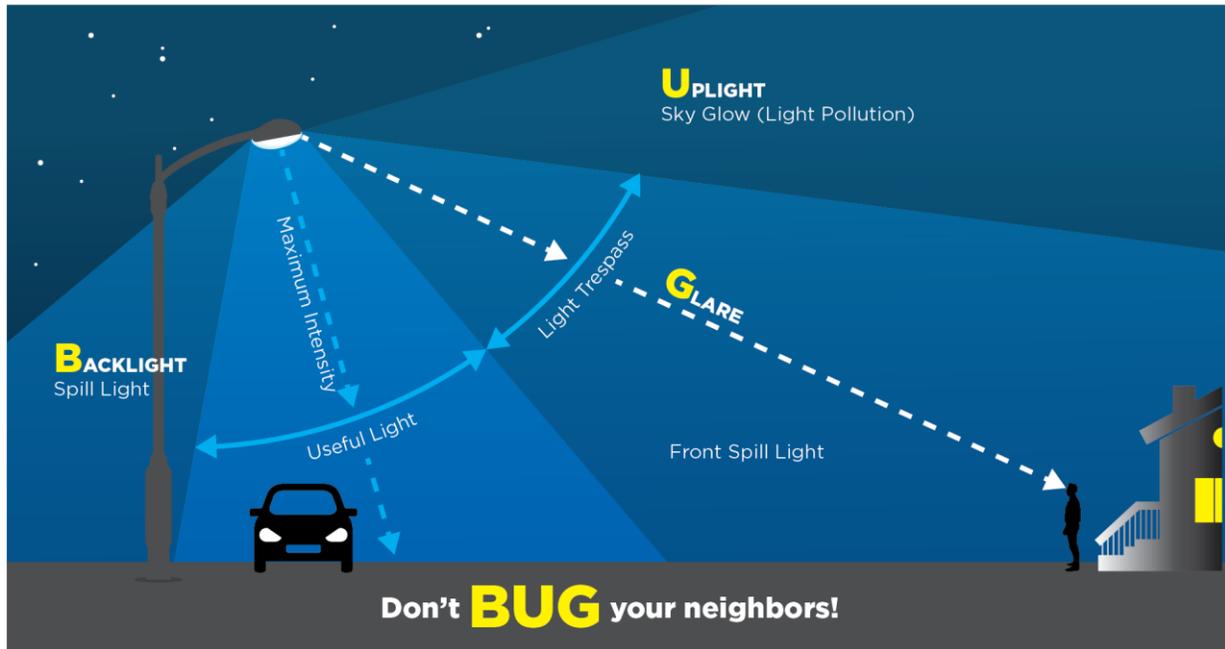


Image by City of Ft. Collins, Colorado and used here with permission.

“Correlated Color Temperature” (CCT) is a specification of the color appearance of the light emitted by a lamp, relating its color to the color of light from a reference source when heated to a particular temperature, measured in degrees Kelvin (K). The CCT rating for a lamp is a general "warmth" or "coolness" measure of its appearance. Lamps with a CCT rating below 3,000 K are usually considered "warm" sources, while those with a CCT above 3,000 K are usually considered "cool" in appearance.

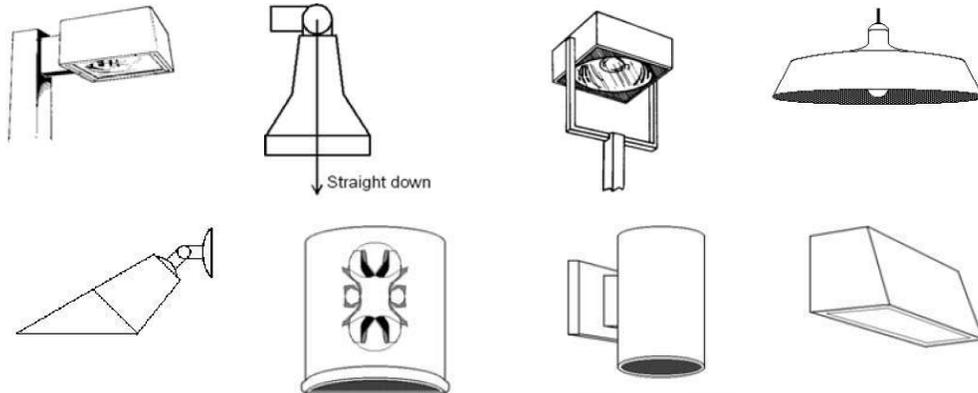
“Direct Illumination” means illumination resulting from light emitted directly from a bulb, luminaire, or reflector. This does not include light reflected from other surfaces such as the ground or building faces.

“Fixture” means a complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.”

“Floodlight” means a fixture or bulb designed to "flood" an area with light. A specific form of bulb or fixture designed to direct its output in a specific direction. Such bulbs are often designated by the manufacturer and are commonly used in residential outdoor lighting.

“Fully Shielded Fixture” means an outdoor light fixture constructed and mounted so that the installed fixture emits no light above the horizontal plane. Where a light manufacturer provides a BUG rating, the uplight rating (U) must equal zero (0). Fully shielded light fixtures must be shielded in and of themselves. Surrounding structures, like canopies, are not to be considered when determining if the fixture is fully

shielded. Fully shielded fixtures must be appropriately mounted so that the shielding prevents light from escaping above the horizontal and all light is directed downward.



Examples of fully shielded light fixtures.

“Glare” means the visual sensation caused by excessive brightness and which causes annoyance, discomfort, or a disability loss in visual performance or visibility.

“Internally Illuminated” as it relates to signs, means any sign which has a light source entirely enclosed within the sign and not directly visible to the eye.

“Light Pollution” means any adverse effect of manmade light. Often used to denote "sky glow" from developed areas, but also includes glare, light trespass, visual clutter and other adverse effects of lighting.

“Light Source” means the part of a lighting fixture that produces light, e.g. the bulb, lamp, or chips on board.

“Light Trespass” means any light that falls beyond the legal boundaries of the property it is intended to illuminate.

“Lumen” means a unit of luminous flux equal to the light emitted by a uniform point source of one candle intensity. Lumens refers to the amount of light emitted by a bulb (more lumens equals brighter light).

Common Relationships between bulb types, wattages and lumen levels

Brightness in Lumens	220+	400+	700+	900+	1300+
Standard	25W	40W	60W	75W	100W
Halogen	18W	28W	42W	53W	70W
CFL	6W	9W	12W	15W	20W
LED	4W	6W	10W	13W	18W

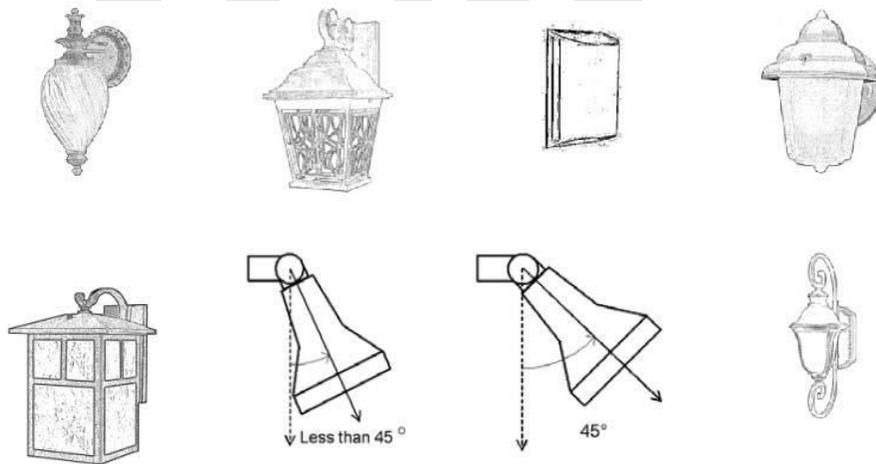
“Luminaire” means the same as “fixture.”

“Manufacturer's Catalog Cuts” means a publication or other printed material of a bulb or lighting manufacturer offering visual and technical information about a lighting fixture or bulb.

“Developed Acre” means the proportionate amount of 43,560 square feet of land that is converted from raw, undeveloped land into land associated with the permitted principal and accessory uses occurring on a parcel. This includes building footprints, private roads, parking lot surface areas, designated recreational areas, walking paths, stormwater detention and retention facilities, and other lands clearly related to the permitted uses on a parcel. Present and future public rights-of-way, lands with natural slopes greater than 30 percent, jurisdictional wetlands, lands in the 100 year floodplain, public drinking water supply water sources (recharge areas for the aquifer in the Glen Canyon Formation), lands affected by immitigable geo-hazards, riparian habitats, archeological sites, and required open space shall not be included in the calculation of developed acreage.

“Outdoor Light Fixture” means a complete lighting unit consisting of a lamp(s) and ballast(s) (when applicable), together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply. Also known as a luminaire, or simply as a fixture.

“Partially Shielded Light Fixture” means an outdoor light fixture constructed and mounted so that the installed fixture emits most of its light above the horizontal plane. Where a light manufacturer provides a BUG rating, the uplight (U) and backlight (B) ratings are greater than zero (0). Light emitted at or above the horizontal plane (sideways or upwards) shall arise solely from incidental decorative elements or strongly colored or diffusing materials such as colored glass or plastic. Fixtures using spot or flood lamps are considered partially shielded if the lamps are aimed no higher than 45 degrees above the vertical plane beneath the fixture.



Examples of partially shielded lighting fixtures

“Recreational Lighting” means lighting used to illuminate sports fields, ball courts, playgrounds, or similar outdoor recreational facilities.

“Skyglow” means the brightening of the nighttime sky resulting from the scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one’s ability to view the nighttime sky.

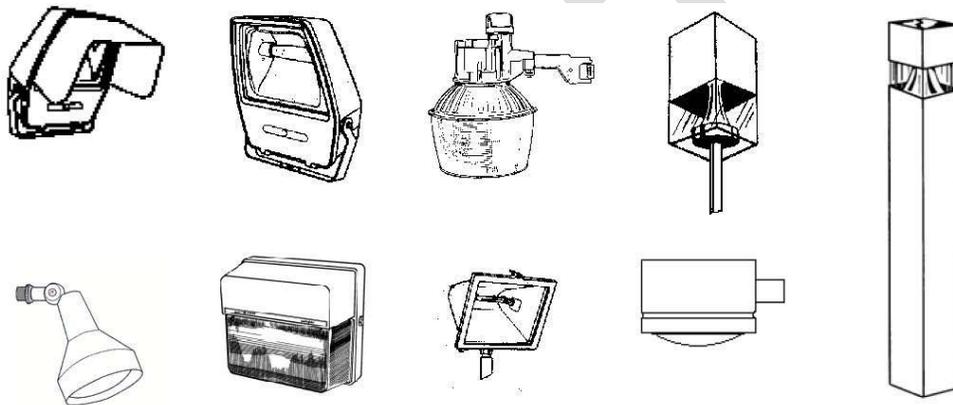
“Spotlight” means a fixture or bulb designed to light a small area very brightly. See definition of Floodlight.

"Total" means the sum of shielded and unshielded light.

"Total outdoor light output" means the total amount of light measured in lumens from all bulbs installed in outdoor lighting fixtures. For bulb types that vary in light output as they age (such as fluorescent and high intensity discharge (HID) bulbs), the initial lumen output as defined by the manufacturer shall be the lumen value used.

“Tower” means any monopole, antenna, or the like that exceeds eighteen feet (18') in height.

“Unshielded Fixture” means a fixture that has no shielding at all that would otherwise specifically prevent light emission above the horizontal.



Examples of unshielded light fixtures.

“Uplight” means all the light emanating above the horizontal plane of a luminaire.

6.6.4 Fully Shielded Fixture Requirements

- A. Unless specifically exempted by this section, all outdoor lighting shall use fully shielded fixtures and shall be installed so light is directed downward with no light emitted above the horizontal plane of the fixture. Where a light manufacturer provides a BUG rating, the uplight rating (U) must equal zero (0).
- B. In order to qualify as a "fully shielded" fixture, a light fixture must have the top and sides made of completely opaque material such that light only escapes through the bottom of the fixture. Fixtures with translucent or transparent sides, or sides with perforations or slits, do not qualify as fully shielded. Any glass or diffuser on the bottom of the fixture must be flush with the fixture (no drop lenses). Merely placing a light fixture under an eave, canopy, patio cover, or other similar cover does not qualify as fully shielded.

- C. Fixtures must not be placed at a location, angle, or height that directs illumination outside the property boundaries where the light fixtures are located.
- D. Notwithstanding the exemptions in subsection E below, all residential and commercial luminaires shall be fully shielded within twenty-five (25) feet of adjacent residential property lines.
- E. Exemptions to Fully Shielded Fixture Requirements:
 - 1. All lights exempted by this section shall be included in the calculation for total light output.
 - 2. Fixtures having a total light output less than one thousand (1,000) lumens are exempted from the fully shielded requirement provided the following criteria are met:
 - a. The fixture has a top that is completely opaque such that no light is directed upwards.
 - b. The fixture has sides that completely cover the light source and are made of opaque or semi-opaque material. Fixtures with opaque sides may have incidental decorative perforations that emit small amounts of light. Semi-opaque material such as dark tinted glass or translucent plastic may be used if the light source is not discernable behind the material. Completely transparent materials, such as clear or lightly tinted colored glass, are not allowed.
 - c. The light source must not be visible from any point outside the property on which the fixture is located.
 - 3. Spotlights controlled by motion sensors having a light output less than one thousand (1,000) lumens per lamp are exempted from the fully shielded requirement provided:
 - a. The fixture is a spotlight or other type of directed light that shall be directed straight down; and
 - b. The fixture must not be placed in such a manner that results in illumination being directed outside the property boundaries where the light fixtures are located.
 - c. Lights controlled by motion sensors shall not be triggered by movement or activity located off the property on which the light is located.
 - 4. Pathway lights less than eighteen inches (18") in height are exempted from the fully shielded fixture requirement, if the total light output from each pathway light is less than three hundred (300) lumens.
 - 5. Temporary exterior lighting intended as holiday or seasonal decorations displayed between November 15 and the following January 15, provided that individual lamps do not exceed 70 lumens and neither cause light trespass nor interfere with the reasonable use and enjoyment of any other property.
 - 6. Traffic control signals and devices.

7. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.
8. The lighting of federal or state flags, provided that the light is a top-down and narrow beam aimed and shielded to illuminate only the flag.
9. An applicant requesting approval for lighting that does not conform to these standards shall follow the procedures and findings requirements set forth in Section 9.14 Variances.

6.6.5 Total Light Output

- A. Commercial. Total outdoor light output shall not exceed fifty thousand (50,000) lumens per developed acre. Streetlights used for illumination of public rights-of-way are excluded from this calculation. Commercial developments shall be permitted a minimum of 5,000 lumens of lighting regardless of parcel size.
 1. In non-residential zone districts, partially and unshielded lighting on a property shall not exceed 5,000 lumens per developed acre, and shall be included in the total outdoor light output calculation
- B. Residential. Total outdoor light output shall not exceed ten thousand (10,000) lumens of lighting for parcels one-half (acre), or larger, in size. Parcels smaller than one-half (1/2) acre shall be permitted five thousand (5,000) lumens of lighting regardless of parcel size. Total outdoor light output of any multifamily residential development including five (5) or more separate lots or units shall not exceed twenty thousand (20,000) lumens of lighting per developed acre.
 1. In residential zones, partially and unshielded lighting on a property shall not exceed 1,000 lumens per lot, and shall be included in the total outdoor light output calculation.
 2. Residential units used for overnight accommodations or other commercial uses shall comply with the residential standards for total light output.

6.6.6 Lighting Hours

- A. Commercial establishments shall turn off all outdoor lighting, except that listed below, by twelve o'clock (12:00) midnight:
 - a. Businesses open to the public after twelve o'clock (12:00) midnight may leave all outdoor lighting on until one hour after the close of business.
 - b. Lighting to illuminate the entrance to the commercial establishments.
 - c. Parking lot and pathway lighting required for the safety of guests or customers.
- B. Recreational lighting (residential and commercial) shall be turned off by ten o'clock (10:00) P.M. except to conclude a specific sporting event that is underway.

6.6.7 Lighting Color

All exterior lighting shall utilize light sources with correlated color temperature not to exceed 3,000 Kelvin (K).

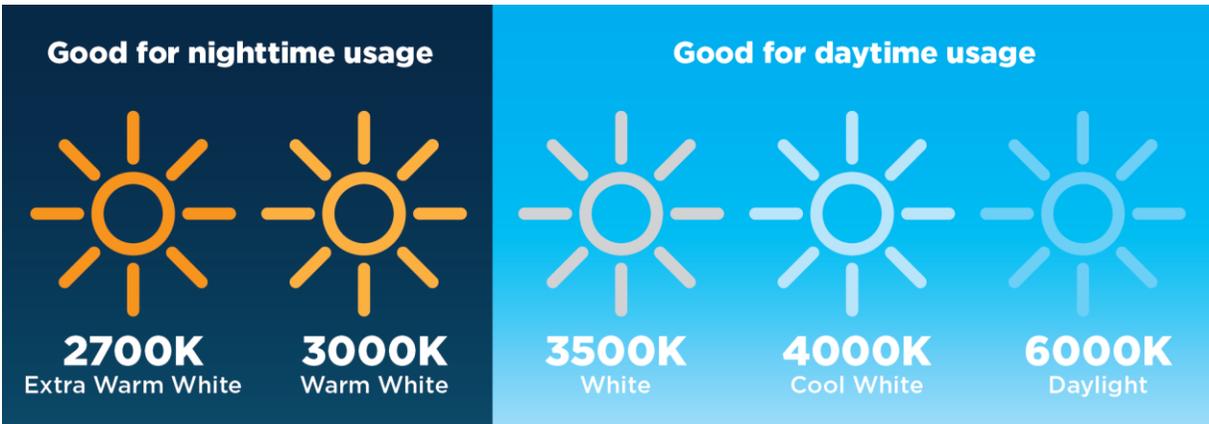


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6.6.8 Specialized Outdoor Lighting Conditions and Standards

- A. Gas station canopies may be illuminated provided all light fixtures are mounted on the undersurface of the canopy and all light fixtures are fully shielded. Merely placing the fixtures on the underside of the canopy does not qualify as fully shielding the light fixture.
- B. Roadway and street lights are prohibited unless recommended by the County engineer or required by UDOT to provide for the safety of the public. When deemed necessary, streetlights shall utilize lamp types that are fully shielded luminaires that minimize sky glow, light trespass, and other unintended impacts of artificial lighting. All streetlights shall utilize the lowest illuminance levels acceptable to the County engineer and UDOT.
- C. Parking lots may not utilize spot or flood lighting whether mounted on a post or exterior building wall. The overall height of any light post used to illuminate parking lots in commercial zones shall not exceed twenty-five (25'). All post mounted parking lot lights shall be set back from property lines a distance equal to two and one-half (2.5) times the height of the pole unless an internal or external shield prevents the fixture being visible from outside the property boundaries. The overall height of any light post used to illuminate parking lots in residential zones shall not exceed twenty-five feet (25'). All parking lot lighting shall use fully shielded downward directed fixtures. Internal or external shields shall prevent the fixture being visible from outside the parking lots.
- D. Outdoor recreation areas or athletic fields at publicly owned facilities may use illumination to light the surface of play and viewing stands and for the safety of the public. The following standards shall apply to outdoor recreation area or athletic field lighting:
 1. The recreational lighting does not exceed illuminance levels for class IV sports lighting set by the Illuminating Engineering Society of North America.

2. The recreational lighting provides illuminance for the surface of play and viewing stands, and not for any other areas or applications.
 3. Off-site impacts of the lighting will be limited to the greatest practical extent possible
 4. The lighting for areas or applications outside the surface of play and viewing stands shall conform to all provisions in this chapter.
 5. The recreational or athletic facility shall extinguish lighting exempted by this section no later than 11:00pm or one hour after the end of play, whichever is earlier.
 6. The recreational lighting shall have timers that automatically extinguish lighting to ensure lights are not left on after the curfew or when the facilities are not in use.
- E. Outdoor amphitheatres may use illumination to light the performance area of the amphitheater and for the safety of the public. The following standards apply to all amphitheater lighting:
- a. Lighting used to illuminate the performance area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.
 - b. Lighting used to illuminate the performance area may only be turned on during performances or rehearsals.
 - c. Lighting used to illuminate the seating areas, pathways, and other areas of the amphitheater must meet all standards of this chapter.
- F. Special events may use illumination to light the event area and for the safety of the public. The following standards apply to all amphitheater lighting:
- a. Lighting used to illuminate the event area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.
 - b. Lighting used to illuminate the event area may only be turned on during the hours event activities are open to the public or paying guests.
 - c. Lighting used to illuminate the seating areas, pathways, and other areas of the event must meet all standards of this chapter.
- G. All illuminated signs shall comply with the standards of Section 6.5.

6.6.9 Application and Review Procedures

A. Lighting Plan

All sign permit applications, subdivision applications, site plan applications, building permit applications, and other development review applications within any zone district shall include a lighting plan that shows evidence that the proposed lighting fixtures and light sources comply with this code. Lighting plans shall include the following:

1. Plans or drawings indicating the proposed location of lighting fixtures, height of lighting fixtures on the premises, and type of illumination devices, lamps, supports, shielding and reflectors used and installation and electrical details.
 2. Illustrations, such as contained in a manufacturer's catalog cuts, of all proposed lighting fixtures. For commercial uses, photometric diagrams of proposed lighting fixtures are also required. In the event photometric diagrams are not available, the applicant must provide sufficient information regarding the light fixture, bulb wattage, and shielding mechanisms for the planning commission to be able to determine compliance with the provisions of this chapter.
 3. A table showing the total amount of proposed exterior lights, by fixture type, wattage, lumens, and lamp type.
- B. Approval Procedure:
1. The lighting plan for all new development shall be submitted for approval concurrent with the associated application process.
 2. A certificate of occupancy shall not be issued until such time as the property is subject to a post installation nighttime inspection by the Planning and Zoning Administrator.

6.6.10 Amortization of Nonconforming Outdoor Lighting

- A. The County shall require the termination of use of any and all nonconforming outdoor lighting fixtures, structures, lamps, bulbs or other devices that emit or generate light which are not otherwise exempted by this chapter, pursuant to the amortization schedule contained in this section.
- B. All outdoor lighting legally existing and installed prior to the effective date of this chapter and which is not exempted shall be considered nonconforming and shall be brought into compliance by the property owner as follows:
 1. Immediate abatement as a condition for approval upon application for a building permit, sign permit, conditional use permit, new (nonrenewal) business license, site plan review or similar County permit or review when said site improvements, construction, reconstruction, expansion, alteration or modification of existing sites, structures, or uses individually or cumulatively equal or exceed one thousand five hundred (1,500) square feet, or 50% of existing such improvements, whichever is less. Projects less than one thousand five hundred (1,500) square feet in size, or 50% of existing such improvements, whichever is less, will not be subject to immediate abatement. However, they will count towards a cumulative total of projects on the same property. When the cumulative total equals or exceeds one thousand five hundred (1,500) square feet, or 50% of existing such improvements, whichever is less, abatement shall be immediate.
 2. All damaged or inoperative nonconforming lighting shall be replaced or repaired only with lighting equipment and fixtures compliant with this chapter.

3. All outdoor lighting not previously scheduled for amortization or otherwise exempted shall be brought into conformance with this chapter within five (5) years from the effective date of this chapter.
- C. The County shall perform two (2) audits of all outdoor lighting in the County, one two (2) years and the other four (4) years after the effective date hereof. These audits will identify all lighting that does not conform to the standards of this chapter. The results of these audits will be made available to the public.

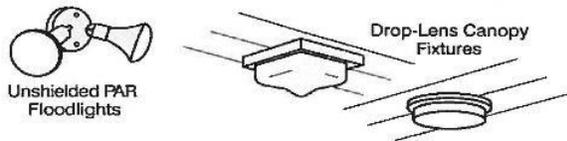
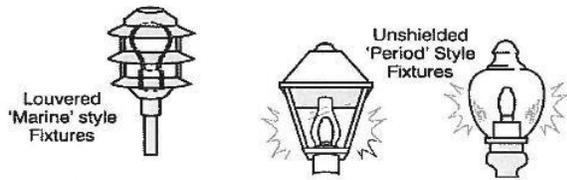
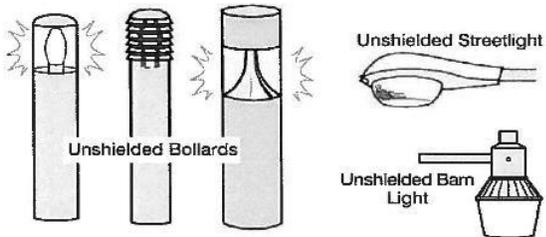
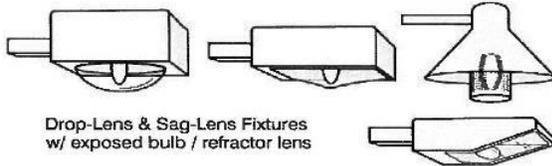
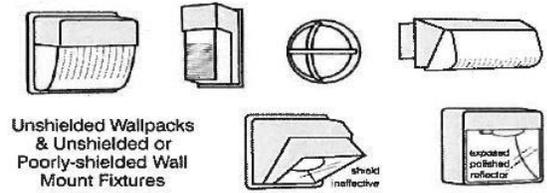
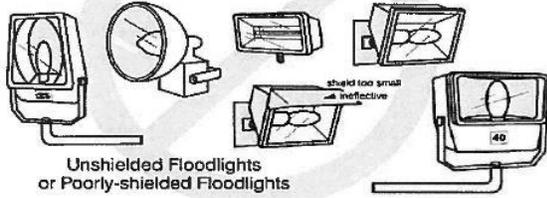
Additional Images:

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Examples of Acceptable / Unacceptable Lighting Fixtures

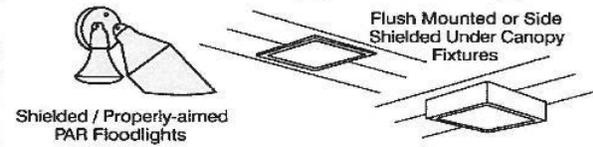
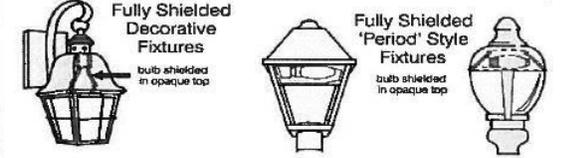
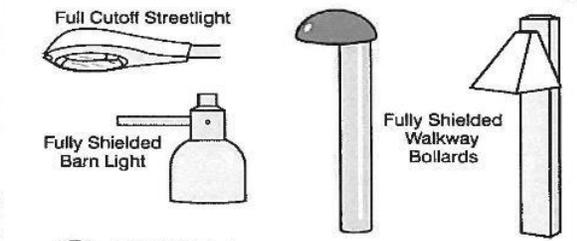
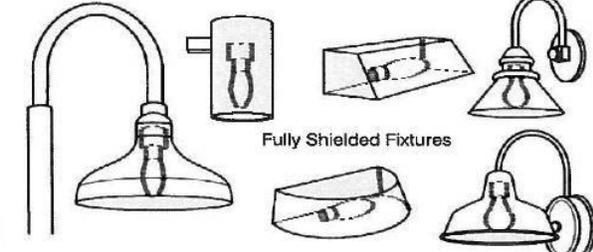
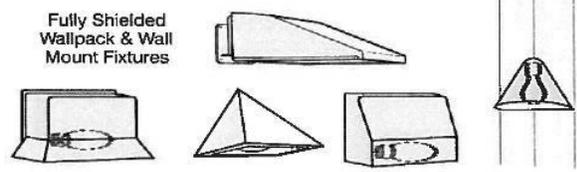
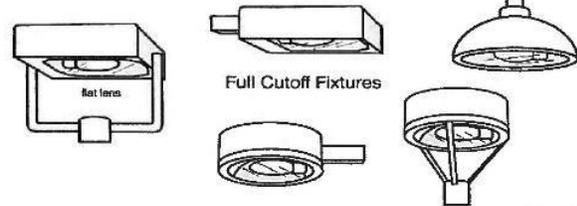
Unacceptable / Discouraged

Fixtures that produce glare and light trespass



Acceptable

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



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