



City of Ketchum, Idaho A Dark Sky Community July 27, 2017

This report is intended to serve as the application for the City of Ketchum, Idaho to the International Dark Sky Association to become a Dark Sky Community.

City of Ketchum Dark Sky Community Application Team

Carl Anderson, Associate Planner, City of Ketchum

Micah Austin, Director of Planning and Building, City of Ketchum

Brittany Skelton, Senior Planner, City of Ketchum

Initial Contact with IDA:

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Email: canderson@ketchumidaho.org

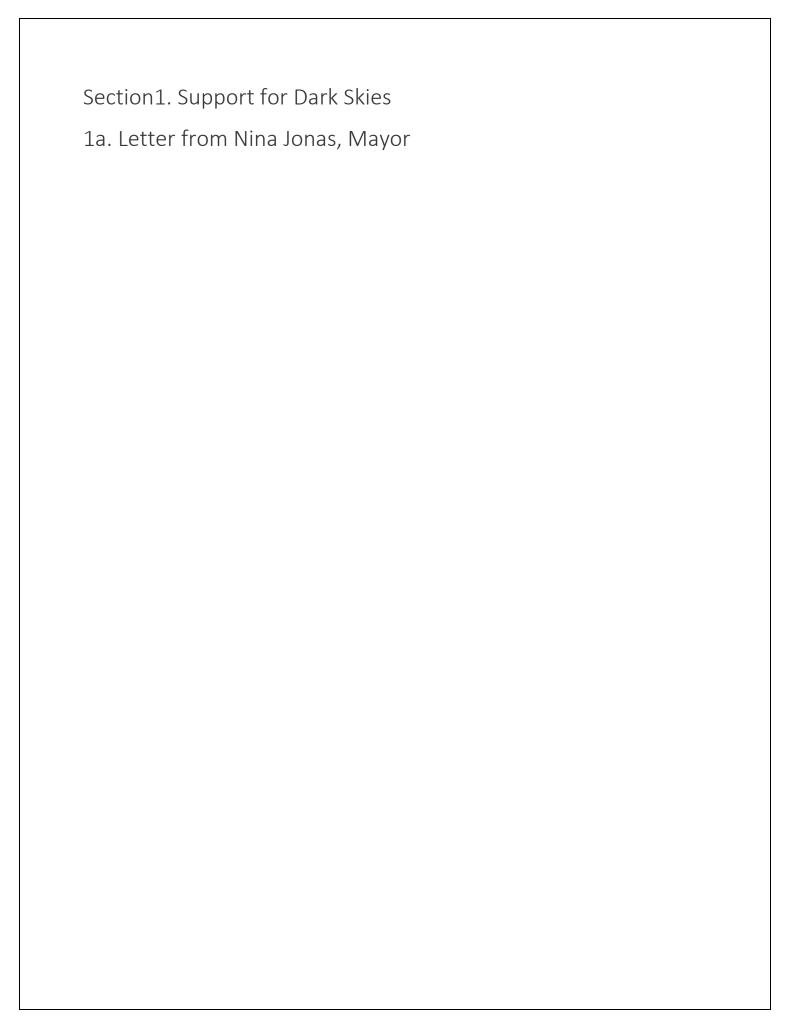
Micah Austin Director of Planning and Building P.O. Box 2315 480 East Ave. N. Ketchum, ID 83340

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City of Ketchum

Mayor Nina Jonas

City Council

President Jim Slanetz

Anne Corrock Michael David

Baird Gourlay

City Administrator Suzanne Frick

Assistant City Administrator Lisa Enourato

July 27th, 2017

Board of Directors International Dark-Sky Association

3223 N. First Avenue Tucson, Arizona 85719

RE: City of Ketchum's application to the International Dark Sky Community Program

Dear Board Members,

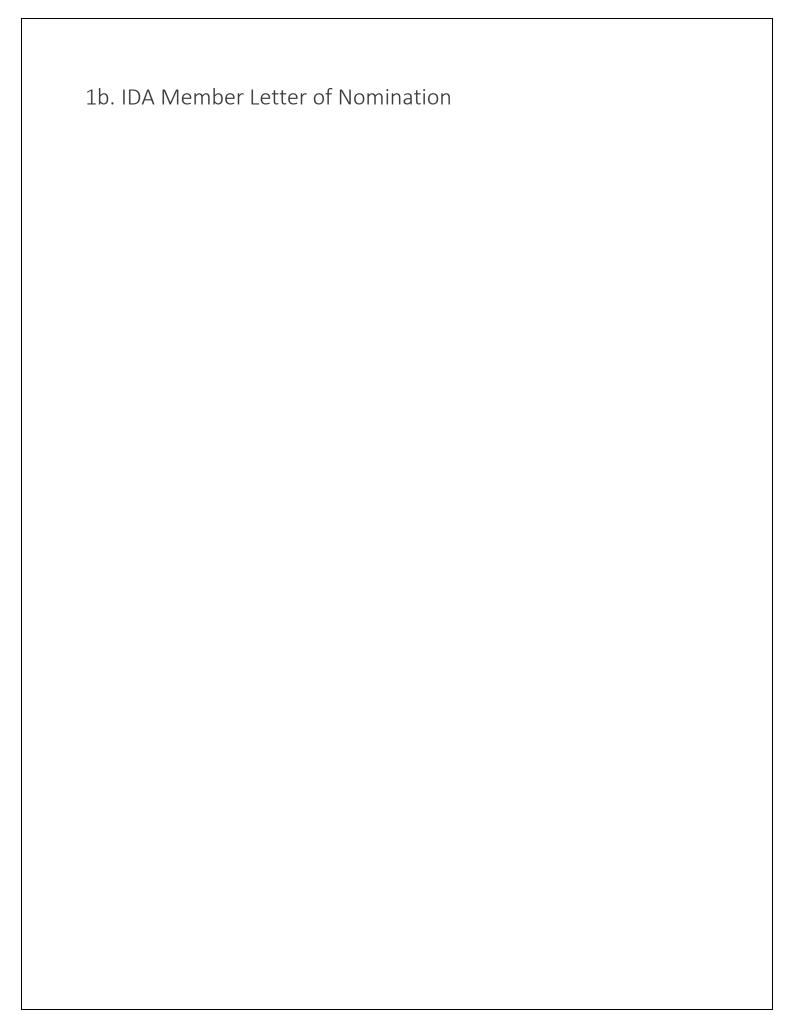
As the Mayor of the city of Ketchum, I am honored to support the nomination of our City for the International Dark Sky Community designation.

Ketchum has a long history of serving as a steward of its natural environment and working to preserve our night sky. Our City has been a leader in the State of Idaho when it comes to protecting the night sky. The City of Ketchum passed one of Idaho's first Dark Skies ordinances in 1999, and updated its Dark Skies ordinance in May of 2017.

The City has been working closely with regional partners in pursing accreditation from the International Dark-Sky Association for the Central Idaho Dark Sky Reserve. My hope is the International Dark Sky Association will join in our community's efforts to preserve our night sky for years to come.

Sincerely,

Nina Jonas Mayor





Board of Directors International Dark-Sky Association 3224 North First Avenue Tucson, AZ 85719

Re: IDA Dark Sky Community Designation - City of Ketchum, Idaho

July 24, 2017

To the IDA Board Members:

Our Northern Utah IDA chapter is honored to nominate the City of Ketchum as a Dark Sky Community. The Ketchum accreditation effort was made in concert with the undertaking to accredit nearby Craters of the Moon National Monument as an International Dark Sky Park, an effort this chapter also supported. The growing trend of joint accreditation effort of community and park is a buoyant endorsement of the mutual advantage of such designations.

Over three years ago, when Ogden Valley began to review its 2000 dark sky ordinances, Ketchum was identified as a leader. Its first ordinance was designed to be simple-to-understand and enable commonsense enforcement. Ketchum's ordinance was a model for not only Weber County but also the numerous communities with which the Consortium for Dark Sky Studies (CDSS), based at the University of Utah, works. Indeed, Micah Austin, Ketchum's Planning and Building Director, is an Affiliate of CDSS.

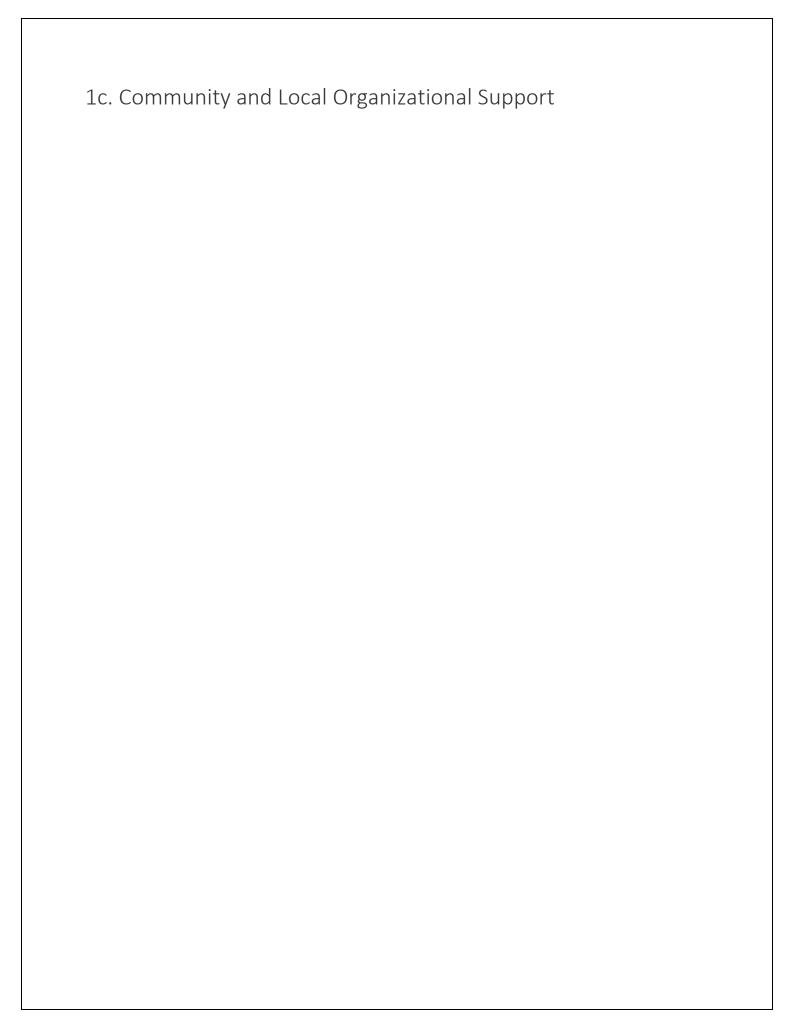
Ketchum has followed a familiar Western development arc with an economy based upon mineral resources giving way to one based upon scenic and environmental advantages, including the important resource (natural, cultural and economic) of dark skies and unaided access to the Milky Way.

Notable is that Ernest Hemingway chose Ketchum as his final home; the town continues as a center for the creative arts.

We submit this nomination with utmost enthusiasm and urge the IDA Board to designate the City of Ketchum as Idaho's first Dark Sky Community.

Janet Muir, Member

cc: Zach Thomas, President



From: Lisa Enourato on behalf of Participate
Sent: Monday, March 27, 2017 12:52 PM

To: Carl Anderson

Subject: FW: Dark Sky Community

Follow Up Flag: Follow up Flag Status: Flagged

LISA ENOURATO | CITY OF KETCHUM

Assistant City AdministratorP.O. Box 2315 | 480 East Ave. N. | Ketchum, ID 83340
o: 208.726.7803 | f: 208.726.7812

 $\underline{lenourato@ketchumidaho.org} \mid \underline{www.ketchumidaho.org}$

From: Nancy Burke [mailto:nancy.burke808@gmail.com]

Sent: Monday, March 27, 2017 7:41 AM

To: Participate <participate@ketchumidaho.org>

Subject: Dark Sky Community

As a resident in Ketchum for 27 years, I totally support having Ketchum, Sun Valley, etc. as a dark sky community. When I travel to cities, I am amazed at the difference in NOT being able to see stars at night. This would be marvelous for our entire area and our community.

Nancy Burke

From: <u>Lisa Enourato</u> on behalf of <u>Participate</u>

To: <u>Carl Anderson</u>

Subject: FW: preserving our dark skies

Date: Friday, March 24, 2017 12:32:18 PM

LISA ENOURATO | CITY OF KETCHUM

Assistant City Administrator

P.O. Box 2315 | 480 East Ave. N. | Ketchum, ID 83340

o: 208.726.7803 | f: 208.726.7812

lenourato@ketchumidaho.org | www.ketchumidaho.org

From: Angie Hansen [mailto:angie@hansen.svcoxmail.com]

Sent: Friday, March 24, 2017 9:04 AM

To: Participate <participate@ketchumidaho.org>; mmphillips@fs.fed.us

Subject: preserving our dark skies

I'm writing to express my support for the City of Ketchum to become an International Dark Sky Community. I moved here 21 years ago from the Seattle area where viewing stars, meteor showers, comets, and northern lights was a rarity, so I really appreciate the measures that Ketchum has taken to preserve our dark skies. In fact, when I first moved to town, the Hale-Bopp comet was visible every night from my house. We have enjoyed many an evening sitting in our backyard hot tub or camping in the SNRA viewing meteor showers and the Milky Way. One thing I can always count on living here in Ketchum is peeking out my window in the middle of the night and seeing stars and planets. I do not take this for granted.

I had never considered that living in an area with light pollution affects nocturnal animals and impacts our own human health. But that makes total sense. I've experienced this before when I've been on vacation where turtles were hatching and instead of being drawn to the ocean, they turn and crawl towards the lights in buildings on shore, which makes them vulnerable to attacks from birds, humans, and other predators.

I would like to see our community continue to reduce the amount and intensity of outdoor lighting to help reduce energy use and lower our carbon footprint. If everyone carries a small flashlight in their pocket they can easily navigate the snowy streets in winter and make themselves visible to cars. I support this push for dark skies – keep up the good work!

Cheers!
Angie Hansen
PO Box 6256
Ketchum, ID 83340
angie@hansen.svcoxmail.com
208.891.4550 (cell)
208.726.3874 (home)

From: Lisa Enourato on behalf of Participate
Sent: Monday, March 27, 2017 12:52 PM

To: Carl Anderson

Subject: FW: dark sky community

Follow Up Flag: Follow up Flag Status: Flagged

LISA ENOURATO | CITY OF KETCHUM

Assistant City Administrator
P.O. Box 2315 | 480 East Ave. N. | Ketchum, ID 83340
o: 208.726.7803 | f: 208.726.7812

lenourato@ketchumidaho.org | www.ketchumidaho.org

From: Willi Cannell [mailto:willaec@gmail.com]
Sent: Monday, March 27, 2017 10:47 AM
Tag Participate (participate @latch.unidable are)

To: Participate <participate@ketchumidaho.org>

Subject: dark sky community

Strongly in favor of living in a dark sky community.

Willi Cannell

From: Lisa Enourato on behalf of Participate
Sent: Monday, March 27, 2017 12:53 PM

To: Carl Anderson **Subject:** FW: Dark Skies

Follow Up Flag: Follow up Flag Status: Flagged

LISA ENOURATO | CITY OF KETCHUM

Assistant City Administrator

P.O. Box 2315 | 480 East Ave. N. | Ketchum, ID 83340

o: 208.726.7803 | f: 208.726.7812

lenourato@ketchumidaho.org | www.ketchumidaho.org

From: Dana Maxey [mailto:madameflore@yahoo.co.uk]

Sent: Saturday, March 25, 2017 3:48 PM

To: Participate <participate@ketchumidaho.org>

Subject: Dark Skies

As a long time resident of Idaho and an avid camper and backpacker, I support the initiative to keep Ketchum and Idaho a "Dark Skies" State.

It is my experience that in both winter and summer a large majority of our community spends time under the skies several times a week, with concerts, Bbq's, campfires and just general swinging on the porch and looking up, a la Andy Griffith. I take a late night walk almost daily to capture the magnitude of the Milky Way and Planetary movements.

One of my most memorable, though probably not for safety's sake wisest late nights, was lying in the center of my lawn, as a rolling thunder and lightning storm came roaring down the Valley from Galena. It was in a word: Awesome! I could feel the rumble coming up from the ground as the lightning lit up the sky followed by the "1- 1000" counting until the thunder blasted me. I can still fully feel the excitement of that experience.

Please make every effort to show case our community as an example of how living in harmony with nature can be an attraction to visitors and a place of balance and fun, for those of us who call Ketchum Home. Thank you for your consideration.

Dana Kopfer Maxey aka Mrs. BBQ BOB

LISA ENOURATO | CITY OF KETCHUM
Assistant City Administrator
P.O. Box 2315 | 480 East Ave. N. | Ketchum, ID 83340
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lenourato@ketchumidaho.org | www.ketchumidaho.org

----Original Message-----

From: Alexandra Ayer [mailto:lexxa@cox.net] Sent: Saturday, March 25, 2017 1:31 PM

To: Participate <participate@ketchumidaho.org>

Subject:

Dear Sirs:My husband and I wholeheartdly support this continued move a direction that will allow dark skies in our community. We have so many hidden gwms in this community that can only be experienced here. This allows us a felt and seen connection to the universe. Please do all you can to keep us plugged in to nature and out planet. Thanks, Lexa and David Ayer

From: Lee Chubb [mailto:lc@leechubb.com]
Sent: Thursday, April 27, 2017 2:22 PM

To: Participate <participate@ketchumidaho.org>

Subject: Re Dark Skies Application

I am writing to express my support for Ketchum's efforts to become an accredited International Dark-Sky Community. Our dark skies are one of my great joys living here and I want to see every effort made to preserve them and to make people aware of how special and rare it is to have the full canopy of stars every night, and in such detail. My compliments on your efforts and I hope you will continue them, both in applying for accreditation and enforcing ordinances that keep our dark skies dark.

Sincerely,

Lee Chubb 413 Bald Mountain Rd Ketchum From: Stephen Pauley [mailto:spauley4@gmail.com]

Sent: Friday, April 28, 2017 6:40 PM

To: Participate <participate@ketchumidaho.org>

Subject: Re: Dark sky community

(cont'd)

Ketchum is well aware of the blue light - circadian disruption issues, and will install 2700K fco LED street lights as the old metal halide lights are removed.

The city considers this as both a quality of life issue (seeing the night sky) and public health issue (minimizing blue-white light).

Ketchum was a leader for small towns 18 yrs ago and will be a leader for small towns once again. Mayor Nina Jonas and the city council should be applauded for their leadership on dark skies.

Steve Pauley MD

Dark Sky Advocate Amateur Astronomer

On Fri, Apr 28, 2017 at 6:24 PM, Stephen Pauley < spauley 4@gmail.com > wrote:

In 1999, Ketchum was the FIRST town in Idaho to pass a dark sky ordinance. It still is considered one of the best in the USA. The city is revising the ord., making it even more stringent. I have been involved at both stages and can say that we have very dark skies especially in the residental areas.

The revised ord. will also help Ketchum as the southern city anchor for our newly proposed Central Idaho Dark Sky Region.

5 North Fork Canyon Road Ketchum, ID 83340 208-727-5000 Fax: 208-727-5029

File Code:

2300

Date:

May 9, 2017

Board of Directors International Dark-Sky Association 3223 North First Avenue Tucson, AZ 85719

To the IDA Board Members,

The Sawtooth National Recreation Area and the Ketchum Ranger District jointly support the City of Ketchum's bid through the International Dark Sky Association for official designation as an International Dark Sky Community.

The Sawtooth National Recreation Area and the Ketchum Ranger District, on the Sawtooth National Forest, together manage a large land area that exhibits exceptionally dark night skies. In fact, the Forest is currently working with the City of Ketchum, along with the Cities of Stanley and Sun Valley, Blaine County, and Idaho Conservation League in a joint effort toward gaining International Dark Sky Reserve designation for portions of our collectively managed land area. The proposed reserve is to be named the 'Central Idaho Dark Sky Reserve'. The City of Ketchum has been a leading partner in this effort and their commitment toward dark skies is evident to all who have either spent time in the city or reviewed city ordinances relative to protection of night sky quality.

Please accept our collective support towards this potential International Dark Sky Community designation for the City of Ketchum and feel free to contact Kirk Flannigan (kflannigan@fs.fed.us, (208-727-5020) or Kurt Nelson (kjnelson@fs.fed.us, (208-622-0083) with any questions. Thank you for your consideration!

Sincerely,

KIRK FLANNIGAN

Area Ranger

Sawtooth National Recreation Area

KURT NELSON

District Ranger

Ketchum Ranger District

cc: Nina Jonas, Mayor, City of Ketchum







United States Department of the Interior

NATIONAL PARK SERVICE Craters of the Moon National Monument & Preserve P.O. Box 29 Arco, Idaho 83213

IN REPLY REFER TO:

6.A.1

Board of Directors International Dark-Sky Association 3223 North First Avenue Tucson, AZ 85719

April 28, 2017

RE: IDSC Designation of the City of Ketchum, ID

To the IDA Board Members:

Craters of the Moon National Monument is pleased to support the City of Ketchum in their endeavor to become an accredited International Dark-Sky Community through the International Dark-Sky Association.

The mission of the National Park Service is to preserve the resources and values of parks unimpaired for enjoyment, education, and inspiration of this and future generations. At Craters of the Moon, we work daily to preserve, protect, and educate park visitors on many natural and cultural resources, including our uncompromised dark sky and the importance of natural darkness.

The City of Ketchum has been a steward of the natural environment and has been a leader in the State of Idaho when it comes to the preservation of the night sky, passing one of the state's first Dark Sky Ordinances in 1999. The City not only supported Craters of the Moon during our designation process, but has also been a key player in establishing and pursuing accreditation for the Central Idaho Dark Sky Reserve, working to update lighting codes and promoting dark sky education and outreach throughout the region.

Craters of the Moon has begun working closely with the City of Ketchum on dark sky issues, including functioning as a point of contact during the City's designation process and a partner in the future Dark Sky Community. We look forward to participating in community education roundtables regarding the importance of dark skies and night-sky friendly lighting, as part of a cooperative plan that has been undertaken between the City and the Park regarding the preservation of our dark sky resources. The park fully supports the efforts of the City of Ketchum to be recognized as an International Dark-Sky Community. The City will be an invaluable resource and partner in the continued effort to promote the preservation of natural darkness in the region, inspiring and educating generations to come.

If you have any questions about our support of the City of Ketchum's application, please contact me at wade vagias@nps.gov or (208) 527-1310.

Sincerely,

Wade M. Vagias, Ph.D., Superintendent

Craters of the Moon National Monument & Preserve

Board of Directors International Dark-Sky Association 3223 North First Avenue Tucson, AZ 85719

Re: IDSC Designation of the City of Ketchum, ID

May 5th, 2017

To the IDA Board Members:

My Name in Scott Fortner, I am the Executive Director for the Destination Marketing Organization of Visit Sun Valley. We are a non-profit group whose mission is to promote and raise awareness for our destination and the surrounding valley.

We are very proud to support our communities' effort to obtaining the accreditation as a Dark Sky Community. This would be a tremendous opportunity for us to share with our visitors and educate our guests on the how important these special places are, to experience the unparalleled beauty and awe of the nightscape.

Many of our visitors come from major metropolitan cities, they are looking to experience all our mountain community has to offer. Having this designation is an asset that provides credibility to a uniquely immersive experience few can match, as well as, a point of pride for our residents.

Sincerely,

Scott Fortner Executive Director Visit Sun Valley 406 Sun Valley Rd. Ketchum, ID 83340



Executive Director, Sun Valley Economic Development

Board of Directors International Dark-Sky Association 3223 North First Avenue Tucson, AZ 85719 Re: IDSC Designation of the City of Ketchum, ID May 5th, 2017 To the IDA Board Members: Sun Valley Economic Development is responsible for improving and growing the economy of Blaine Co. We support Ketchum's application to become a Dark Sky City as we believe this will help increase dark sky visits and tourism in our community. Please help us by approving our application and encouraging increased celestial visits. Sincerely, Harry Griffith



Jon Duval Executive Director 311 First Ave. N. P.O. Box 6452 Ketchum, ID 83340 www.ketchumcdc.org

Board of Directors International Dark-Sky Association 3223 North First Avenue Tucson, AZ 85719

Re: IDSC Designation of the City of Ketchum, ID

Tuesday, April 25, 2017

To the IDA Board Members:

The Ketchum Innovation Center is focused on increasing the number of year-round professional jobs in our community, largely through supporting entrepreneurs and startup businesses with space and educational programming.

In addition to helping current residents, one of our goals is to bring in new entrepreneurs from outside of the area to begin businesses here. Without a doubt, the most important reason for someone to make this relocation is the quality of life that is afforded residents by the surrounding wilderness and the significant importance placed on enjoying the natural outdoors.

This prioritization and commitment extends to the steps our community has taken to preserve its dark skies, even in the face of increased development over the past two decades. This is evident whenever a visitor, or potential resident as I see it, walks through our town at night and is faced with an experience that they can never experience in whatever city they call home.

To this end, I would very much like to voice my support for Ketchum's Dark Sky accreditation, as it is yet another signifier of the priorities of our community.

Sincerely,

2 20

Jon Duval



208.726.7485 • PO Box 2671, Ketchum, ID 83340 • www.idahoconservation.org

Board of Directors International Dark Sky Association 3223 N. First Avenue Tucson, AZ 85719

July 20, 2017

Re: IDSC Designation of the City of Ketchum, ID

Dear IDA Board Members.

We are pleased to offer our full support of the City of Ketchum's application to become an International Dark Sky Community. Since 1973, the Idaho Conservation League ("ICL") has worked to protect Idaho's clean water, wilderness, and quality of life. We have a long history of involvement in natural resource protection and statewide energy issues. As Idaho's largest statewide conservation organization, we represent over 25,000 supporters.

The city of Ketchum, located within Blaine County, is a small community surrounded by incredible access to public lands, wildlife, and nature. For quite some time, the City has recognized that the night sky is an asset to this area and as such, was the first community in Idaho (in 1999) to pass a dark sky ordinance to protect this resource. Since then, the City of Ketchum has revamped their ordinance, making it one of the stronger ordinances in the nation. The Idaho Conservation League was in full support of the development and ultimate passage of this ordinance. The Dark Sky Community designation that the City is seeking will greatly benefit our nocturnal wildlife, tourism, and secure the opportunity for residents to have access to incredible starry skies now and into the future.

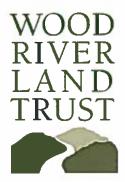
We strongly encourage IDA's Board of Directors to approve the City of Ketchum's application to become a Dark Sky Community. Please do not hesitate to contact me if you have any further questions.

Sincerely,

Dani Mazzotta Central Idaho Director Idaho Conservation League

(208) 726.7485

dmazzotta@idahoconservation.org



Board of Directors

Co-Chair: Richard Carr

Co-Chair: Kathie Levison

Treasurer: David Woodward

Secretary: Barry Bunshoft

Asst. Secretary: David Anderson

Judy Cahill
Rick Davis
John French
Trent Jones
Trish Klahr
Jack Kueneman
Sarah Michael
Rebecca Patton
Dan Smith
Gayle Stevenson
Steven Strandberg

Executive Director Scott Boettger



119 E. Bullion Street Hailey, Idaho 83333 Phone: 208.788.3947 Fax: 208.788.5991

www.woodriverlandtrust.org Federal ID: 82-0474191



Proceeds from BMTS Benefit WRLT May 15, 2017

Board of Directors International Dark-Sky Association 3223 North First Avenue Tucson, AZ 85719

Re: IDSC Designation of the City of Ketchum, ID May 16, 2017 To the IDA Board Members:

The Wood River Land Trust has worked in partnership with the City of Ketchum for the majority of our 22 year history in the Wood River Valley. As part of our mission to protect, restore, and enhance the land, water, recreational and wildlife habitat in this area we find many opportunities to support the city's proactive leadership in sustainability. Riparian ordinances, floodplain management, wildlife protection, water conservation, land use planning and historical buildings are a few of the areas we have collaborated on to effect protecting and enhancing these resources.

We support the City's vision in applying to become an accredited International Dark-Sky Community through the International Dark-Sky Association. Such a designation is beneficial to our entire community in their wish to preserve our dark skies, promote ecotourism, protect human health, and provide for public enjoyment of the night sky. Their leadership in working regionally with other partners pursing accreditation from the International Dark-Sky Association for the Central Idaho Dark Sky Reserve will also enhance our night sky in the region.

The Wood River valley is uniquely isolated amidst vast ranges that provide for large mammal wildlife migration, spectacular fisheries, and recreational opportunities to explore wild places. Implementing policies that promote keeping these attributes thriving is a benefit to all of us and we appreciate their application and leadership on this issue.

Sincerely,

Scott Boettger
Executive Director

Nina Jonas Mayor, City of Ketchum P.O. Box 2315 480 East Avenue N. Ketchum, Idaho 83340

Dear Nina,

I wish to express my support for the City of Ketchum's application to become an International Dark Sky Community. This designation will demonstrate Ketchum's commitment to preserve the quality of life of its residents by reducing light pollution and light trespass. In addition, this step will recognize the importance of protecting the nocturnal environment for the health of plant and animal communities in the surrounding area.

This is especially important considering the proximity of the Sawtooth National Recreation Area along with the Hemingway-Boulders, White Clouds, and Jim McClure-Jerry Peak Wilderness Areas. The reduction in light pollution and sky glow from Ketchum not only will protect these environments, but also enhance the tourist experience of them. Protecting the dark, night sky resource as a tourism amenity will provide an important economic benefit for Ketchum and surrounding areas, including the City of Stanley.

Dark Sky Community designation for Ketchum also will serve as a catalyst for achieving International Dark Sky Reserve status for a broader area of central Idaho, including the City of Stanley. I look forward to continuing to work with Ketchum to reduce energy consumption, protect nocturnal environments, improve the quality of life, and promote tourism by protecting the dark night sky resource.

Yours sincerely,

Stephen J Botti

Stephen J Botti President, Stanley City Council

Section 2. Local Context

2a. Introduction & Community Values

Ketchum is a steward of its natural environment and is working to preserve its dark skies. The City has been a leader in the State of Idaho when it comes to protecting the night sky. Ketchum passed one of Idaho's first Dark Skies ordinances in 1999, and has been working to update and modernize the ordinance over the last several months.

In addition to the City's efforts towards Dark Sky Community designation, the City has been working closely with regional partners in pursing accreditation from the International Dark-Sky Association for the Central Idaho Dark Sky Reserve. The Central Idaho Dark Sky Reserve effort in our region will protect the visibility of the stars in the night sky through updating exterior lighting codes, community education and outreach, and upholding the values of our community.

Our City has a long and vibrant history, largely rooted in our community's relationship with the natural environment. This is demonstrated in the community's commitment towards Sustainable Development. Sustainable Development is one of the cornerstone values of the citizens of Ketchum, as illustrated one the first page of the 2014 Comprehensive Plan which states,

"It is Ketchum's intention to use the principles of sustainability to guide community development in the future, so that we reinforce our existing efforts to protect the natural environment and create social and economic vibrancy year-round. By focusing our community planning on sustainable practices, Ketchum can achieve a future where there are additional opportunities to live and work within the community, natural resources are used more efficiently, and our natural setting is protected."

The Comprehensive Plan is an official policy document of the City of Ketchum, which represents a community-based strategy looking forward to the years to come. The formation of the Comprehensive Plan involved broad public outreach involving several well-attended community forums, online polling and online outreach. The citizens of Ketchum identified the following eight items as key components to address:

- Strengthening Our Economy
- Attracting/Retaining Young People
 - Building Tourism Opportunities
- Supporting Community Mobility
- Becoming a Greener Community
 - Increasing Housing Diversity
- Preserving Small-Town Character
- Boosting Community & Downtown Vitality

The policy area outcomes that resulted from this community based process identified three key areas that directly identify the City's priority of preserving out Dark Sky. These policy objects are as follows:

Community Design and Neighborhoods

Goal CD-2: Protect and enhance views of the surrounding mountains and natural features.

Policy CD-2.3 Night Sky Conservation: Continue to protect the visibility of the stars in the night sky through the lighting code, education, and enforcement. (Comp. Plan 2014, pg. 27)

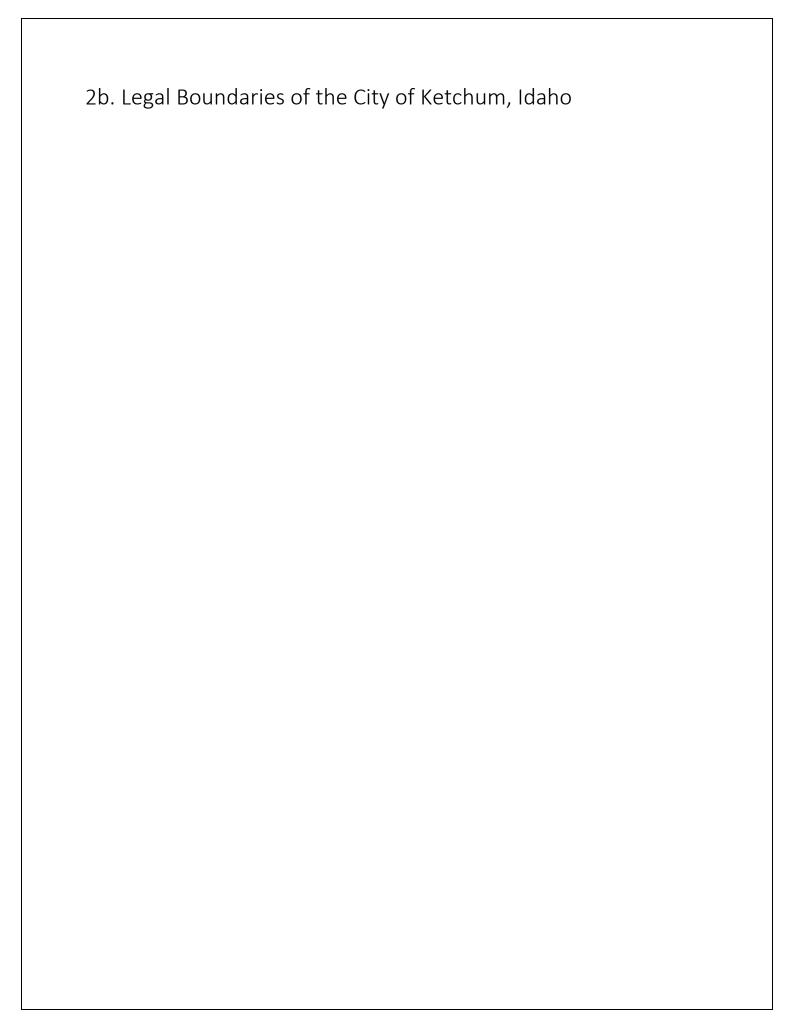
Natural Resource and Stewardship

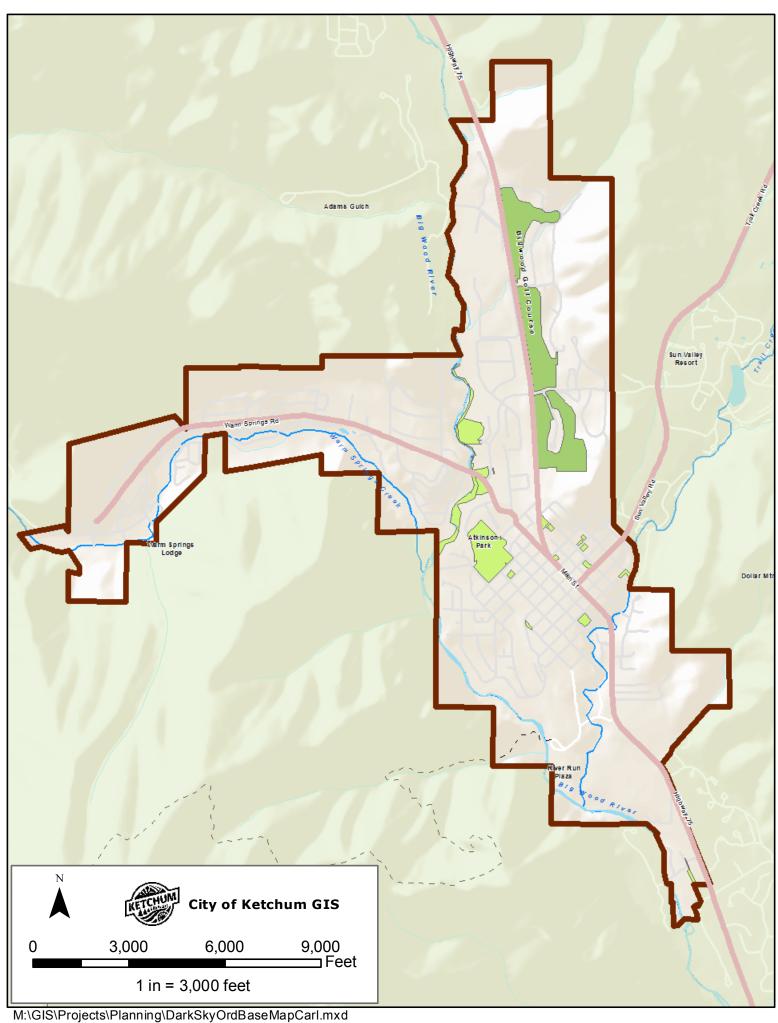
Goal NR-5: Protect natural lands that promote tourism, recreation, and economic development.

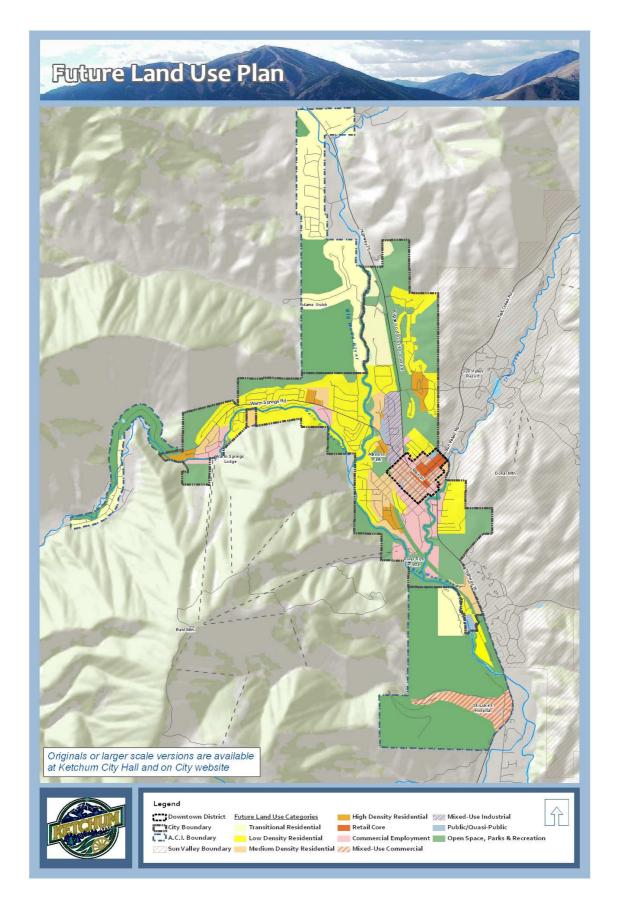
Policy NR-5: The City will support the protection of lands with the highest scenic and habitat values through acquisition, regulations, and collaboration with private, non-profit, and public entities. (Comp. Plan 2014, pg. 31)

Goal NR-6: Promote and support energy conservation and reduction of greenhouse gases.

Policy NR-6: Energy Conservation in New Construction: Promote energy conservation features in residential and commercial development. (Comp. Plan 2014, pg. 31)







Ketchum Comprehensive Plan

2c. History of Ketchum, ID

Native Americans are known to have first settled the Wood River Valley 10,000 years ago, evidenced by the 1973 archeological discovery in the Elkhorn area due east of Ketchum, where thousands of artifacts were found. The first European-Settlers to pass through the land that is today the City of Ketchum were fur trappers who, in the 1820s, trekked through the area in route to the mountain ranges in the northern Wood River Valley. Neither the European-American trappers nor the Native Americans who inhabited the Elkhorn area, nor the Native Americans of the Western Shoshone tribes who are known to have had seasonal camps in the area in the 19th and early 20th centuries, established permanent settlements. It wasn't until the latter half of the 19th century that the town that is today recognizable as Ketchum was born.

In the 1860s silver was discovered near the headwaters of the Big Wood River, approximately 30 miles north of Ketchum, and the first droves of prospectors were drawn to the area to seek fortune, including a man named David Ketchum. Smelters to refine the miners' hauls were built south of the mining outposts, near the confluence of the Big Wood River and Warm Springs Creek, in an area that is within Ketchum city limits today. In the 1880s the town site took root. Originally named Leadville, the postal service urged a different name, since there were numerous community's named Leadville already established in the west. Legend has it that after a rowdy night spent in several of the thirteen saloons that existed in the town at the time, local settlers agreed to name the town Ketchum after David Ketchum, who was the first person to build a house in the town site. After the mining boom and subsequent bust, sheep herding, which had also been present in the Wood River Valley since the 1860s, became the de facto economic driver in the area; sheep herding was the reason for the town's continued existence in the decades that followed, until the fate of the town was forever changed in the 1930s.

During the winter of 1935-1936, officials of the Union Pacific Railroad searched for a place with ski-able terrain reminiscent of the burgeoning ski areas in Europe where the railroad could build a resort for its executives. After an extensive tour of the West, the Wood River Valley and the mountains surrounding Ketchum won out as the ideal place and the 4,300 acre Brass Ranch adjacent to the Ketchum town site was purchased. The Sun Valley Lodge and the world's first chair lifts were built in 1936, thus founding the first ski resort in American, Sun Valley Resort. Thanks to savvy marketing, Sun Valley quickly acquired an international reputation as a resort for the wealthy and famous and the resort business was well on its way to becoming the main industry for Ketchum and the Sun Valley area. The fact that legal gambling flourished during the period from 1937 to 1947 assured Ketchum a part of the resort's tourist and recreation business.

In 1964, the Janss Corporation purchased Sun Valley from Union Pacific, and a new era of rapid development began. Expansion of skiing facilities, development of summer recreation programs, and a building boom attracted more people to the area. Further national attention came to the Ketchum area in 1973 when it became the site for the headquarters of the Sawtooth National Recreation Area (SNRA).

More than one million visitors a year visit the SNRA, and most of them travel through Ketchum.

Earl Holding, of Sinclair Oil and Little America, bought the Sun Valley Resort in 1977. Under Mr. Holding's leadership, Sun Valley Company has increased snowmaking, built new lodges at the River Run and Warm Springs Base Areas, and on the mountain at Seattle Ridge and has replaced chair lifts, increasing both safety and capacity on Bald Mountain. The resort has been at the forefront of the ski industry and recently has been catering to a younger demographic with terrain features, skier cross and half-pipe competitions. The traditional visitor and resident experience has been enhanced with the construction of the Sun Valley Pavilion for the performing arts and improvements to the restaurants and lodge.

Ketchum invested heavily in infrastructure during the last two decades of the 20 century. The City expanded the water treatment and wastewater treatment plant and saw successful passage of the Local Options Tax (LOT). The LOT enabled us to create the Mountain Rides, expand community marketing, and make capital investments in roads, water, and sewer improvements and emergency services.

In recent years, Ketchum has also responded to the changing demographics, by focusing on more family/community-oriented events and resources such as the Ketchum Town Square, the Fourth Street Heritage Corridor, Ketchum Alive and other musical events, the YMCA, the Farmers Market, the bicycle pump park, and Idaho's Bounty locally grown food cooperative.

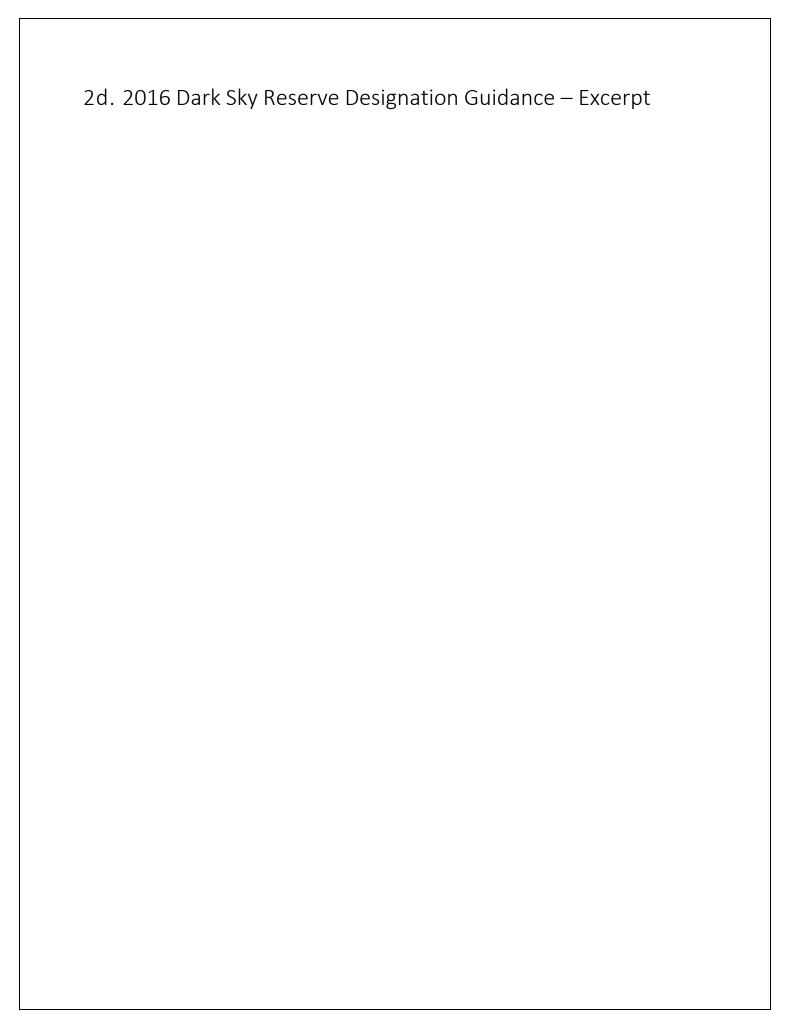
The City of Ketchum now actively pursues and supports organizations for sustainable living such as the Blaine County Housing Authority, Mountain Rides, the Sun Valley Marketing Alliance, the Ketchum Urban Renewal Agency, and the Ketchum Community Development Corporation. (City of Ketchum Comprehensive Plan, 2014)

Understanding Ketchum's Role in the Wood River Valley and Idaho

Ketchum is considered a vital piece of the Blaine County economy, serving as both a significant job center and tourist destination. For example, Ketchum accounts for approximately 15 percent of the Blaine County Population, but is home to the largest concentration of jobs in the county. In addition, Ketchum also serves as a gateway to Bald Mountain and Sun Valley Resort, and is the focal point of the valley's restaurant and entertainment industry.

Demographics

The City of Ketchum has a year round population of 2,689 as illustrated in the 2010 U.S. census (U.S. Census Bureau, 2010). Compared to Blaine County as a whole, Ketchum has a smaller average number of persons per unit than any other city in the County. Ketchum is often identified as an elderly or aging community with the average age of Ketchum residents around 39. (City of Ketchum Comprehensive Plan, 2014).





BOISE STATE UNIVERSITY

2016 Dark Sky Reserve Designation Guidance
Prepared for:
IDAHO CONSERVATION LEAGUE



Prepared By: Dawn
Brockett; Diane Donald;
Dani Dunstan; Kirstin
Mann; Kevin Richert;
Kim Young
Advised by: Monica
Hubbard

Named after trapper and guide David Ketchum, the city of Ketchum was supported economically by the mining boom and became one of the richest mining districts in the Northwest (History of Ketchum, 2016). However, this lasted only from 1880 to 1890, ending when the price of silver declined (History of Ketchum, 2016). Thus the city's new industry was born and sheepherding became its economic focus. By 1920, Ketchum had the largest sheep and lamb shipping station in the United States and second in the world (History of Ketchum, 2016).

The city began to flourish in 1935 as the Union Pacific Railroad came to town, bringing with it gambling opportunities until 1954 when the practice became banned (History of Ketchum, 2016).

Famous American author and Nobel-prize winner Ernest Hemingway lived and died in Ketchum and often found inspiration for his writings from Idaho's landscapes (Ketchum U.S. History, 2016). "Best of all, he loved the fall, the leaves yellow on the cottonwoods, leaves floating on

trout streams and above the hills the high blue windless skies . . . Now he will be a part of them forever."—Ernest Hemingway (U-S-History (n.d.). Ketchum)

In 1973, the Sawtooth Recreation Area opened its doors north of Ketchum, making Ketchum the gateway to the Sawtooths. Ketchum is now a year-round resort and recreation area (History of Ketchum, 2016).

Geography

The city of Ketchum is located within Blaine County, Idaho and sits at an elevation of 5,853 feet (1,784 meters) above sea level (Ketchum, 2016). Directly surrounding the city is Sun Valley. The City sits beneath Bald Mountain, which offers skiing along with breathtaking mountainous views.

Ketchum's scenic water attractions are also notable. The Big Wood River runs through the city and provides swimming, kayaking, and boating opportunities for its residents (Hansen, 2009). A variety of hot springs offer excellent settings for watching the night sky during cold winter nights.

Blaine County

History

Beginning in 1862, Blaine County's first settlers entered the Wood River region (as it is often called) during the country's mining boom (Blaine County History and Statistics, 2016). Residents began to permanently settle in 1879, the majority of whom were farmers (Blaine County History and Statistics, 2016). During the region's continued mining boom, an influx of Irish, Welsh, German and Chinese immigrants came in search of gold, silver and lead, radically growing the county's towns, such as Bellevue and Hailey (Blaine County History and Statistics, 2016). This led the Wood River region to become "Idaho Territory's most progressive area" (Blaine County History and Statistics, 2016).

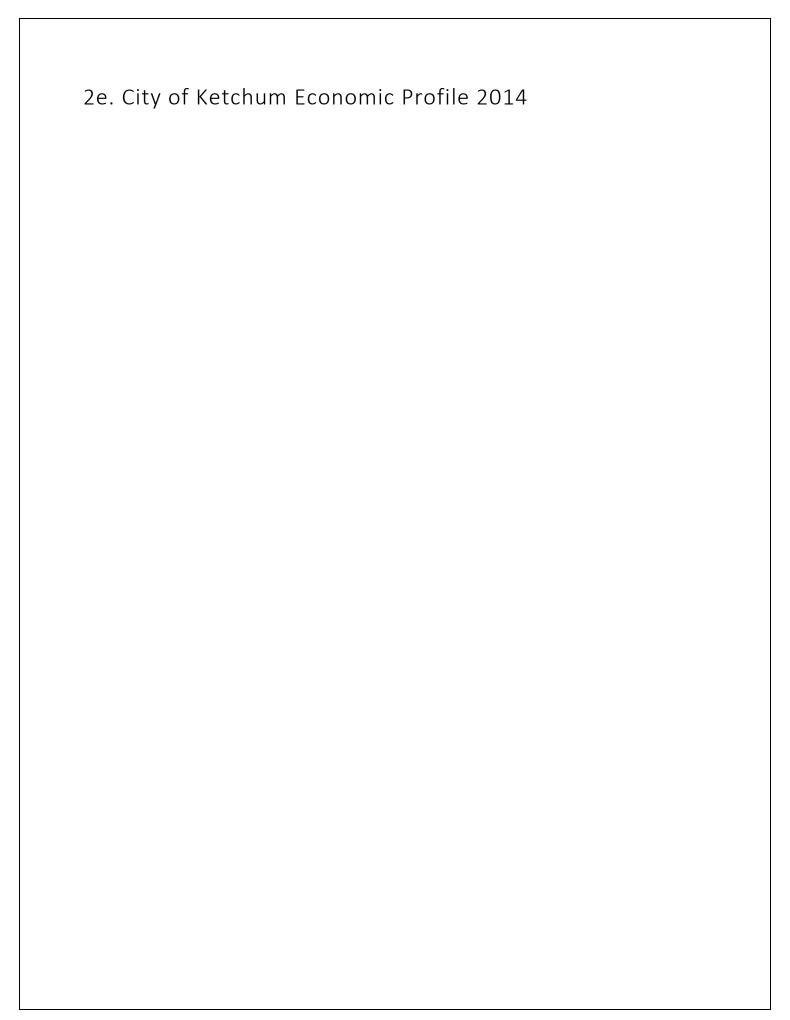
"Although not as prominent as the mining industry, a parallel economic force in the early years, starting in 1880, was the feeding and shipping of sheep" (Blaine County History and Statistics, 2016). The first sheep were brought into town by John Hailey in the late 1860s (Trailing of the Sheep, 2016). "By 1900, more than 2 million sheep had been raised or trailed through the Wood River Valley. Between 1910 and 1920, more than 1 million head of sheep a year were trailed through the area" making Ketchum one of the largest sheep shipping centers in the world, second only to Sydney, Australia (Trailing of the Sheep, 2016). As the role of sheep in Blaine County fades, the region still honors its history and heritage through its annual Trailing of the Sheep Festival, which allows visitors to walk the sheep migration route and experience key parts of the industry, such as sheepdog trials, sheep shearing demonstrations, and a parade culminating with sheep trailed through the streets of Ketchum on their way to be sold or moved to winter pasture (Trailing of the Sheep, 2016).

The region's next economic boom came during the construction of the Sun Valley Resort in 1936 (Blaine County History and Statistics, 2016). This first-class resort became the first of its kind in the United States. "The name 'Sun Valley' was coined by the Union Pacific Railroad publicist, Steve Hannagan, a warm weather fan who decided one of the Resort's outstanding features was its ample supply of sun" (Blaine County History and Statistics, 2016). Since then, the area has become famous for its year-round recreation, with world-class fly fishing on the Big Wood River and spring-fed Silver Creek, and other summer activities such as hiking, horseback riding and mountain biking (Blaine County History and Statistics, 2016). *Geography*

Blaine County is located in south Central Idaho and consists of five major cities: Bellevue, Carey, Hailey, Ketchum, and Sun Valley. It's often called the Wood River Region because of the Big and Little Wood rivers that flow through the area. Blaine County's "topography, geographic location and seasonal variation in climate create a unique and varied natural environment, ranging from the scenic, high alpine country in the north to the desolate lava plains and high-desert mountains in the south. As a recreational area, Blaine County is known throughout the World for the quality and beauty of its natural environment and recreational opportunities" (Blaine County History and Statistics, 2016).

One of the region's most distinctive geographical features is the Sawtooth National Forest. Blaine County offers a gateway to the Sawtooth National Recreation Area, which consists of 756,000 acres of scenic mountain country, 1,126 kilometers of trails, 40 peaks rising above 3 kilometers and more than 300 high mountain lakes (Sawtooth National Recreation Area, 2016). The reserve was created by President Theodore Roosevelt on May 29, 1905 and is often referred to as "The Switzerland of America" (Blaine County, Idaho Genealogy and History, 2016).

Blaine County is also home to other spectacular mountain ranges and rivers used often for summer recreation. The Salmon River and Snake River offer opportunities for summer whitewater rafting (Blaine County History and Statistics, 2016). Visitors can ski down Bald Mountain, often rated "one of the finest ski facilities in the United States" (Blaine County History and Statistics, 2016). "The Sawtooth, Boulder, Smokey, and Pioneer Mountain ranges provide high alpine country as beautiful and inspiring as any to be found in the United States and breathtaking heli-ski opportunities" (Blaine County History and Statistics, 2016).

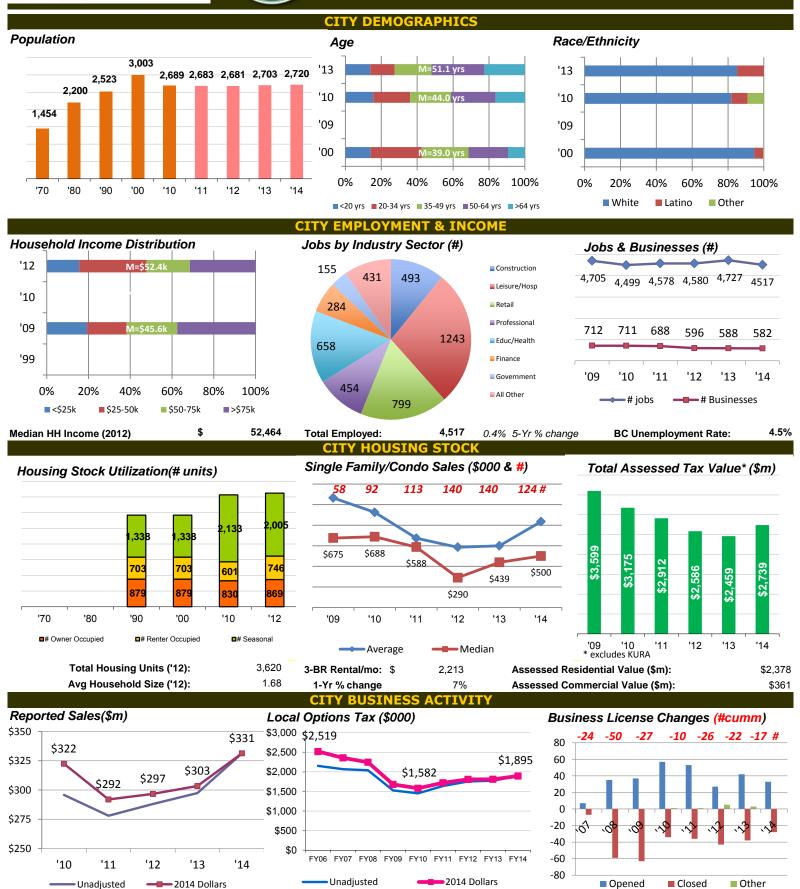


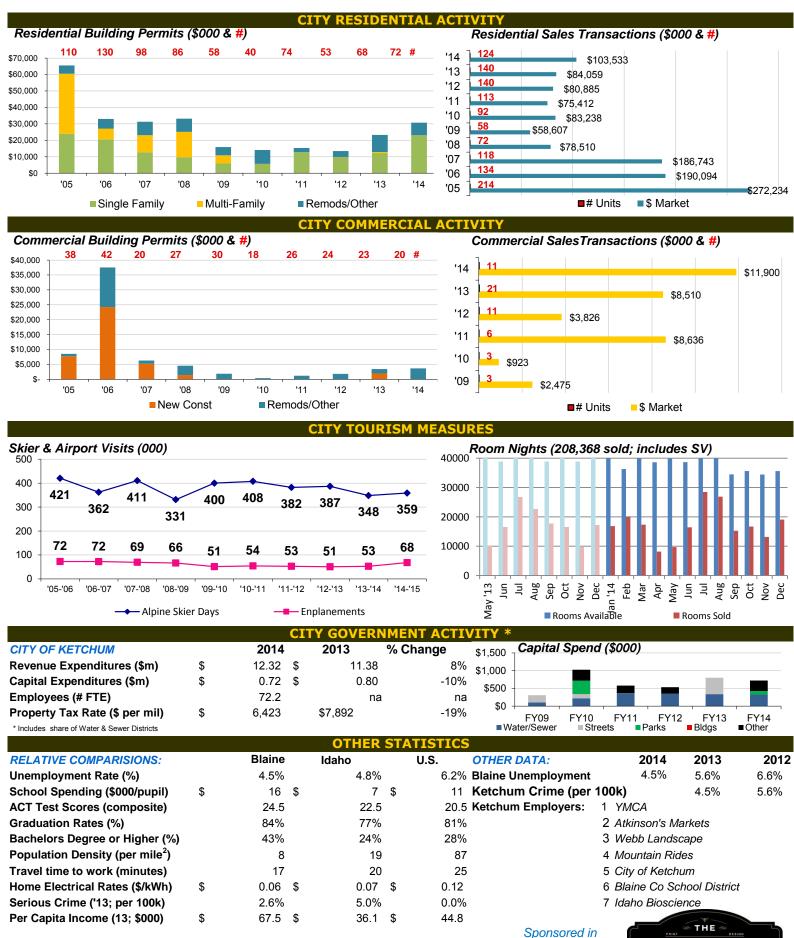




CITY OF KETCHUM

Economic Profile





part by the Copy Center

3. Dark Skies Ordinance

3a. Dark Skies Ordinance Overview

The purpose Dark Skies Chapter of Title 17 is to protect and promote the public health, safety and welfare, the quality of life, and the ability to view the night sky by establishing regulations and a process of review for exterior lighting. The city of Ketchum passed one of the first Dark Skies ordinances within the state of Idaho, and was among the first to do so in the west. The previous Dark Skies chapter has been in place since June 30th, 1999 and the benefits are readily experienced by residents and visitors alike within the city of Ketchum.

In this section you will find a discussion on how the city of Ketchum's Dark Skies Ordinance meets the standards established by the International Dark Skies Association, the original Dark Skies Ordinance, the current ordinance, and examples of how the current ordinance is enforced.

"Fully-shielded or full-cutoff standard for all lighting fixtures over 1500 lumens initial lamp output (or equivalent wattages)."

All exterior lighting shall be full-cutoff and fully-shielded, regardless of lumens initial lamp output (reference City standard 17.132.030.H.1), with the following exemptions:

- Holiday Lighting
- Flagpole Lighting
- Floodlights
- Neon Lights
- Temporary Emergency Lighting
- Towers for Radio Communication/Navigation

Note: See definitions for detail on each item listed as exempt from the full cutoff fully shielded standard. Additionally, neon lights, floodlights, and towers for radio communication/navigation are not exempt from light trespass standards.

"Establishes a threshold of 3000 Kelvins for the allowable correlated color temperature of all lighting fixtures."

The established threshold for the allowable correlated color temperature of all lighting fixtures is 2700 Kelvin (reference City standard 17.132.030.A).

"Restrictions on total amount of unshielded lighting, such as a limit on lumens per acre or total site lumens in unshielded fixtures (or equivalent wattages)

This standard is addressed by the intersection of multiple sections of the City's Dark Skies Ordinance. See the following below:

- 17.132.030. H.1 All exterior lighting shall comply with the acceptable lighting fixtures located in Figure 2. All exterior lighting fixtures shall be full cutoff fixtures with the light source fully shielded, except as exempted in this chapter.
- 17.132.030. B Light Trespass and Overlighting: All existing and/or new exterior lighting shall not cause light trespass and shall protect adjacent properties from glare and excessive lighting. All vehicle lighting originating from a commercial property shall be shielded from other adjacent properties. Incidental light trespass (lighting emanating from turning motor vehicles or motion sensor lighting) is permitted.
 - 1. All lighting emitting from any zoning lot shall not cause the light level along any property line, as measured at a height of 60 inches above grade in a plane at any angle of inclination, to exceed the limitations listed in Figure 1: light trespass Matrix.

The restriction on total amount of unshielded lighting is addressed through the intersection of the requirement that all exterior lighting be full-cutoff and fully shielded, with the exceptions listed above, and the City's light trespass standards. All lighting standards are enforced throughout the permitting process and through complaints from members of the public.

A policy to address over-lighting, such as energy density caps, lumens/acre caps, or maximum illuminance specifications."

17.132.030.C. IESNA Guidelines: The Commission or Administrator may require that any new lighting or existing lighting that comes before them meet the standards for maximum Illuminance output as established by IESNA.

"A provision that clearly: (1) indicates where, when, and under what circumstances new public outdoor lighting (street lighting and lighting on other public property and rights-of-way) is warranted and will be permitted, and (2) requires that adaptive controls and curfews be employed in all future installations of public outdoor lighting."

1) The city will commit to changing all lighting within the city rights of way and on city owned property to meet the requirements of this chapter when luminaires expire. (Reference City standard 17.132.060).

Note: For further clarification on where, when, and under what circumstances new public outdoor lighting is warranted see the attached Memo from the City of Ketchum Planning and Building Department located in section 5b.

(2) Public Outdoor Lighting: Public outdoor lighting, including holiday lighting, shall be permitted to ensure the safety and enjoyment of the intended public use. All public lighting shall comply with the standards established herein and shall be turned off after hours of operation or when not in use. When practically possible, motion sensors may be used. Public Outdoor Lighting is exempt from lighting curfews and exempt from section 17.132.030B of this chapter. (Reference City standard 17.132.030.G).

3b. Excerpt from Title 17.08 Definitions

AREA LIGHT: Light that produces over one thousand eight hundred (1,800) lumens (see addendum 1, on file in the Ketchum planning department, for light output of various lamps). Area lights include, but are not limited to, streetlights, parking lot lights and yard lights.

AVERAGE FOOT-CANDLE: The level of light measured at an average point of illumination between the brightest and darkest areas. The measurement can be made at the ground surface or at four (4) to five feet (5') above the ground.

BEACON: Any light with one or more beams directed at the sky or at points not on the same lot as the source and also any light with one or more beams that move.

BULB: The source of electric light, to be distinguished from the whole assembly (see definition of Luminaire).

CANDELA (cd): Unit of luminous intensity.

EIGHTY FIVE DEGREE FULL CUTOFF TYPE FIXTURES: Fixtures that do not allow light to escape above an eighty five degree (85°) angle measured from a vertical line from the center of the lamp extended to the ground.

EXISTING LIGHTING: Any and all lighting installed prior to the effective date hereof.

EXTERIOR LIGHTING: Temporary or permanent lighting that is installed, located or used in such a manner to cause light rays to shine outside. Fixtures that are installed indoors that are intended to light something outside are considered exterior lighting for the intent of this chapter.

FLOODLIGHT: Light that produces up to one thousand eight hundred (1,800) lumens (see addendum 1, attached to ordinance 743, for light output of various lamps) and is designed to flood a well-defined area with light. Generally, floodlights produce from one thousand (1,000) to one thousand eight hundred (1,800) lumens.

FLUX (RADIANT FLUX): Unit is erg/sec or watts.

FOOT-CANDLE: Illuminance produced on a surface one foot (1') from a uniform point source of one candela, measured by a light meter.

FULL CUTOFF FIXTURES: Fixtures, as installed, that are designed or shielded in such a manner that all light rays emitted by the fixture, either directly from the lamps or indirectly from the fixture, are projected below a horizontal plane running through the lowest point on the fixture where light is emitted (see section <u>17.132.020</u>, figure 1 of this title).

HOLIDAY LIGHTING: Festoon type lights, limited to small individual bulbs on a string, where the spacing of bulbs is not closer than three inches (3") and where the output per bulb is no greater than fifteen (15) lumens.

ILLUMINANCE: Density of luminous flux incident on a surface. Unit is foot-candle or lux.

ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IES OR IESNA): The professional society of lighting engineers, including those from manufacturing companies, and others professionally involved in lighting.

LAMP: The source of electric light; the bulb and its housing. To be distinguished from the whole assembly (see definition of Luminaire).

LIGHT: The form of radiant energy acting on the retina of the eye to make sight possible; brightness, illumination, a "lamp", as defined in this section.

LIGHT POLLUTION: Any adverse effect of manmade light including, but not limited to, light trespass, uplighting, the uncomfortable distraction to the eye, or any manmade light that diminishes the ability to view the night sky; often used to denote urban sky glow.

LIGHT TRESPASS: Light falling where it is not wanted or needed, generally caused by a light on a property that shines onto the property of others.

LIGHTING: Any or all parts of a luminaire that function to produce light.

LUMEN: Unit of luminous flux; the flux emitted within a unit solid angle by a point source with a uniform luminous intensity of one candela. One foot-candle is one lumen per square foot. One lux is one lumen per square meter.

LUMINAIRE: The complete lighting unit, including the lamp, the fixture, and other parts.

LUMINANCE: At a point and in a given direction, the luminous intensity in the given direction produced by an element of the surface surrounding the point divided by the area of the projection of the element on a plane perpendicular to the given direction; units: candelas per unit area. The "luminance" is the perceived brightness that we see, the visual effect of the illuminance, reflected, emitted or transmitted from a surface.

PARTIALLY SHIELDED: The bulb of the fixture is shielded by a translucent siding, and the bulb is not visible at all. Light may be emitted at the horizontal level of the bulb (see section <u>17.132.020</u>, figure 3 of this title).

RECESSED: When a light is built into a structure or portion of a structure such that the light is fully cut off and no part of the light extends or protrudes beyond the underside of a structure

or portion of a structure. SHIELDED: When the light emitted from the fixture is projected below a horizontal plane running through the lowest point of the fixture where light is emitted. The bulb is not visible with a shielded light fixture, and no light is emitted from the sides of the fixture; also considered a full cutoff fixture (see section 17.132.020, figure 4 of this title). TEMPORARY LIGHTING: Lighting that is intended to be used for a special event for seven (7) days or less. UPLIGHTING: Lighting that is directed in such a manner as to shine light rays above the horizontal plane.

3c. 2017 Dark Skies Ordinance

Chapter 17.132

DARK SKIES

17.132.010: GENERAL PROVISIONS:

- A. Title: This chapter, together with the amendments codified in this chapter, shall be known and may be cited as the KETCHUM DARK SKY ORDINANCE.
- B. Purposes: The general purpose of this chapter is to protect and promote the public health, safety and welfare, the quality of life, and the ability to view the night sky by establishing regulations and a process of review for exterior lighting. This chapter establishes standards for exterior lighting in order to accomplish the following:
 - 1. To protect against direct glare and excessive lighting;
 - 2. To provide safe roadways for motorists, cyclists and pedestrians;
 - 3. To protect and reclaim the ability to view the night sky, and help preserve the quality of life and the tourist experience;
 - 4. To prevent light trespass in all areas of the city;
 - 5. To promote efficient and cost effective lighting;
 - 6. To ensure that sufficient lighting can be provided where needed to promote safety and security;
 - 7. To allow for flexibility in the style of lighting fixtures;
 - 8. To provide lighting guidelines;
 - 9. To provide assistance to property owners and occupants in bringing nonconforming lighting into conformance with this chapter; and
 - 10. To work with other jurisdictions within Blaine County to meet the purposes of this chapter.
- C. Scope: All exterior lighting installed after the effective date hereof in any and all zoning districts in the city shall be in conformance with the requirements established by this chapter and any other applicable ordinances. All existing lighting installed prior to the effective date hereof in any and all zoning districts in the city shall be addressed as follows:
 - 1. All existing lighting located on a subject property that is part of an application for a city planning department design review, conditional use, subdivision permit, or building permit is required to be brought into conformance with this chapter. Conformity shall occur prior to issuance of a certificate of occupancy, final inspection or final plat recordation, when applicable. For other permits, the applicant shall have a maximum of thirty (30) days from date of permit issuance to bring the lighting into conformance.
 - 2. All existing exterior commercial lighting that is not in conformance with this chapter shall be brought into conformance with this chapter by June 30, 2018.
 - 3. All existing lighting that does not meet the requirement of section 17.124.060 of this title, which states that "any parking, yard or building illumination in (any) zoning (district) shall be so directed as to protect adjacent properties from glare and direct lighting", is required to be brought into conformance with section 17.132 of this title.
 - 4. All existing exterior residential lighting, not affected by subsections C1 and C3 of this section, that does not comply with this chapter is required to be brought into conformance with this chapter by June 30, 2019.
 - 5. In the event of a discrepancy in applicable ordinances, the most restrictive shall apply.

17.132.020: Applicability

- A. The commission, the building official and/or the administrator shall have the authority to require new lighting and existing lighting pursuant to subsection <u>17.132.010.</u>C.1 of this chapter to meet the requirements of this chapter.
- B. Lighting Plans Required: All applications for design review, conditional use, subdivision and/or building permits shall include lighting plans showing location, type, height, color temperature, lumen output and amount of all proposed and existing fixtures. The applicant shall provide enough information to verify that lighting conforms to the provisions of this chapter. The administrator, commission and/or building official shall have the authority to request additional information in order to achieve the purposes of this chapter.

17.132.030: Lighting Standards

- A. Color Temperature: All exterior lighting shall utilize light sources not to exceed 2700 kelvin.
- B. Light Trespass and Overlighting: All existing and/or new exterior lighting shall not cause light trespass and shall protect adjacent properties from glare and excessive lighting. All vehicle lighting originating from a commercial property shall be shielded from other adjacent properties. Incidental light trespass (lighting emanating from turning motor vehicles or motion sensor lighting) is permitted.
 - 1. All lighting emitting from any zoning lot shall not cause the light level along any property line, as measured at a height of 60 inches above grade in a plane at any angle of inclination, to exceed the limitations listed in Figure 1: Light Trespass Matrix.

Figure 1: Light Trespass and Overlighting Matrix

Zone of Light Source	Impacted Zone	Maximum Foot- Candle Limits
Non-commercial	Non-commercial	0.1 foot-candles
(LR, LR-1, LR-2,GR-L,GR-H,STO4, STO-	(LR, LR-1, LR-2,GR-L,GR-H,STO4,	
1,STO-H,RU,AF)	STO-1,STO-H,RU,AF)	
Non-commercial	Commercial Zones	0.5 foot-candles
(LR, LR-1, LR-2,GR-L,GR-H,STO4, STO-	(CC, T,T-3000, T-4000, LI-1,LI-2,LI-3)	
1,STO-H,RU,AF)		
Commercial Zones	Non-commercial	0.1 foot-candles
(CC, T,T-3000, T-4000, LI-1,LI-2,LI-3)	(LR, LR-1, LR-2,GR-L,GR-H,STO4,	
	STO-1,STO-H,RU,AF)	
Commercial Zones	Commercial Zones	0.5 foot-candles
(CC, T,T-3000, T-4000, LI-1,LI-2,LI-3)	(T,T-3000, T-4000, LI-1,LI-2,LI-3)	
Community Core (CC)	Community Core (CC)	No limit

- C. IESNA Guidelines: The commission or Administrator may require that any new lighting or existing lighting that comes before them meet the standards for maximum Illuminance output as established by IESNA.
- D. Nonessential Exterior Commercial and Residential Lighting: All nonessential exterior commercial and residential lighting shall be turned off after business hours and/or when not in use. Lights on a timer shall be used. Sensor activated lights shall be used to replace existing lighting that is

desired for security purposes.

E. Area Lights:

- 1. All area lights, including streetlights and parking area lighting, shall be level mounted and eighty-five degrees (85°) full cutoff type fixtures.
- 2. Residential Streetlights shall be limited to one-thousand two hundred (1125) lumens, unless otherwise recommended by the Public Works Department.
- 3. Nonresidential Streetlights shall be limited to one-thousand five hundred (1500) lumens, unless otherwise recommended by the Public Works Department.
- 4. Lights on major intersections on state highways shall be limited to three-thousand (3000) lumens, unless otherwise recommended by the Public Works Department.
- 5. Parking area lights are encouraged to be greater in number, lower in height and lower in light level, as opposed to fewer in number, higher in height and higher in light level.

 Parking lot lighting shall not exceed IESNA recommended illuminance (foot-candle) level and are encouraged to utilize the lowest range available.
- 6. All freestanding area lights within a residential zone, except streetlights, shall be mounted at a height equal to or less than the value 3 + (D/3), where D is the distance in feet to the nearest property boundary.
- 7. Luminaire Mounting Height: Freestanding luminaires shall be no higher than twenty-five feet (25') above the stand/pole base; except, that luminaires used for playing fields shall be exempt from the height restriction, provided all other provisions of this chapter are met and the light is used only while the field is in use; and except, that streetlights used on major roads may exceed this standard if necessary as determined by the city council, as advised by a lighting engineer. Building mounted luminaires shall be attached only to walls, and the top of the fixture shall not exceed the height of the parapet or roof, whichever is greater.
- 8. Area lights on a timer, sensor activated, or turned off at 10:30 pm are exempt from section 17.132.030B of this chapter, provided all other standards of this section are met.
- F. Uplighting: Uplighting is prohibited in all zoning districts, except as where permitted in this chapter.
- G. Public Outdoor Lighting: Public outdoor lighting, including holiday lighting, shall be permitted to ensure the safety and enjoyment of the intended public use. All public lighting shall comply with the standards established herein and shall be turned off after hours of operation or when not in use. When practically possible, motion sensors may be used. Public Outdoor Lighting is exempt from lighting curfews and exempt from section 17.132.030B of this chapter.

H. Lighting Fixtures:

- 1. All exterior lighting shall comply with the acceptable lighting fixtures located in Figure 2. All exterior lighting fixtures shall be full cutoff fixtures with the light source fully shielded, except as exempted in this chapter.
- 2. The following figures and information sheets shall be incorporated into this chapter as guidelines for the public and the city for use in meeting the intent of this chapter. The figures and information sheets only serve as examples. The city does not endorse or discriminate against any manufacturer or company that may be shown, portrayed or mentioned by the examples. Additional information is provided at the Ketchum planning department.

Figure 2: Lighting Fixture Guidelines

Examples of Acceptable / Unacceptable Lighting Fixtures



I. Lighting Fixture Exceptions and Additional Requirements

Type of Lighting	Full Cutoff	Light Trespass	Additional Requirements
	<u>Light</u>	<u>Standards</u>	
	<u>Fixture</u>		
Canopy Lighting	Required	Not exempt	- All canopy lighting shall be recessed sufficiently so as to ensure that no light source is visible from or causes glare on public rights of way or adjacent property.
Holiday Lights	Not Required	Exempt	 Shall only be displayed from November 20th to March 20th. Exempt from color temperature requirements set forth in this chapter. All new holiday lighting shall be LED lighting, or bulb that has been demonstrated to be the most energy efficient technology available. Flashing holiday lighting is permitted. All private holiday lighting shall be turned off at the close of business hours in the Community Core zoning district, and after 10:30PM in all other zoning districts. Outdoor Public lighting shall not be subject to holiday lighting curfew.
Flagpole Lighting	Not Required	Exempt	 Upward flagpole lighting is permitted for governmental flags only. The maximum lumen output shall be one thousand three hundred (1,300) lumens. Flags are encouraged to be taken down at sunset to avoid the need for lighting.
Floodlights	Not Required	Not Exempt	 Floodlights with external shielding shall be angled provided that no light escapes above a 25-degree angle measured from the vertical line from the center of the light extended to the ground. Floodlights shall not cause glare or light to shine directly on adjacent property or public rights of way. Shall be encouraged to be motion sensor activated.
Neon Lights	Not Required	Not Exempt	- Neon Lights: Neon lights are only permitted pursuant to the sign ordinance, chapter 17.127 of this title.
Sensor Activated Lighting	Required	Exempt	- Shall be located so as to prevent lighting into adjacent properties or into a public right of way.

			 Lighting shall activate only when motion on the property is detected and shall deactivate within no more than five (5) minutes. Lighting shall not be triggered by any activity off the property or in the public right of way. The maximum lumen output shall be 600 lumens.
Temporary Lighting	Required	Exempt	- Lumens output shall be approved by the Administrator.
Temporary emergency lighting	Not Required	Exempt	- Utilized by public safety services. Exempt from provisions of this chapter.
Highway 75 lighting	Required	Exempt	- Correlated Color temperature 2700 kelvin.

J. Additional Development Restrictions

Development	Full Cutoff Light Fixture	Light Trespass Standards	Additional Requirements
Motor Vehicle Fueling Stations and Motor Vehicle Service Stations	Required	Not Exempt	- The average foot-candle lighting level at the pump for new and existing service stations is required to be no greater than thirty (30) foot- candle average, as set by the IESNA for urban service stations.
Towers for Radio Communication and Navigation	Not Required	Not Exempt	 All radio, communication and navigation towers that require lights shall have dual lighting capabilities. For daytime, the white strobe light may be used, and for nighttime, only red lights shall be used. Lighting that is required by legal jurisdictions are exempt from this provision.

17.132.040: PROHIBITED LIGHTING

- A. Any light source that does not meet the requirements of this chapter.
- B. Searchlights, beacons, laser source, and other high-intensity light fixtures.
- C. Except as otherwise allowed by this title, any lighting that is flashing, blinking, rotating, chasing, or rapidly changing in color or intensity is prohibited.

17.132.050: NOTIFICATION:

A. The city building and planning department permits shall include a statement asking whether the subject property of the proposed work includes any exterior lighting.

17.132.060: THE CITY'S ROLE:

A. The city will commit to changing all lighting within the city rights of way and on city owned property to meet the requirements of this chapter when luminaires expire.

3d. 1999 Dark Skies Ordinance

Chapter 17.132

DARK SKIES

17.132.010: GENERAL PROVISIONS:

17.132.020: CRITERIA: 17.132.030: NOTIFICATION:

17.132.030: NOTIFICATION: 17.132.040: THE CITY'S ROLE:

17.132.050: VIOLATIONS, LEGAL ACTIONS AND PENALTIES:

17.132.010: GENERAL PROVISIONS:

A. Title: This chapter, together with the amendments codified in this chapter, shall be known and may be cited as the KETCHUM DARK SKY ORDINANCE.

- B. Purposes: The general purpose of this chapter is to protect and promote the public health, safety and welfare, the quality of life, and the ability to view the night sky by establishing regulations and a process of review for exterior lighting. This chapter establishes standards for exterior lighting in order to accomplish the following:
 - 1. To protect against direct glare and excessive lighting;
 - 2. To provide safe roadways for motorists, cyclists and pedestrians;
 - 3. To protect and reclaim the ability to view the night sky, and help preserve the quality of life and the tourist experience;
 - 4. To prevent light trespass in all areas of the city;
 - 5. To promote efficient and cost effective lighting;
 - 6. To ensure that sufficient lighting can be provided where needed to promote safety and security;
 - 7. To allow for flexibility in the style of lighting fixtures;
 - 8. To provide lighting guidelines;
 - 9. To provide assistance to property owners and occupants in bringing nonconforming lighting into conformance with this chapter; and
 - 10. To work with other jurisdictions within Blaine County to meet the purposes of this chapter.
- C. Scope: All exterior lighting installed after the effective date hereof in any and all zoning districts in the city shall be in conformance with the requirements established by this chapter and any other applicable ordinances. All existing lighting installed prior to the effective date hereof in any and all zoning districts in the city shall be addressed as follows:
- 1. All existing lighting located on a subject property that is part of an application for a city planning department design review, conditional use, subdivision permit, or building permit is required to be

brought into conformance with this chapter. Conformity shall occur prior to issuance of a certificate of occupancy, final inspection or final plat recordation, when applicable. For other permits, the applicant shall have a maximum of thirty (30) days from date of permit issuance to bring the lighting into conformance.

- 2. All existing exterior commercial lighting that is not in conformance with this chapter shall be brought into conformance with this chapter by June 30, 2000.
- 3. All existing lighting that does not meet the requirement of section 17.124.060 of this title, which states that "any parking, yard or building illumination in (any) zoning (district) shall be so directed as to protect adjacent properties from glare and direct lighting", is required to be brought into conformance with section 17.124.060 of this title.
- 4. All existing exterior residential lighting, not affected by subsections C1 and C3 of this section, that does not comply with this chapter is required to be brought into conformance with this chapter by June 30, 2001.
- 5. In the event of a discrepancy in applicable ordinances, the most restrictive shall apply. (Ord. 1135, 2015)

17.132.020: CRITERIA:

The commission, the building official and/or the administrator shall have the authority to require new lighting and existing lighting pursuant to subsection 17.132.010C1 of this chapter to meet the requirements of this chapter.

A. Lighting Plans Required: All applications for design review, conditional use, subdivision and/or building permits shall include lighting plans showing location, type, height and lumen output of all proposed and existing fixtures. The applicant shall provide enough information to verify that lighting conforms to the provisions of this chapter. The administrator, commission and/or building official shall have the authority to request additional information in order to achieve the purposes of this chapter.

- B. Full Cutoff Fixtures: All exterior lighting shall be full cutoff fixtures with the light source fully shielded, with the following exceptions:
- 1. Luminaires that have a maximum output of two hundred sixty (260) lumens per fixture, regardless of number of bulbs (equal to one 20- watt incandescent light), may be left unshielded, provided the fixture has an opaque top to keep light from shining directly up (see figure 5 of this section).
- 2. Luminaires that have a maximum output of one thousand (1,000) lumens per fixture, regardless of number of bulbs (equal to one 60-watt incandescent light) may be partially shielded, provided the bulb is not visible, and the fixture has an opaque top to keep light from shining directly up (see figure 3 of this section).
- 3. Floodlights with external shielding may be angled; provided, that no light escapes above a twenty five degree (25°) angle measured from the vertical line from the center of the light extended to the ground, and only if the light does not cause glare or light to shine on adjacent property or public rights of way (see figure 6 of this section). Floodlights with directional shielding are encouraged (see figure 7 of this section). Photocells with timers that allow a floodlight to go on at dusk and off by eleven o'clock (11:00) P.M. are encouraged.

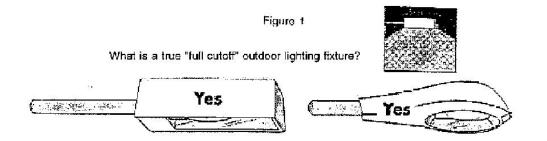
- 4. "Holiday lights", as defined in chapter 17.08 of this title, are exempt from the requirements of this chapter for the six and one-half (6 1/2) month period from November 1 to April 15; except, that flashing holiday lights are prohibited on commercial properties. Flashing holiday lights on residential properties are discouraged. Holiday lights are encouraged to be turned off after bedtime and after close of businesses.
- 5. Sensor activated lighting may be unshielded, provided it is located in such a manner as to prevent direct glare and lighting into properties of others or into a public right of way, and provided the light is set to only go on when activated and to go off within five (5) minutes after activation has ceased, and the light shall not be triggered by activity off the property.
- 6. Vehicle lights and all temporary emergency lighting needed by the fire and police departments or other emergency services shall be exempt from the requirements of this chapter.
- C. Light Trespass: It is the intent of this chapter to eliminate and prevent light trespass through the proper installation of lighting fixtures. All existing and/or new exterior lighting shall not cause light trespass and shall be such as to protect adjacent properties from glare and excessive lighting.
- D. IESNA Guidelines: The commission may require that any new lighting or existing lighting that comes before them meet the standards for foot-candle output as established by IESNA.
- E. Nonessential Exterior Commercial And Residential Lighting: All nonessential exterior commercial and residential lighting is encouraged to be turned off after business hours and/or when not in use. Lights on a timer are encouraged. Sensor activated lights are encouraged to replace existing lighting that is desired for security purposes.

F. Area Lights:

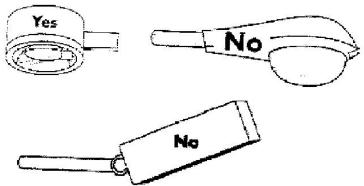
- 1. All area lights, including streetlights and parking area lighting, shall be full cutoff fixtures and are encouraged to be eighty five degree (85°) full cutoff type fixtures. Streetlights shall be in accordance with the Idaho Power franchise agreement and/or the light conformance schedule adopted by resolution by the city council. Streetlights shall be high pressure sodium, low pressure sodium or metal halide, unless otherwise determined by the council that another type is more efficient. Streetlights along residential streets shall be limited to a seventy (70) watt high pressure sodium (hps) light. Streetlights along nonresidential streets or at intersections shall be limited to one hundred (100) watts hps; except, that lights at major intersections on state highways shall be limited to two hundred (200) watts hps. If the council permits a light type other than high pressure sodium, then the equivalent output shall be the limit for the other light type (see addendum 1, on file in the Ketchum planning department); for example: a one hundred (100) watt high pressure sodium lamp has a roughly equivalent output as a fifty five (55) watt low pressure sodium lamp or a one hundred (100) watt metal halide lamp.
- 2. Parking area lights are encouraged to be greater in number, lower in height and lower in light level, as opposed to fewer in number, higher in height and higher in light level. Parking lot lighting shall not exceed IESNA recommended foot-candle levels.
- 3. All freestanding area lights within a residential zone, except streetlights, shall be mounted at a height equal to or less than the value 3 + (D/3), where D is the distance in feet to the nearest property boundary.
- G. Luminaire Mounting Height: Freestanding luminaires shall be no higher than twenty five feet (25') above the stand/pole base; except, that luminaires used for playing fields shall be exempt from the height

restriction, provided all other provisions of this chapter are met and the light is used only while the field is in use; and except, that streetlights used on major roads may exceed this standard if necessary as determined by the city council, as advised by a lighting engineer. Building mounted luminaires shall be attached only to walls, and the top of the fixture shall not exceed the height of the parapet or roof, whichever is greater.

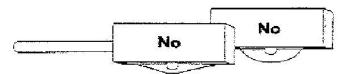
- H. Uplighting: Uplighting is prohibited in all zoning districts, except in cases where the fixture is shielded by a roof overhang or similar structural shield from the sky, and an Idaho licensed architect or engineer has stamped a prepared lighting plan that ensures that the light fixture(s) will not cause light to extend beyond the structural shield, and except as specifically permitted in this chapter.
- I. Flagpoles: Upward flagpole lighting is permitted for governmental flags only; and provided, that the maximum lumen output is one thousand three hundred (1,300) lumens. Flags are encouraged to be taken down at sunset to avoid the need for lighting.
- J. Service Stations: The average foot-candle lighting level for new and existing service stations is required to be no greater than thirty (30) foot- candles, as set by the IESNA for urban service stations.
- K. Canopy Lights: All lighting shall be recessed sufficiently so as to ensure that no light source is visible from or causes glare on public rights of way or adjacent property.
- L. Landscape Lighting: Lighting of vegetation is discouraged and shall be in conformance with this chapter. Uplighting is prohibited.
- M. Towers: All radio, communication and navigation towers that require lights shall have dual lighting capabilities. For daytime, the white strobe light may be used, and for nighttime, only red lights shall be used.
- N. Temporary Lighting: Temporary lighting that conforms to the requirements of this chapter shall be allowed. Nonconforming temporary exterior lighting may be permitted by the administrator only after considering: 1) the public and/or private benefits which will result from the temporary lighting; 2) any annoyance or safety problems that may result from the use of the temporary lighting; and 3) the duration of the temporary nonconforming lighting. The applicant shall submit a detailed description of the proposed temporary nonconforming lighting to the administrator. The administrator shall provide written notice of said request to owners of property immediately adjacent to the subject property. Said notice shall inform adjacent property owners they may comment on the request during a period of not less than ten (10) days after mailing of the notice and prior to final action on said request.
- O. Neon Lights: Neon lights are only permitted pursuant to the sign ordinance, chapter 17.127 of this title.
- P. Figures: The following figures and information sheets shall be incorporated into this chapter as guidelines for the public and the city for use in meeting the intent of this chapter. The figures and information sheets only serve as examples. The city does not endorse or discriminate against any manufacturer or company that may be shown, portrayed or mentioned by the examples. Additional information is provided at the Ketchum planning department.



Flat glass lens, eliminates or minimizes direct glare, no upward throw of light. The housing for these fixtures is available in may styles.



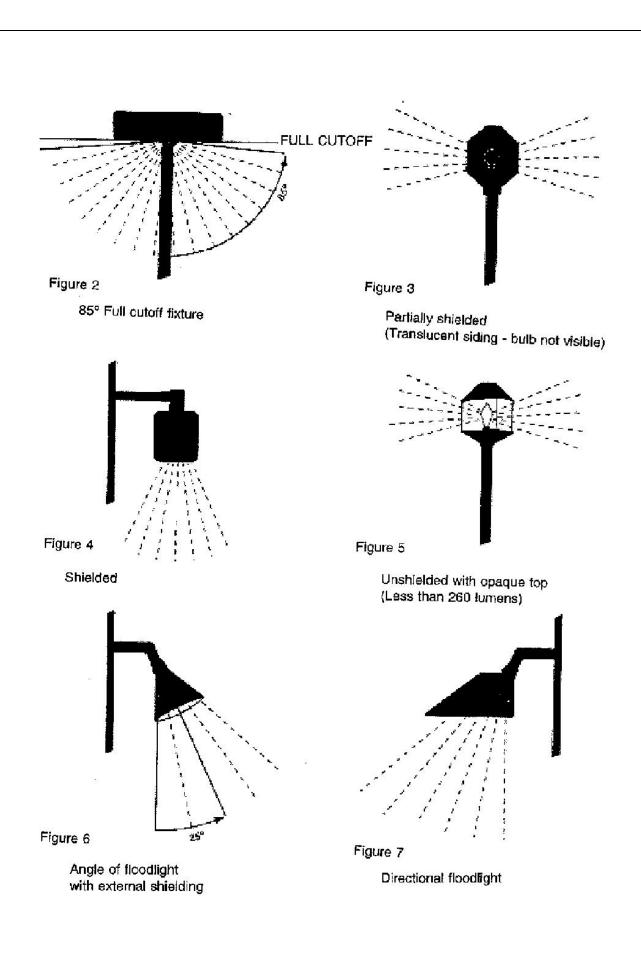
Same fixture as above mounted incorrectly - defeating the horizontal mounting design. The fixture now produces direct glare, and can also produce uplight at steeper mounting angles.



Known as just "cutoff". Center "drop" or "sag' lens with or without exposed bulb, produces direct glare.



Forward throw style. Exposed bulb in the forward direction produces some direct glare.



17.132.030: NOTIFICATION:

A. The city building and planning department permits shall include a statement asking whether the subject property of the proposed work includes any exterior lighting. (Ord. 1135, 2015)

17.132.040: THE CITY'S ROLE:

A. The city will commit to changing all lighting within the city rights of way and on city owned property to meet the requirements of this chapter through the franchise agreement with the power company and/or through the light conformance schedule adopted by resolution by the council.

B. The city will assist property owners and/or occupants to correct any nonconforming lighting through consulting with the owner/occupant and assisting in the provision of shields. (Ord. 1135, 2015)

17.132.050: VIOLATIONS, LEGAL ACTIONS AND PENALTIES:

A. Violations And Legal Actions: If, after investigation, the administrator finds that any provision of this chapter is being violated, the administrator shall give notice by hand delivery or by certified mail, return receipt requested, of such violation to the owner and/or to the occupant of such premises, demanding that the violation be abated within thirty (30) days of the date of hand delivery or of the date of mailing of the notice. The planning department staff shall be available to assist in working with the violator to correct such violation. If the violation is not abated within the thirty (30) day period, the administrator may institute actions and proceedings, either legal or equitable, to enjoin, restrain or abate any violations of this chapter and to collect the penalties for such violations.

B. Penalty: A violation of this chapter, or any provision thereof, shall be punishable by a civil penalty of one hundred dollars (\$100.00), and each day of violation after the expiration of the thirty (30) day period provided in subsection A of this section shall constitute a separate offense for the purpose of calculating the civil penalty. (Ord. 1135, 2015)

3e. Success in Light Pollution Control

"Examples of a minimum of ten projects built under the lighting code, demonstrating effective application of the local lighting code."

Ketchum has a history of preserving the night sky that stretches back to 1999. The enforcement of the City's lighting ordinance is upheld via a combination of the permitting process on the front end and maintained via a complaint driven enforcement approach. This section contains a description of the enforcement process and local examples of projects that have been completed under the current ordinance.

Light Pollution Control Process

All new projects constructed within the City of Ketchum must have lighting that complies with the City's Dark Sky Ordinance. Per code Section 17.132.010.C.1 1. All existing lighting located on a subject property that is part of an application for a city planning department design review, conditional use, subdivision permit, or building permit is required to be brought into conformance with this chapter. Conformity shall occur prior to issuance of a certificate of occupancy, final inspection or final plat recordation, when applicable. For other permits, the applicant shall have a maximum of thirty (30) days from date of permit issuance to bring the lighting into conformance. All exterior lighting is inspected by the Planning & Building staff, prior to the issuance of a Certificate of Occupancy, to ensure that all exterior lighting is compliant with the Dark Skies Ordinance. The Building Permit application, located on the following page, contains information intended to both educate the members of the public and facilitate code compliance.

Additionally, Section 17.132.020.B details the process the city Planning and Building Department utilizes for all design review, conditional use, subdivision and/or building permits, detailed below:

17.132.020.B: Lighting Plans Required: All applications for design review, conditional use, subdivision and/or building permits shall include lighting plans showing location, type, height, color temperature, lumen output and amount of all proposed and existing fixtures. The applicant shall provide enough information to verify that lighting conforms to the provisions of this chapter. The administrator, commission and/or building official shall have the authority to request additional information in order to achieve the purposes of this chapter.

For lighting that is not included as part of a permit with city Planning and Building Department, the following standards apply:

17.132.010C.2: All existing exterior commercial lighting that is not in conformance with this chapter shall be brought into conformance with this chapter by June 30, 2018.

17.132.010.C.3: All existing lighting that does not meet the requirement of section 17.124.060 of this title, which states that "any parking, yard or building illumination in (any) zoning (district) shall be so directed as to protect adjacent properties from glare and direct lighting", is required to be brought into conformance with section 17.132 of this title.

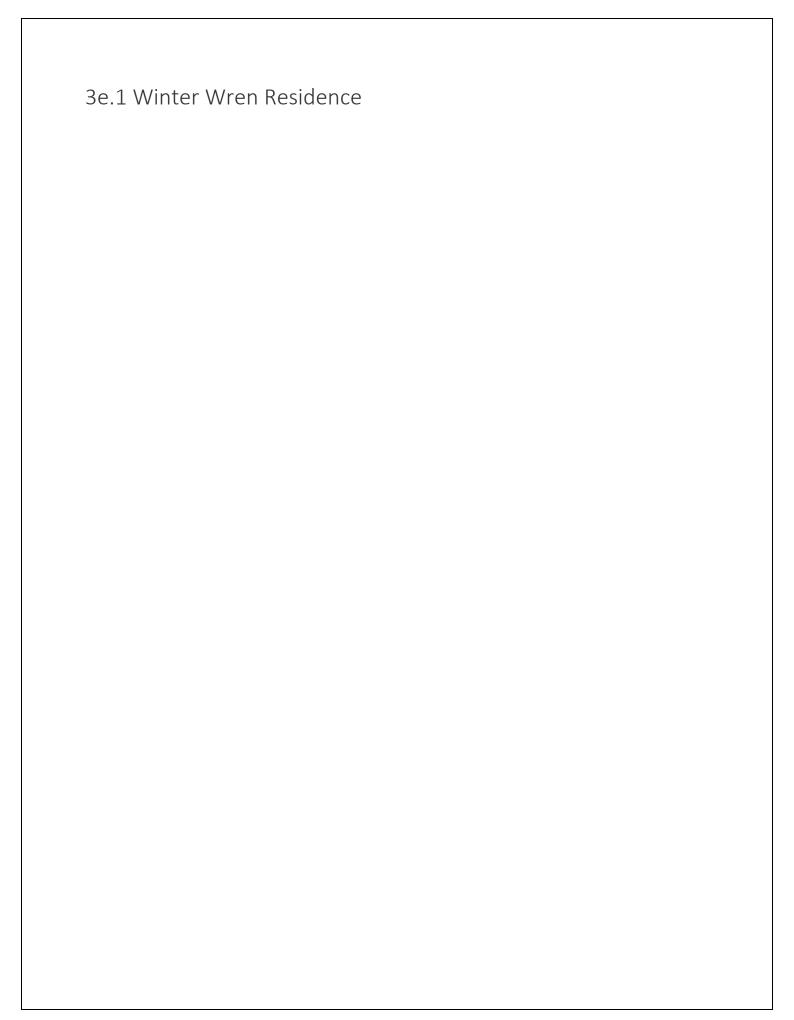
17.132.010. C.4: All existing exterior residential lighting, not affected by subsections C1 and C3 of this section, that does not comply with this chapter is required to be brought into conformance with this chapter by June 30, 2019.

Once the sunset clause established for Commercial and Residential lighting expires, all lighting will be subject to the code enforcement process. The City of Ketchum has established its ability to work with community members to bring their lighting into compliance with the previous Dark Skies Ordinance.

The following projects detailed below have been approved under either a Design Review application or a Building Permit application with the City of Ketchum Planning Department. The following pages outline the projects themselves, and the lighting that has been approved. Once a project is ready for a Certificate of Completion, City Staff will conduct a site inspection to ensure that the approved lighting is in place.

2017 Design Review Applications & Building Permit Projects under New Dark Skies Ordinance

- 3e.1 Winter Wren Residence
- 3e.2 Nickum Residence
- 3e.3 Hotel Ketchum Coffee Shop
- 3e.4 Borman Residence
- 3e.5 Boyle Residence



H. Loading Area On-Site (Commercial only): N/A Trash Screened (Commercial only): N/A

I. Curb Cut Proposed: N/C Allowed: 30' on each street frontage

J. Fence Height Proposed: Existing 6' within 30' of front property line. All new fencing within 30' of front property line shall be a maximum of 4'.

Allowed: 4' within 30' of front property line, elsewhere 6'. Existing 6' fence within 30' of front property line shall be subject to requirements established in Ketchum Municipal code, Chapter 17.136 Nonconforming Uses and Nonconforming Buildings.

K. Proposed/Existing ExteriorLighting: The proposed lighting fixtures are compliant with Chapter 17.132 Dark Skies provided they are installed with a maximum Correlated Color Temperature of 2700 K.

APPROVED SUBJECT TO THE FOLLOWING COMMENTS/CONDITIONS:

- 1. Any new or existing exterior lighting on the property shall be in compliance with Ketchum Municipal Code, Chapter 17.132, Dark Skies. Exterior lighting shall be inspected by Planning staffprior to final building inspection.
- 2. All construction for the project must comply with the standards set forth in Ketchum Municipal Code, Chapter 15.06 Construction Activity Standards.
- 3. Existing 6' fence within 30' of front property line shall be subject to requirements established in Ketchum Municipal code, Chapter 17.136 Nonconforming Uses and Nonconforming Buildings.

APPROVED
BLD1705-00073
06/06/17 code, ordinance, statue or regulation. not approval of any violation of any contingent on compliance with the mark-ups and notes applied. This is These documents are approved Evans



- mounted 7-8' off the ground - use light bulb (into attacked)



item#	WHS12-PC	WHS14-PC	WHS16-PC	WHS18-PC	WHS20-PC
Diameter (A)	12"	14"	16"	18"	20"
Height (B)	7"	7 %"	7 %*	00 35	9 % 0

	WHS12-PC
» D	WHS14-PC
A	WHS16-PC WHS18-PC
A	WHS18-PC
	WHS20-PC

					ORDER SPECIFICS			73	BLD1705-00073
			2003-557	199		0.2		ABBBOVED	ADD
						For additional mounting options and details, see mounting option chart	chum	F Ket	City of Ketchum
3			Monte	None	For additional calors, see color chart	CN Standard length is 3 ft.			
7	2		options, see guard and glass chart	Backing Plate	200- White 975- Galvanized	PM Chain Hong 3:			
+			For additional aface	HDBP- Heavy Duty	Chain & Canopy color: 100- Black	Flush Mount:			
NE S			RIB- Ribbed	Stern Mount Canopy	Chain *:	Specify gooseneck model			
0	\		CUR- Clear	HDSM- Heavy Duty	Aluminum	Gooseneck			
9	,			Canapy	980- Brushed	"Specify stem model			
				HSC-Hang Straight	200-White	ST 75			
			For additional colors,		100-Black		2,000.0		9
				Cage	Stem and Gooseneck 4:	TPT Putty	colors, see color		Hume
			975-Galvanized	WC-Wire		TBK Black	Far additional		CN-Chain
			400 Barn Bed		200-White	TBR Brown			THOUSE
			100-Black	Glass t	100- Black	Cotton Twists 2:	975- Galvanized		P-FIUSD
			Program Cont	Cast Guard and	Canopy color:	CBK Black	Other.		
		per socket)	On	TGG- Heavy Duty	Cord:	CGM Grey			Neck
		TEM ST XEM	2	or of the same		CRZ Red Chevron	605- Rust		G-Goose-
		GU-24 BI-Pin	Didnik	and Glass 4	08		600-Bronze	WHS20-PC	
_			Toture // Leave Code	Wide William County	Control Control and Control	_	300-Dark Green	WHS18-PC	Mount
		maximum	Accessories is: Same as	and Glass	// Leave Code Black	SBK Black	200-White	WHS16-PC	5- Stem
120V		200 Watt	Standard Finish for	CGG- Cast Guard	Standard Finish for ALL	Standard 1.	100-Black	WHS14-PC	-
-		Options		Accessories		Cond	Principles	WHS12-PC	C- Cord Hung
Voltage	Ballast	Wattage/Lamp	Accessory Colors	Optional	Mounting Color	Mounting Options	Finishes		

contingent on compliance with the mark-ups and notes applied. This is able for Wet Location (except when cord mounted) * Suitable for Dry locations Only (Not CSA listed). Standard length 6 feet. * Standard length is 3ft. * Additional lengths available on Card, Stem & Chain

code, ordinance, statue or regulation, not approval of any violation of any These documents are approved



EVANS WINTERWREN NEW BUB

Ulb W - 3W (60W), Medium Screw base, Daylight/Soft arm Glow, Non-dimmable | 046677464868 |

..lar products >

Buy from Retailers

Technical Specifications

Bulb characteristics

Bulb dimensions

Base Medium Screw base Height 4.3 inch

Cap/fitting E26 Width 2.4 inch

Diminable Non-dimmable

Indoor/Outdoor Indoor Durability

Shape Bulb Average life (at 3 15 year(s)

Voltage 120 V

Vattage 9.5W-8W-3W Number of switch 50000

Wattage equivalent 60 Lifetime of lamp 15000 hour(s)

Shape Code A19

Light characteristics

Power consumption

Application ? Soft light

No Color Color Change



Color rendering

80

Color temperature

2700-5000-2200 K

Light output

800-800-80 lumen

Light effect/finish

Color Change

Warm-up time to

50% light

Instant full light

Range ?

SceneSwitch

Starting time

< 0.5 s

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First Name

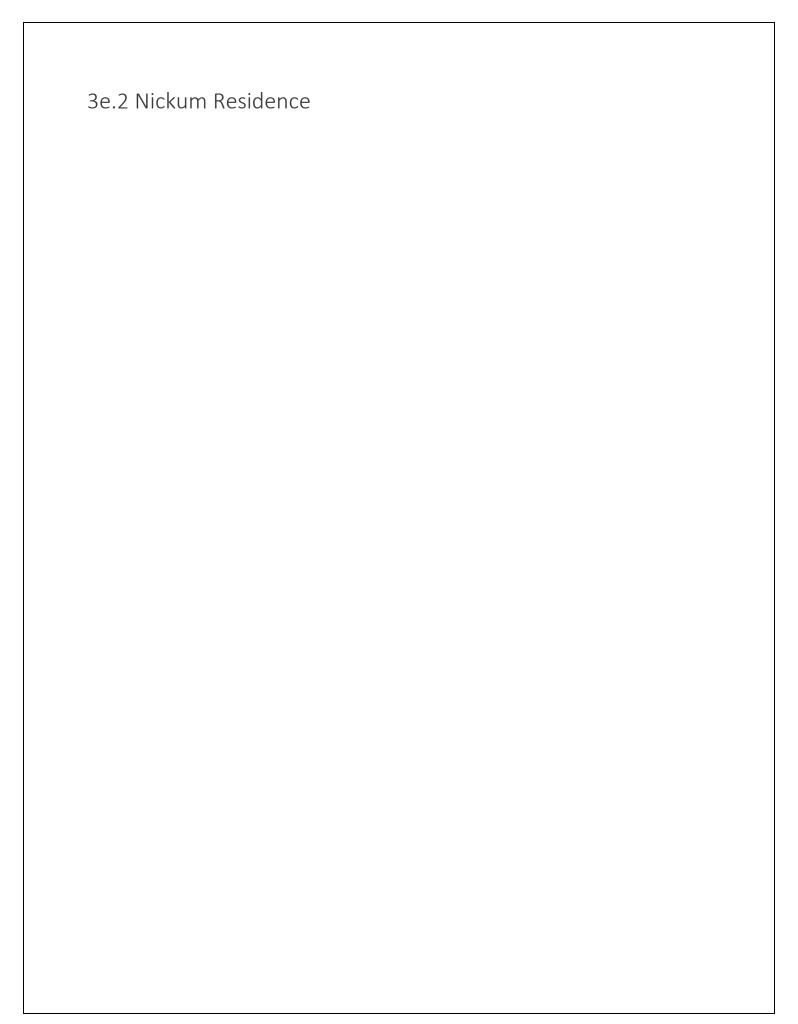
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E-mail address

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K. Fence Height Proposed: Existing 6' within 30' of front property line. All new fencing within 30' of front property line shall be a maximum of 4'.

Allowed: 4' within 30' of front property line. Elsewhere 6'.

L. Proposed/Existing ExteriorLighting: The proposed lighting fixtures are compliant with Chapter 17.132 Dark Skies provided they are installed with a maximum Correlated Color Temperature of 2700K.

APPROVED SUBJECT TO THE FOLLOWING COMMENTS/CONDITIONS: Conditions

- 1. Any new and existing exterior lighting on the property shall be in compliance with Ketchum Municipal Code, Chapter 17.132, Dark Skies. Exterior lighting shall be inspected by Planning staff prior to final building inspection;
- 2. All construction for the project must comply with the standards set forth in Ketchum Municipal Code, Chapter 15.06 Construction Activity Standards;







• 5 year limited warranty on LED Components. **ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT**

..... opincal also boulons approximating that of 75 WMR 16

nlight is IC rated for insulated or non-inre produces up to 1000 lumens and is

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury, RoHS compliant
- Comparable light output up to a 75W MR 16 halogen lamp

halogen lamps • Low profile form factor allows luminaire to fit in 2 x 6 construction • Designed to provide 50,000 hours of life

PRODUCT SPECIFICATIONS

are

applied

his

LED Light Engine Exceptional fixture to fixture color consistency within a 3-step MacAdam ellipse • 2700K, 3000K, 3500K, and 4000K color temperatures are available with 80 CRI or 90 CRI

Modular Optics Available with field interchangeable optics in 18° Spot, 24° Narrow Flood, or 40° Flood distributions.

Aesthetic Trim Trim features die cast beveled knife edge trim ring for clean ceiling interface available in white, black, satin nickel, or brushed bronze • Die cast baffles are available in white, black, satin nickel, or brushed bronze

LED Driver Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 • Dedicated 120 volt driver (120) is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage dimmers

- Universal voltage driver (MVOLT) is dimmable with the use of most 0-10V protocol dimmers
- For a list of compatible dimmers, see JUNO2ING2-DIM.

Life Rated for 50,000 hours at 70% lumen maintenance.

Labels ENERGY STAR® Certified • 90CRI fixtures are certified to the high efficacy requirements of California T24 JA8-2016 • Meets energy code Air Leakage requirements per ASTM E283 • UL and cUL listed for wet locations.

Junction Box Includes (2) 1/2" knock-outs equipped with pryout slots Push-in electrical connectors for field connections.

Mounting Remodel style plaster frame installs from below the

- ceiling and accommodates ceiling thicknesses from ½" to 1"
 For thicker ceilings up to 1 ½", order 2JCTA150
 New Construction mounting frame, 2NCMF, is also available with Patented (US Patent D552,969) Real Nail 3® telescoping bar hangers to position fixture and locate wiring prior to ceiling installation • Recommend a minimum of 5.5" cavity depth to install properly • Flexible supply is recommended and non-flexible supply requires top access.

Specifications subject to change without notice.

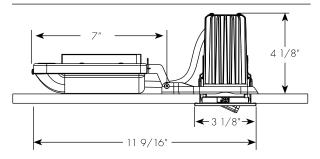
ENGINEERING DATA (600L)

	Dedi cated 120V (120)	Uni versal Voltage (MVOLT)
Voltage	120	120 277
Input Power	7.5 (±5%)	7.2 7.5 (±5%)
Input Current	.06	.06 .03
Frequency	50/60Hz	50/60Hz
Power Factor	>0.9	>0.9 >0.9

Trim Finishes



DIMENSIONS



2 5/8" CIRCULAR CEILING CUTOUT

ENGINEERING DATA (1000L)

	Dedicated 120V (120)	Uni versal Voltage (MVOLT)				
Voltage	120	120 277				
Input Power	11.5 (±5%)	10.9 11.4 (±5%				
Input Current	.10	.09 .04				
Frequency	50/60Hz	50/60Hz				
Power Factor	>0.9	>0.9 >0.9				



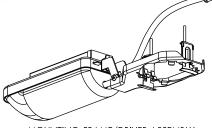
APPROVED BLD1705-00049 06/02/17 These documents are approved contingent on compliance with the mark-ups and notes applied. This is not approval of any violation of any code, ordinance, statue or regulation.

2" IC 600 AND 1000 LUMENS LED SQUARE ADJUSTABLE 2LEDTRIM G2 SQADJ

N DRIVER AND TRIM EACH ORDERED SEPARATELY.

Generation	Lumens	Voltage	Driver
G2 Generation 2	06LM 600 Nominal Lumens	120 120V	FRPC Forward/Reverse Phase Cut
_TIR	10LM 1000 Nominal Lumens	MVOLT Multi-Volt (120-277V)	ZT 0-10V Dimming

N ote: 120V must be ordered with FRPC. MVOLT must be ordered with ZT



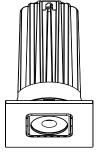
MOUNTING FRAME/DRIVER ASSEMBLY

Note: Driver assembly only intended for use with Gen2 LED trim modules. Not backward compatible with previous generation.

TRIM:

Example: 2LEDTRIM G2 DB 27K 80CRI FL BL

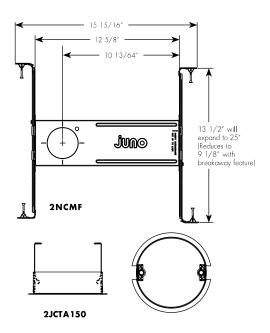
Series		Gene	ration	Trim D	esignation	Color Te	mperature	CRI		Distribut	tion	Trim Fini	ish	
2LEDTRIM	Juno Recessed	G2	Generation 2	DB	Down l ight Baffle Trim	27K	2700K	80CRI	80+ CRI	FL	F l ood	BL	B l ack	
	2" LED Trim					30K	3000K	90CRI	90+ CRI	NF L	N arrowF l ood	BZ	Bronze	
	~	D				35K	3500K			SP	Spot	SN	Satin Nickel	
		\mathbb{I}				40K	4000K					WH	White	



TRIM/LED ASSEMBLY

ACCESSORIES

Catalog No.	Description
2NCMF	New Construction Mounting Frame with Real Nail® 3 bar hangers
2JCTA 150	Thick Ceiling adapter for 1" - 1½" thick ceiling
LEDOPTIC2 SP	18° Spot Optic
LEDOPTIC2 NFL	24° Narrow Flood Optic
LEDOPTIC2 FL	40° Flood Optic



code, ordinance, statue or regulation. not approval of any violation of any contingent on compliance w hese documents notes are applied approve This the

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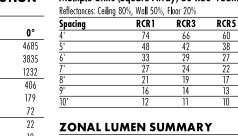
2000 3000 4000

2" IC 600 AND 1000 LUMENS LED SQUARE ADJUSTABLE **2LEDTRIM G2 SQADJ**

CANDLEPOWER

(Candelas)	IION
Degrees Vertical	0°
0	4685
5	3835
15	1232
25	406
35	179
45	72
55	22
65	10
75	5
85	1
90	0

AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60'x60' room)



INITIAL FOOTCANDLES

(One Unit, 11.3W, 18.2° Beam)

1.3
1.0
1.9
2.6
3.2
3.8

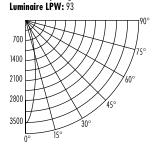
ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixture
0-30°	857	N/A	80.6
0-40°	971	N/A	91.3
0-60°	1047	N/A	98.5
0-90°	1064	N/A	100.0

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	139225
55°	51801
65°	33694
75°	25393
85°	10997

PHOTOMETRIC REPORT

Test Report#: PT07162005 Catalog No: 2LEDTRIM G2 SQADJ 35K 80CRI NFL SN (1000L), Square Adj Gimbal with NarrowFlood Optic Luminaire Spacing Criteria: 0.42



CANDLEPOWER DISTRIBUTION

(Candelas)	
Degrees Vertical	0°
0	3502
5	3081
15	1287
25	454
35	182
45	71
55	27
65	13
75	6
85	1
90	0

AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60'x60' room)

Spacing	RCR1	RCR3	RCR5
4'	73	64	58
5'	47	41	37
6'	32	29	26
7'	26	23	21
8'	21	18	16
9'	16	14	13
10'	12	10	9

INITIAL FOOTCANDLES

(One Unit, 11.3W, 24.1° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	218.9	1.7
6'	97.3	2.6
8'	54.7	3.4
10'	35.0	4.3
12'	24.3	5.1

Zone	Lumens	%Lamp	%Fixture
0-30°	834	N/A	79.4
0-40°	950	N/A	90.4
0-60°	1030	N/A	98.1
0-90°	1051	N/A	100.0

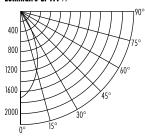
LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	136514
55°	64215
65°	40822
75°	32271
85°	14139

PHOTOMETRIC REPORT

Test Report#: PT07162006 Catalog No: 2LEDTRIM G2 SQADJ 35K 80CRI FL SN (1000L), Square Adj Gimbal with Flood Optic

Luminaire Spacing Criteria: 0.70 Luminaire LPW: 97



CANDLEPOWER **DISTRIBUTION**

(Candelas)	
Degrees Vertical	0°
0	1738
5	1672
15	1257
25	677
35	259
45	84
55	28
65	9
75	3
85	0
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room) Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	76	67	58
5'	49	43	37
6'	34	30	26
7'	27	24	21
8'	22	19	17
9'	17	15	13
10'	12	11	9

INITIAL FOOTCANDLES

(One Unit, 11.3W, 44.2° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter	
4'	108.6	3.2	
6'	48.3	4.9	
8'	27.2	6.5	
10'	17.4	8.1	
12'	12.1	9.7	

ZONAL LUMEN SUMMARY

LUITAL	EOMENT SC	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	` .			
Zone	Lumens	%Lamp	%Fixture			
0-30°	823	N/A	74.7			
0-40°	992	N/A	90.1			
0-60°	1088	N/A	98.8			
0-90°	1101	N/A	100.0			

LUMINANCE (Average cd/m²)

Degrees	Average Luminance						
45°	162849						
55°	66841						
65°	28835						
75°	16929						
85°	1571						

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit represents a baseline of performance for the fixture. Results may vary in the field.

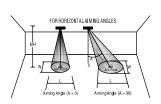
Multiplier:	80 CRI	90 CRI
	27K = .94	27K = .83
	30K = .97	30K = .86
	35K = 1.00	35K = .88
		10K - 90



2" IC 600 AND 1000 LUMENS LED SQUARE ADJUSTABLE 2LEDTRIM G2 SQADJ

eam candlepower s at beam center (aim point)

In vertical aiming applications, aim point (X) is determined by dividing distance from the wall (D) by the tangent of the desired aim angle (A) (0.5774 for 30°).





[Horizontal Aiming Angles



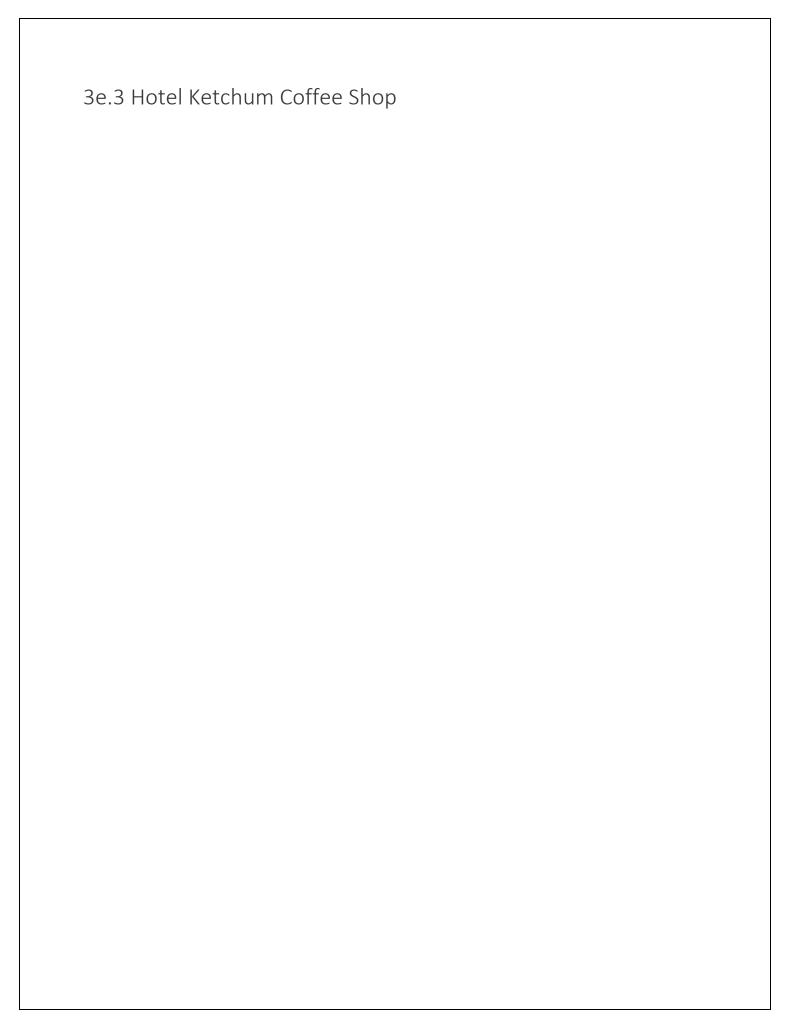


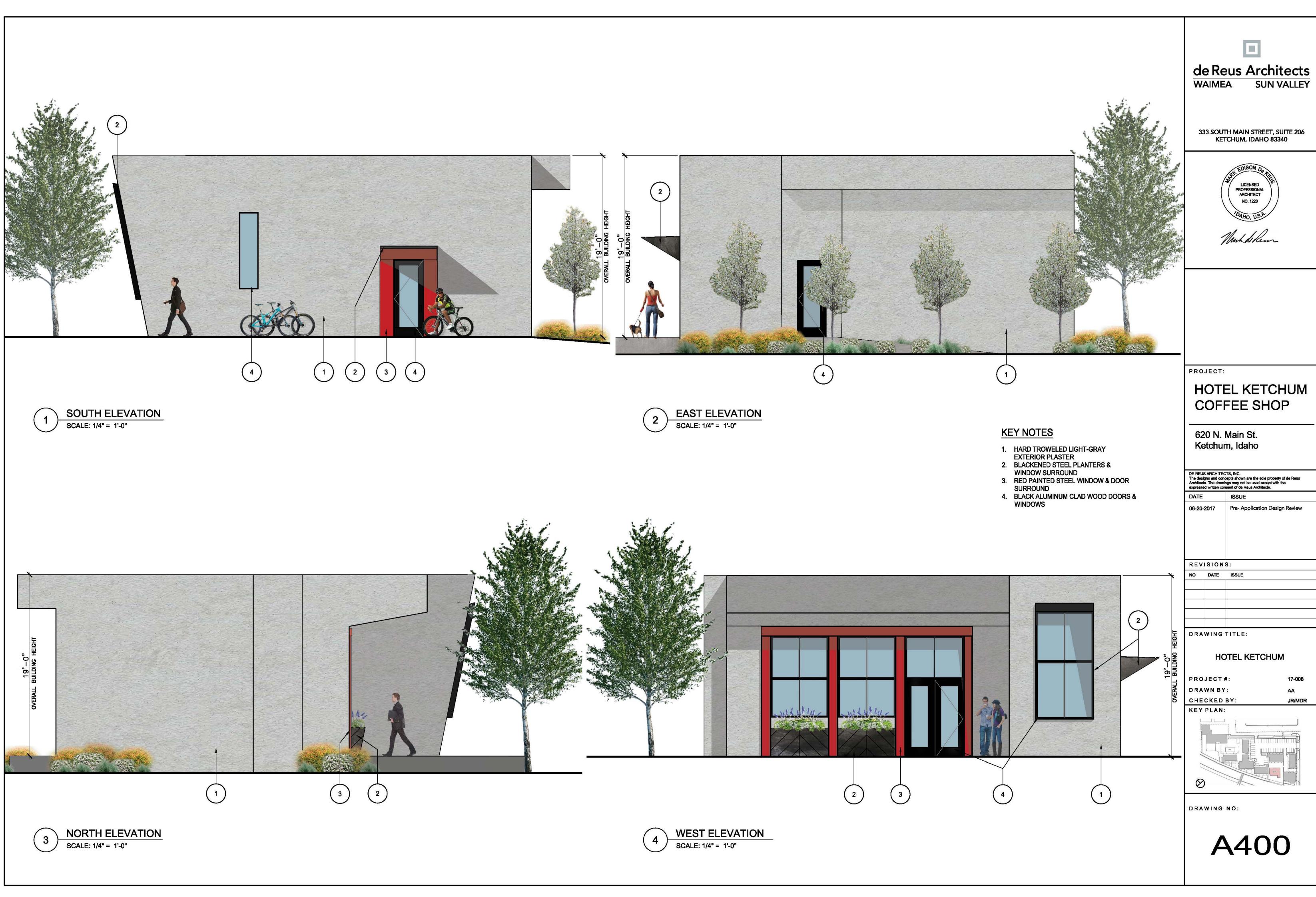
	Beam	0°					30°		30°					
Fixture	Spread	CBCP	МН	FC	L	W	FC	L	W	D	FC	Χ	L	W
	40°	1162	3	129	2.2	2.2	84	3.0	2.5	1	145	1.7	4.8	1.5
			4	73	2.9	2.9	47	4.1	3.4	2	36	3.5	9.7	2.9
2LEDTRIM(600L) Flood Optic			5	46	3.6	3.6	30	5.1	4.2	3	16	5.2	14.5	4.4
noou opc			6	32	4.4	4.4	21	6.1	5.0	4	9	6.9	19.3	5.8
			7	24	5.1	5.1	15	7.1	5.9	5	6	8.7	24.2	7.3
	24°	2261	3	251	1.3	1.3	163	1.7	1.5	1	283	1.7	2.0	0.9
	Λ		4	141	1.7	1.7	92	2.3	2.0	2	71	3.5	3.9	1.7
2LEDTRIM(600L) Narrow Flood Optic			5	90	2.1	2.1	59	2.9	2.5	3	31	5.2	5.9	2.6
			6	63	2.6	2.6	41	3.5	2.9	4	18	6.9	7.9	3.4
			7	46	3.0	3.0	30	4.0	3.4	5	11	8.7	9.8	4.3
	18°	3150	4	197	1.3	1.3	128	1.7	1.5	2	98	3.5	2.7	1.3
	Λ		5	126	1.6	1.6	82	2.1	1.8	3	44	5.2	4.1	1.9
2LEDTRIM(600L) Spot Optic			6	88	1.9	1.9	57	2.6	2.2	4	25	6.9	5.5	2.5
Spor Spire			7	64	2.2	2.2	42	3.0	2.6	5	16	8.7	6.9	3.2
			8	49	2.5	2.5	32	3.4	2.9	6	11	10.4	8.2	3.8

For 2700K fixtures, use 0.96 multiplier; for 3000K fixtures, use 1.00 multiplier; for 3500K fixtures, use 1.03 multiplier; for 4000K fixtures, use 1.06 multiplier.

Beam			0°					30°		30°				
Fixture	Spread	CBCP	МН	FC	L	W	FC	L	W	D	FC	Χ	L	W
	40°	1738	3	193	2.2	2.2	125	3.0	2.5	1	217	1.7	4.8	1.5
			4	109	2.9	2.9	71	4.1	3.4	2	54	3.5	9.7	2.9
2LEDTRIM(1000L) Flood Optic			5	70	3.6	3.6	45	5.1	4.2	3	24	5.2	14.5	4.4
			6	48	4.4	4.4	31	6.1	5.0	4	14	6.9	19.3	5.8
			7	35	5.1	5.1	23	7.1	5.9	5	9	8.7	24.2	7.3
	24°	3502	3	389	1.3	1.3	253	1.7	1.5	1	438	1.7	2.0	0.9
	Λ		4	219	1.7	1.7	142	2.3	2.0	2	109	3.5	3.9	1.7
2LEDTRIM(1000L) Narrow Flood Optic			5	140	2.1	2.1	91	2.9	2.5	3	49	5.2	5.9	2.6
			6	97	2.6	2.6	63	3.5	2.9	4	27	6.9	7.9	3.4
			7	71	3.0	3.0	46	4.0	3.4	5	18	8.7	9.8	4.3
	18°	4685	4	293	1.3	1.3	190	1.7	1.5	2	146	3.5	2.7	1.3
	Λ		5	18 <i>7</i>	1.6	1.6	122	2.1	1.8	3	65	5.2	4.1	1.9
2LEDTRIM(1000L) Spot Optic			6	130	1.9	1.9	85	2.6	2.2	4	37	6.9	5.5	2.5
-p-: -p-:-			7	96	2.2	2.2	62	3.0	2.6	5	23	8.7	6.9	3.2
			8	73	2.5	2.5	48	3.4	2.9	6	16	10.4	8.2	3.8

For 2700K fixtures, use 0.96 multiplier; for 3000K fixtures, use 1.00 multiplier; for 3500K fixtures, use 1.03 multiplier; for 4000K fixtures, use 1.06 multiplier.





EL CAPITAN SERIESTM



Fernando Rodriquez, MRC Engineering Inc., BKU Spring 2013

"For the Palm Springs Aerial Tramway we wanted to make sure we could provide a fixture that could provide the perfect ambient light and have a unique style, as

always of course B-K Lighting had the perfect fixture...El Capitan Series™."





MATERIAL*







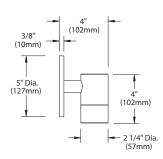








in Brown Patina Powder (BPP) finish













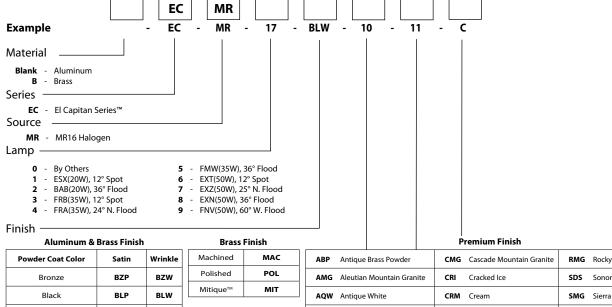
EL CAPITAN SERIES™



MR-16 Halogen

PROJECT:	
TYPE:	
CATALOG NUMBER:	
SOURCE:	
NOTES:	

CATALOG NUMBER LOGIC



Powder Coat Color	Saun	wrinkie
Bronze	BZP	BZW
Black	BLP	BLW
White (Gloss)	WHP	whw
Aluminum	SAP	_
Verde	_	VER

Machined	MAC
Polished	POL
Mitique™	MIT

ABP	Antique Brass Powder	CMG	Cascade Mountain Granite	RMG	Rocky Mountain Granite
AMG	Aleutian Mountain Granite	CRI	Cracked Ice	SDS	Sonoran Desert Sandstone
AQW	Antique White	CRM	Cream	SMG	Sierra Mountain Granite
всм	Black Chrome	HUG	Hunter Green	TXF	Textured Forest
BGE	Beige	MDS	Mojave Desert Sandstone	WCP	Weathered Copper
ВРР	Brown Patina Powder	NBP	Natural Brass Powder	WIR	Weathered Iron
CAP	Clear Anodized Powder	ОСР	Old Copper		o available in RAL Finishes e submittal SUB-1439-00

Lens Type

9 - Clear (Standard) 10 - Spread*

12 - Soft Focus* 13 - Rectilinear*

Shielding -

11 - Honeycomb Baffle*

Cap Style -

A - 45°

B - 90°

C - Flush

D - 45° less Weep Hole (for Interior Use Only)

E - 90° less Weep Hole (for Interior Use Only) **F** - 90° Cutoff with Flush Lens

LAMP DAT	Α		Rated		Beam	Beam
BK No.	Lamp Watts	Description	Life (hrs.)	Center Beam Candlepower	Angle	Type
1	20	ESX	4,000	4,000	12°	Spot
2	20	BAB	5,000	600	36°	Flood
3	35	FRB	5,000	6,000	12°	Spot
4	35	FRA	5,000	2,300	24°	Narrow Flood
5	35	FMW	5,000	1,300	36°	Flood
6	50	EXT	5,000	11,000	12°	Spot
7	50	EXZ	6,000	3,200	25°	Narrow Flood
8	50	EXN	5,000	2,000	36°	Flood
9	50	FNV	5,000	850	60°	Wide Flood

B-K LIGHTING	40429 Brickyard Drive • Madera, CA 93636 • USA 559,438,5800 • FAX 559,438,5900	RELEASED	DRAWING NUMBER
B-K LIGHTING	www.bklighting.com • info@bklighting.com	12-14-15	SUB-1142-00

^{*} Accommodates up to 2 Lens/Shielding media



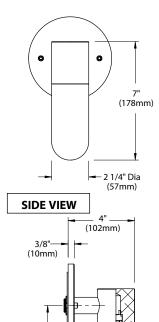
MR-16 Halogen

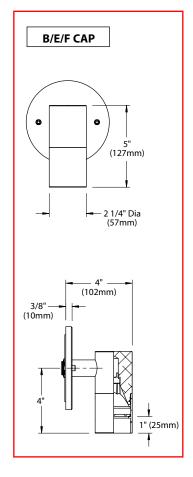
EL CAPITAN SERIES™

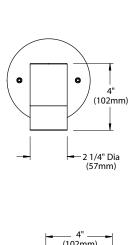
PROJECT:	
TYPE:	

FRONT VIEW

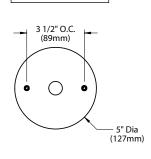
A/D CAP



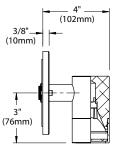


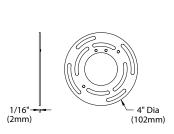


C CAP



CANOPY DETAIL





UNIVERSAL RING

All dimensions indicated on this submittal are nominal. Contact Technical Sales if you require more stringent specifications.

SPECIFICATIONS

GreenSource Initiative™

(152mm)

Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.bklighting.com/greensource for program

Materials

Furnished in Copper-Free Aluminum (Type 6061-T6), Brass (Type 360).

Body

Fully machined from solid billet. Unibody design provides enclosed, water-proof wireway and integral heat sink for maximum component life. High temperature, silicone 'O' Ring provides water-tight seal.

Cap
Fully machined. Accommodates [1] lens or louver media. Choose from 45° cutoff ('A' or 'D'), 1" deep bezel with 90° cutoff ('B' or 'E'), flush lens ('C') cap styles, or 1" deep cutoff with flush mounted lens ('F'). 'A' and 'B' caps include weephole for water and debris drainage. 'D' and 'E' caps exclude weep-hole and are for interior use only.

Shock resistant, tempered, glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment.

Lamp

For use with 50 watt maximum, MR-16 lamp.* Not for use with IR technology lamps.
*Except GE Light Q42MR16/C/VNSP9 (EZY).

Socket

Specification grade, ceramic body lamp holder. GU5.3 base. Nickel allow contacts and heat resistant, spring loaded, stainless steel lamp retaining clips.

Transformer

For use with 12 VAC remote transformer.

5" dia., machined canopy with stainless steel universal mounting ring permits mounting to 4" octagonal junction box (by others). Suitable for uplight or downlight installation.

Teflon® coated wire, 18AWG, 600V, 250° C rated and certified to UL 1659 standard.

Hardware

Tamper-resistant, stainless steel hardware. Canopy mounting screws are additionally black oxide treated for Canopy additional corrosion resistance.

Finish

StarGuard®, our exclusive RoHs compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating. Brass components are available in powder coat or handcrafted metal finish.

Warranty

5 year limited warranty

Certification and ListingUL Listed. Certified to CAN/CSA/ANSI Standards. Suitable for indoor or outdoor use. Suitable for use in wet locations. RoHs compliant. Made in USA.







*Teflon is a registered trademark of DuPont Corporation.



40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com

RELEASED 12-14-15

DRAWING NUMBER SUB-1142-00

By SORAA™

MR16 LED RETROFIT LAMP

PROJECT:	
TYPE:	
CATALOG NUMBER:	
LAMP(S):	
NOTES:	

B-K Lamp # 359	Mfg. #: MR16-	CBCP (cd): 5710	Distance Beam Dia. (50% CBCP) Footcandles
Base: GU5.3 Bi-Pin	SM16-07-10D-927-03	CRI: >95	3' 0.5' 634
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	9' 1.0' 160
CCT: 2700K	Lamp Efficacy: 51 (Lm/W)	Dimmable: Yes	12' 2.1' 40
Beam: 10° Spot	Rated Life: 35,000 hrs	Lumens: 390	15' 2.6' 23
B-K Lamp # 361	Mfg. #: MR16-	CBCP (cd): 2260	Distance Beam Dia. (50% CBCP) Footcandle
Base: GU5.3 Bi-Pin	SM16-07-25D-927-03	CRI: >95	3'
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 2.7' 63 9' 4.0' 27
CCT: 2700K	Lamp Efficacy: 53 (Lm/W)	Dimmable: Yes	12' 5.3' 16
Beam: 25° Narrow Flood	Rated Life: 35,000 hrs	Lumens: 410	15' 6.7' 9
B-K Lamp # 362	Mfg. #: MR16-	CBCP (cd): 1040	Distance Beam Dia. (50% CBCP) Footcandles
Base: GU5.3 Bi-Pin	SM16-07-36D-927-03	CRI: >95	3' 1.9' 119 6' 3.9' 30
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 3.9' 30 9' 5.8' 13
CCT: 2700K	Lamp Efficacy: 53 (Lm/W)	Dimmable: Yes	12' 7.8' 7
Beam: 36° Flood	Rated Life: 35,000 hrs	Lumens: 410	9.7' 4
B-K Lamp # 363	Mfg. #: MR16-	CBCP (cd): 6000	Distance Beam Dia. (50% CBCP) Footcandles
Base: GU5.3 Bi-Pin	SM16-07-10D-930-03	CRI: >95	3' 0.5' 666
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	9' 1.0' 168 1.6' 72
CCT: 3000K	Lamp Efficacy: 55 (Lm/W)	Dimmable: Yes	1.6' 72
Beam: 10° Spot	Rated Life: 35,000 hrs	Lumens: 410	15' 2.6' 24
B-K Lamp # 365	Mfg. #: MR16-	CBCP (cd): 2400	Distance Beam Dia. (50% CBCP) Footcand
Base: GU5.3 Bi-Pin	SM16-07-25D-930-03	CRI: >95	3' 1.3' 266 6' 2.7' 67
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 2.7' 67 9' 4.0' 29
CCT: 3000K	Lamp Efficacy: 58 (Lm/W)	Dimmable: Yes	12' 5.3' 17
Beam: 25° Narrow Flood	Rated Life: 35,000 hrs	Lumens: 435	15' 6.7' 10
B-K Lamp # 366	Mfg. #: MR16-	CBCP (cd): 1130	Distance Beam Dia. (50% CBCP) Footcandle
Base: GU5.3 Bi-Pin	SM16-07-36D-930-03	CRI: >95	3' 1.9' 125 6' 3.9' 32
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	9' 5.8' 14
CCT: 3000K	Lamp Efficacy: 58 (Lm/W)	Dimmable: Yes	12' 7.8' 8

	40429 Brickyard Drive • Madera, CA 93636 • USA	SUBMITTAL DATE	DRAWING NUMBER
B-K LIGHTING	559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com	05-20-16	SUB-2099-00

By SORAA™

MR16 LED RETROFIT LAMP

PROJECT:	
TYPE:	
CATALOG NUMBER:	
LAMP(S):	
NOTES:	

B-K Lamp # 378	Mfg. #: MR16-	CBCP (cd): 6290	Distance Beam Dia. (50% CBCP) Footcandles
Base: GU5.3 Bi-Pin	SM16-07-10D-940-03	CRI: >95	3' 0.5' 698
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 1.0' 176 9' 1.6' 75
CCT: 4000K	Lamp Efficacy: 57 (Lm/W)	Dimmable: Yes	12' 2.1' 44
Beam: 10° Spot	Rated Life: 35,000 hrs	Lumens: 430	15' 2.6' 25
B-K Lamp # 379	Mfg. #: MR16-	CBCP (cd): 2510	Distance Beam Dia. (50% CBCP) Footcandl
Base: GU5.3 Bi-Pin	SM16-07-25D-940-03	CRI: >95	3' 1.3' 279
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 2.7' 70
CCT: 4000K	Lamp Efficacy: 61 (Lm/W)	Dimmable: Yes	9' 4.0' 30 12' 5.3' 18
Beam: 25° Narrow Flood	Rated Life: 35,000 hrs	Lumens: 455	15' 5.3 18 6.7' 10
B-K Lamp # 380	Mfg. #: MR16-	CBCP (cd): 1190	Distance Beam Dia. (50% CBCP) Footcandle
Base: GU5.3 Bi-Pin	SM16-07-36D-940-03	CRI: >95	3' 1.9' 132 6' 3.9' 33
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 3.9' 33 9' 5.8' 14
CCT: 4000K	Lamp Efficacy: 53 (Lm/W)	Dimmable: Yes	7.8' 8
Beam: 36° Flood	Rated Life: 35,000 hrs	Lumens: 455	15' 9,7' 5
B-K Lamp # 381	Mfg. #: MR16-	CBCP (cd): 6290	Distance Beam Dia. (50% CBCP) Footcandles
Base: GU5.3 Bi-Pin	SM16-07-10D-950-03	CRI: >95	3' 0.5' 698
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 1.0' 176
CCT: 5000K	Lamp Efficacy: 57 (Lm/W)	Dimmable: Yes	9' 1.6' 75
Beam: 10° Spot	Rated Life: 35,000 hrs	Lumens: 430	15' 2.6' 25
B-K Lamp # 382	Mfg. #: MR16-	CBCP (cd): 2510	Distance Beam Dia. (50% CBCP) Footcand
Base: GU5.3 Bi-Pin	SM16-07-25D-950-03	CRI: >95	3' 1.1' 279
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	6' 2.1' 70 9' 3.2' 30
CCT: 5000K	Lamp Efficacy: 61 (Lm/W)	Dimmable: Yes	9 3.2 30 12' 4.2' 18
Beam: 25° Narrow Flood	Rated Life: 35,000 hrs	Lumens: 455	15' 5.3' 10
B-K Lamp # 383	Mfg. #: MR16-	CBCP (cd): 1190	Distance Beam Dia. (50% CBCP) Footcand
Base: GU5.3 Bi-Pin	SM16-07-36D-950-03	CRI: >95	3' 1.9' 132 6' 3.9' 33
Input Voltage: 12V	Wattage: 7.5W	Power Factor: 0.92	9' 5.8' 14
CCT: 5000K	Lamp Efficacy: 61 (Lm/W)	Dimmable: Yes	12' 7.8' 8

	40429 Brickyard Drive • Madera, CA 93636 • USA	SUBMITTAL DATE	DRAWING NUMBER
B-K LIGHTING	559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com	05-20-16	SUB-2099-00

CHART STAR™ CH





MATERIAL













"Our clients have faced recent challenges of providing more with less. With B-K Lighting fixtures we know we can meet our clients' goals of high quality, high performance and longevity while accomplishing the many tasks required for safe, welcoming and effective lighting solutions. B-K's quiet, timeless designs blend seamlessly within historic districts as well as new higher education and corporate campus settings."

Joan MacLeod, Damon Farber Associates, BKU Fall 2013



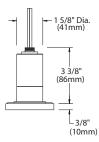






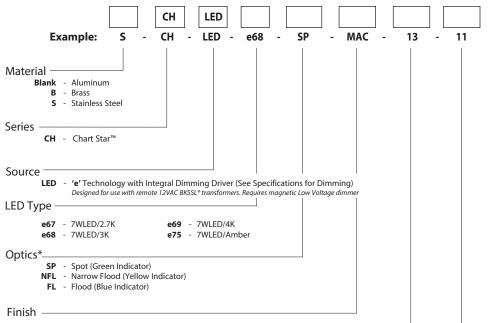




CHART STAR™

PROJECT:	
TYPE:	
CATALOG NUMBER:	
SOURCE:	
NOTES:	

CATALOG NUMBER LOGIC



Dunce	Finiah
Brass	Finish

Premium Finish

Aluminum Finish			Brass	Finish
Powder Coat Color	Satin	Wrinkle	Machined	MAC
Bronze	BZP BZW		Polished	POL
Black	BLP	BLW	Mitique™	МІТ
			Stainles	s Finish
White (Gloss)	WHP WHW		Machined	MAC
Aluminum	SAP	_		
			Polished	POL
Verde	_	VER	Brushed	BRU Interior use o

Polished	POL		
Mitique™	МІТ		
Stainless Finish			
Machined	MAC		
Polished	POL		
	BRU		

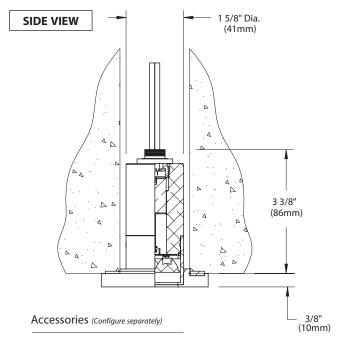
ABP	Antique Brass Powder	CMG	Cascade Mountain Granite	RMG	Rocky Mountain Granite
AMG	Aleutian Mountain Granite	CRI	Cracked Ice	SDS	Sonoran Desert Sandstone
AQW	Antique White	CRM	Cream	SMG	Sierra Mountain Granite
всм	Black Chrome	HUG	Hunter Green	TXF	Textured Forest
BGE	Beige	MDS	Mojave Desert Sandstone	WCP	Weathered Copper
BPP	Brown Patina Powder	NBP	Natural Brass Powder	WIR	Weathered Iron
CAP	Clear Anodized Powder	ОСР	Old Copper		o available in RAL Finishes e submittal SUB-1439-00

Lens Type -12 - Soft Focus Lens 13 - Rectilinear Lens Shielding -11 - Honeycomb Baffle

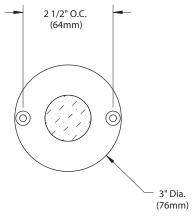


CHART STAR™

PROJECT:	
TYPE:	



FACEPLATE DETAIL



Remote options:





TR Series UPMRM"

All dimensions indicated on this submittal are nominal Contact Technical Sales if you require more stringent specifications.

SPECIFICATIONS

GreenSource Initiative™

Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.bklighting.com/greensource for program requirements.

Furnished in Copper-Free Aluminum (Type 6061-T6), Brass (Type 360) or Stainless Steel (Type 304).

Allows for mounting into existing structures that will not easily accept a standard box. 2" dia. hole required for slip

Fully machined from solid billet. Unibody design provides enclosed, water-proof wireway and integral heat sink for maximum component life. High temperature, silicone 'O' Ring provides water-tight seal. Provided with hardcoat (Type III) black anodize finish for maximum corrosion resistance. Weather-tight cable connector with 5'0," 18Ga., 2 wire low voltage cable.

Faceplate

Fully machined from solid billet. Countersunk holes provide for flush hardware mounting (by others). 1/8" thick HT-805A silicone foam gasket with acrylic adhesive for water-tight seal. Accommodates [1] lens or louver media.

Shock resistant, tempered, glass lens is factory adhered to faceplate and provides hermetically sealed optical compartment. Specify soft focus (#12) or rectilinear (#13) lens.

BKSSL®

Integrated solid state system with 'e' technology is scalable for field upgrade. Modular design with electrical quick disconnects permit field maintenance. forward throw source complies with ANSI C78.377 binning requirements. Exceeds ENERGY STAR® lumen maintenance requirements. LM-80 certified components.

Integral, constant current driver. 12VAC/VDC input. 50/60Hz. Proprietary input control scheme achieves power factor correction and eliminates inrush current. Output, overvoltage, open-circuit, and short circuit protected. Inrush current limited to <1A (non-dimming). Conforms to Safety Std. C22.2 No. 250.13-12.

Line voltage dimmable via magnetic low voltage dimmer. For use with low voltage dimmer with dedicated neutral conductor. For purposes of dimming: Remote magnetic transformer with BKSSL® Power of 'e' technology loads should be loaded to 25% of the transformer VA (watts) rated value.

Interchangeable OPTIKIT™ modules permit field changes to optical distribution. Color-coded for easy reference: Spot (SP) = Green. Narrow Flood (NFL) = Yellow. Flood (MFL) = Blue.

Remote Transformer

For use with 12VAC SIGNATURE remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturers' transformers.

Teflon® coated, 18AWG, 600V, 250° C rated and certified to UL 1659 standard. Anti-Siphon Valve (ASV™) prevents "wicking" through conductor insulation.

Hardware

Tamper-resistant, stainless steel hardware. Mounting hardware by others.

StarGuard®, our exclusive RoHs compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating. Brass components are available in powder coat or handcrafted metal finish. Stainless steel components are available in handcrafted metal finish. (Brushed finish for interior use only).

Warranty 5 year limited warranty.

Certification and Listing ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ ANSI Standards. RoHs compliant. Suitable for indoor or outdoor use. Suitable for installation in combustible materials (Type Non-IC). Suitable for use in wet locations. Suitable for installation within 4' of the ground. IP65 Rated. Made in USA.



® RoHS ₩



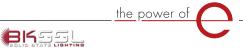
"Teflon is a registered trademark of DuPont Corporation.
"Energy Star is a registered trademark of the United States Environmental Protection Agency.

B-K LIGHTING

40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com

RELEASED. 05-17-17 DRAWING NUMBER SUB000939





e67, e68, e69, e75

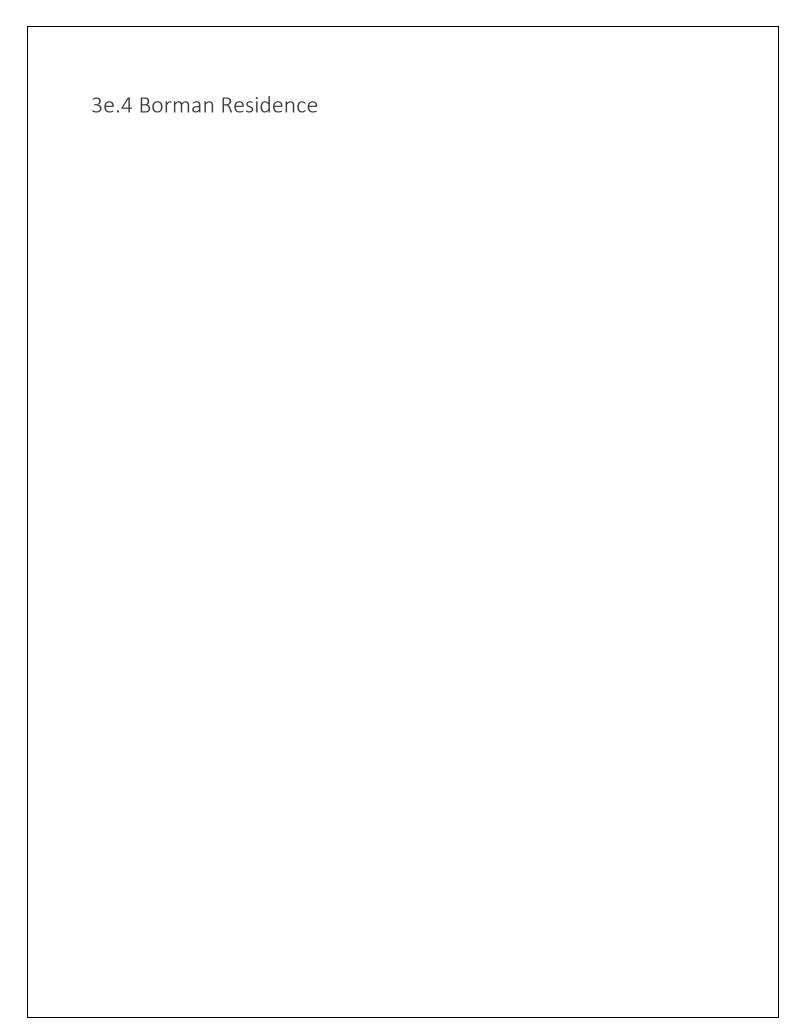
DRIVER	Input Volts	InRush Current	Operating	Dimmable	Operation Ambient Temperature
DATA	12VAC/DC 50/60Hz	<250mA (non-dimmed)	500mA	Magnetic Low Voltage Dimmer	-22°F-194°F (-30°C - 90°C)

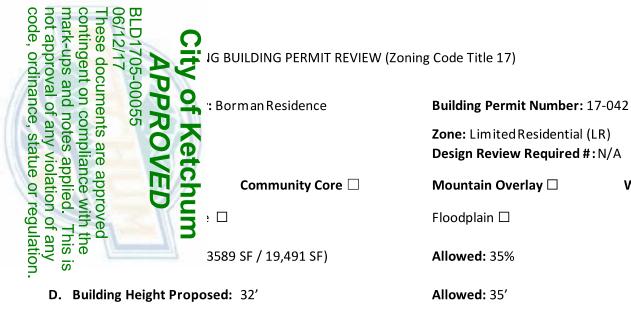
LM79 DATA			
ССТ (Тур.)	CRI (Typ.)	Input Watts (Typ.)	
2700K	80	7	
2700K	80	7	
2700K	80	7	
3000K	80	7	
3000K	80	7	
3000K	80	7	
4000K	80	7	
4000K	80	7	
4000K	80	7	
Amber (590nm)	~	7	
	CCT (Typ.) 2700K 2700K 2700K 2700K 3000K 3000K 3000K 4000K 4000K 4000K	CCT (Typ.) (Typ.) 2700K 80 2700K 80 2700K 80 2700K 80 3000K 80 3000K 80 3000K 80 4000K 80 4000K 80 4000K 80	

L70 DATA		
Minimum Rated Life (hrs.) 70% of initial lumens (L ₇₀)		
50,000		
50,000		
50,000		
50,000		
50,000		
50,000		
50,000		
50,000		
50,000		
50,000		

OPTICAL DATA			
Angle	СВСР	Delivered Lumens	
17°	3632	459	
25°	1708	435	
30°	1337	438	
17°	3871	489	
25°	1821	464	
30°	1425	467	
17°	3991	504	
25°	1877	478	
30°	1469	481	
~	~	~	

OPTICS		
Optic	Angle	
NSP - Narrow Spot	17°	
SP - Spot	25°	
FL - Flood	30°	





E. Setbacks:

Proposed Front: 20' Rear: N/C Side (south): 16' Side (north): 16'

Required Front: 15' **Rear:** 20' **Side:** > of 1' per 2' in Height, or 10'

F. Supplementary Yard Restrictions: Cornices, canopies, eaves, chimney chases or similar architectural features may extend into a required yard not more than three feet (3').

Waterway ⊠

G. Parking Spaces Proposed: N/C Required: 1.5 spaces per dwelling unit

H. Loading Area On-Site (Commercial only): N/A Trash Screened (Commercial only): N/A

I. Curb Cut Proposed: N/C Allowed: 30' on each street frontage

J. Fence Height Proposed: N/C Allowed: 4' within 30' of front property line. Elsewhere 6'.

K. Proposed/Existing ExteriorLighting: Any new or existing exterior lighting on the building shall be in compliance with Ketchum Municipal Code, Chapter 17.132, Dark Skies.

APPROVED SUBJECT TO THE FOLLOWING COMMENTS/CONDITIONS: Conditions

- 1. Any new or existing exterior lighting on the property shall be in compliance with Ketchum Municipal Code, Chapter 17.132, Dark Skies. Exterior lighting shall be inspected by Planning staff prior to final building inspection.
- 2. All construction for the project must comply with the standards set forth in Ketchum Municipal Code, Chapter 15.06 Construction Activity Standards.

Reviewed by: Date: 06/09/2017

Carl Anderson
Associate Planner

Planning & Building Department

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\$59.89 each

Buy 6 - 11 or more for just \$58.09 ea

Buy 12 or more for just \$56.90 ea

Estimated Delivery: June 11 - June 17

10W LED BLACK DARK SKY WALL LIGHT 2700K

Incon Lighting 34305-12LEDPAR30-27K - Wet Location Outdoor Wildlife Friendly - 60 Watt Equal Warm White - Wall Mount - Closed Top & Open

(http://www.ilighting.com/media/catalog/product/cache/Botton/bixtues)33525d08d6e5fb8d27136e95/3/4/34305_3_1_2_1.jpg)



(http://www.ilighting.com/media/catalog/product/cache/1,

Write a review Ask a question

SKU: 34305-12LEDPAR30-27K

Factory Direct Condition: New

PRODUCT DESCRIPTION Specifications

The Incon Lighting 343 series is a wildlife friendly outdoor light fixture suitable for wall mount lighting in wet locations. The included 10 watt LED provides 800 lumens (equivalent to 60W) of warm white light. It features a black corrosion resistant resin housing with an closed top and open bottom design, and it does not have a lens. All light is directed downward, reducing light pollution.

Incon Lighting products are proudly made in the USA.

SPECIFICATIONS

Brand	Incon Lighting
Order Code	34305-12LEDPAR30- 27K
Wattage	10 Watt
Voltage	120V
Lumens	800 Lumens
Color Temperature	2700K
Bulb Color	Warm White
Light Source	LED
Dimmable	Yes
UL Listed	Wet Location Listed

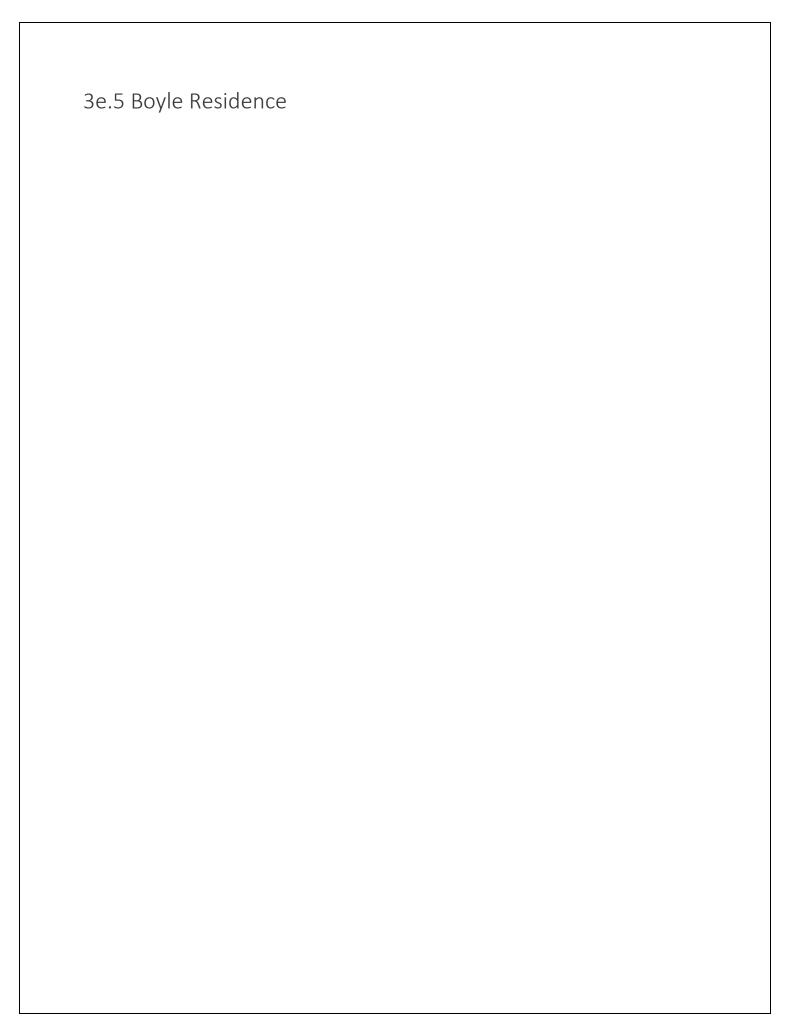
Socket Type	E26
Equivalent	60 Watt
Shape	PAR 30
Case Quantity	1
Country of Origin	Made in the USA
Fixture Style	Modern
Depth (in.)	7.75
Height (in.)	12
Width (in.)	5
Lighting Finish	Black

ASK QUESTION

PRODUCT QUESTIONS

No questions yet. Be the first to ask the question!

RELATED PRODUCTS



Loading Area On-Site (Commercial only): N/A Trash Screened (Commercial only): N/A

Curb Cut Proposed: N/A **Allowed:** 30' on each street frontage

Fence Height Proposed: Permitted: 4' within 30' of front property line. Elsewhere 6'.

Proposed/Existing Exterior Lighting: The proposed lighting fixtures are compliant with Chapter 17.132 Dark Skies provided they are installed with a maximum Correlated Color Temperature of 2700K.

APPROVED SUBJECT TO THE FOLLOWING COMMENTS/CONDITIONS:

- 1. Any new or existing exterior lighting on the property shall be in compliance with Ketchum Municipal Code, Chapter 17.132, Dark Skies. Exterior lighting shall be inspected by Planning staffprior to final building inspection.
- 2. All construction for the project must comply with the standards set forth in Ketchum Municipal Code, Chapter 15.06 Construction Activity Standards.
- 3. The architect met with staff on June 9th, 2017, regarding the changes to the lower façade to comply with height step back requirements. Staff approved the proposed changes verbally. The changes will require new elevations and structural details which the applicant will have 60 days to submit for review by Planning and Building Staff upon the issuance of the Building Permit.

City of Ketchum APPROVED BLD1705-00091 06/14/17 These documents are approved contingent on compliance with the mark-ups and notes applied. This is not approval of any violation of any code, ordinance, statue or regulation.

DESCRIPTION

Color Temp: 2700 k

SPJ-GDG-30W-SQ-SH

FB-3W-CYL-TA105

8-15V, 120V

105

Nichia

Model#:

Engine:

Lumens:

Electrical:

LED:

Forever Bright

OLENER BRICE

SPECIFICATION FEATURES

Finish: Our naturally etched finishes will withstand the test of time. All finishes are

individually treated insuring consistency. Our meticulous application results

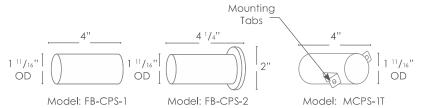
in a fixture that truly becomes "a one of a kind".

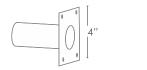
Electrical: Available in 8-15V or 120V

Labels: ETL Standard Wet Label

C-ETL

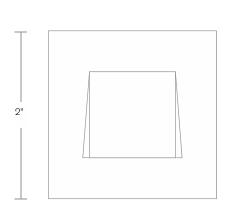
Concrete Pour Sleeves

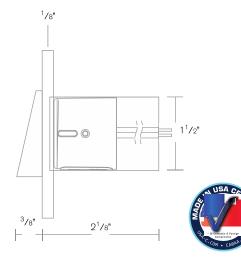






Model: FB-CPSI-CM







Wet Listed

ORDERING INFORMATION Model# **Finishes** Wattage Color Temp. **Electrical** Lumens SPJ-GDG-30W-SQ-SH **PVDG 3W** 105 2700K 8-15**V** = Verde = Black 1W 85 2700K 8-15V = Moss = Rusty 3W 105 4000K 120V PVDP = PVD Polished AG = Aged Brass 5W 125 6500K MBR = Matte Bronze PVDS = PVD Satin SB = Satin Brass PVDG = PVD Graphite GM = Gun Metal WWW.SPJLIGHTING.COM

4. Night Sky Quality Reading Map & Sky Brightness Measurement Plan

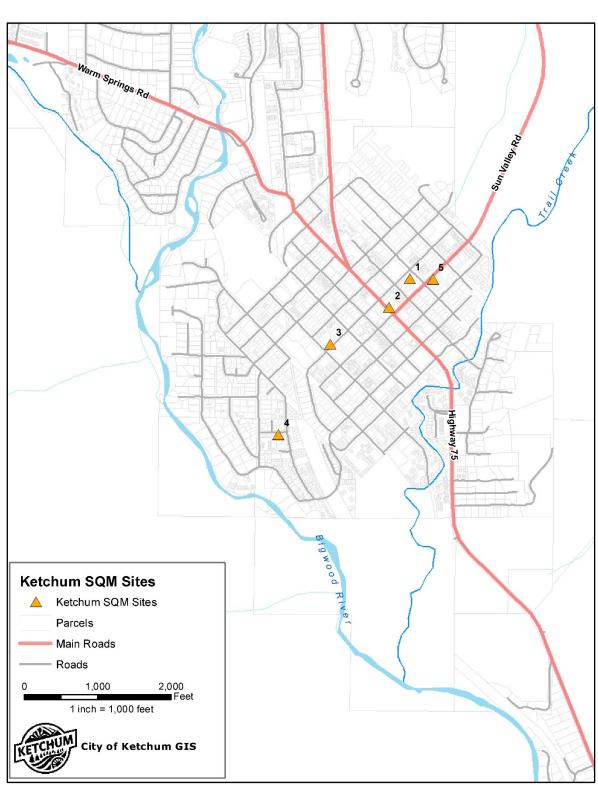
"A sky brightness measurement program must be maintained either by the Community or by another public or private organization (university, research center, IDA chapter, astronomy club, etc.) to follow the evolution of light pollution in the DSC."

The City's Sky Brightness Measurement program is maintained by the City of Ketchum Planning and Building Department, in collaboration with local community partners. In the fall of 2016 a baseline measurement reading was conducted. Five locations were selected, four of which are located in the City's Community Core (CC). These locations were: the Ketchum Town Square, the Pioneer Restaurant, the Post Office, the Elephants Perch and the intersection of Rember St. & Bird Dr. Moving forward, each of these locations will be monitored quarterly by city staff and community volunteers. The intent of the City's Sky Brightness Measurement program is to document the evolution of light pollution within the City of Ketchum and to provide feedback on areas of decreased and/or increased light pollution. The program will also serve to inform the public on areas most suitable to star gazing. All information from the program will be made available to members of the public.

Below, Table 1 contains the results of the initial baseline reading conducted on October 21st, 2016. The next reading is scheduled to occur on August 24th, which is three months from the effective date of the current ordinance. The readings will occur regularly every three months on the 24th day of each month. Figure 1 contains the location that each reading point.

Table 1: City of Ketchum Sky Quality Measurement – Base line

Point	Site	Zone	Meter Reading	Date	Time	Notes
1	Ketchum Town Square	CC	18.75	10/21/16	22:15	Moon at 65%, not visible at time of reading.
2	Pioneer Restaurant	CC	12.1	10/21/16	22:18	Moon at 65%, not visible at time of reading.
3	Post Office	CC	20.53	10/21/16	22:20	Moon at 65%, not visible at time of reading.
4	Rember St. & Bird Dr.	GR-H	20.83	10/21/16	22:05	Moon at 65%, not visible at time of reading.
5	The Elephants Perch	CC	16.23	10/21/16	22:30	Moon at 65%, not visible at time of reading.



 $\label{lem:minimum} M:\GIS\Projects\DarkSkyMap\KetchumSQMSiteMap.mxd$

5. Community Commitment to Dark Skies and Quality Lighting

"City owned lighting (City owned lighting conforming with, or committed to conforming with, the lighting code (if the latter, a published plan with a timeline for completion in no more than 5 years."

An inventory of the lighting currently located within the public right of way, owned either by the City or owned by Idaho Power, is located in Table 2: City of Ketchum Lighting Inventory. The City is committed to changing out all luminaires as they expire. It is anticipated that all city owned lighting will be compliant with the Dark Sky Ordinance at the end of a five year prior (May 2022). For further information on the City of Ketchum on the City's commitment to conforming to the lighting code reference Memo titled "Warranting Provision and Five year Outcomes" in section 5b. For further reference, see City Right of Way Lighting Standards located in section 5c. The lighting Right of Way Lighting Standards were adopted in 2015.

At the time of the lighting survey, all High Pressure Sodium and many of the Metal Halide lighting located in the Lighting Inventory are the property of Idaho Power. The City of Ketchum will continue to coordinate with Idaho Power to replace the lighting owned by Idaho Power with a replacement that is compliant with the recently passed Dark Skies Ordinance.

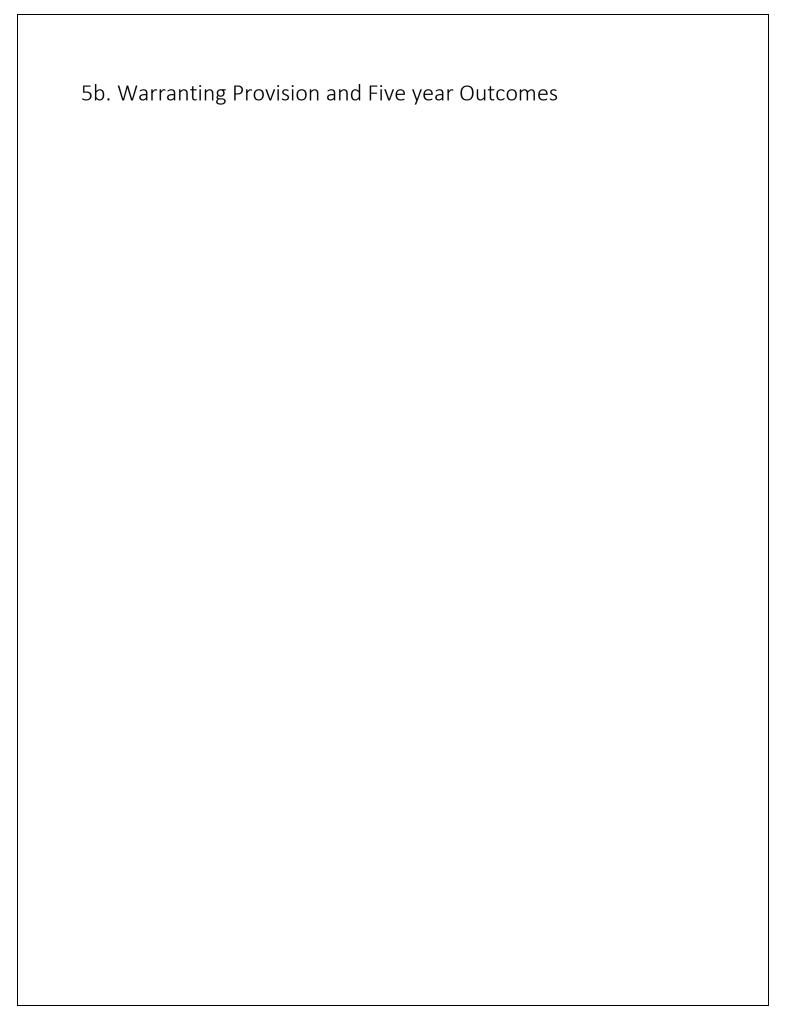
5a. Right of Way Lighting Inventory

Purpose: Street Lamp Bulbs & Quantities

Date: 5/9/2017

Table 1: City of Ketchum Lighting Inventory

Bulb Type	Quantit	Low	Туре	Color	Watt	Lumen
	У	Energy		Temp	S	S
MH175	68	NO	METAL HALIDE	4000K	175	13500
MH150		NO	METAL HALIDE	3700K	150	12500
MH250	17	NO	METAL HALIDE	4000K	250	20500
MH70		NO	HIGH PRESSURE	4200k	70	5280
			SODIUM			
MH100	3	NO	METAL HALIDE	4000K	100	9000
LED PARK		YES	SOLAR LED			
LED 6TH&	2	YES	120V LED	4000K		
MAIN						
LED 5TH	11	YES	SOLAR LED	4000K	36	
STREET						
LED OLD POST	14	YES	LED RETRO FIT	5250K	50	4700
LED/HOWARD		YES	LED/A19/ MED	2700K	12.5	800
			SCREW			
LED/2ND		YES	LED/A19/ MED	2700K	12.5	800
STREET			SCREW			
LED/6TH		YES	LED/A19/ MED	2700K	12.5	800
STREET			SCREW			
SHOP WALL	2	YES	LED/WALLPACK	5000K	20	1432
PAC						
WAGON	2	YES	LED/WALLPACK	5000K	20	1432
MUES.						
SHOP/PLOWS	5	YES	LED/PAR38	4100K	17	1113
Н						
STORYPOLE	1	YES	CFL SCREW IN	2700K	68	4200
RIVER/WASH	2	YES	LED/SOLAR	2700K		
MAIN/IST	2	YES	LED/SOLAR	2700K		
RIVER STREET	2	YES	LED/SOLAR	2700K		
1ST STREET	2	YES	LED/SOLAR	2700K		
1ST/1STAVE.	2	YES	LED	3000K		





Memo

To: Board of Directors

International Dark-Sky Association

3223 North First Avenue

Tucson, AZ 85719

From: Micah Austin, Planning and Building Director

City of Ketchum, Planning and Building Department

cc: Carl Anderson, City of Ketchum

Date: 07/12/2017

Re: Warranting provision for new installations of public outdoor lighting

As the City of Ketchum is currently working to become an accredited International Dark-Sky Community through the International Dark-Sky Association, this memo is intend to provide clarification regarding the City's warranting provision for new installations of public outdoor lighting. The Specific IDA standard states that a provision that clear indicates where, when, and under what circumstances new public outdoor lighting is warranted and will be permitted is required.

As approved by the city of Ketchum City Council on May 15th, 2017, the current Dark Skies ordinance states that, "The City will commit to changing all lighting within the city rights of way and on city owned property to meet the requirements of this chapter when luminaires expire." (17.132.060: The City's Role). The purpose of this memo is to provide clarification as to where, when and under what circumstances new public outdoor lighting is warranted and will be permitted.

Where: All city lighting within the city rights of way and on city owned property.

When: New lighting in the city rights of way or on city property will be installed when A) new construction is undertaken within the city rights of way or on city owned property which would require the installation of new exterior lighting; B) The City is committed to changing out all luminaires as they expire; or C) For the past three years, the City Council has approved City funding for energy conservation, including retrofitting of existing lighting. The amount approved in last year's budget was \$100,000. In the next year's budget, the Ketchum Energy Advisory Commission requested over \$150,000. Among other things, these funds are dedicated to updating the outdoor public lighting.

Circumstance: The city will install new public lighting when it has been found that the installation of new public outdoor lighting will better serve the public good and/or promote the health and safety of the public. The city of Ketchum prefers lighting within the public right-ofway to be adequately lit, rather than over lit. The City will install new outdoor lighting within the

City Right-of-way when, after due investigation, it has been found that there is not a reasonable alternative to installation of new lighting."

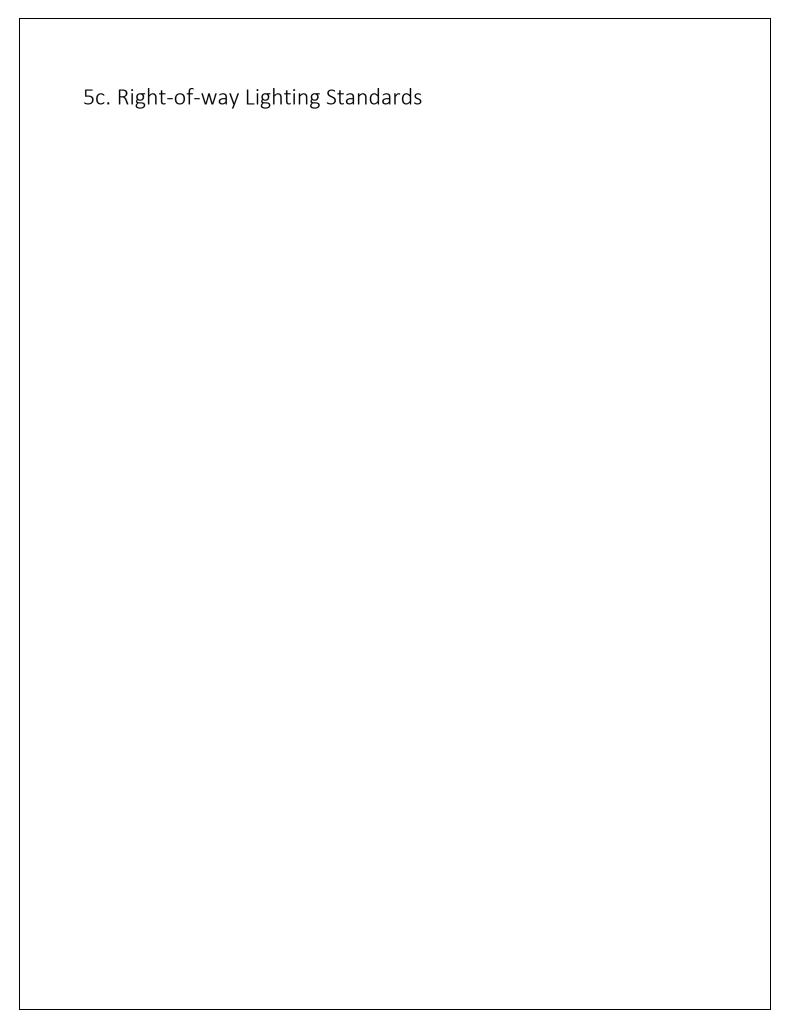
In summary, the city will install new public outdoor lighting when the lighting is owned by the city, located in the public right of way or on city owned property. All new lighting will be compliant with the city's Dark Sky Ordinance when a project requires new exterior lighting, as luminaires expire, and through the City's annual process of updating the outdoor public lighting. It is anticipated that all city owned lighting will be compliant with the Dark Sky Ordinance at the end of a five year prior (May 2022). The city is committed to installing new public lighting when it has been found that the new public outdoor lighting will better serve the public good and/or promote the public health and safety of the public. The city of Ketchum prefers lighting within the public right-of-way to be adequately lit, rather than over lit. The City will install new outdoor lighting within the City Right-of-way when, after due investigation, it has been found that there is not a reasonable alternative to installation of new lighting.

Sincerely,

Micah Austin, AICP

Planning and Building Director

City of Ketchum, Idaho



City of Ketchum



P.O. Box 2315 | 480 East Ave. N. | Ketchum, ID 83340

Lighting Standards

Introduction

Lighting within the public right-of-way is for the purpose of way-finding, safety, and accessibility. The City of Ketchum has adopted the Ketchum Dark Sky Ordinance and the following standards protect the dark sky and achieve the goals of the adopted ordinance. The standards set forth below apply to all lighting within the public right-of-way.

Purpose of the Standards

The standards accomplish the following:

- Protect against direct glare and excessive lighting in order to preserve the dark sky
- Provide safe and accessible lighting for sidewalks and parking within the public right-of-way in the commercial and tourist areas of the city
- Reduce energy consumption and comply with the city's energy conservation goals
- Establish a clear and consistent lighting standard for lighting within the public right-of-way

Standards

The light fixture to be used within the public right-of-way is the Inovus Element Plus, AGM Batteries, and the Design Series AGM Batteries that has a NXT luminaire with color temperature of no more than 3000 Kelvins. A full analysis will be conducted to determine if the fixture has to be connected to the electric grid or if it can be off-grid. An alternative light fixture could be considered provided the fixture meets the same specifications as the Inovus fixture.

Consistent with the standards of the Dark Sky Society, the footcandles illuminating the sidewalk shall be an average of 0.2 fc and shall not exceed 5 fc.

The preferred height of the light standard is 25 feet, however, a lower height of 15 feet is acceptable provided the footcandle standard is maintained.

Every installation will require an analysis performed by Inovus, or other approved lighting provider, to determine the appropriate spacing, location, and type of fixture (Element Plus or Design Series) based on the footcandle standard.

Inovus Contact: Dale Curtis, Director of Sales (208) 473-2709

DESIGN SERIES, OFF-GRID, AGM BATTERIES



Elegant, Modern, Innovative

Best in class design aesthetics matched with innovation that minimizes operating costs. When elegance in design is key, the Design Series delivers the ultimate value. Beyond being attractive, this series innovations result in ongoing operating costs that are far lower than traditional lighting and best in class for solar.

Design:

- Optimized for aesthetics and reduced maintenance
- The patented approach to adhering the solar skin to the surface of the pole creates best in class aesthetics
- Solar collector is self-cleaning due to vertical orientation
- All components are integrated inside a secured compartment within the base of the pole, slashing installation and maintenance costs, while improving safety and reducing liability
- Best in class wind-loading due to elimination of the flat solar panel at the top of the pole
- Solar collector is vandal resistant due to bypass diodes and durable ETFE covering

Operating Expenses:

- Energy management system guarantees maximum battery life
- Patented computerized energy management system eliminates the risk of premature battery failure
- No special equipment is needed for battery replacements as they are accessible from ground level
- Vertically wrapped panel is self-cleaning

Features:

- Motion sensors override dimming features when activity is detected
- Available in 15', 25' and 30' heights



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DESIGN SERIES DATASHEET



	Des	sign Series, Off-Grid w/ AGM Batte	ries			
General	5					
System Autonomy:	9+ days depending on location					
Energy Saving Modes:	Yes: Automatic. Control board determines triggering based on remaining charge in battery system.					
Motion Sensors:		on sensors and dimming for added battery manage				
Warranty:		5 year warranty				
EPA:		2.36 Square Feet with 4' Mast Arm				
Wind Loading:		170 mph*				
Safety Certification:	Solar Light Pole is CSA certified - E	ntire system is NRTL (Nationally Recognized Testin	(Laboratories) certified under CSA			
Pole	15' Pole	25' Pole	30' Pole			
Total Dimension:	15' H x 10" diameter	25' H x dual diameter	30' H x dual diameter			
Base Dimensions:	5'10" H x 10" diameter	5' H x 10" diameter	5' H x 10" diameter			
Body Dimensions:	9'2" H x 10" diameter	20'H x 7" diameter	25'H x 7" diameter			
Material:	T6 Powder Coated Spun Aluminum Pole	T6 Powder Coated Spun Aluminum Pole	T6 Powder Coated Spun Aluminum Pole			
Mounting Options:	Base mount or direct burial option	Base mount or direct burial option	Base mount or direct burial option			
Features:	Secure service access panel	Secure service access panel	Secure sérvice access panel			
Total Weight Installed:	397 lbs	447 fbs	487 lbs			
Solar Collector	15' Pole	25' Pole	30' Pole			
Solar Collector Dimensions:	8.4'H x 30"W	18'H x 15.5" W	18'H x 15.5" W			
Orientation:	Sun-facing, wrapped 340° around pole body	Sun-facing, wrapped 225° around pole body	Sun-facing, wrapped 225° around pole body			
Nameplate Power:	Pmax 123 Watts	Pmax 144 Watts	Pmax 144 Watts			
	Shade Tolerant, damage tolerant, contaminant	Shade Tolerant, damage tolerant, contaminant	Shade Tolerant, damage tolerant, contaminant			
Features:	resistant	resistant	resistant			
Pole Attachment:	Adhesive backed solar collector with supporting aluminum rivets	Adhesive bonded solar collector with supporting aluminum rivets	Adhesive bonded solar collector with supportin			
Ufe:	80% Power at 25 years life	80% Power at 25 years life	80% Power at 25 years life			
Luminaire	SAT-S Series from LED Roadway Lighting					
Power Consumption:	22W to 100W					
Lumens:		2,150 Lm to 8,400 Lm				
Suggested Replacement For:	70W - 250W HID Lighting					
CRI:	770					
Luminaire Efficacy:	>80 Lm/W					
Color Temperature:	4500 K standard (other options available)					
Lighting Type:	Solid State, LED					
Mounting Arm:		4 Feet or 18 inch options				
IES Lighting Type:		Type II and III available				
Ufe:		> 100,000 hours (@ 350mA)				
Operating Temperature Range:		-40°F to +140°F				
Lighting Standards:	Certified p	hotometry per IES LM-79 & LM-80, Full Cutoff, Dark S	ky Friendly			
Safety Certification:		UL Listed				
Battery Charging Controller						
Charging Technology:		Maximum Power Point Tracking, 3 Stage				
Peak Efficiency:	d	0.97				
Self Consumption:		~35 mA				
Data Logging:	Till the second	Yes. 30 days				
Electronic Protection:		Yes. Multiple				
Supported Temp Range:		Charge: -40F (-40C) to 194F (90C)				
Batteries						
Voltage:		24V				
Dimensions:		6.56" x 6.97" x 4.92"				
Material:		Leak Proof Absorbed Glass Mat (AGM)				
Battery Shipping Certification:		Approved for air shipment by DOT and IATA				
Features:	Cont	ained in polypropylene enclosures for added prote	ction			
Expected Life:		4-5 Years				
Operating Temperature Range:	1.	-40°F (-40°C) to +140°F (60°C)				
Protection from Elements and Intrusion		1 1	The state of the s			
System:		Solar Light Pole is Wet Listed per CSA Certification				
Wiring:	Marine-	grade wiring used for all applications to resist deg				
		ctions coated to inhibit corrosion in hostile environ				
Electrical Connections:	Conformal coating used to protect all components on control board from water damage					

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^{2.} Life of LEDs dependent on usage model.

^{3.} The Charge Controller will operate up to 90°C. Above 90°C, temperature protection will shut the charge controller off until the temperature drops back down to 70°C, at which point it will

^{*} All wind load ratings are calculated per AASHTO 2001 specifications. Actual wind load rating will depend on luminaire and arm selections. 170 mph rating is valid for luminaires and arms with a combined EPA equal to or less than 2.36 ft²



ELEMENT PLUS, OFF-GRID, AGM BATTERIES

Meeting the critical needs of solar street lighting Innovation comes standard

The Element Plus increases solar energy generation while optimizing for the lowest total cost of ownership. The high efficiency flat panel increases energy generation, while the superior design reduces installation and operating costs to a minimum.

Superior Design:

- Components are integrated inside the base of the pole, slashing maintenance and installation costs while improving safety and reducing liability
- Only high quality, proven components for lasting reliability
- Features a black, T6 Spun Aluminum pole for exceptional durability

Operating Expenses:

- Lowest maintenance costs in the industry
- Patented computerized energy management system eliminates the risk of premature battery failure
- Maintenance does not require specialized equipment, saving time and money

Features:

- · Motion sensors override dimming features when activity is detected
- · Available in 15', 25' and 30' heights

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ELEMENT PLUS DATASHEET

	Element Plus, Off-Grid w/ AGM Batteries						
General	Bellett Hay of Bridge Harris						
System Autonomy:	9+ days, depends on location						
Energy Saving Modes:	Yes: Automatic. Control board determines triggering based on remaining charge in battery system.						
Motion Sensors:	Motion sensors and dimming for added battery management						
EPA:		@ 20° Panel Tilt = 0.44m3					
Warranty:		5 year warranty					
Pole	15' Pole	25' Pole	30' Pole				
Total Dimension:	15' H x 10" diameter	25' H x dual diameter	30' H x dual diameter				
Base Dimensions:	5' H x 10" diameter	5' H x 11" diameter	5' H x 11" diameter				
Body Dimensions:	10' H x 10" diameter	20' H x 7" diameter	25' H x 7" diameter				
Material:	T6 Powder Coated Spun Aluminum Pole	T6 Powder Coated Spun Aluminum Pole	T6 Powder Coated Spun Aluminum Pol				
Mounting Options:	Base mount or direct burial option	Base mount or direct burial option	Base mount or direct burial option				
Features:	Secure service access panel	Secure service access panel	Secure service access panel				
Total Weight Installed:	427 lbs	477 lbs	517 lbs				
Wind Loading:	150 mph*	150 mph*	120 mph*				
Solar Collector							
Solar Collector Dimensions:		1638 x 982 x 40 mm (64.5 x 38.7 x 1.57 in)					
Orientation:	Sun-facing, tilt	varies per location, 5°-45° of tilt possible i	n 5" increments				
Nameplate Power:		Pmax 240 Watts					
Cell Type:		Poly-crystalline					
Life:		80% Power at 25 years life					
Certifications:	UL 1703, IEC 61215 and 61730, CEC Listed, CQC, JET, CE, MCS, Kemco						
Luminaire		SAT-S Series from LED Roadway Lighting					
Power Consumption:	22W to 100W						
Lumens:	2,150 Lm to 8,400 Lm						
Suggested Replacement For:	70W - 250W HID Lighting						
CRI:	770						
Luminaire Efficacy:	>80 Lm/W						
Color Temperature:	4500 K standard (other options available)						
Lighting Type:	Solid State, LED						
	4 Feet or 18 inch options						
Mounting Arm:							
IES Lighting Type:	Type II and III available						
Life:		> 100,000 hours (@ 350mA)					
Operating Temperature Range:		-40°F to +140°F	7.4 -0.7 5				
Lighting Standards:	Certified photometry per IES LM-79 & LM-80, Full Cutoff, Dark Sky Friendly						
Safety Certification:		UL Listed					
Battery Charging Controller							
Charging Technology:		Maximum Power Point Tracking, 3 Stage					
Peak Efficiency:		0.97					
Self Consumption:		~35 mA					
Data Logging:		Yes. 30 days					
Electronic Protection:		Yes. Multiple					
Supported Temp Range:		Charge: -40F (-40C) to 194F (90C)					
Batteries							
Voltage:		24V					
Dimensions:		6.56" x 6.97" x 4.92"					
Material:		Leak Proof Absorbed Glass Mat (AGM)					
Battery Shipping Certification:		Approved for air shipment by DOT and IATA					
Features:		d in polypropylene enclosures for added p					
Expected Life:	Containe	4-5 Years	V-11-10-2-0				
Operating Temperature Range:		-40°F (-40°C) to +140°F (60°C)					
Protection from Elements and Intrusion							
Wiring:		e wiring used for all applications to resist					
APPLICATION OF THE PROPERTY OF	Connections coated to inhibit corrosion in hostile environments						
Electrical Connections: Control Board:		d to protect all components on control boa					

System performance is highly dependent on location and weather conditions.

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^{2.} Life of LEDs dependent on usage model.

^{3.} The Charge Controller will operate up to 90°C. Above 90°C, temperature protection will shut the charge controller off until the temperature drops back down to 70°C, at

^{*} All wind load ratings are calculated per AASHTO 2001 specifications. Wind load rating may vary based on solar panel tilt and pole height. Contact inovus for projectspecific wind load ratings

5d. Municipal support of dark skies and Quality lighting

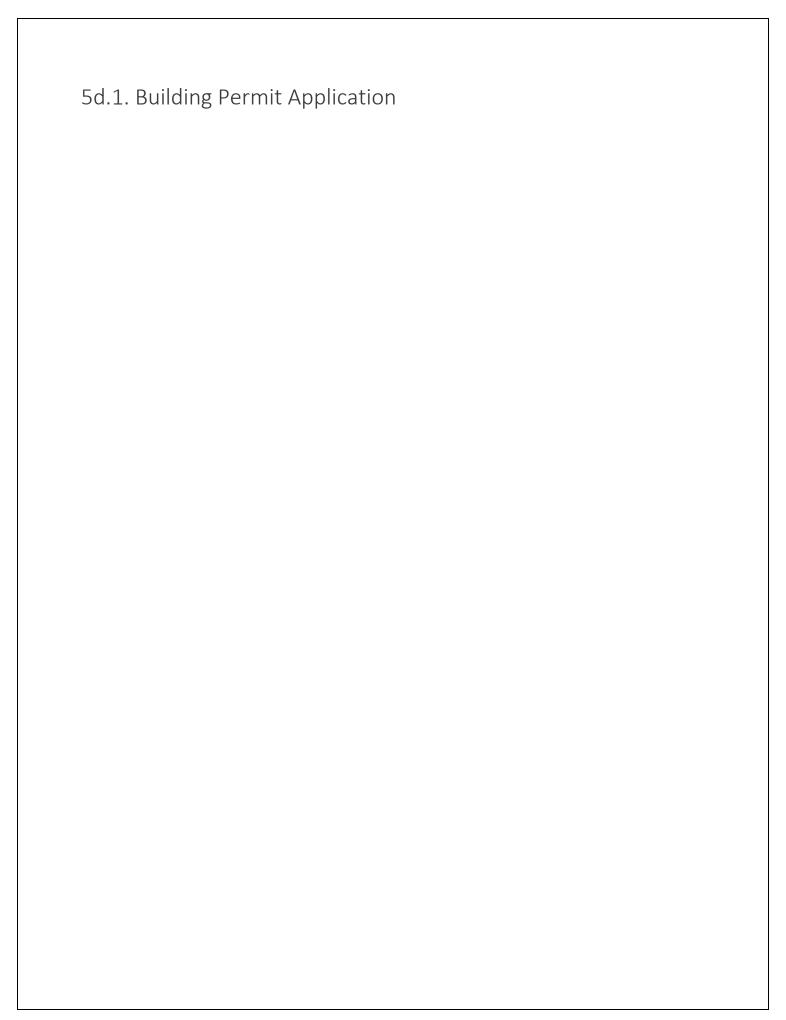
"Municipal Support for Dark Skies Education (City publications, flyers, public service announcement, funding of lighting upgrades, etc.)"

There exist within the City of Ketchum broad municipal support for Dark Skies education. The city is currently in the process of updating much of the educational flyers and publications that are released to the public to provide education on dark skies awareness. Currently, an updated pamphlet aimed at providing dark skies education is in progress, as is a memo intended to serve as a public service announcement regarding the recent updates to the City Code.

The following attachment contain: the updated building permit that is intended to inform all community members who file for a building permit of the updated dark skies ordinance, as well as collect the information necessary for code enforcement; and the pamphlet that was utilized by the City to education community members of the dark skies ordinance.

5d.1. Building Permit Application

5d.2. Dark Skies pamphlet





City of Ketchum Planning & Building

FOR OFFICIAL USE ONLY					
PERMIT NO:					
DATE APPLIED					

BUILDING PERMIT APPLICATION

PROJECT NAME:	BUILDING PERMIT FEES FOR OFFICIAL USE ONLY				
PROPERTY ADDRESS:	Permit Fee				
	Building Plan Check				
	Planning Plan Check				
OWNER:	Fire Plan Check				
PO Box/Street Address:	Sewer Impact/Inspection Fee				
City: State: Zip:	Water Impact/Meter Fee				
Phone:	ParksImpact Fee				
Email:	Street&Traffic ImpactFee				
CONTRACTOR:	FireImpact Fee				
Registration No.:	Law Enforcement Impact Fee				
PO Box/Street Address:	Fire Line Fee				
City: State: Zip:	TOTAL \$				
Phone:					
Contact: Phone:					
Email:	Estimated Cost of Construction: \$				
ARCHITECT:	Parcel Number: RPK				
Contact: Phone:	Legal Description: Lot# Block# Tax Lot #				
Email:	Subdivision:				
ENGINEER:	Design Review Approved: ☐ Yes ☐ N/A				
Contact: Phone:	Planner's Signature:				
Email:	Zoning District:				
New Addition Remodel Garage Re-Roof Repair Solar Other					
Scope of Work:	Avalanche Floodplain Mountain Overlay				
Height of Building: feet stories	New Addition				
Building Coverage: sq. ft. and %	1stFloor: (sq. ft.)				
Lot Area:	2nd Floor: (sq. ft.)				
No. of Dwelling Units: No. of Condo Units:	3rd Floor: (sq. ft.)				
Setbacks: Front ft. Back ft.	4th Floor: (sq. ft.)				
	Basement: (sq. ft.)				
Side ft. Side ft.	Garage: (sq. ft.)				
Water and Sewer (see reverse side for other impact fees) Water Meter Size: 1" 1.5" 2" 3" 4" 6"	Decks: (sq. ft.)				
vvalei ivietei 312e. □1 □1.3 □2 □3 □4 □ 0	CoveredPorch: (sq. ft.)				

\$ \$ \$	TOTAL VALUAT \$1.00to\$500.0	ION			CALC			
□ \$□ \$	\$1.00 to \$500.0	TOTAL VALUATION			FEE CALCULATION			
□ \$		00		\$2	24.50			
□ \$	\$501.00 to \$2,0	00.00			\$24.50 for the first $$500.00$ plus $$3.25$ for each additional $$100.00$ or fraction thereof, to and including $$2,000.00$			
_ *	\$2001.00to\$2	5,000.00			\$72.50 for the first \$2,000.00 plus \$14.50 for each additional \$1,000.00 or fraction thereof, to and including \$25,000.00			
□ \$	\$25,001.00 to \$	\$50,000.00			\$409.50 for the first \$25,000.00 plus \$10.50 for each additional \$1,000.00 or fraction thereof, to and including \$50,000.00			
	\$50,001.00 to \$	\$100,000.00			\$672.75 for the first \$50,000.00 plus \$7.50 for each additional \$1,000.00 or fraction thereof, to and including \$100,000.00			
□ \$	\$100,001.00 to	\$500,000.00			\$1038.50 for the first \$100,000.00 plus \$5.75 for each additional \$1,000.00 or fraction thereof, to and including \$500,000.00			
□ \$	\$500,001.00 to	\$1,000,000.00			\$3,379.25 for the first \$500,000.00 plus \$5.00 for each additional \$1,000.00 or fraction thereof, to and including \$1,000,000.00			
□ \$	\$1,000,001.00 and up				\$5,861.00 or the first \$1,000,000.00 plus \$3.75 for each additional \$1,000.00 or fraction thereof			
P&Z Plan		PermitFee)% of Plan Check Fee heck Fee: 70% of Plan	Check Fee					
	DEVELOPMENT IMPACT FEES							
APPLICABLE CHARGES		Fire	Parks	Police		Streets		
Sin	ngle Family	\$2,092.00	\$1,047.00	\$104.00		\$4,492.00		
☐ Mu	ulti-Family	\$1,616.00	\$809.00	\$80.00			\$3,471.00	
Co	ommercial	\$0.454/sq. ft.	\$0.00	\$0.022/s	sq. ft.		\$0.968/	'sq. ft.
		1		Г				T
WATER FE		Meter Cost			SEWER	FEES**		Equivalent Connection Unit
Applicabl	le Charges					Applicable Charg	es	
	1"Standard		1.00			Single Fan	nily	\$3,205.00
	1.5"Standard	\$76	0.00		Studio, Condo, Dup			\$3,203.00
						Studio, Condo,	Duplex	\$1,602.00
	2" Standard	\$93	6.00			Studio, Condo, 1 Bed Studio, (. ,
	2" Standard 3" Standard		6.00 *				Condo,	\$1,602.00
	3" Standard 4" Standard		6.00 * *			1 Bed Studio, (Condo,	\$1,602.00 \$2,403.00
	3" Standard		6.00 *			1 Bed Studio, (2 Bed Studio, (Condo, Condo,	\$1,602.00 \$2,403.00 \$3,205.00
	3" Standard 4" Standard		6.00 * *			1 Bed Studio, 0 2 Bed Studio, 0 3 Bed Studio, 0	Condo, Condo, Condo,	\$1,602.00 \$2,403.00 \$3,205.00 \$4,006.00
	3" Standard 4" Standard		6.00 * *			1 Bed Studio, 0 2 Bed Studio, 0 3 Bed Studio, 0 Hotel Roo	Condo, Condo, Condo, om urant	\$1,602.00 \$2,403.00 \$3,205.00 \$4,006.00 \$1,602.00

City of Ketchum Building Permit: Exterior Lighting Submittal Requirements

(For Commercial and Residential)

Address:

conformance.

17.132.010 C.1: All existing lighting located on a subject property that is part of an application for a city planning department design
review, conditional use, subdivision permit, or building permit is required to be brought into conformance with this chapter.
Conformity shall occur prior to issuance of a certificate of occupancy, final inspection or final plat recordation, when applicable. For
other permits, the applicant shall have a maximum of thirty (30) days from date of permit issuance to bring the lighting into

In addition to completing the tables below, you will need to submit **manufacturers' product specification sheets** for all proposed outdoor lighting. All applications for design review, conditional use, subdivision and/or building permits shall include lighting plans showing location, type, height, color temperature, lumen output and amount of all proposed and existing fixtures. Complex uses may require additional information.

Proposed Lighting:								
Fixture Model or Description	No. of Fixtures	Shielded (Y/N)	Full cutoff fixture (Y/N)	Light Color (Kelvin)				
Ex: SPJ-GDG-30W-\$Q-SH	3	. У	У	2700				
Existing Exterior Lighting (complete to the best of ye	our knowledge):						
Fixture Description	No. of Fixtures	Shielded (Y/N)	Full cutoff fixture (Y/N)	Light Color (Kelvin)				

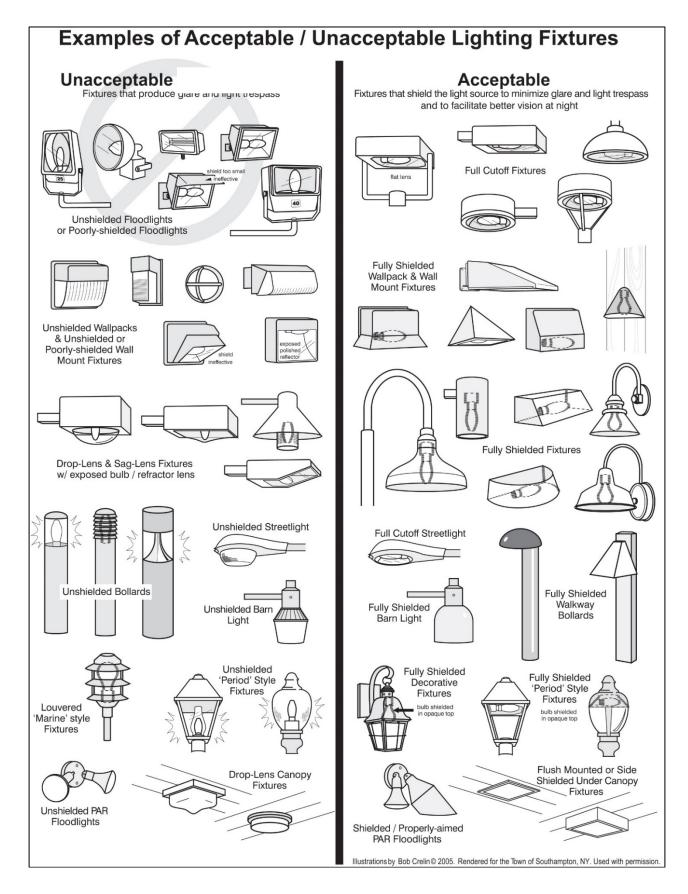
^{*}If you need additional space to detail your exterior lighting fixtures, please submit on a separate page

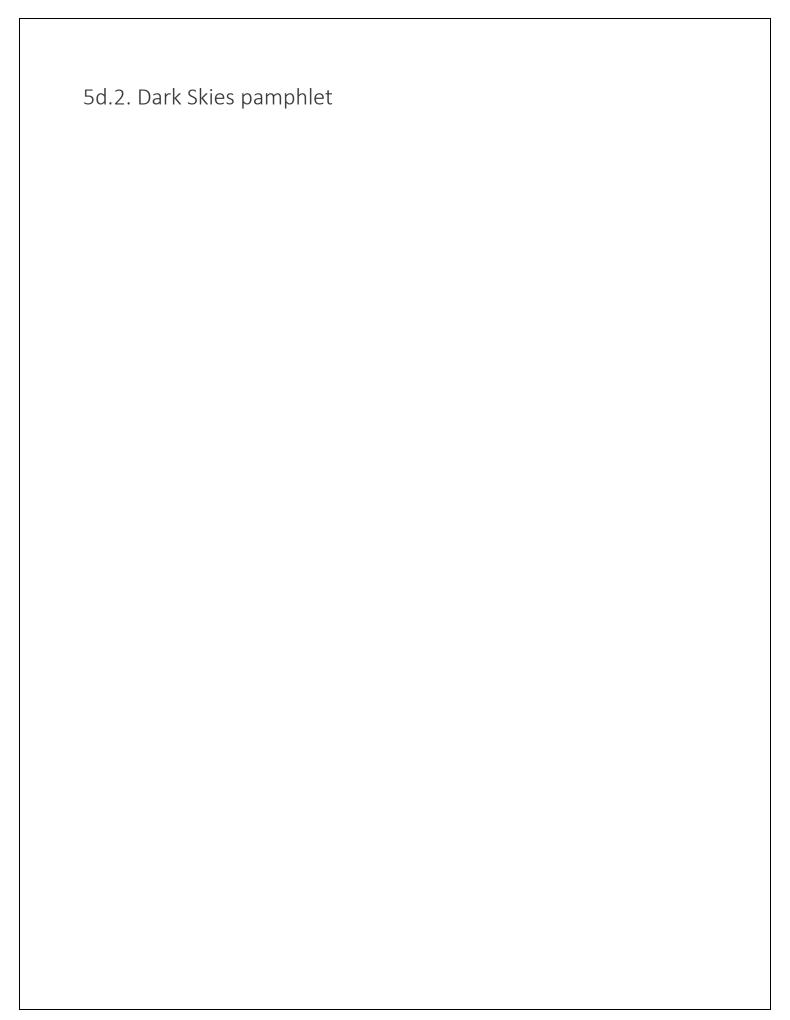
Exterior Lighting Requirements (Chapter 17.132 Dark Skies)

- ✓ Exterior Lighting Fixtures. All exterior lighting fixtures shall be full cutoff fixtures with the light source fully shielded, except as exempted in Chapter 17.132.
- ✓ Color Temperature. All exterior lighting shall utilize light sources not to exceed 2700 kelvin. Correlated color temperature refers to the 'color' of the light emitted. It is indicated on light packaging.
- ✓ **Light trespass.** All existing and/or new exterior lighting shall not cause light trespass and shall protect adjacent properties from glare and excessive lighting. Reference Chapter 17.132.030.B. Figure 1: Light Trespass Matrix for maximum foot-candle limits.
- ✓ **Uplighting.** Uplighting is prohibited in all zoning districts, except as where permitted in Chapter 17.132.
- ✓ **Prohibited Lights.** Any light source that does not meet the requirements of this chapter. Searchlights, beacons, and other high-intensity light fixtures. Except as otherwise allowed by this title, any lighting that is flashing, blinking, rotating, chasing, or rapidly changing in color or intensity is prohibited.
- Nonessential Exterior Lighting. All nonessential exterior commercial and residential lighting shall be turned off after business hours and/or when not in use. Lights on a timer shall be used. Sensor activated lights shall be used to replace existing lighting that is desired for security purposes.
- ✓ Any other standard found applicable to the proposed exterior lighting.

City of Ketchum

Lighting Fixture Guide





Myths & Facts about the Dark Sky Ordinance

MYTH The Dark Sky Ordinance requires people and businesses to turn off all lights

The goal of the Ordinance is to direct light only where it is wanted. Efficient lighting uses the minimum amount of light necessary to light walkways, yards, driveways or other desired areas, while still providing visibility.

MYTH It will cost a lot to bring light into conformance.

FACT In most cases, fixing your lights will be as easy as reducing the wattage or adding a shield. Theses costs are minimal compared to the long term savings from your power bill.

MYTH The Ordinance will reduce security and increase crime.

FACT The Ordinance will result in efficient lighting that can enhance security and deter crime. Proper lighting eliminates shadows and blinding glare that make it easier for criminals to move around undetected. Motion sensor lights are permitted and are a good way to promote security.

MYTH The Ordinance is not fair.

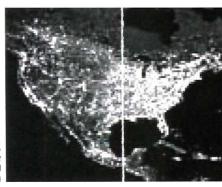
All exterior lights in the City of Ketchum are required to comply with this Ordinance. Even the City of Ketchum needs to fix lights on city property and is working with Idaho Power to change all street lights to comply with the Dark Sky Ordinance.

Is Your House Dark-Sky Friendly?

Take this simple test:

- **1** Go for a walk down your street after dark. Bring a flashlight if necessary, but allow your eyes to adjust to the darkness before you begin your walk.
- 2 Take note of the other lights in the neighborhood. Look where the light rays shine on other properties. Are you blinded by glare from other's lights?
- 3 Now, return to your home. Take note of where your light rays shine. Do they shine onto your neighbor's property? Are there any lights that hurt your eyes? Do any of your lights shine straight up into the sky? If you answered "yes" to any of these questions, your lighting is causing light pollution.
- 4 Consider talking to your neighbors. Ask how they feel about your lights and use this as an opportunity to tell them how their lights affect you.
- Determine where you want light to shine on your property and look to the examples in this parnphlet on howto turn bad light into good lights.
- 6 Still not sure if your lighting is okay? Contact the Planning Department and we will gladly do a free site inspection.

Photo: left – C. Mayhew & R. Simon(NASA/GSFC), NOAA/NGDC DMSP Digital Archive "Images provided courtesy of the Internationa Dark–Sky Association" (http://www.darksky.org)









include this on your to-do list! tial compliance ended July 1, 2001, so be sure to their part. The two-year grace period for residencompliance. Now it's time for residents to do been fixing their lights and are nearing 100% residential lighting. Ketchum businesses have ance for all new and existing commercial and friendly lighting. The Ordinance requires compliand to promote safe, efficient, and neighbor-Ordinance to protect the view of the night sky In 1999, the City of Ketchum adopted an

important? Why is the night sky

Proper lighting enhances and protects:

- Quality of Life

- Our tourist economy
- dəəls.
- View of celestial events
- · Education for children and adults
- ytelec •
- · Conservation of energy · Health

printed on recycled paper

P.O. Box 2315 Planning & Zoning Department Ketchum, ID 83340

City of Ketchum

Replace the light with a motion !bleid? 6 bbA Reduce the wattage! Replace the fixture! 100 25 change these to these - into a "good" light How to turn a "bad" light

sensor activated light!

(turn off after bed time or remove entirely) Consider if the light is necessary!

6. Community Commitment to Dark Skies and Education

"Community commitment to dark skies and education as shown by at least one of the following: A) planning and execution of at least two community dark sky awareness events per year; B) Inclusion of dark sky awareness documents with other community information; C) Inclusion of dark sky education in Community school curriculum.)"

As shown throughout the report and through the values identified by the community, as detailed in the 2014 Comprehensive Plan, there is broad community commitment to dark skies and education. In recent years the city of Ketchum and local community based organizations have either held dark sky awareness events or published dark sky awareness documents.

The following pages are intended to illustrate the community commitment to dark skies within the city of Ketchum. These examples provide an sample of the type of events and awareness documents that will continue over the coming years.

6a. July 25, 2016, "Dark Sky Communities - ICL's Central Idaho Office, located in the City of Ketchum.

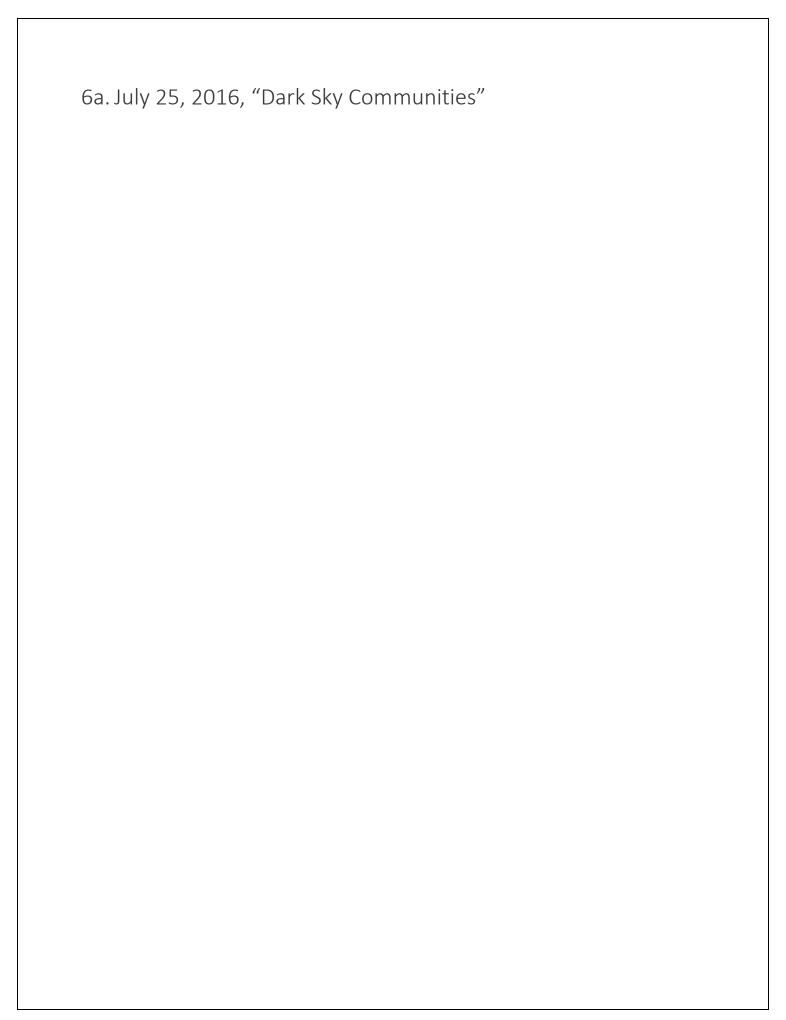
6b. March 8, 2017 Science Pub Ketchum: Light Pollution – Idaho Conservation League

6c. March 30, 2017 The Great American Eclipse is coming to Ketchum – City of Ketchum

6d. July 13, 2017 Dark Sky Reserve Presentation and Night Watch Exhibit – Idaho Conservation League

6e. July 13, 2017 Night Watch – Sun Valley Center for the Arts

6f. July 13, 2017 Central Idaho Dark Sky Reserve – Sun Valley Center for the Arts



BLOG (HTTP://WWW.IDAHOCONSERVATION.ORG/BLOG) > GREEN LIVING (HTTP://WWW.IDAHOCONSERVATION.ORG/BLOG/CATEGORY/GREEN-LIVING/) > DARK SKY COMMUNITIES (HTTP://WWW.IDAHOCONSERVATION.ORG/BLOG/DARK-SKY-COMMUNITIES/)

Jul 25, 2016

Dark Sky Communities

80% of Americans can no longer see the Milky Way in their night skies. Some Idaho communities are working to protect aesthetics and ecosystems that benefit from a dark sky.

Note: This article was authored by Brian Rich, ICL's Central Idaho intern for the summer.

Idaho remains one of the last great refuges for darkness throughout the continental U.S., according to a recent report

(http://advances.sciencemag.org/content/2/6/e1600377) by the Cooperative Institute for Research in Environmental Sciences. **An estimated 80% of Americans can no longer see the Milky Way** at all due to light pollution at night. CIRES' study compiled data on the extent of light pollution throughout the world. This map

(https://www.arcgis.com/home/webscene/viewer.html?webscene=a5411b2f3d4e4c87b868023b2fa48f35&viewpoint=cam:-91.77502696,35.00035797,11113761.618;12.252,0)

details the extent of light pollution throughout the country, showing the extent to which artificial light infiltrates our night sky.

A clear night sky has effects on the natural world beyond simple aesthetics. **Millions of nocturnal creatures rely on darkness in order to survive**, and as light encroaches on their habitat, it drastically disrupts their lives. Similarly, **diurnal creatures rely on darkness for sleep and rest**. As the darkness is pushed back across the world, millions of animals are seeing their habitat encroached upon.

7/7/2017 Dark Sky Communities

However, the International Dark Sky Association is working to raise awareness of the importance of darkness in communities across the globe. Over the past fifteen years, the IDSA has **recognized towns and cities for their work in restoring the night**. Beginning with Flagstaff, Arizona in 2001, the IDSA has certified dark sky communities in the U.S., Canada, and Scotland for their commitment to preserving the night.

Dark sky communities are noted by their **efforts to minimize the amount of unnecessary light and light pollution**. Here in Idaho, several communities have independently enacted dark sky ordinances with a similar goal in mind. The cities of Ketchum, Hailey, and Sun Valley are located on the edge of some of the darkest sky in Idaho due to their proximity to federal wilderness areas. In 1999, 2002, and 2004, respectively, the three communities passed ordinances to reduce light pollution.

The ordinances sought to **reduce excess artificial light when possible and to eliminate upward facing lights that cast a glare on the night sky**. In 2010, all of Blaine County adopted Ordinance 2010-05, which put dark sky practices into effect for the whole county. In doing so, the county hoped to **preserve not only the aesthetic qualities of the night sky, but critical ecological conditions as well**.

Although it gets dark very late here in Central Idaho, once the sun finally goes down make sure you go outside and see what the night has to offer. The sky here is clear and dark, free of the dim haze that envelops much of the country. While a truly dark sky may be difficult to achieve in metropolitan areas, in a state like Idaho it is a very real possibility.

While we may value the long days of summer, the darkness of night helps Idaho retain its wild character. The next time you find yourself out after dark, make sure you take time to stop and look up.



Blog Editor











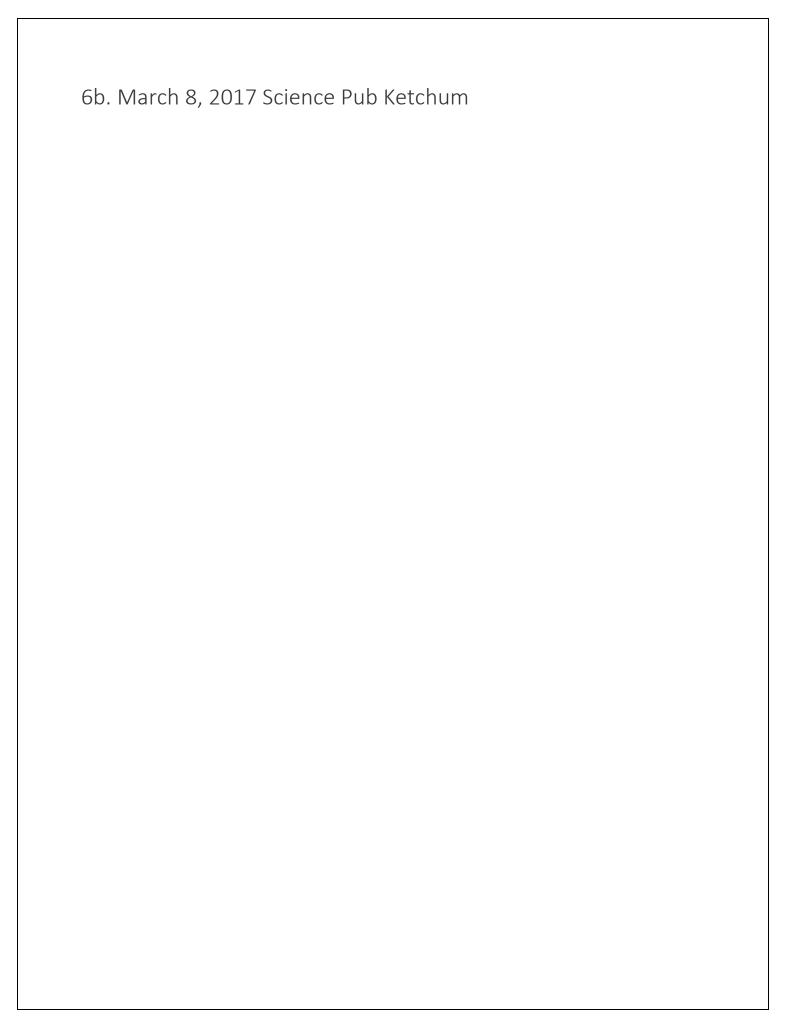
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PREVIOUS (HTTP://WWW.IDAHOCONSERVATION.ORG/BLOG/CELEBRATING-TEN-YEARS-ADVENTURES-NORTH-IDAHO/)

NEXT

They're not only pretty--dark skies benefit millions of creatures who depend on them for survival.







EVENT INFO

WHERE

SAWTOOTH BREWERY PUBLIC HOUSE, 631 WARM SPRINGS RD, KETCHUM, ID 83340

BETSY MIZELL EMAIL 208 726 7485

WEDNESDAY MARCH 8, 2017

6:00pm to 7:00pm

Sawtooth Brewery Public House, 631 Warm Springs Rd, Ketchum, ID 83340

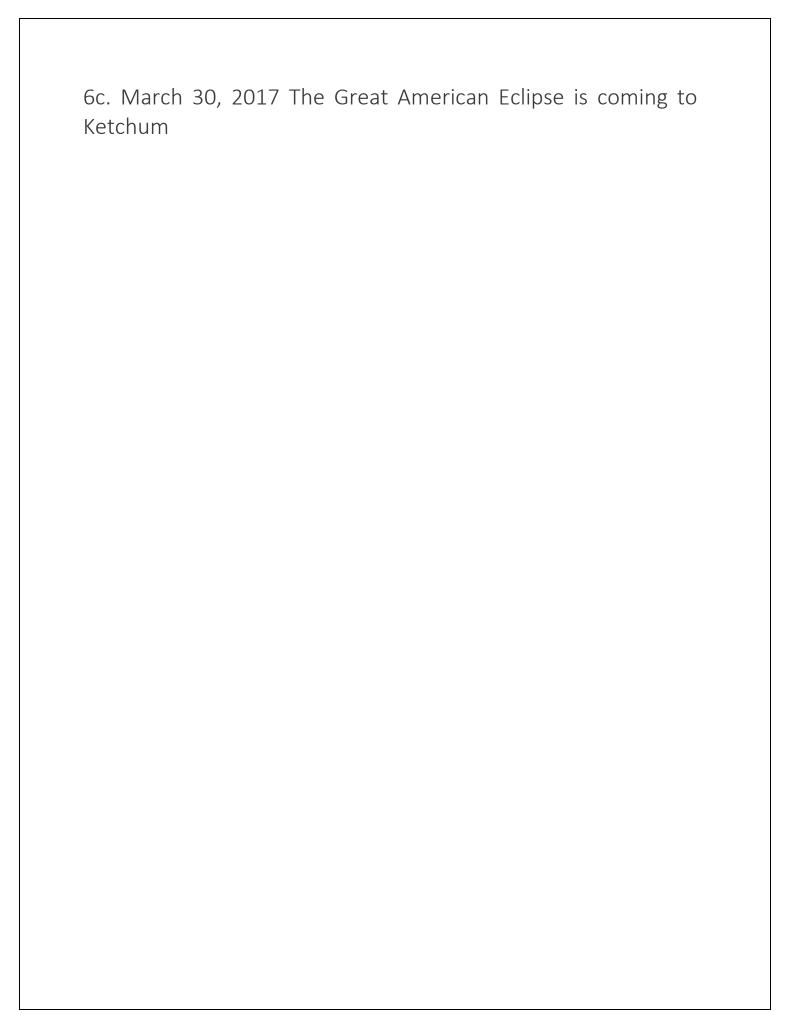
Science Pub Ketchum: Light Pollution

Curious about light pollution? Stop by and quench your thirst for knowledge at this month's Ketchum Science Pub on light pollution.

Join ICL staff members Dani Mazzotta and Betsy Mizell and learn about excessive use of artificial light—known as light pollution—and its serious environmental consequences for humans, wildlife and our climate. You will also have the opportunity to lean about the collaborative effort taking place in the Wood River Valley and Stanley Basin to create the Central Idaho Dark Sky Reserve.

Based on the Science Cafe model developed in Europe in the 1990s, ICL and the Sawtooth Brewery are pleased to present Science Pub as a fun way to bring educators, scientists, presenters and the public together. Come on out, grab a beer, and join in on the informal discussions around scientific topics and environmental issues.

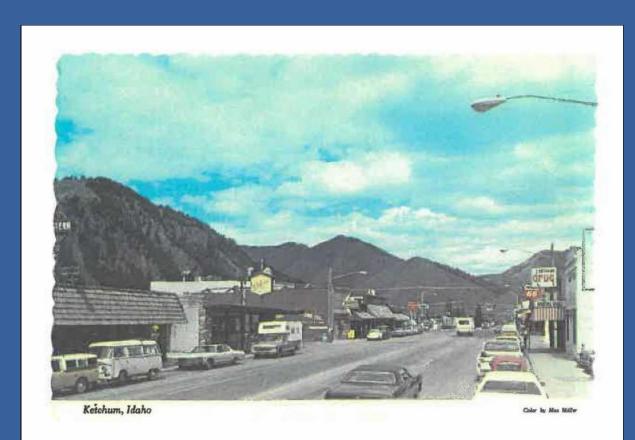
Enjoy a great glass of locally crafted beer while you learn about light pollution. No RSVP or scientific background is required. Just bring your curiosity, sense of humor, and appetite for drinks and knowledge!







- •
- •
- •
- •



Ketchum, Idaho circa 1970s



City of Ketchum P.O. Box 2315 480 East Avenue N. Ketchum, Idaho 83340 "Small Town, Big Life"

Inform. Celebrate. Involve.

March 30, 2017

In This Issue

Ask Nina

Council Agenda - Meeting Information - Comment
The Great American Eclipse Is Coming to Ketchum
BSU Proposes Ketchum Essential Services Facility Analysis
Council to Vote on Americans with Disabilities Act Contract

p.m. in Ketchum City Hall, 480 East Ave. N., or by sending an email to participate@ketchumidaho.org.







nda

nfo

THE GREAT AMERICAN ECLIPSE IS COMING TO KETCHUM



The City of Ketchum spends its fair share of time on "best of" lists. This year, we can add an exciting, new distinction: We've been named one of the best places to view the 2017 total solar eclipse by the *Los Angeles Times*.

The eclipse, which will happen on Monday, August 21, will only be a partial eclipse to most of the country. Yet areas in the "path of totality" will be treated to a true total eclipse. In Ketchum, the partial eclipse will begin at 10:12:37 a.m.; the total eclipse will begin at 11:29:38 a.m. (and last over a minute); the entire eclipse will conclude a few minutes before 1:00 p.m.

As the *LA Times* reports, " this rare cosmic occurrence will turn the summer day dark, reveal stars in the daytime sky, and move the black disk of the moon to where the sun should be."

Because the full eclipse is viewable only in the United States, it's being referred to as "the Great American Eclipse." Millions of visitors are expected across the country to sites located within the path of totality, and Ketchum is excited to plan eclipse-related events and to welcome visitors to the city.

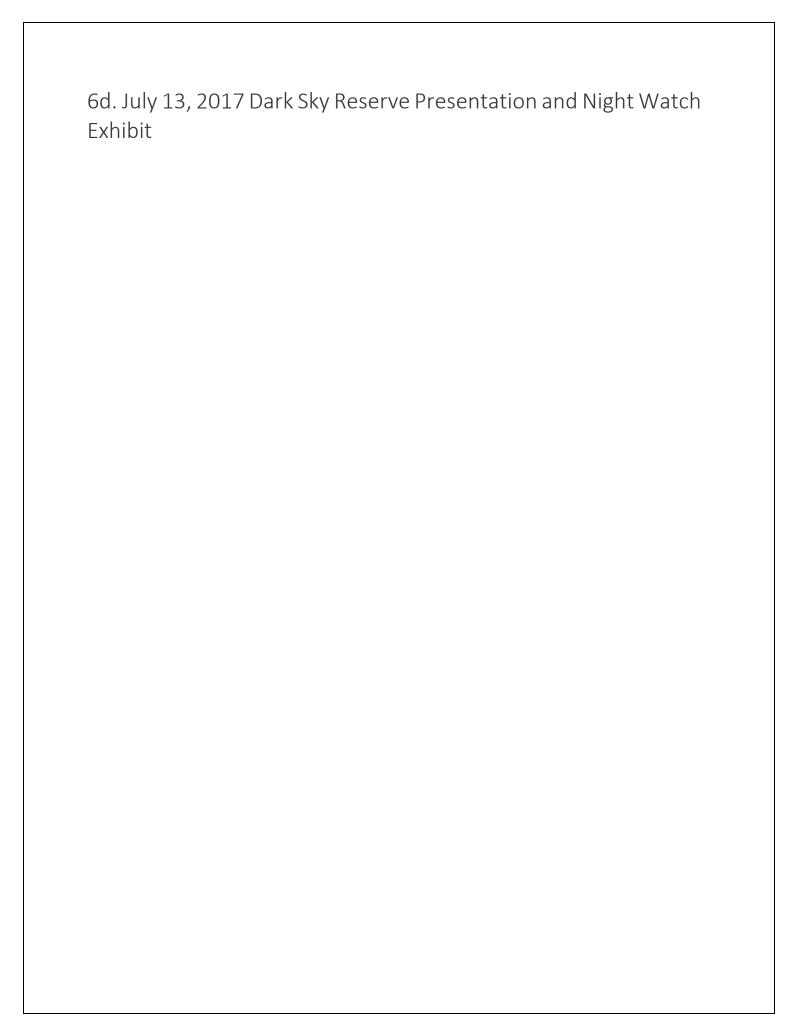
Ketchum and the City of Sun Valley are working collaboratively on an event to celebrate the eclipse on August 21 at Festival Meadow on Sun Valley Road. While details are being finalized, the cities' events are expected to coordinate with Ketchum's efforts to become a Dark

Sky Community, and both cities' efforts to become a <u>Dark Sky Reserve</u>. Dark Sky Communities are "places around the world that recognize and promote excellent stewardship of the night sky through responsible lighting and public education," as recognized by the <u>International Dark-Sky Association</u>. Dark Sky Reserves are "formed through partnerships of land managers who have recognized the value of the natural nighttime environment through regulations and long-term planning."

According to NASA, an eclipse occurs "when one heavenly body such as a moon or planet moves into the shadow of another heavenly body." With a total solar eclipse, "the sun, moon and Earth must be in a direct line ... The people who see the total eclipse are in the center of the moon's shadow when it hits Earth."

A small portion of the sun's top layer, called the corona, will still be viewable during the eclipse, and NASA and other scientists use total eclipses as an opportunity to study the corona itself.

Stay tuned for more information on the cities of Ketchum and Sun Valley eclipse event. To learn more, refer to ketchumidaho.org/eclipse, NASA's 2017 Eclipse page, Eclipse2017.org or the LA Times article in the What We're Reading section of this newsletter.





PRESENTATION INFO

WHERE 191 5TH ST E, KETCHUM, ID 83340 BETSY MIZELL EMAIL 208.726.7485

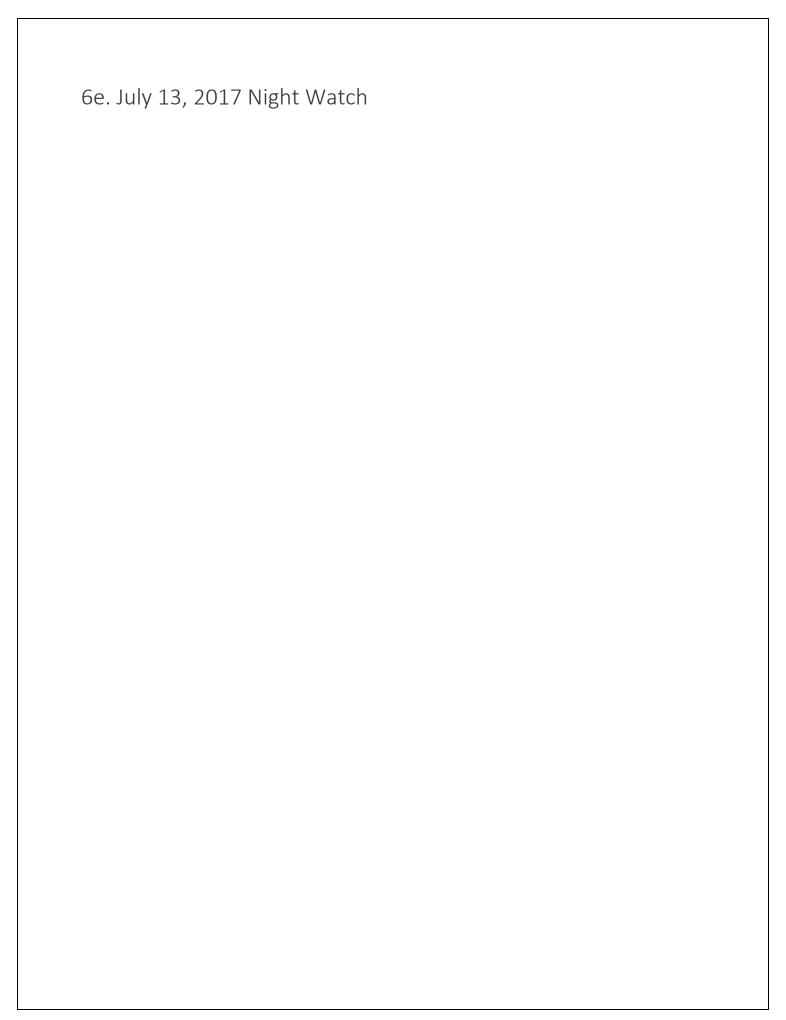
THURSDAY JULY 13, 2017

6:30pm to 7:00pm 191 5th St E, Ketchum, ID 83340

Dark Sky Reserve Presentation and Night Watch Exhibit

The night has long been a subject for painters, poets and photographers. Evoking danger and excitement as well as mystery and awe, night is a time of renewal and transformation. Every couple of months, the Center of the Arts in Ketchum displays a unique art exhibit to explore ideas relevant to our time. From June 30 to Aug 26, the Center will present the work of contemporary artists who expose the many ways that night frames our lives and our dreams.

On July 13, the Center has invited Idaho Conservation League staff member Betsy Mizell to discuss the excessive use of artificial light—known as light pollution—and its environmental consequences for humans, wildlife and our climate. You will also have the opportunity to learn about the collaborative effort taking place in the Wood River Valley and Stanley Basin to create a Central Idaho Dark Sky Reserve.







EVENTS

EDUCATION & HUMANITIES

PERFORMANCE & FILM

VISUAL ARTS

GET INVOLVED

ABOUT



< CALENDAR OF EVENTS

FREE →

UPCOMING EVENT

FREE EVENING EXHIBITION TOUR: Night Watch

Thursday, July 13, 5:30 pm The Center, Ketchum Q

Enjoy a glass of wine as you tour the exhibition with The Center's curators and gallery guides. This exhibition presents the work of contemporary artists who expose the many ways the night frames our lives and our dreams.

Exhibition on view Jun 30-Aug 26, 2017.

Night Watch has been generously underwritten by Barbara and John Lehman.

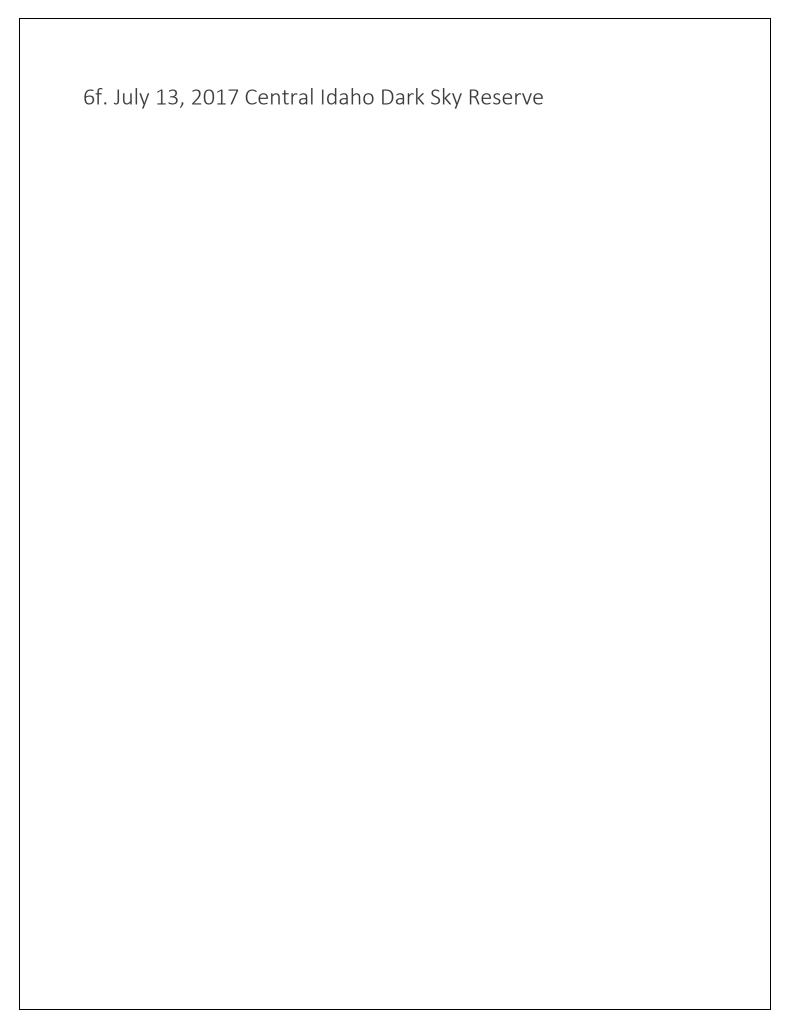
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EVENTS

BIG IDEA PROJECTS

EVENTS CALENDAR

Category: Exhibitions





MY ACCOUNT



EDUCATION & HUMANITIES

PERFORMANCE & FILM

VISUAL ARTS

GET INVOLVED

ABOUT



< CALENDAR OF EVENTS

FREE →

UPCOMING EVENT

FREE PRESENTATION: on Central Idaho Dark Sky Reserve

Thursday, July 13, 6:30 pm

The Center, Ketchum Q

Idaho Conservation League staff member Betsy Mizell will discuss the excessive use of artificial light—known as light pollution—and its environmental consequences for humans, wildlife and our climate. You will also have the opportunity to learn about the collaborative effort taking place in the Wood River Valley and Stanley Basin to create the Central Idaho Dark Sky Reserve.

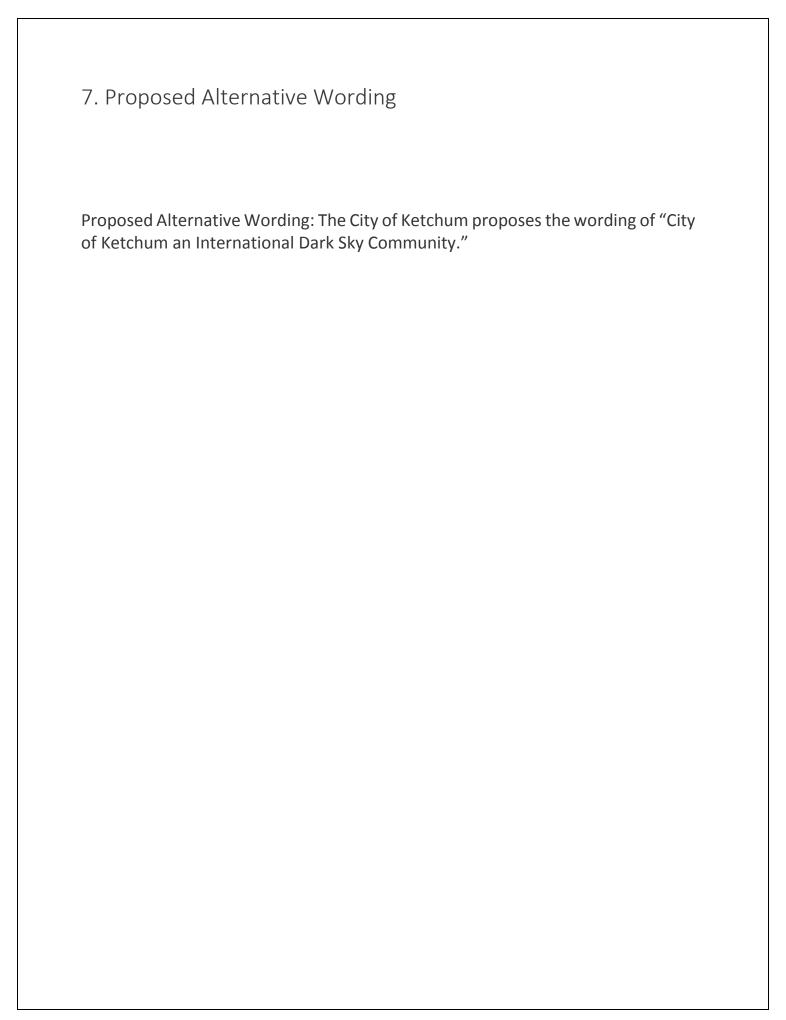
Part of the exhibition Night Watch on view Jun 30-Aug 26, 2017.

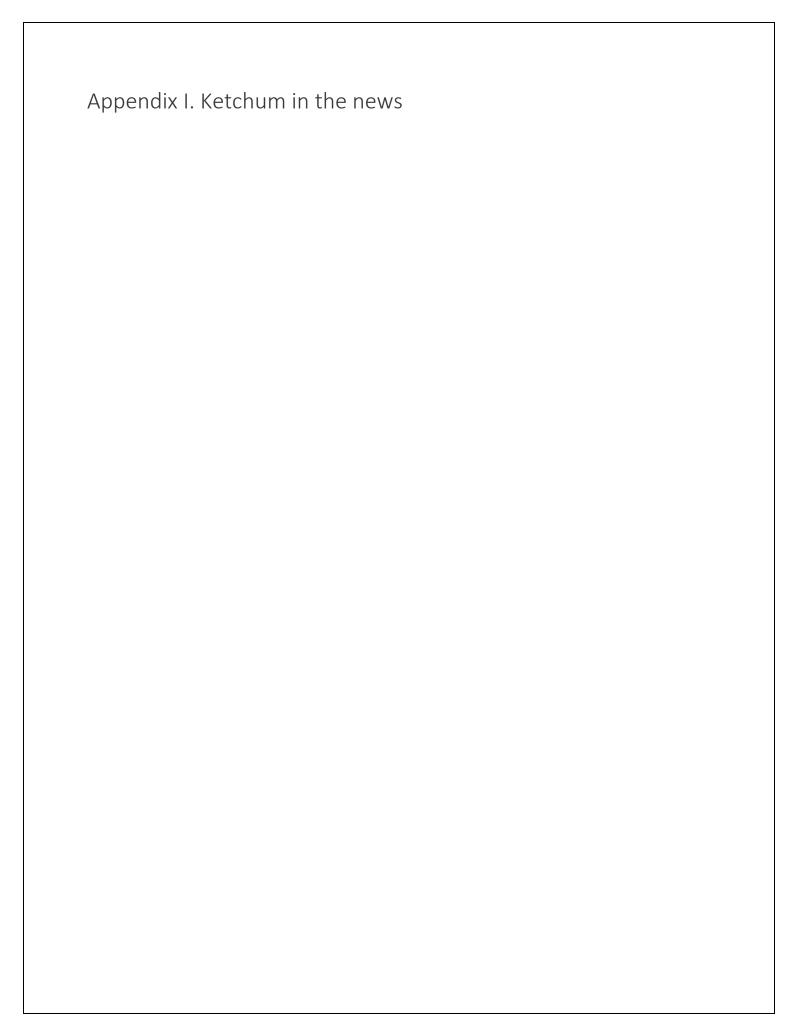
LIST OF EVENTS >

EVENTS

BIG IDEA PROJECTS

EVENTS CALENDAR





Welcome To Mountain Town News

What it takes to keep the Milky Way visible

Posted on December 21, 2016 by Allen Best

Idaho group aims for first designated dark sky reserve in U.S.

by Allen Best

Matt Benjamin was growing up in Los Angeles when early one morning a "strange, silvery cloud" appeared in the darkened night sky. Or so it was described by callers to local astronomical observatories.

Because of his family's travels to Idaho, Benjamin knew what he was seeing on that January morning in 1994: the Milky Way Galaxy. The Northridge earthquake that shook Los Angeles had left large swathes of the metropolitan area without power and hence lights or light pollution.

Benjamin, now an astrophysicist in Colorado, returned to Idaho ago recently, this time to testify. The Idaho Conservation League proposes to seek designation for a dark sky preserve centered on the area around Ketchum and Sun Valley. Three designated wilderness areas buffer the resort valley. Boise is 150 miles away. There's darkness already. But Benjamin, in his testimony before the Blaine County commissioners, called for stiffening efforts to tamp down the lights so that the Milky Way can continue to be seen.



Matt Benjamin

Los Angeles isn't alone in blotting out the Milky Way. A team of scientists reporting in a June 2016 issue of Science Advances found that the Milky Way is not visible to more than one-third of humanity. This includes 60 percent of Europeans and nearly 80 percent of North Americans. But even when they can detect the Milky Way in the sky overhead, 99 percent of the U.S. and European populations live under light-polluted skies.

"In terms of where the dark skies are, east of the Mississippi is gone," says Benjamin, the education programs manager at the <u>Fiske Planetarium</u> at the University of Colorado in Boulder, Colo. "There's nothing left to save, unless you start turning off lights and getting rid of cities."

Even in the American West, the Milky Way can be hard to find in the night sky. What Benjamin calls the light footprint from cities can extend 100 to 150 miles in every direction. In Colorado, that footprint easily encompasses Rocky Mountain National Park and mountain towns like Winter Park, Vail, and Breckenridge.

Mountain towns can have problems of their own. Consider Colorado's Summit County, located an hour west of Denver.

"The problem is Denver's footprint covers just such a large area," says Benjamin. "The eastern third of the sky in Dillon and Summit County is largely washed out by the Front Range, and Summit County itself has a large footprint." Too, he adds, snow reflects light, obscuring the Milky Way and many stars for much of the year.

How about the canyon country of the Southwest? Again, problems. Chaco Canyon National Historical Park, where the ancestral Pueblo once thrived, has few lights—but just outside are oil and gas drilling in the New Mexico desert, plus the flames of unwanted gases being burned off. Arches and Canyonlands national parks in Utah have darkness, too, but again, drilling has been occurring outside the borders. For that matter, Moab is not such a small place anymore, Benjamin observes.

In Idaho, the proposal being pushed by the <u>Idaho</u>
<u>Conservation League</u> would yield the creation of a dark sky reserve, the first in the United States and 12th in the world designated by the International Dark-Sky Association.

The association specifies that 80 percent of outdoor lighting must be shielded within five years to prevent it from going into the sky. Within a decade, it must hit 100 percent.



The Milky Way and stars from the depths of the Grand Canyon.

Photo/Ken Neubecker

To achieve that would require the cluster of towns along the Wood River—including Ketchum and Sun Valley, plus Blaine County—to up their game.

"I think we're a lot closer than many of us would have thought," says the Idaho Conservation League's Betsy Mizell.

Raising the bar in Sun Valley

Both Ketchum and Sun Valley adopted dark sky laws in the late 1990s. Ketchum's ordinance requires all light fixtures be downcast, restricts light trespass onto neighboring property, and specifies maximum brightness or luminosity of lights. Regulations are imposed when new projects seek permits.

What's to prevent somebody from loading up with warehouse-type lights at the Lowe's in Twin Falls? Enforcement is complaint driven, said Micah Austin, Ketchum's director of planning and building, in an e-mail response. "Generally, our community abides by the regulations and there has been little to no pushback," he said.

But compliance? "A recent informal lighting survey conducted by staff showed that a majority of lighting in Ketchum's residential neighborhoods meets the Dark Sky Ordinance," he said. "Nearly all commercial lighting meets the requirements of the ordinance."

Sun Valley already has an ordinance, too, as well as a local resident, nicknamed Dr. Dark (he's a retired physician), who has been a vocal exponent of the value of unpolluted skies. "He's definitely a champion of dark skies, and recognizes the benefits of human health and tourism and his own personal interests," says Jay Hill, the town's director of community development.

Hill sees several drivers to further tamp down light pollution. Regulations will be necessary for some. When somebody pulls a permit for a new roof, light fixtures will be on the check-list. Others will respond best to incentives, such as rebates. Others will voluntarily comply with encouragement. Just how much Sun Valley needs to improve its compliance, though, has not yet been determined. In the long nights of this winter, says Hill, Sun Valley hopes to measure compliance.

Neighboring Ketchum, he adds, has done a good job of using social media and website messaging to advance social acceptance for dark sky protections.

Those advocating dark sky protections have several arguments. "We lose our perspective of our place in the universe to light pollution," says Benjamin, the astrophysicist.

There's also evidence that light pollution can impact the health of both people and wildlife by disrupting circadian rhythms. "Many environmentalists, naturalists, and medical researchers consider light pollution to be one of the fastest growing and most pervasive forms of environmental pollution," said a <u>January 2009 article by Ron</u>

<u>Chepesiuk in Environmental Health Perspectives.</u> "And a growing body of scientific research suggests that light pollution can have lasting adverse effects on both human and wildlife health."

Still another argument is that dark skies can drive tourism. Ketchum was once a mining town, then a center for livestock grazing before becoming a resort when Averill Harriman of the Union Pacific decided in the 1930s that skiing was a way to increase railroad business. Today, if summer and winter tourism are strong, the shoulder seasons could benefit from people drawn to see the Milky Way, says Hill.

That's proven to be the case in Alberta. Jasper, for the last three Octobers, has hosted a dark sky festival. This year, buffed up with the marquee attraction of Bill "The Science Guy" Nye and George Takei, the actor who played Mr. Sulu in the original Star Trek series, the festival drew 10,000 people over the course of the two weekends.

Can we have it both ways, outdoor lights illuminating our pathways at night without precluding sight of the Milky Way, stars like Polaris, and the constellations that inspired shepherds and civilizations past?

The <u>International Dark-Sky Association</u> advocates best practices, such as outdoor light fixtures that shield lights, preventing light from trespassing skyward (or to neighbors' backyards). Different lighting technologies, such as LED, can help in some cases, although Benjamin says all forms of light have upsides and downsides.

Best regulations in Hawaii

Hawaii, on the big island, may have the best light ordinance. There, measures were drawn up by the city of Hilo to protect the quality of the night sky for the <u>Mauna Kea Observatories</u>. The law mandates that outdoor lighting be shielded and requires that most outdoor lighting must use low-pressure sodium lamps.

Benjamin credits the Arizona mountain town of Flagstaff with having a "toned-down version" of the same nightsky protections.

In advocating for such protections, Benjamin describes a "delicate" conversation with people who fear loss of their freedom. Passing a law does not make it so. Rather, the task is to get people to take ownership of rules. We've largely achieved that with sewage. Unlike 50 years ago, you don't see outhouses over creeks anymore.

It's the most fervent hope of dark-sky enthusiasts that the same thing will occur with light pollution. Still, Benjamin isn't hopeful about places like Colorado, where today's population of 5.3 million is projected to hit 10 million by mid-century. Expanding towns and cities will almost certainly make the Milky Way for coming generations a phenomenon of textbooks and the internet—except, of course, when the power goes out.



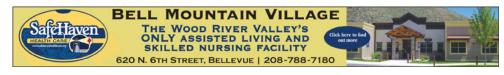
About Allen Best

Allen Best is a Colorado-based journalist. He publishes a subscription-based e-zine called Mountain Town News, portions of which are published on the website of the same name, and also writes for a variety of newspapers and magazines.

View all posts by Allen Best →

This entry was posted in Mountain towns and tagged dark skies, Idaho Conservation League, Iight pollution. Bookmark the permalink.

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http://www.mtexpress.com/news/ketchum/ketchum-hopes-for-darker-skies-with-ordinance-tweak/article_ad3b5496-0903-11e7-9f80-db3e30a1c6a3.html

Ketchum hopes for darker skies with ordinance tweak

Idaho Conservation League advocates for dark sky reserve in Blaine County

Peter Jensen Mar 15, 2017

The city of Ketchum wants to make the skies above it a little darker.

The city has proposed changes to its dark skies ordinance, including considering imposing a curfew on outdoor holiday lighting, banning unshielded exterior light fixtures and blocking headlight beams into residential homes where appropriate.

The Planning and Zoning Commission voiced its support for the amended ordinance Monday night by a 4-0 vote to approve the changes, which now go to the City Council for approval. Commissioner Erin Smith was absent.



Ketchum originally enacted its dark sky ordinance in 1999, and other jurisdictions in Blaine County have followed suit. The ordinance intends to reduce glare and unnecessary lighting at night, so residents and visitors can enjoy unobstructed views of the stars and sky.

It requires any application for a building project to submit a lighting plan to the city, showing how exterior lights will be positioned as well as their intensity and lumen output. It also limits the angle of floodlights and prohibits lights from extending upward, unless a roof overhang shields the light and prevents it from going beyond the structure.

The ordinance prohibits holiday lighting from remaining up between April and November.

The newly revised ordinance could impose a curfew of 11 p.m. for exterior holiday lights.

It would also impose a restriction on the lights' color temperature of 2,700 kelvins or fewer. At 2,700 kelvins, light has a yellow-orange appearance; when it ramps up to 4,000 kelvins, it appears white.

The new ordinance also removes flexibility for unshielded lights. Before, lights could be unshielded or partially shielded at low wattages. Now, no unshielded exterior lights will be permitted.

Planning Commissioner Neil Morrow said he favored the revisions.

"It's one of the cool things about living here," Morrow said. "You walk home, you look up. You don't get that everywhere."

City Planning Director Micah Austin is seeking a dark skies community designation from the International Dark Skies Association, and the revisions are needed to meet the association's requirements.

Furthermore, Ketchum may become part of a Central Idaho Dark Sky Reserve. The reserve would include parts of Blaine and Custer counties. Its boundaries would encompass Ketchum, Sun Valley, Stanley, Smiley Creek and the Sawtooth National Recreation Area.

The Idaho Conservation League is advocating for the reserve's creation, and will apply to the International Dark Sky Association this year.

The Sawtooth National Forest is taking comment on the proposed reserve, intended to protect nocturnal animals and wildlife while boosting stargazing tourism and activities. It does not create regulations that would be enforced by a governmental agency. Rather, the reserve encourages landowners and homeowners to follow guidelines to limit light pollution.

The association has 11 dark sky reserves in New Zealand, Wales, England, Ireland, Canada, Namibia, France and Germany.

Email the writer: pjensen@mtexpress.com

"It's one of the cool things about living here. You walk home, you look up. You don't get that everywhere."

Neil Morrow

Ketchum P&Z commissioner

Retail project approved

The Ketchum Planning and Zoning Commission has approved expanding the PK's Ski and Sports rental shop building to accommodate retail space. PK's is in the process of moving out of its retail building on Fourth Street and into the rental shop building on Leadville Avenue. To do that, the Leadville Avenue building will have to expand by 407 square feet. The project goes above a 1.0 floor-area ratio to a 1.45 FAR, and thus owes the city an in-lieu housing payment of \$16,495. The commission voted 4-0 to approve the project. Commissioner Erin Smith was absent

Peter Jensen

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NEWS » CITYDESK MARCH 26, 2016

'Dark Sky' Ordinance Proposed for Cascade

By George Prentice

@georgepren



In 1999, the city of Ketchum instituted a so-called "dark sky ordinance," limiting exterior lighting on commercial and residential properties. The cities of Hailey and Sun Valley followed suit in 2002 and 2004, respectively, and similar ordinances have since popped up in other Northwest communities, most of them rural.

Michael J. Bennett, CC By 3.0

If stargazers have their way, the city of Cascade may

be next in line to consider going "dark."

This week's McCall *Star-News* reports members of the newly formed Valley County Astronomical Society have approached the Valley County Planning and Zoning Commission to craft a "dark sky" ordinance. The Valley County city of McCall instituted its own "dark sky" ordinance in 2006.

The ordinances ask that all exterior light sources should be "downcast and fully shielded" with exceptions for holiday lights and emergency lighting. Proponents say leaving outdoor lights burning through the night gives a false sense of security, and instead suggest motion sensors or lights on timers.

In the meantime, the new society has scheduled a series of "star parties" to encourage more Valley County residents and visitors to celebrate the best and cheapest show in town.

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Speaking of...







McCall Winter Carnival

Starry, starry night? BY GAIL DUTTON

On the next clear night, go outside and gaze at the stars. Throughout much of the developed world, you'll likely see dozens of them winking against a pinkish-gray sky. Yet there was a time, not so many decades ago, when millions

of stars sparkled brightly against velvety blackness.

What happened? The advent of inexpensive electric lighting. In today's world street lamps, security lights, illuminated advertising signs, and residential, commercial, and industrial lighting systems all combine to create a mega light source powerful enough to rival if not the sun itself, at least the shining stars.

The light pollution that has dimmed our skies is so pervasive that two-thirds of Americans and half of all Europeans cannot see the Milky Way on a clear night, according to researchers at Italy's University of Padova and the National Oceanic and Atmospheric Administration's National Geophysical Data Center in Boulder, Colo., USA. Light pollution is worst in developed nations, but the Italian researchers point out that two-thirds of the world's population live in areas of "excess light," in which the night sky is 10 percent brighter than it would be under natural conditions.

It's not just people who are affected. The Florida Department of Natural Resources, for example, decided to order beach lights turned off to protect sea turtles during their nesting and hatching seasons after researchers found that the animals walked toward the lights, rather than the safety of the sea, after they laid their eggs. Turtle hatchlings also became disoriented.

Other biologists have found that light pollution affects the habits and reproduction of species ranging from zooplankton and frogs to birds and mountain lions.

The biggest problem is where the light is pointing, according to the Arizona-based International Dark-Sky Association (IDA), a group founded to address the light pollution issue. Simply put, outdoor lighting should be directed down, not up, says the group. They also recommend that outdoor lighting devices be shielded, so that the light shines only on the intended area and does not spill



over to neighboring property, and that they use the least amount of power needed for the job.

The city of Ketchum, Idaho, USA, implemented a dark sky ordinance in June 1999 that imposed restrictions even on existing exterior residential lighting. Since then, according to Tory Canfield, senior planner for the city, "You can hike up Bald Mountain at night and see a huge difference. We saw the northern lights, and the Leonid meteor shower [in November 2001] was spectacular!"

When Ketchum implemented its dark sky policy, Canfield adds, the town worked with residents to explore options such as reducing wattage, adding light shields, and replacing fixtures.

Experts say there is no evidence that crime increases as the lights dim. According to a 1991 report released by the Home Office Crime Prevention Unit in London, increased lighting "by itself has very little effect on crime," although it does "reduce the public's fear of crime."

For many businesses and homeowners concerned with security, a viable option to constant lighting is the installation of motion detectors, which reduce operating costs and are more effective against intruders because of their "instant-on" function, notes the IDA.

Dave Crawford, the association's executive director, says hundreds of counties and cities so far have enacted dark sky policies and many others are considering them. If the trend continues, perhaps soon even city dwellers will be able to see millions of stars again, right from their own backyards.

 Gail Dutton is a freelance writer based in Irvine, Calif., USA, where, she reports, the night skies are pink.

The New Hork Times

HOME & GARDEN

Lights Cloud the Night Sky

By ALEX KUCZYNSKI JAN. 16, 2003

Correction Appended

DR. STEPHEN PAULEY, a powerfully built man with ruddy cheeks, drove his Chevy Tahoe down Main Street here, past Atkinson's Market, Ozzie's Shoes and Country Cousins, one evening this month. He stopped in the parking lot of Cox Cable and gestured toward a high-intensity floodlight that radiated a sickly-looking yellow cloud into the night sky.

"That is a glare bomb," Dr. Pauley said. "It is an insult to the eye, and an insult to the sky."

Dr. Pauley, 62, earned the nickname Dr. Dark for his crusade against light pollution, which led to restrictions that were passed here in 2000.

His eyes narrowed. "I'm going to have to call that one in," he said.

An environmental activist, amateur astronomer and a retired ear, nose and throat specialist, Dr. Pauley hunts down light polluters who treat the night sky, he said, like a junkyard, stabbing it with mercury-vapor and high-pressure sodium floodlights. Dr. Pauley is part of the Dark Sky movement, whose members urge urban areas to regulate their outdoor lighting.

Ketchum, a ski village of 3,800 people that is next to the Sun Valley resort, has long been attracting the kind of people who can afford to light their trees and their mansions. Since the 1930's, hotel magnates, tycoons and movie stars have been visiting and living here part time to escape the bright lights of the big city.

Stars and moguls here include Tom Hanks, Mohammed al-Fayed, Steve Wynn, Bruce Willis, Demi Moore, Clint Eastwood, Arnold Schwarzenegger and Maria Shriver, Rob Lowe and Jamie Lee Curtis. They come here seeking a place that is unspoiled and private, where they can step outside the front door and bathe in the pointillist glow of the Milky Way (which 60 percent of Americans do not get to see).

But as Ketchum has expanded over the last decade, homeowners have installed huge floodlights over garages, and stores have put in bright lighting, which floods their surroundings and the sky with queasy intensity.

"The point with big city folks moving here is that they, we, bring our big city practices with us," Dr. Pauley said. For example, he said, Mr. Wynn's and Mr. al-Fayed's houses previously had so many upward-pointing lights that neighbors were annoyed.

Catherine Rich, the executive officer of the Urban Wildlands Group, an environmental group in California, said celebrities are often among the culprits.

"It's a combination of people with a lot of money who are security-conscious, not around all the time, and probably worried about lookey-lous," she said, referring to celebrity gawkers.

But once educated, Dr. Pauley said, they mend their ways. "It does not mean living in darkness," he said. "It means shining light where it belongs, on the ground or pavement, not in someone's eyes, window or up into a space where it is wasted."

Some of the worst offenders are towns that are trying to restore a sense of oldtime Americana. In nearby Hailey, acorn-shaped street lamps provide inefficient lighting, he said, shining more light into the sky than down at the ground. Fixtures like those would not be allowed in Ketchum, which has some of the strictest rules in the country. Ketchum has not only restricted lighting on new construction but it has also regulated old lighting. Businesses and residents must turn off or dim their lights or face a \$100 fine. Hailey, 11 miles to the south of Ketchum, where the potentates who do not have private helipads must arrive by jet, passed its own lighting regulations in June. Businesses have one year to comply, and the town has three years to replace its acorn streetlights.

Contractors and architects have noticed the changes, too. Kurt Eggers, a landscape architect in Ketchum, said, "A lot of coach lanterns, the kind that would be on each side of a front door, have switched to frosted glass from clear."

And while there is an increase in requests for landscape lighting around big mansions, he said, the ordinance "does make that more challenging, because one of the most common is uplighting into the trees."

Elmar Grabher, president of Grabher Construction in Ketchum, which builds large houses here, said he felt at first that the ordinance was "typical government breathing-down-your-neck stuff."

But he said the town looks better now that more people are complying with the rules. "We don't have those big yard lights, those huge commercial lights at gas stations," he said. Residents, he said, now make a point of dimming lights. "They don't want to look like we live in Las Vegas."

Municipalities in at least seven states have regulations. In late December, the Riverhead, N.Y., city council adopted an ordinance, the first of its kind on Long Island, to restrict outdoor lighting fixtures. Last summer, East Hampton was the first town on Long Island to replace streetlights with those eliminating glare.

About 30 percent of all outdoor lighting in the United States is directed skyward, according to the International Dark-Sky Association, a 9,000-member nonprofit group based in Arizona.

Opponents of lighting rules argue that extra fixtures, or new ones, are expensive, and that cutbacks in lighting may promote crime. Ken Carwin, who owns the Wood River Inn on Main Street in Hailey, called the Hailey ordinance "a risky scheme."

Mr. Carwin said that changing the lighting at his hotel to comply with the ordinance would cost him \$50,000.

Despite protests like Mr. Carwin's, Sherry Daech, a principal in McCann Daech Fenton, an agency in Ketchum that sold a house to Mr. Schwarzenegger, said that the rules have made residents think twice. Even she has made the sacrifice. "I definitely don't uplight my trees anymore," she said.

Correction: January 23, 2003, Thursday A picture last Thursday with an article about measures taken by Ketchum, Idaho, to control excessive levels of outdoor lighting was published in error. It showed the Sun Valley resort; Ketchum is nearby.

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'Dark skies' attitude rewarded

Mother Nature dipped into her bag of astonishing tricks last week with a dazzling exhibition of what the human eye can behold above us when given the chance.

First, for nights on end, a brilliant array of stars and constellations — like jewels strewn across dark velvet — twinkled through the nights.

Then came the dazzling splash of spectacular dancing colors across the northern skies of Idaho as well as around the world — the aurora borealis.

Usually reserved for people in northern Canada and Alaska, the stunning aurora in its shades of red and green so far south was one of those natural phenomena that reminds us Nature always beats out humankind's technological wizardry in creating astonishing sights.

One web site devoted to atmospheric events www.spacew.com/www/auroras.html glowed with breathless observations from around the world about Friday night's show.

For those in the Wood River Valley who stayed up for the spectacle, foothills and mountains were held in dark silhouette throughout Friday night by an inextinguishable and iridescent green glow.

It's worth mentioning that this dramatically bears out the virtue and value of Ketchum's "dark skies" ordinance — which prevents blinding ground lighting from polluting the nighttime skies and obscuring views of brilliant stars and other phenomena.

And, coincidentally, Ketchum's "dark skies" ordinance will prove to be a fateful and welcome contribution to conservation and cost savings during the growing concern for electricity supplies.

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