



City of Ketchum

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

Right-of-Way Standards

Effective July 2015

Introduction

A public right-of-way is defined as improved or unimproved public property dedicated or deeded to the City for the purpose of providing vehicular, pedestrian and public use.

In Ketchum, the public rights of way consist of roadway, curb, gutter, sidewalks, signage, and drainage facilities. The public rights of way are also used for public parking, wintertime snow storage, and conveyance of utilities, such as water, sewer, electricity, telephone, cable, etc.

Purpose of the Standards

The purpose of these standards is to:

- Improve safety by creating sufficient width for emergency vehicles to travel on the streets
- Provide space for parking off the street
- Improve pedestrian access by creating walking areas off the street
- Provide adequate space for snow storage
- Eliminate safety hazards caused by trees, fences, bushes and other obstructions that limit driver visibility
- Provide appropriate drainage within the right-of-way
- Provide consistent and predictable standards that apply to all properties
- Create space for elements such as bus stops, signage, lighting and sidewalks

Right-of-way Standards

Two categorizes have been identified for right-of-way standards; Commercial Category, which consists of all roads within the Community Core, Tourist, and Light Industrial zones plus arterial and collector roads within all other zones; and the Residential Category, which consists of all roads in other zoning districts with the exception of arterial and collector roads.

Residential Category

The following standards have been developed in order to achieve goals of drainage, parking, snow storage, and access for emergency vehicles within local-residential street right-of-ways, and provide materials that can be reasonably maintained by the city:

- Material shall be pervious/permeable to allow drainage
- Surface must allow for vehicle parking and be consistent along the entire property frontage
- Material within the first eight (8) feet from edge of asphalt shall be distinct from driveway and rest of property in order to visually appear to be available for parking
- Grading and drainage improvements as required by City Engineer
 - Minimum 5% slope
- No obstructions, such as boulders or berms
- No buried irrigation systems within the first eight (8) from the edge of asphalt
 - Subsurface irrigation lines are permitted beyond the first eight (8) feet, however pop up heads are not permitted anywhere in the ROW.
- No live plant material within the first eight (8) feet from edge of asphalt
 - Low ground cover plant material, such as turf grass, is permitted beyond the first eight (8) feet. Drought-tolerant species is preferred.
- No snow-melt system (other than driveway)

A right-of-way encroachment permit will be executed between the City and property owner with right-of-way improvements by the property owner are desired. Alternative materials are acceptable within the public right-of-way provided all conditions listed above are met, the material is approved by the city engineer, and the property owner agrees to maintain the alternative material within the ROW.

In the event a property owner does not wish to improve the right-of-way, the city will maintain ¾ inch road-mix within the entire right-of-way.

Commercial Category

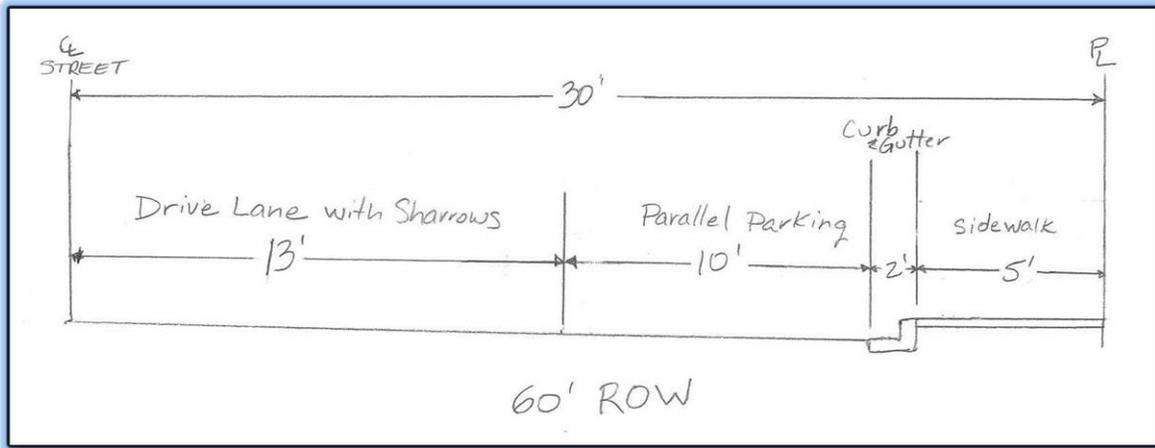
The following standards have been developed for all roads within the community core, tourist, and light industrial zoning districts and collector roads in all other districts. Examples of collector roads in other zoning districts include Saddle Road, Warm Springs Road and Sixth Street. The standards have been developed with the goals of vehicle movement, parking, and bicycle and pedestrian circulation. Where sidewalks are required public amenities may also be required, at the developer's cost, depending on the specific site. Amenities may include streetlights, benches, and bus stop/bus shelter.

60-ft Rights-of-Way

New development of 60-foot ROW streets will include a 5-ft wide sidewalk, curb & gutter with drainage facilities (i.e. curb inlets and drywells) as required, a 10-ft parallel parking lane, and a 13-ft wide travel lane with sharrows to alert drivers to share the road with bicyclist.

Examples of 60-foot right-of-way roads are First thru Tenth Street, Leadville Avenue, Washington Avenue, and Spruce Street.

The following schematic shows a half street cross section of a 60-foot wide right-of-way.

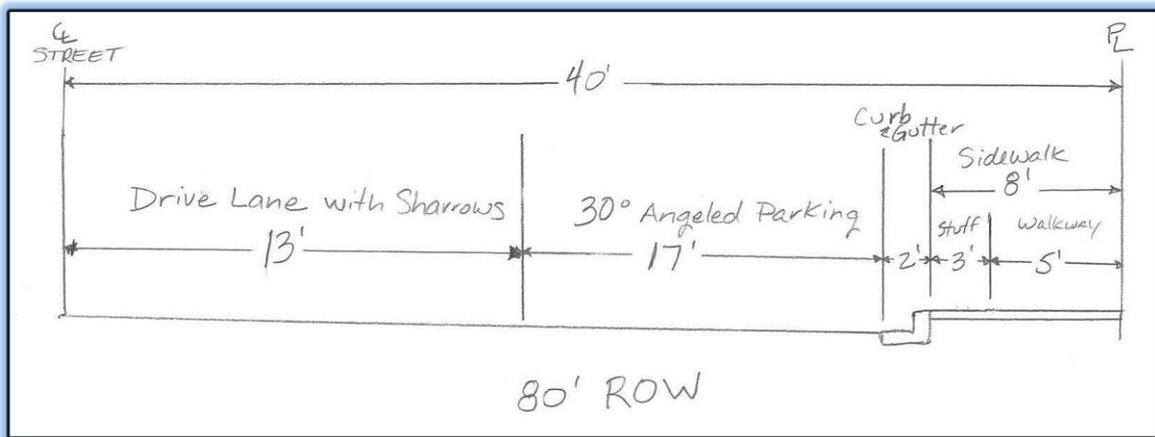


80-ft Rights-of-Way

Sidewalks in 80-ft ROW streets are widened to 8-ft total. The first 5-ft of the sidewalk adjacent to the property line will remain free of obstructions to provide a clear path for pedestrians. Three feet of sidewalk adjacent to the curb will be available for city approved streetscape amenities, such as street trees, flower boxes and signs. Parking adjacent to the curb and gutter will be 30-degree angled parking to accommodate additional parking. Drive lanes will be 13-feet wide with sharrows to alert drivers to share roads with bicyclist.

Examples of 80-foot right-of-way roads are Walnut Avenue, 2nd Avenue and 3rd Avenue.

The following schematic shows a half street cross section of an 80-foot wide right-of-way.

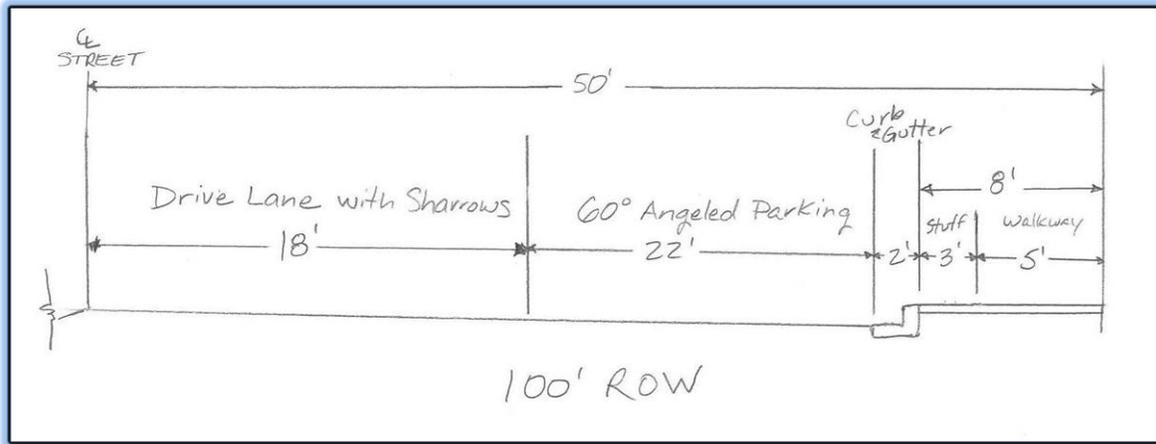


100-ft Rights-of-Way

The sidewalk widths in 100-ft ROWs will be the same as 80-foot ROW streets. Angled parking will at 60-degrees to allow additional parking, and the drive lane will be 18-ft wide with sharrow.

Examples of 100-foot ROW streets are East Avenue and 1st Avenue.

The following schematic shows a half street cross section of a 100-foot wide right-of-way.





City of Ketchum

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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

INOVUS

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

Design Series, Off-Grid w/ AGM Batteries			
General			
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:	Motion sensors and dimming for added battery management		
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 - Entire system is NRTL (Nationally Recognized Testing 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 service access panel
Total Weight Installed:	397 lbs	447 lbs	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
Features:	Shade Tolerant, damage tolerant, contaminant resistant	Shade Tolerant, damage tolerant, contaminant resistant	Shade Tolerant, damage tolerant, contaminant resistant
Pole Attachment:	Adhesive backed solar collector with supporting aluminum rivets	Adhesive bonded solar collector with supporting aluminum rivets	Adhesive bonded solar collector with supporting aluminum rivets
Life:	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:	~70		
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		
Life:	> 100,000 hours (@ 350mA)		
Operating Temperature Range:	-40°F to +140°F		
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:	Contained in polypropylene enclosures for added protection		
Expected Life:	4-5 Years		
Operating Temperature Range:	-40°F (-40°C) to +140°F (60°C)		
Protection from Elements and Intrusion			
System:	Solar Light Pole is Wet Listed per CSA Certification		
Wiring:	Marine-grade wiring used for all applications to resist degradation		
Electrical Connections:	Connections coated to inhibit corrosion in hostile environments		
Control Board:	Conformal coating used to protect all components on control board from water damage		
1. System performance is highly dependent on location and weather conditions. 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			

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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:

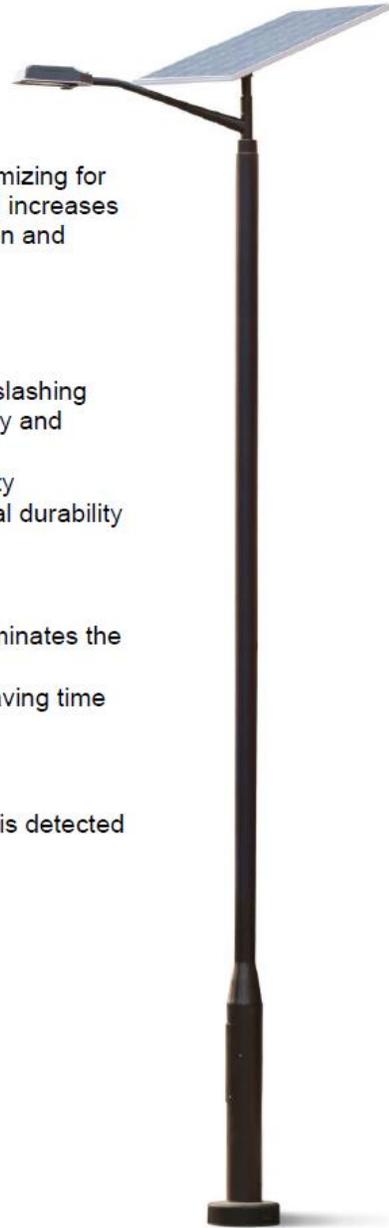
- Components are integrated inside the base of the pole, slashing maintenance and installation costs while improving safety and reducing liability
- Only high quality, proven components for lasting reliability
- Features a black, T6 Spun Aluminum pole for exceptional durability

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			
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 = 0.44m ²		
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 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 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 in 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:	~70		
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		
Life:	> 100,000 hours (@ 350mA)		
Operating Temperature Range:	-40°F to +140°F		
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:	Contained in polypropylene enclosures for added protection		
Expected Life:	4-5 Years		
Operating Temperature Range:	-40°F (-40°C) to +140°F (60°C)		
Protection from Elements and Intrusion			
Wiring:	Marine-grade wiring used for all applications to resist degradation		
Electrical Connections:	Connections coated to inhibit corrosion in hostile environments		
Control Board:	Conformal coating used to protect all components on control board from water damage		
1. System performance is highly dependent on location and weather conditions. 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 automatically turn back on. * 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 project-specific wind load ratings			

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