



## ALPINE CITY PLANNING COMMISSION MEETING

**NOTICE** is hereby given that the **PLANNING COMMISSION** of Alpine City, Utah will hold an **Electronic Public Meeting** on **Tuesday, September 1, 2020 at 7:00 pm**. Meeting will be anchored from Alpine City Hall, 20 North Main, Alpine, Utah.

The public may view and participate in the meeting via the **Alpine City YouTube Channel** or **attending in person at City Hall**. A direct link to the channel can be found on the home page of the Alpine City website: [alpinecity.org](http://alpinecity.org)

Public Comments may be submitted to [admin@alpinecity.org](mailto:admin@alpinecity.org) Comments for an item on the agenda may be submitted during the meeting and **comments for an item not on the agenda must be submitted by 5:00 pm the day of the meeting or given in person at City Hall.**

### I. GENERAL BUSINESS

- |                             |              |
|-----------------------------|--------------|
| A. Welcome and Roll Call:   | Jane Griener |
| B. Prayer/Opening Comments: | Troy Slade   |
| C. Pledge of Allegiance:    | John Mackay  |

### II. PUBLIC COMMENT

Any person wishing to comment on any item not on the agenda may address the Planning Commission. Comments may be submitted to [admin@alpinecity.org](mailto:admin@alpinecity.org) or in person at City Hall.

### III. ACTION ITEMS

- A. Public Hearing – Zone Change – Pierce Properties (approximately 1185 E. East Mountain Drive)
- B. Public Hearing – Site Plan – T-Mobile Antenna Upgrade
- C. Public Hearing – Ordinance No. 2020-17 – Wireless Telecommunications
- D. Public Hearing – Ordinance No. 2020-16 – Intermunicipal Street Connections
- E. Public Hearing – Transportation Master Plan Update
- F. Discussion – Building Code and Ordinance Issues – Outdoor Lighting

### IV. COMMUNICATIONS

### V. APPROVAL OF PLANNING COMMISSION MINUTES: August 18, 2020

### ADJOURN

Chair Jane Griener  
August 28, 2020

**THE PUBLIC IS INVITED TO ATTEND ALL PLANNING COMMISSION MEETINGS.** If you need a special accommodation to participate in the meeting, please call the City Recorder's Office at 801-756-6347 ext. 5.

**CERTIFICATION OF POSTING.** The undersigned duly appointed recorder does hereby certify that the above agenda notice was posted at Alpine City Hall, 20 North Main, Alpine, UT. It was also sent by e-mail to The Daily Herald located in Provo, UT a local newspaper circulated in Alpine, UT. This agenda is also available on the City's web site at [www.alpinecity.org](http://www.alpinecity.org) and on the Utah Public Meeting Notices website at [www.utah.gov/pmnn/index.html](http://www.utah.gov/pmnn/index.html).

# PUBLIC MEETING AND PUBLIC HEARING ETIQUETTE

**Please remember all public meetings and public hearings are now recorded.**

- All comments **must** be recognized by the Chairperson and addressed through the microphone.
- When speaking to the Planning Commission, please stand, speak slowly and clearly into the microphone, and state your name and address for the recorded record.
- Be respectful to others and refrain from disruptions during the meeting. Please refrain from conversation with others in the audience as the microphones are very sensitive and can pick up whispers in the back of the room.
- Keep comments constructive and not disruptive.
- Avoid verbal approval or dissatisfaction of the ongoing discussion (i.e., booing or applauding).
- Exhibits (photos, petitions, etc.) given to the City become the property of the City.
- Please silence all cellular phones, beepers, pagers or other noise making devices.
- Be considerate of others who wish to speak by limiting your comments to a reasonable length, and avoiding repetition of what has already been said. Individuals may be limited to two minutes and group representatives may be limited to five minutes.
- Refrain from congregating near the doors or in the lobby area outside the council room to talk as it can be very noisy and disruptive. If you must carry on conversation in this area, please be as quiet as possible. (The doors must remain open during a public meeting/hearing.)

## **Public Hearing vs. Public Meeting**

If the meeting is a **public hearing**, the public may participate during that time and may present opinions and evidence for the issue for which the hearing is being held. In a public hearing there may be some restrictions on participation such as time limits.

Anyone can observe a **public meeting**, but there is no right to speak or be heard there - the public participates in presenting opinions and evidence at the pleasure of the body conducting the meeting.

## **ALPINE PLANNING COMMISSION AGENDA**

**SUBJECT: Public Hearing – Zone Change – Pearce Properties (Approximately 1185 E. East Mountain Drive)**

**FOR CONSIDERATION ON: 1 September 2020**

**PETITIONER: Don VanDyke representing Terry and Tony Pearce**

**ACTION REQUESTED BY PETITIONER: Hold a public hearing, review and recommend approval of the proposed zone change.**

### **BACKGROUND INFORMATION:**

Terry and Tony Pearce are seeking to develop their land on the east end of Watkins Lane and East Mountain Drive. They are seeking to develop a new 10-lot subdivision. The areas to the west and south of the proposed subdivision is zoned CR20,000. Terry and Tony are requesting a zone change for the land to match the other homes along East Mountain Drive and Watkins Lane.

### **STAFF RECOMMENDATION:**

Hold a public hearing, review the proposed zone change, and make a recommendation to City Council.

### **SAMPLE MOTION TO APPROVE:**

I motion to recommend that the zone change be approved as proposed.

### **SAMPLE MOTION TO APPROVE WITH CONDITIONS:**

I motion to recommend that the zone change be approved with the following conditions/changes:

- \*\*\*Insert Finding\*\*\*

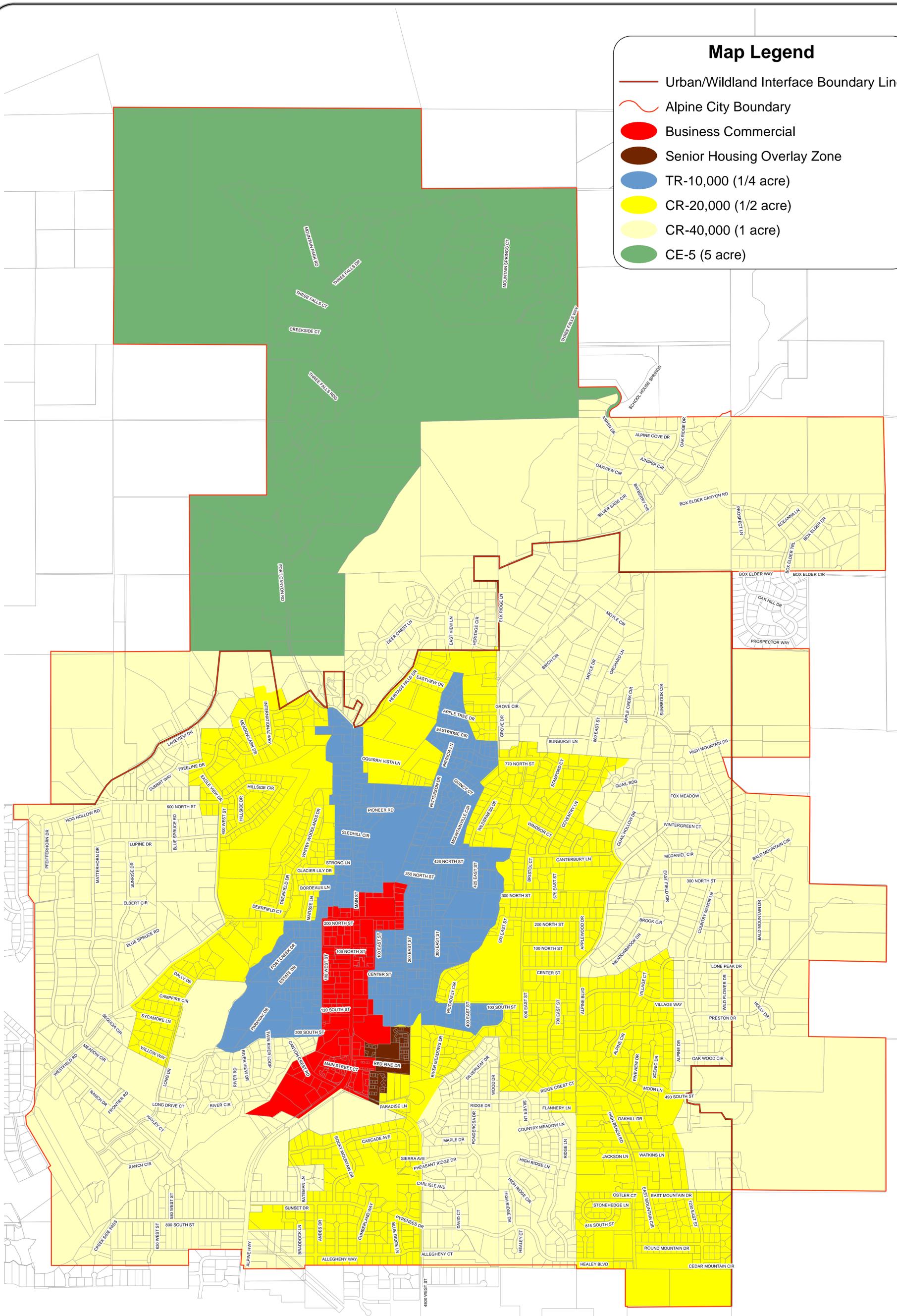
### **SAMPLE MOTION TO TABLE/DENY:**

I motion to recommend that zone change be tabled/denied based on the following:

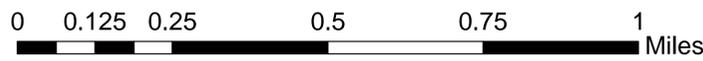
- \*\*\*Insert Finding\*\*\*

### Map Legend

-  Urban/Wildland Interface Boundary Line
-  Alpine City Boundary
-  Business Commercial
-  Senior Housing Overlay Zone
-  TR-10,000 (1/4 acre)
-  CR-20,000 (1/2 acre)
-  CR-40,000 (1 acre)
-  CE-5 (5 acre)



# Alpine City Zoning Map



Ordinance No. 2017-16  
November 14, 2017

Alpine City  
Care of Austin Roy

To whom it may Concern:

Tony & Carrie Pearce, Terry & Gae Pearce, and VanDyke Construction would like to propose the subdivision of the properties owned by Tony & Carrie Pearce and Terry & Gae Pearce: parcels # 11:054:0251, #11:054:0332, #11:054:0333, located at the following mailing addresses: 801 S. 1230E. Alpine, UT (Tony & Carrie Pearce property), 1250 east Watkins Ln. Alpine, UT (Terry Pearce property).

It is proposed that the entire parcel of #11:054:0251, the entire parcel of #11:054:0332, along with the west 2/3 of parcel 11:054:033 (the new east border of which would run in line with the east border of 11:054:0332), be used to create 9 lots. (See Preliminary subdivision drawing attached).

As part of this subdivision Tony & Carrie Pearce and Terry & Gae Pearce agree to sponsor completion and improvements of the section of road proposed in the Alpine City Master Plan which is to extend through parcel #11:054:0332.

The new section of road would begin at the East end of East Mountain Drive and extend through parcel #11:054:0332 toward Watkins lane. The completion of the new section of road will be an extension of 1230 East and will connect the proposed subdivision with the existing neighborhoods on East Mountain Drive and 1230 East.

Seeing that the properties located along the street on East Mountain Drive, 1230 East, and the 810 S cul-de-sac are zoned CR 20, we would further like to request a zone change for the 9 lots in the new subdivision from CR40 to CR20 to match the zoning of the surrounding neighborhood.

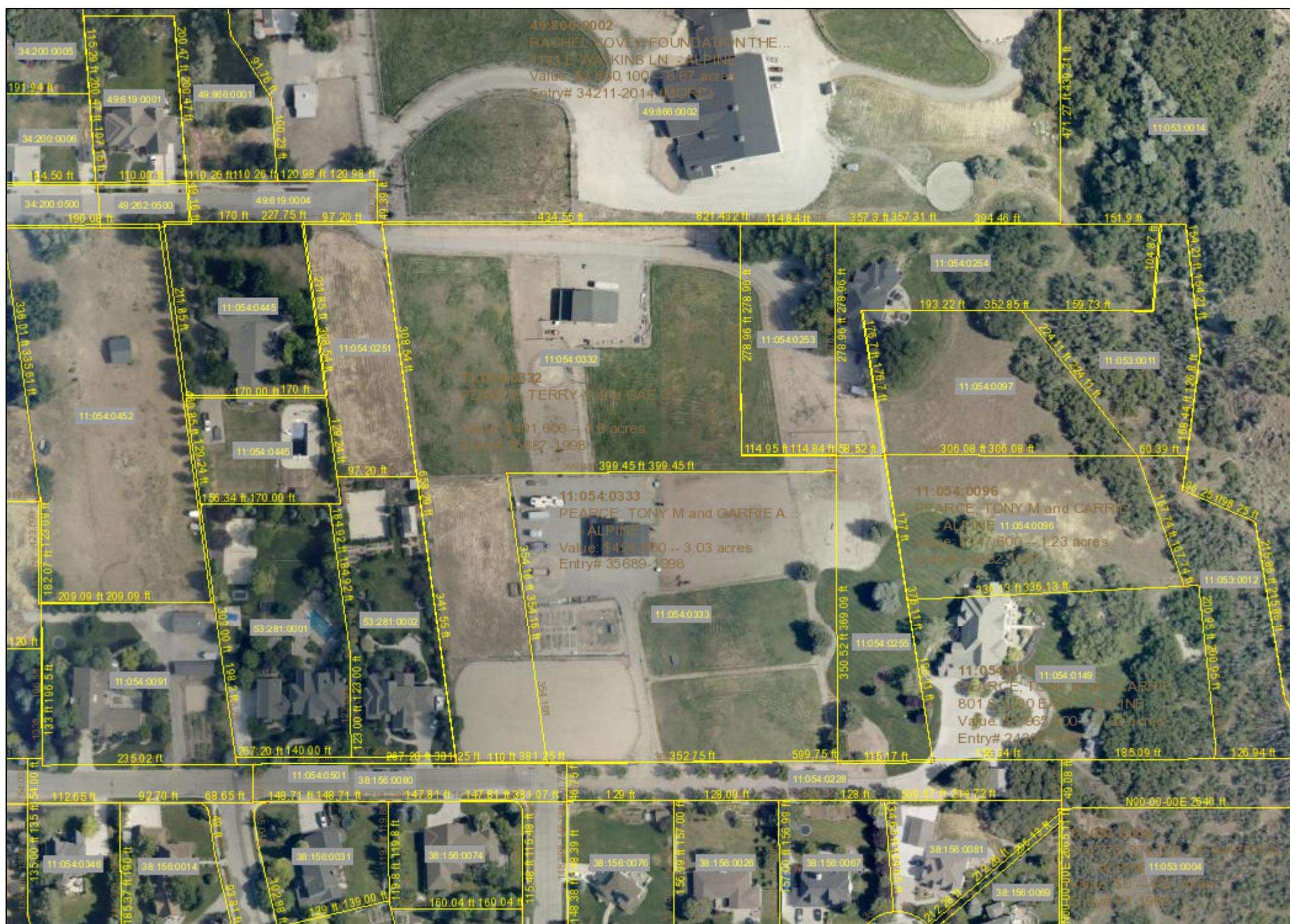
Attached with this request are:

- 1) An aerial view from the county parcel map with current parcel lines
- 2) A Preliminary sketch of the 9 proposed lots of the new subdivision and the new road.

Please contact me if you have any questions or concerns or if any other information is needed. For your information Northern Engineering is drafting a concept drawing for the proposed subdivision which I will forward to Austin once it has been received.

Thank you for your consideration and your help with this process.

Don VanDyke, VanDyke Construction  
801-362-3535  
CC Terry Pearce  
CC Tony Pearce



# Utah County Parcel Map

This cadastral map is generated from Utah County Recorder data. It is for reference only and no liability is assumed for any inaccuracies, incorrect data or variations with an actual survey

Date: 7/22/2020



This street location is being re-engineered.

Terry & Gae

Terry & Gae

Terry & Gae  
Frontage for  
existing house

Ben & Tiffany  
Peay

Terry & Gae

Tony & Carrie  
Frontage for  
existing house

Tony &  
Carrie

Tony &  
Carrie

Tony &  
Carrie

Tony &  
Carrie

**E Mountain Dr**

This street location is being re-engineered.

**\$ 1230 E**

## ALPINE PLANNING COMMISSION AGENDA

**SUBJECT: Public Hearing – Site Plan – T-Mobile Antenna Upgrade**

**FOR CONSIDERATION ON: 1 September 2020**

**PETITIONER: Craig Chagnon with Crown Castle representing T-Mobile**

**ACTION REQUESTED BY PETITIONER: Review and recommend approval of the proposed antenna upgrade.**

### **BACKGROUND INFORMATION:**

ATT-Mobile is seeking to upgrade 3 antennas and related equipment at the tower site located at 651 South Bateman Lane. The proposed replacement does not substantially change the physical dimensions of the tower or base station (height and width), and thus, should be approved per the Wireless Telecommunications Ordinance of the Development Code.

Article 3.27.030 states:

*State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term “eligible facilities request” means any request for modification of an existing wireless tower or base station that involves:*

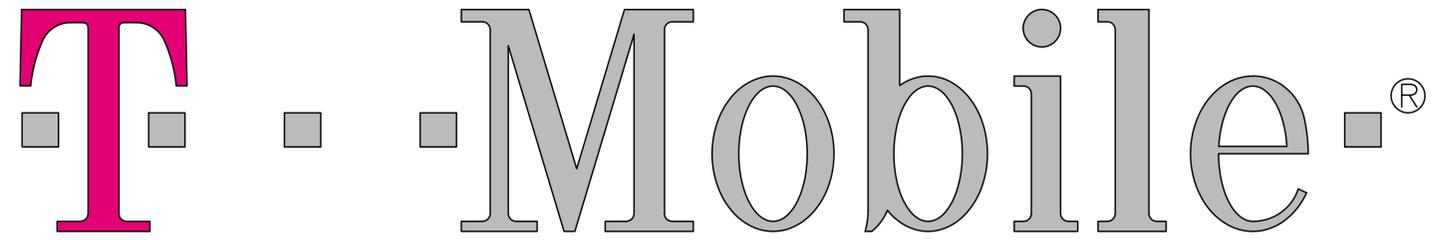
- *collocation of new transmission equipment;*
- *removal of transmission equipment; or*
- *replacement of transmission equipment.*

### **STAFF RECOMMENDATION:**

Recommend approval of the proposed site plan.

### **SAMPLE MOTION TO APPROVE:**

I motion to recommend that the site plan be approved as proposed.



APPROVAL SIGNATURE BLOCK

THE FOLLOWING PARTIES HAVE REVIEWED THESE DOCUMENTS:

SITE ACQUISITION SPECIALIST:	APPROVED: <input type="checkbox"/> REJECTED: <input type="checkbox"/>	DATE:
RF ENGINEER:	APPROVED: <input type="checkbox"/> REJECTED: <input type="checkbox"/>	DATE:
CONSTRUCTION MANAGER:	APPROVED: <input type="checkbox"/> REJECTED: <input type="checkbox"/>	DATE:
OPERATIONS:	APPROVED: <input type="checkbox"/> REJECTED: <input type="checkbox"/>	DATE:
PROJECT MANAGER:	APPROVED: <input type="checkbox"/> REJECTED: <input type="checkbox"/>	DATE:

DRAWINGS ARE NO LONGER TO BE "APPROVED WITH COMMENTS" - IF YOU HAVE ANY REDLINES TO THESE DRAWINGS THEN YOU MUST SELECT REJECTED.



A. GENERAL

- ALL PAINT PRODUCT LINES SHALL BE SHERWIN WILLIAMS UNLESS SPECIFICALLY NOTED OTHERWISE BY T-MOBILE.
- CONTRACTOR SHALL PREPARE ALL SURFACES AND APPLY ALL FINISHES PER LATEST EDITION OF MANUFACTURER'S SPECIFICATIONS.
- COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS REGARDING SUFFICIENT DRYING TIME BETWEEN COATS WITH PROVISIONS AS RECOMMENDED BY MANUFACTURER FOR EXISTING WEATHER CONDITIONS.
- FINISH COLOR AND TEXTURE OF ALL PAINTED SURFACES SHALL MATCH EXISTING ADJACENT SURFACES UNLESS OTHERWISE NOTED BY T-MOBILE.
- ALL PAINT MATERIAL DATA SHEETS SHALL BE PROVIDED TO THE T-MOBILE CONSTRUCTION MANAGER.
- PREPARE PREVIOUSLY PAINTED SURFACE BY LIGHT SANDING WITH 400 GRIT SANDPAPER AND NON-HYDROCARBON WASH. PREPARE GALVANIZED SURFACES BY ACID ETCH OR SOLVENT CLEANING IN ACCORDANCE WITH SSPC-SP1.
- FURNISH DROP CLOTHS, SHIELDS, MASKING AND OTHER PROTECTIVE METHODS TO PREVENT SPRAY OR DROPPINGS FROM DAMAGING ADJACENT SURFACES AND FACILITIES.
- APPLY PAINT BY AIRLESS SPRAY, SANDING LIGHTLY BETWEEN EACH SUCCEEDING ENAMEL COAT ON FLAT SURFACES. APPLY MATERIAL TO ACHIEVE A COATING NO THINNER THAN THE DRY FILM THICKNESS INDICATED.
- APPLY BLOCK FILTER TO CONCRETE BLOCK CONSTRUCTION AND ENSURE COMPLETE COVERAGE WITH PORES COMPLETELY FILLED.
- CONTRACTOR SHALL CORRECT RUNS, SAGS, MISSES AND OTHER DEFECTS INCLUDING INADEQUATE COVERAGE AS DIRECTED BY THE T-MOBILE CONSTRUCTION MANAGER. REPAINT AS NECESSARY TO ACHIEVE SURFACES THAT ARE SMOOTH, EVENLY COATED WITH UNIFORM SHEEN AND FREE FROM BLEMISHES.

B. PAINTING SCOPE

- PAINT THE FOLLOWING MATERIALS AND SYSTEMS CHECKED BELOW WITH THE COATING SYSTEM INDICATED.

PAINTING SCOPE				
SURFACE TO BE PAINTED	COATING SYSTEM	PAINT	DO NOT PAINT	N/A
BTS UNIT				X
ALL EQUIPMENT & CABINETS OTHER THAN THE BTS UNIT				X
ANTENNA COVERS, TILT BRACKETS, MOUNTING BRACKETS AND ASSOCIATED HARDWARE, CABLE AND CABLE COVERS EXPOSED TO VIEW, EXPOSED CONDUIT AND HANGERS, ETC.	SEE PLANS	SEE PLANS		
FLASHING UNITS, METAL TRIM AND OTHER METAL SURFACES				X
STUCCO, CONCRETE, CONCRETE BLOCK AND CEMENTIOUS TYPE FINISH SYSTEMS.				X
PLYWOOD, LUMBER AND WOOD TRIM INCLUDING THE BACK SIDE OF ALL SCREEN WALLS				X
DRYWALL				X
CONCRETE POLES				X
METAL POLES AND METAL POLE STAND-OFF				X

2 PAINT SPECIFICATIONS

C. COATING SYSTEM SPECIFICATIONS

- DTM ACRYLIC COATING (SERIES B66) BY SHERWIN WILLIAMS CO. 1MIL DFT PER COAT APPLIED IN TWO COATS OVER DTM BONDING PRIMER (B66A50).
- 100% ACRYLIC, LATEX COATING EQUIVALENT TO A-100 (SERIES A-82) BY SHERWIN WILLIAMS CO. 1 MIL DFT PER COAT APPLIED IN TWO COATS OVER SPECIFIED PRIMER.

D. PAINT & PRIMER

ANTENNAS

PRIMER - KEM AQUA E61-W525  
TOPCOAT - COROTHANE II B65W200/B60V22

BTS CABINET

PRIMER - KEM AQUA E61-W525  
TOPCOAT - COROTHANE II B65W200/B60V22

COAXIAL JUMPER CABLES

PRIMER - AS REQUIRED FOR ADHESION. APPLY ONE COAT OF KEM  
AQUA WATER REDUCIBLE PRIMER E61W25

REDUCED 25%  
TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2

RAW STEEL

PRIMER - KEM BOND HS B50WZ4, DMT ACRYLIC PRIMER  
TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2

GALVANIZED METAL

ACID ETCH WITH COMMERCIAL ETCH OR VINEGAR PRIMER COAT AND  
FINISH COAT (GALVITE HIGH SOLIDS OR DTM PRIMER/FINISH)

STAINLESS STEEL

PRIMER - OTM WASH PRIMER, B71Y1  
TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2

PRE-PRIMED STEEL

TOUCH UP ANY RUST OR UN-PRIMED STEEL WITH KEM BOND HS,  
SS0WZ4

ALUMINUM & COPPER

PRIMER - DTM WASH PRIMER, B71Y1  
TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2

CONCRETE MASONRY

PRIMER - PRO MAR EXTERIOR BLOCK FILLER  
TOPCOAT - 2 COATS A-100 LATEX HOUSE & TRIM, SHEEN TO MATCH

CONCRETE STUCCO(EXISTING)

2 COATS A-100 LATEX HOUSE & TRIM, SHEEN TO MATCH

STUCCO

PRIMER - PRO MAR MASONRY CONDITONER B-46-W21000  
TOPCOAT - SUPERPAINT A-80 SERIES A-89 SATIN A-84 GLOSS

WOOD

PRIMER - A-100 EXTERIOR ALKYD WOO9D PRIMER Y-24W20  
TOPCOAT - 2 COATS A-100 LATEX HOUSE & TRIM SHEEN TO  
MATCH ADJACENT SURFACES

1 GENERAL SPECIFICATIONS

- THE LATEST EDITION OF THE AMERICAN INSTITUTE OF ARCHITECTS DOCUMENT A201 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" ARE INCLUDED IN THESE SPECIFICATIONS AS IF COMPLETELY REPRODUCED HEREIN.
- THIS FACILITY IS AN UNOCCUPIED PCS TELECOMMUNICATIONS SITE AND IS EXEMPT FROM ADA ACCESS REQUIREMENTS.
- PRIOR TO SUBMISSION OF BIDS, THE CONTRACTORS PARTICIPATING SHALL VISIT THE JOB SITE WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS TO CONFIRM THAT THE PROJECT CAN BE ACCOMPLISHED AS DESIGNED HEREIN, AS WELL AS TO FAMILIARIZE THEMSELVES WITH ALL FIELD CONDITIONS AFFECTING THE PROPOSED PROJECT INCLUDING DEMOLITION, ELECTRICAL, MECHANICAL AND STRUCTURAL INSTALLATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. SHOULD ANY ERRORS, OMISSION, OR DISCREPANCIES BE FOUND, THE GENERAL CONTRACTOR SHALL IMMEDIATELY NOTIFY IN WRITING, THE T-MOBILE CONSTRUCTION MANAGER AND THE ARCHITECT.
- IN THE EVENT OF DISCREPANCIES WITHIN THESE DRAWINGS, THE CONTRACTOR SHALL INCLUDE THE MORE COSTLY OR EXTENSIVE WORK IN THE BID, UNLESS SPECIFICALLY DIRECTED OTHERWISE BY T-MOBILE. IF A DISCREPANCY EXISTS AND THE PROJECT MANAGER AND ARCHITECT ARE NOT NOTIFIED, THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS INCURRED TO REPAIR OR CORRECT ALL PROBLEMS THAT RESULT.
- THESE DRAWINGS SHALL NOT BE SCALED AS THESE DRAWINGS ARE INTENDED TO BE FOR DIAGRAMMATIC PURPOSES ONLY. FIGURED DIMENSIONS HAVE PRECEDENCE OVER DRAWING SCALE AND DETAIL DRAWINGS HAVE PRECEDENCE OVER SMALL SCALE DRAWINGS. CONTRACTOR SHALL CHECK THE ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS, OR BEGIN ANY CONSTRUCTION UNTIL THE ACCURACY OF DRAWING DIMENSIONS HAS BEEN VERIFIED AGAINST ACTUAL FIELD DIMENSIONS.
- THE CONTRACTOR SHALL INCLUDE IN HIS OR HER BID ALL MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE THE WORK AS INDICATED OR IMPLIED BY THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION MANAGER, THE PROPERTY OWNER AND THE ARCHITECT IF ANY DETAILS ARE CONSIDERED IMPRACTICAL, UNSUITABLE, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO ANY DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS, AND SHALL BE INCLUDED AS PART OF THE WORK.
- EXISTING ELEVATIONS AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION MANAGER AND THE ARCHITECT SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL VERIFY ALL TELEPHONE & RADIO EQUIPMENT LAYOUTS, SPECIFICATIONS, PERFORMANCE, INSTALLATION AND FINAL LOCATIONS WITH T-MOBILE CONSTRUCTION MANAGER PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH ERICSSON RADIO SYSTEMS.
- ALL SYMBOLS & ABBREVIATIONS USED ON THESE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE T-MOBILE CONSTRUCTION MANAGER AND THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO T-MOBILE.

1 GENERAL SPECIFICATIONS

- THE CONTRACTOR SHALL PROVIDE CONTINUOUS SUPERVISION AND DIRECT ALL WORK WHILE ANY SUBCONTRACTORS OR WORKERS ARE ONSITE, USING HIS OR HER BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, SEQUENCES, AND COORDINATION OF ALL PORTIONS OF THE CONTRACTED WORK.
- WORKMANSHIP THROUGHOUT SHALL BE OF THE BEST QUALITY OF THE TRADE INVOLVED, AND SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REFERENCE STANDARDS FOR QUALITY AND PROFESSIONAL CONSTRUCTION PRACTICE:
  - NRCA NATIONAL ROOFING CONTRACTORS ASSOCIATION O'HARE INTERNATIONAL CENTER 10255 W. HIGGINS ROAD, SUITE 600 ROSEMONT, IL 60018-5607
  - SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION 4201 LAFAYETTE CENTER DRIVE CHANTILLY, VA 20151-1219
  - IILP INTERNATIONAL INSTITUTE FOR LATH AND PLASTER 820 TRANSFER ROAD ST. PAUL, MN 55114-1406
- INSTALL ALL EQUIPMENT AND MATERIALS PER THE LATEST EDITION OF THE MANUFACTURER'S INSTALLATION SPECIFICATIONS UNLESS OTHERWISE INDICATED BY T-MOBILE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORTS FOR ALL ITEMS.
- THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL GIVE ALL REQUIRED CONSTRUCTION NOTICES AND SHALL COMPLY WITH ALL APPLICABLE LOCAL CODES, REGULATIONS, LAWS AND ORDINANCES, AS WELL AS THE STATE DEPARTMENT OF INDUSTRIAL RELATIONS REGULATIONS, INCLUDING BUT NOT LIMITED TO THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH (OSHA).
- THE CONTRACTOR SHALL PROTECT ALL PROPERTY FROM DAMAGE THAT MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING FINISHES, CONSTRUCTION, STRUCTURE, LANDSCAPING, CURBS, STAIRS, OR EQUIPMENT, ETC. SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF T-MOBILE AND THE PROPERTY OWNER'S REPRESENTATIVE, AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL REPLACE OR REMEDY, ANY FAULTY, IMPROPER, OR INFERIOR MATERIALS OR WORKMANSHIP OR ANY DAMAGE WHICH SHALL APPEAR WITHIN ONE YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK BY T-MOBILE UNDER THIS CONTRACT.
- IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROTECT AND LOCATE, OR CONTACT AN OUTSIDE AGENCY TO LOCATE, ALL EXISTING UTILITIES REGARDLESS OF WHETHER OR NOT SHOWN HEREIN. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR THE REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE PROJECT SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED AND ACCEPTED BY T-MOBILE.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER AND TOILET FACILITIES AS REQUIRED BY THE PROPERTY OWNER, T-MOBILE, AND THE CITY OR GOVERNING AGENCY.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REDLINING THE CONSTRUCTION DOCUMENTS TO ILLUSTRATE THE AS-BUILT CONDITION OF THE SITE. THIS SHALL BE DONE AFTER THE SITE HAS BEEN AWARDED FINAL INSPECTION BY THE RESPONSIBLE BUILDING AGENCY. ONE SET OF REDLINED DRAWINGS SHALL BE PROVIDED TO THE T-MOBILE CONSTRUCTION MANAGER.

- THE LATEST EDITION OF ALL PERMITTED AND APPROVED PLANS PERTAINING TO THIS PROJECT SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKERS. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF THE CONSTRUCTION SUPERINTENDENT.
- THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND WASTE MATERIALS ON A DAILY BASIS, EXCEPT FOR THAT SPECIFIED AS THE PROPERTY OF THE BUILDING OR PROPERTY OWNER AND SHALL EXERCISE STRICT CONTROL OVER SITE CLEANING THROUGHOUT CONSTRUCTION AND FINAL CLEAN-UP UPON COMPLETION OF WORK. ALL AREAS ARE TO BE LEFT IN A BROOM CLEAN CONDITION AT THE END OF EACH DAY THEN AT A VACUUM CLEAN CONDITION, FREE FROM PAINT SPOTS, DUST OR SMUDGES OF ANY NATURE AT COMPLETION OF WORK.
- THE GENERAL CONTRACTOR MUST PERFORM WORK DURING PROPERTY OWNER'S PREFERRED HOURS TO AVOID DISRUPTION OF NORMAL ACTIVITY.
- ALL EXPOSED METAL SHALL BE HOT-DIPPED GALVANIZED.
- SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF AND WHERE APPLICABLE TO THIS FACILITY AND PROJECT SITE.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA UNDER CONSTRUCTION.
- ELECTRICAL POWER SYSTEM SHALL BE GROUNDED PER NEC ARTICLES 250 AND 810.
- ALL NEW OPENINGS IN THE EXTERIOR ENVELOPE OF CONDITIONED SPACES SUCH AS AT WALL AND ROOF PENETRATIONS SHALL BE CAULKED OR SEALED TO LIMIT INFILTRATION OF AIR AND MOISTURE.
- UPON COMPLETION OF CONSTRUCTION, T-MOBILE CONSTRUCTION MANAGER SHALL CONDUCT A WALK-THRU WITH PROPERTY OWNER OR REPRESENTATIVE OF PROPERTY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SYSTEM EQUIPMENT IN A CLEAN WORKING ORDER UNTIL ACCEPTANCE OF THE PROJECT BY T-MOBILE.
- INSTALL ALL EQUIPMENT AND MATERIALS PER THE LATEST EDITION OF THE MANUFACTURER'S INSTALLATION SPECIFICATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED, OR WHERE LOCAL CODES OR REGULATION TAKE PRECEDENCE.



T-MOBILE SITE:  
SL01122A  
ALPINE\_SHEPHERD\_HILL

CROWN CASTLE SITE:  
822343  
ALPINE\_SHEPHERD\_HILL

651 S BATEMAN  
ALPINE, UT 84004  
UTAH COUNTY

22'-0" MONOPOLE

DRAWINGS ISSUED FOR:				
REV.	DATE	DRAWN	DESCRIPTION	QA/QC
A	07/16/20	RCD	PRELIMINARY REVIEW	PD
0	07/21/20	TJB	100% CONSTRUCTION	PD



SHEET TITLE: <b>SPECIFICATIONS &amp; NOTES</b>	
SHEET NUMBER: <b>T-2</b>	REVISION: <b>0</b>

A. GENERAL

1. PRECEDENCE: UNLESS OTHERWISE SHOWN OR SPECIFIED, THE FOLLOWING GENERAL NOTES SHALL APPLY. INFORMATION ON THESE DRAWINGS SHALL HAVE THE FOLLOWING PRECEDENCE.
    - A. ALL DIMENSIONS TO TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS.
    - B. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
    - C. MATERIAL NOTES AND SPECIFICATIONS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THE SPECIFICATIONS.
  2. OTHER TRADES: SEE THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN.
  3. GENERAL DETAILS AND NOTES ON THESE SHEETS SHALL APPLY UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE. CONSTRUCTION DETAILS NOT FULLY SHOWN OR NOTED SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.
  4. SHORING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL ALL TEMPORARY BRACING AND SHORING TO INSURE THE SAFETY OF THE WORK UNTIL IT IS COMPLETED. THIS INCLUDES UNDERPINNING EXISTING FOOTINGS WHERE APPLICABLE.
  5. SAFETY: THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
  6. WATERPROOFING: WATERPROOFING AND DRAINAGE DETAILS OR SPECIFICATIONS SHOWN IN THESE DRAWINGS ARE FOR GENERAL INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO NOTIFY THE T-MOBILE CONSTRUCTION MANAGER AND THE ARCHITECT IF ANY INADEQUATE OR IMPROPER CONDITIONS.
- B. STEEL
1. ALL STRUCTURAL STEEL SECTIONS AND WELDED PLATE MEMBERS SHALL CONFORM TO ASTM A-36 AND BE FABRICATED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE AISC.
  2. ALL BOLTS SHALL CONFORM TO ASTM A-307 UNLESS OTHERWISE NOTED ON PLANS. HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A-325
  3. STEEL PIPE COLUMNS SHALL BE GRADE "B" CONFORMING TO ASTM A53.
  4. STEEL TUBING SHALL BE GRADE "B" CONFORMING TO ASTM A500.
  5. ALL WELDING SHALL BE DONE BY THE SHIELDED ARC METHOD. ALL WELDERS SHALL BE PROPERLY QUALIFIED AND BE PRE-APPROVED. SURPLUS METAL SHALL BE DRESSED OFF TO SMOOTH, EVEN SURFACES WHERE WELDS ARE NOT EXPOSED TO VIEW. ALL WELDING SHALL COMPLY WITH THE LATEST A.W.S. SPECIFICATIONS.
  6. THE FOLLOWING WELDING EQUIPMENT MUST BE USED:
    - A. 250 AMP WELDERS.
    - B. ROD OVENS.
    - C. GRINDERS.
  7. NO BUZZ BOXES SHALL BE USED.
  8. ALL STRUCTURAL STEEL SHALL HAVE MILL CERTIFICATION. MILL CERTIFICATION SHALL BE KEPT ON THE JOB SITE FOR EXAMINATION BY THE DESIGN ENGINEER AND THE CITY INSPECTOR.
  9. ALL HIGH STRENGTH BOLTS SHALL HAVE MILL CERTIFICATION. MILL CERTIFICATION SHALL BE KEPT ON THE JOB SITE FOR EXAMINATION BY THE INSPECTOR.
  10. STEEL THAT HAD BEEN WELDED, CUT OR SCRATCHED IN THE FIELD SHALL BE TOUCHED UP WITH COLD GALVANIZING PAINT.
  11. WELDING INDICATED IN THESE DRAWINGS IS DESIGNED FOR ONE HALF OF ALLOWABLE CODE STRESSES UNLESS NOTED "FULL STRESS" AT END OF WELD SYMBOL.

C. CONCRETE

1. STRENGTH: CONCRETE FOR THE PROJECT SHALL HAVE THE FOLLOWING ULTIMATE COMPRESSIVE STRENGTH AT AGE OF 28 DAYS:
 

LOCATION	STRENGTH	WT.	SLUMP
SLAB&FOOTING	3000psi	150pcf	4"
	NONE		
2. INSPECTION: CONCRETE WITH SPECIFIED STRENGTH GREATER THAN 2500psi SHALL BE CONTINUOUSLY INSPECTED DURING PLACEMENT BY A DEPUTY INSPECTOR EMPLOYED BY A TESTING LABORATORY APPROVED BY THE BUILDING DEPT.
3. REBAR GRADES: REINFORCING STEEL SHALL BE CLEAN REFORMED BARS CONFORMING TO ASTM A615 AS FOLLOWS:
  - #4 & SMALLER BARS.....GRADE 40
  - #5 & LARGER BARS.....GRADE 60
  - ALL BARS AT CAISSON FOOTING...GRADE 60
4. FOUNDATIONS & SLABS: TYPE V, LOW ALKALI, CONFORMING TO ASTM C-150. PIER/CAISSON FOOTINGS: TYPE V, LOW ALKALI, CONFORMING TO ASTM C-150.
5. AGGREGATE: USED IN THE CONCRETE SHALL CONFORM TO ASTM C-33. USE ONLY AGGREGATES KNOWN NOT TO CAUSE EXCESSIVE SHRINKAGE. THE MAXIMUM SIZE AGGREGATE IN CONCRETE WORK SHALL BE THE FOLLOWING:
  - A. FOUNDATIONS & SLABS 9" OR LESS: 3/4" GRAVEL
  - B. PIER/CAISSON FOOTING: 1" GRAVEL.
6. SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNT OF ACIDS, ALKALIS, ORGANIC MATERIALS AND SHALL BE SUITABLE FOR HUMAN CONSUMPTION.
7. MIXING: PREPARATION OF CONCRETE SHALL CONFORM TO ASTM C-94. NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT UNLESS APPROVED BY A TESTING AGENCY.
8. SEGREGATION OF AGGREGATES: CONCRETE SHALL NOT BE FLOPPED THROUGH REINFORCING STEEL (AS IN WALLS, COLUMNS, CAISSON, AND DROP CAPITALS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. USE HOPPERS, CHUTES, TRUNKS OR PUMP HOSE SO THAT THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FT.
9. SPLICES OF REINFORCING STEEL SHALL BE LAPPED A MINIMUM OF 30 DIAMETERS AND SECURELY WIRED TOGETHER. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHEREVER POSSIBLE.
10. REAR CLEARANCE: MINIMUM COVERAGE FOR JOISTS, BEAMS, GIRDERS AND COLUMNS SHALL BE TO FACE OF STIRRUPS OR TIES. UNLESS OTHERWISE NOTED, CONCRETE COVERAGE FOR REINFORCING BARS TO FACE OF BAR SHALL BE AS FOLLOWS:
  - A. CONCRETE IN CONTACT WITH EARTH, UNFORMED 3"
  - B. CONCRETE IN CONTACT WITH EARTH, FORMED 2"
  - C. WALL, EXTERIOR FACE 1-1/2"
  - D. WALL, INTERIOR FACE 1"
  - E. STRUCTURAL SLABS 3/4"
  - F. JOISTS 3/4"
  - G. BEAMS, GIRDERS & COLUMNS 1-1/2"
11. PENETRATIONS: NO SLEEVES OR CHASES SHALL BE PLACED IN BEAMS, SLABS, WALLS AND COLUMNS, EXCEPT THOSE SHOWN ON THE PLANS. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR INSTALLATIONS OF ANY ADDITIONAL SLEEVES OR CHASES. ALL PLUMBING, ELECTRICAL AND MECHANICAL OPENINGS SHALL BE SLEEVES. CORING IS NOT ALLOWED UNLESS PRIOR APPROVAL IS OBTAINED FROM THE STRUCTURAL ENGINEER.
12. EMBEDDED ITEMS: CONDUIT PLACED IN A CONCRETE SLAB SHALL NOT HAVE AN OUTSIDE DIAMETER GREATER THAN 1/4 THE THICKNESS OF THE SLAB. CONDUIT SHALL NOT BE EMBEDDED IN A SLAB THAT IS LESS THAN 3-1/2" THICK, UNLESS SLAB IS LOCALLY THICKENED. MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE SIX INCHES.

13. ANCHORING: ALL ANCHOR BOLTS, REINFORCING STEEL, DOWELS, INSERTS, ETC., SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE. NO REPOSITIONING DURING CONCRETE POUR IS ALLOWED.
  14. SLABS SHALL BE SPRAYED WITH A CURING COMPOUND IMMEDIATELY AFTER FINISHING. CURING COMPOUNDS USED ON CONCRETE WHERE TILE OR FLOOR COVERING IS TO BE BONDED TO THE CONCRETE SURFACE SHALL BE APPROVED BY THE TILE OR FLOOR COVERING MANUFACTURER. KEEP SLAB WET FOR 7 DAY MINIMUM PERIOD.
  15. CONSOLIDATION: ALL CONCRETE SHALL BE VIBRATED AS IT IS BEING PLACED WITH ELECTRICALLY OPERATED VIBRATING EQUIPMENT.
- D. TIMBER
1. ALL FRAMING LUMBER FOR 4X AND LARGER BEAMS SHALL BE NO. 1 GRADE DOUGLAS FIR., S45, UNLESS NOTED OTHERWISE.
  2. ALL FRAMING LUMBER FOR 2X RAFTERS AND JOISTS SHALL BE NO.2 GRADE DOUGLAS FIR, S45, UNLESS NOTED OTHERWISE.
  3. STRIPPING, BLOCKING, BACKING AND OTHER NON-STRUCTURAL LUMBER SHALL BE NO. 2 OR STD & BTR GRADE DOUGLAS FIR, S45. 2X4 STUD WALLS SHALL BE D.F. STANDARD & BTR.
  4. ALL BEAMS, JOISTS AND RAFTERS SHALL BE INSTALLED WITH CROWN SIDE UP.
  5. ROOF PLYWOOD SHALL MATCH EXISTING PLYWOOD SHEATHING WITH A SPAN INDEX RATIO 32/16. EDGE NAIL WITH 8d AT 6" O.C. UNLESS NOTED OTHERWISE ON PLANS. FIELD NAIL WITH 8d AT 12" O.C.
  6. PLYWOOD SHEETS SHALL BE LAID WITH THE FACE GRAIN PERPENDICULAR TO SUPPORTS AND WITH THE EDGES STAGGERED, UNLESS NOTED OTHERWISE ON THE PLANS.
  7. PLYWOOD SHALL BE GRADE MARKED BY DFPA, TECO, OR PTL AND SHALL CONFORM TO PS 1-83.
  8. THE MAXIMUM MOISTURE CONTENT OF ALL LUMBER SHALL NOT EXCEED 24% AT THE TIME OF INSTALLATION.
  9. MINIMUM NAILING SHALL COMPLY WITH TABLE 23-1-q OF BUILDING CODE. ALL NAILS SHALL BE COMMON WIRE NAILS.
  10. ALL BOLTS SHALL HAVE STANDARD CUT WASHERS UNDER HEADS AND/OR NUTS WHERE IN CONTACT WITH WOOD.
  11. LAG BOLTS SHALL BE SCREWED INTO PLACE, NOT DRIVEN. LAG BOLTS SHALL BE INSTALLED IN PRE-DRILLED HOLES WITH A DIAMETER EQUAL TO 75% DIAMETER OF BOLT.
  12. CONNECTORS: ALL SHEET METAL FRAMING CONNECTORS SHOWN IN THE PLANS SHALL BE STRONG CONNECTORS AS MANUFACTURED BY THE SAMSON COMPANY. SUBSTITUTIONS MAY BE MADE WHEN APPROVED BY THE STRUCTURAL ENGINEER.
  13. ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE WOLMANIZED PRESSURE TREATED LUMBER OR A NATURALLY DECAY RESISTANT LUMBER SUCH AS REDWOOD OR CEDAR.
  14. ALASKAN YELLOW CEDAR GLUE-LAMINATED BEAMS
    - A. LUMBER SPECIES: ALASKAN YELLOW CEDAR (A.C.) CONFORMING TO 20F-V12
    - B. STRENGTH PROPERTIES:
      - Fb BOTTOM FIBER BENDING STRESS 2000psi MIN.
      - Ft TOP FIBER BENDING STRESS 1000psi MIN.
      - Fv SHEAR STRESS 190psi MIN.
      - Fc COMPRESSION STRESS PERPENDICULAR TO GRAIN 560psi MIN.
    - C. MODULUS ELASTICITY 1400ksi MIN.
    - D. CAMBER TO RADIUS OF 1600" U.O.N.
    - E. ALL GLB'S SHALL BE FABRICATED WITH EXTERIOR GLUE.
    - F. MANUFACTURE OF GLB'S SHALL CONFORM TO THE UBC.
    - G. GLU-LAM MATERIAL SHALL BE IN ACCORDANCE WITH ANSI/AITC A190.1 AND ASTM D3737.



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CROWN CASTLE SITE:  
822343  
ALPINE\_SHEPHERD\_HILL

651 S BATEMAN  
ALPINE, UT 84004  
UTAH COUNTY

22'-0" MONOPOLE

DRAWINGS ISSUED FOR:

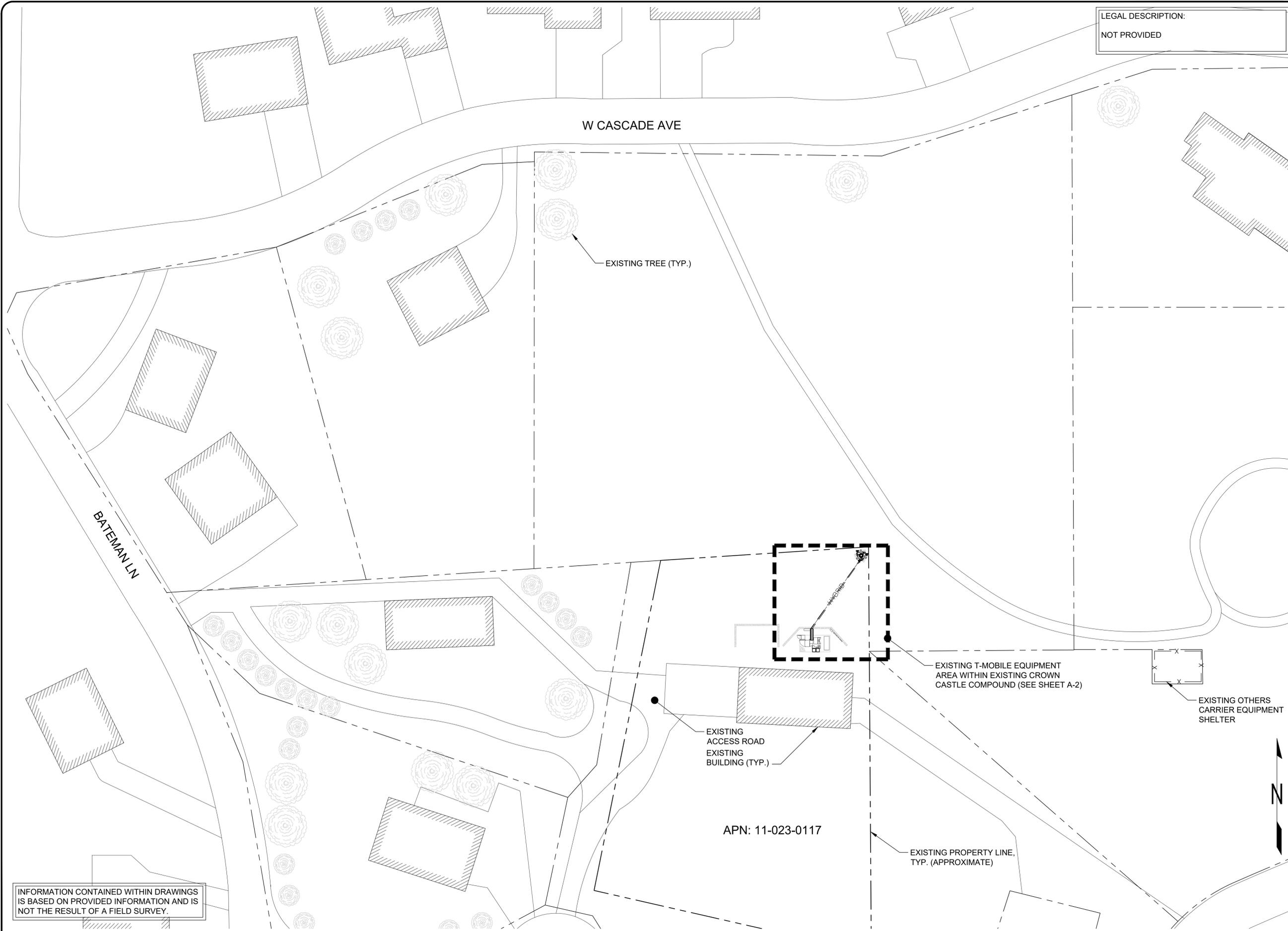
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REGISTERED PROFESSIONAL ENGINEER  
No. 63916235-2201  
CHRISTOPHER J. WARREN  
1/22/20  
STATE OF UTAH

SHEET TITLE:  
**SPECIFICATIONS & NOTES**

SHEET NUMBER: **T-3** REVISION: **0**



LEGAL DESCRIPTION:  
NOT PROVIDED

**T-Mobile**  
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SHEET TITLE:  
**OVERALL SITE PLAN**

SHEET NUMBER:  
**A-1**

REVISION:  
**0**

INFORMATION CONTAINED WITHIN DRAWINGS IS BASED ON PROVIDED INFORMATION AND IS NOT THE RESULT OF A FIELD SURVEY.

**1 OVERALL SITE PLAN**

22"x34" SCALE: 1" = 30'-0"  
11"x17" SCALE: 1" = 60'-0"



TOP OF EXISTING T-MOBILE ANTENNAS  
ELEV. = ±24'-0" REF., ±24'-6" AGL

TOP OF EXISTING MONOPOLE  
ELEV. = ±22'-0" REF., ±22'-6" AGL

ε OF EXISTING T-MOBILE ANTENNAS  
ELEV. = ±20'-0" REF., ±20'-6" AGL

EXISTING T-MOBILE ANTENNAS WITH ASSOCIATED EQUIPMENT MOUNTED TO MONOPOLE - SEE SHEET A-4

EXISTING T-MOBILE CABLING - SEE ANTENNA SCHEDULES ON SHEET A-4

EXISTING CROWN CASTLE MONOPOLE

BOTTOM OF TOWER STEEL  
ELEV. = 0'-0" REF., 6" AGL

GRADE  
ELEV. = 0'-0" AGL (±5024' AMSL)

TOP OF EXISTING T-MOBILE ANTENNAS  
ELEV. = ±24'-0" REF., ±24'-6" AGL

TOP OF EXISTING T-MOBILE ANTENNAS  
ELEV. = ±22'-4" REF., ±22'-10" AGL

TOP OF EXISTING MONOPOLE  
ELEV. = ±22'-0" REF., ±22'-6" AGL

ε OF EXISTING & PROPOSED T-MOBILE ANTENNAS  
ELEV. = ±20'-0" REF., ±20'-6" AGL

PROPOSED T-MOBILE ANTENNAS WITH ASSOCIATED EQUIPMENT MOUNTED TO MONOPOLE - SEE SHEET A-4

PROPOSED T-MOBILE CABLING - SEE ANTENNA SCHEDULES ON SHEET A-4

EXISTING T-MOBILE CABLING - SEE ANTENNA SCHEDULES ON SHEET A-4

EXISTING CROWN CASTLE MONOPOLE

NOTES:

- THESE DRAWINGS ARE NOT INTENDED TO BE A VERIFICATION THAT THE STRUCTURE OR MOUNTS ARE ADEQUATE TO SUPPORT THE PROPOSED LOADING. VERIFICATION THAT THE EXISTING STRUCTURE AND MOUNTS CAN SUPPORT THE PROPOSED LOADING SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION.
- CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS AND MOUNT ASSESSMENT AND VERIFY LOADING WITH THE MOST RECENT RFDS PRIOR TO CONSTRUCTION.

NOTES

- ALL MOUNTS MUST REMAIN FREE AND CLEAR OF SAFETY CLIMB LANYARD. IF NEEDED A MASTHEAD EXTENSION SHOULD BE PUT IN PLACE TO CLEAR ALL MOUNTS.
- TOWER IS PAINTED. ALL CARRIER EQUIPMENT EXISTING & PROPOSED MUST BE PAINTED TO MATCH TOWER.

"LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

BOTTOM OF TOWER STEEL  
ELEV. = 0'-0" REF., 6" AGL

GRADE  
ELEV. = 0'-0" AGL (±5024' AMSL)



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SHEET TITLE:  
WEST  
ELEVATIONS

SHEET NUMBER: **A-3** REVISION: **0**

2 EXISTING WEST ELEVATION

22"x34" SCALE: 3/4" = 1'-0"  
11"x17" SCALE: 3/8" = 1'-0"



1 PROPOSED WEST ELEVATION

22"x34" SCALE: 3/4" = 1'-0"  
11"x17" SCALE: 3/8" = 1'-0"



EXISTING ANTENNA / CABLE SCHEDULE

MOUNT SECTOR	MOUNT POSITION	RFDS POSITION	ANTENNA				QTY.	RRH		TMA/COMBINER/COVP		HYBRID CABLE (HCS)		COAX CABLE	
			MODEL	SIZE	AZIMUTH	RAD CENTER		MODEL	QTY.	MODEL	QTY.	TYPE	LENGTH	TYPE	LENGTH
ALPHA	A1	A1	AIR21 B2A/B4P (KRC118023-1)	56.0"	355°	20'-0"	--	--	--	--	--	--	--	--	--
	A2	A2	AIR21 B4A/B2P (KRC118046-1)	56.0"	355°	20'-0"	--	--	--	--	--	--	--	--	--
	A3	A3	APXVAARR24_43-U-NA20	95.9"	355°	20'-0"	1	4449 B71+B85	--	--	--	--	--	--	--
BETA	B1	B1	AIR21 B2A/B4P (KRC118023-1)	56.0"	115°	20'-0"	--	--	--	--	1	HCS 9x18	±131'-3"	7/8" COAX	±100'-0"
	B2	B2	AIR21 B4A/B2P (KRC118046-1)	56.0"	115°	20'-0"	--	--	--	1	HCS 6x12 6 AWG	±131'-3"	--	--	--
	B3	B3	APXVAARR24_43-U-NA20	95.9"	115°	20'-0"	1	4449 B71+B85	--	--	--	--	--	--	--
GAMMA	C1	C1	AIR21 B2A/B4P (KRC118023-1)	56.0"	240°	20'-0"	--	--	--	--	--	--	--	--	--
	C2	C2	AIR21 B4A/B2P (KRC118046-1)	56.0"	240°	20'-0"	--	--	--	--	--	--	--	--	--
	C3	C3	APXVAARR24_43-U-NA20	95.9"	240°	20'-0"	1	4449 B71+B85	--	--	--	--	--	--	--

NOTES

- CONTRACTOR IS TO REFER TO T-MOBILE'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
- CABLE LENGTH IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY CABLE LENGTHS PRIOR TO ORDERING, FABRICATION, OR INSTALLATION OF CABLES.
- PROPOSED EQUIPMENT IS INDICATED BY **BOLD** TEXT.



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UTAH COUNTY

22'-0" MONOPOLE

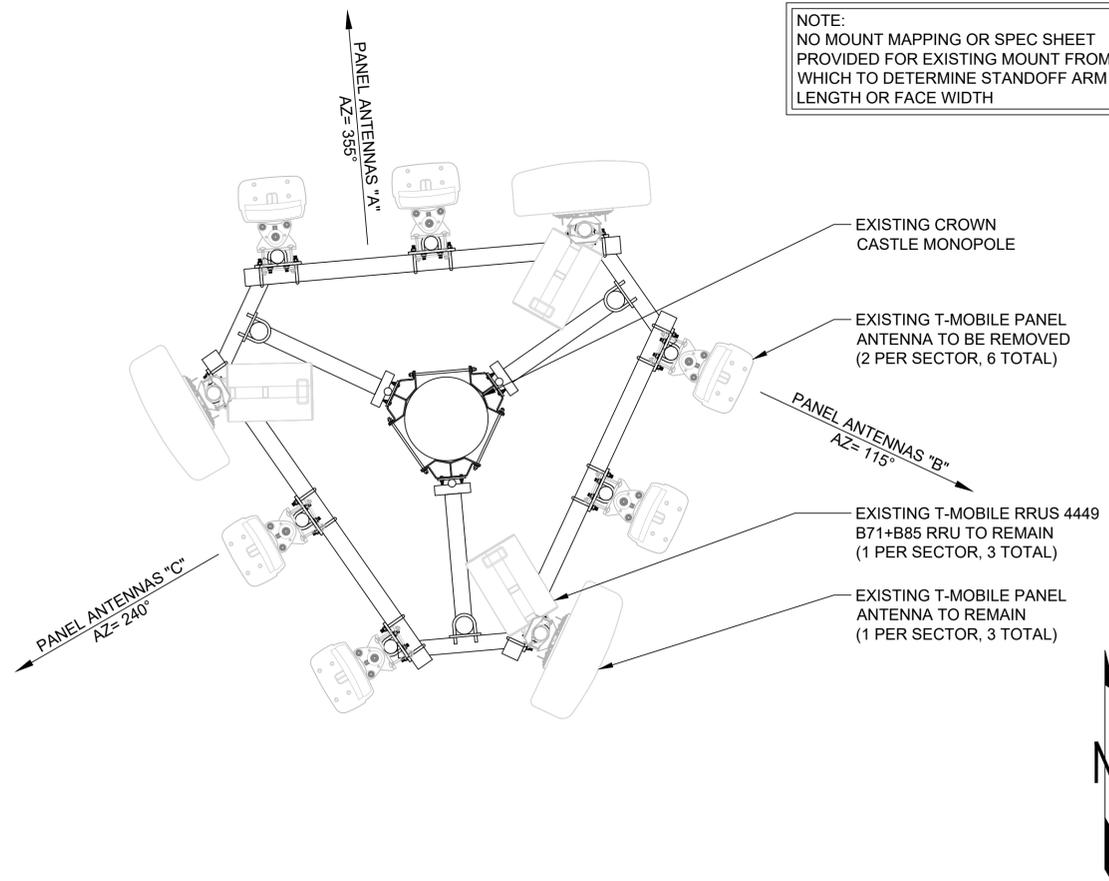
PROPOSED ANTENNA / CABLE SCHEDULE

MOUNT SECTOR	MOUNT POSITION	RFDS POSITION	ANTENNA				QTY.	RRH		TMA/COMBINER/COVP		HYBRID CABLE (HCS)		COAX CABLE	
			MODEL	SIZE	AZIMUTH	RAD CENTER		MODEL	QTY.	MODEL	QTY.	TYPE	LENGTH	TYPE	LENGTH
ALPHA	A1	A3	<b>AIR6449 B41</b>	<b>33.1"</b>	<b>355°</b>	<b>20'-0"</b>	--	--	--	--	--	--	--	--	--
	A2	A1	<b>AIR32 B2A/B66AA (KRD901146-1)</b>	<b>56.6"</b>	<b>355°</b>	<b>20'-0"</b>	--	--	--	--	--	--	--	--	--
	A3	A2	APXVAARR24_43-U-NA20	95.9"	355°	20'-0"	1,1	4449 B71+B85, <b>4415 B25</b>	--	--	--	--	--	--	--
BETA	B1	B3	<b>AIR6449 B41</b>	<b>33.1"</b>	<b>115°</b>	<b>20'-0"</b>	--	--	--	--	1	HCS 9x18	±131'-3"	7/8" COAX	±100'-0"
	B2	B1	<b>AIR32 B2A/B66AA (KRD901146-1)</b>	<b>56.6"</b>	<b>115°</b>	<b>20'-0"</b>	--	--	--	1	HCS 6x12 6 AWG	±131'-3"	--	--	--
	B3	B2	APXVAARR24_43-U-NA20	95.9"	115°	20'-0"	1,1	4449 B71+B85, <b>4415 B25</b>	--	--	2	<b>HCS 6x12 6 AWG</b>	<b>±131'-3"</b>	--	--
GAMMA	C1	C3	<b>AIR6449 B41</b>	<b>33.1"</b>	<b>240°</b>	<b>20'-0"</b>	--	--	--	--	--	--	--	--	--
	C2	C1	<b>AIR32 B2A/B66AA (KRD901146-1)</b>	<b>56.6"</b>	<b>240°</b>	<b>20'-0"</b>	--	--	--	--	--	--	--	--	--
	C3	C2	APXVAARR24_43-U-NA20	95.9"	240°	20'-0"	1,1	4449 B71+B85, <b>4415 B25</b>	--	--	--	--	--	--	--

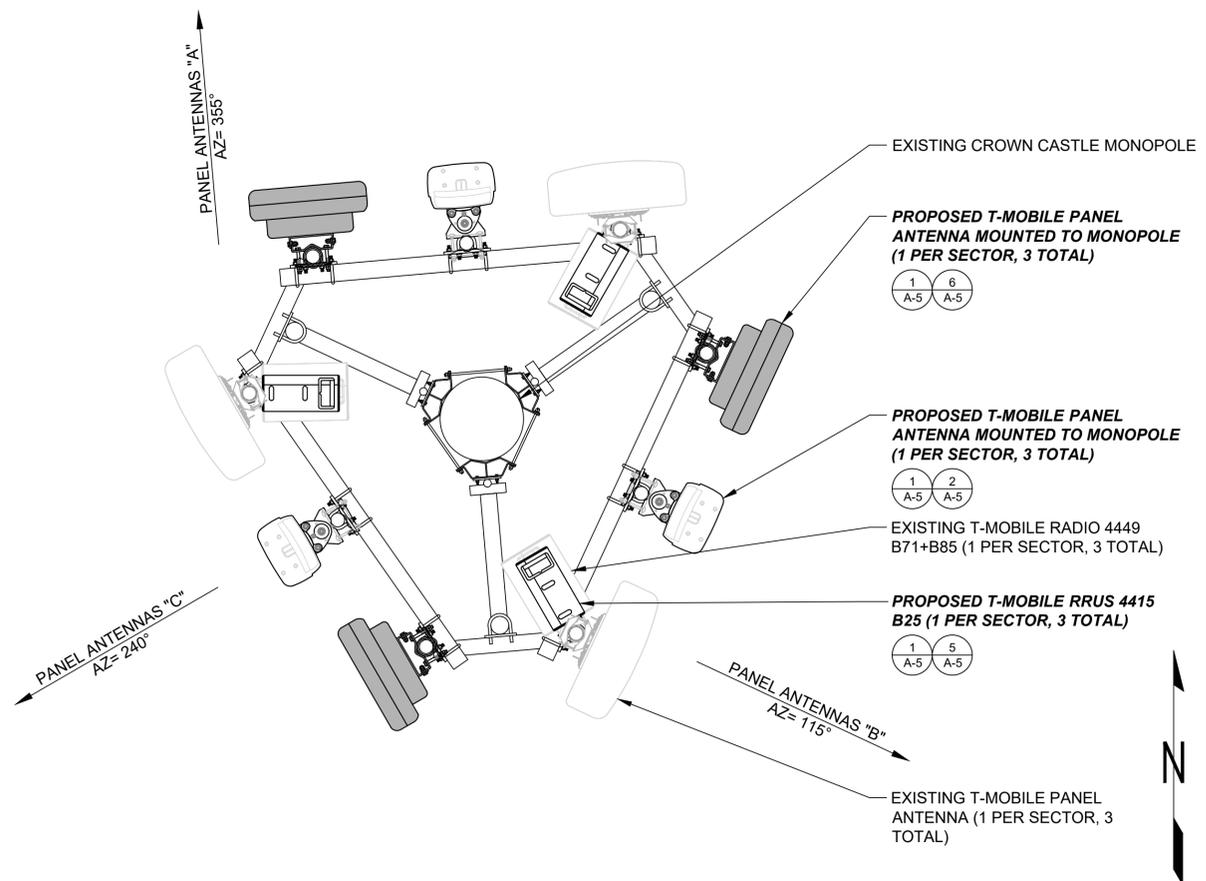
NOTE: MOUNT POSITIONS ARE CLOCKWISE (LEFT TO RIGHT AS VIEWED FROM THE BACK OF THE ANTENNAS)

3 RF SCHEDULES

NOT TO SCALE



NOTE:  
NO MOUNT MAPPING OR SPEC SHEET PROVIDED FOR EXISTING MOUNT FROM WHICH TO DETERMINE STANDOFF ARM LENGTH OR FACE WIDTH



2 EXISTING ANTENNA PLAN

NOT TO SCALE

1 PROPOSED ANTENNA PLAN

NOT TO SCALE

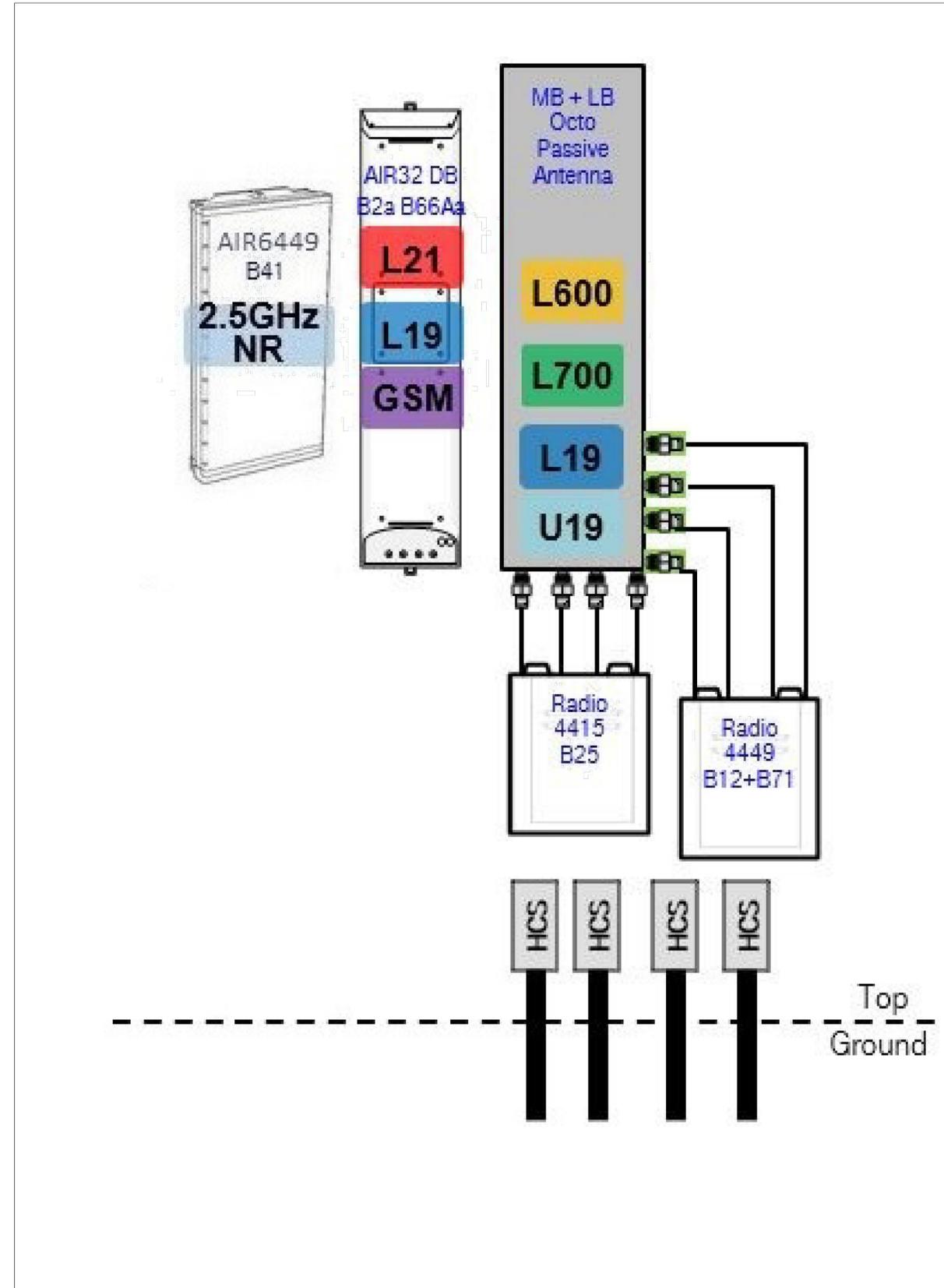
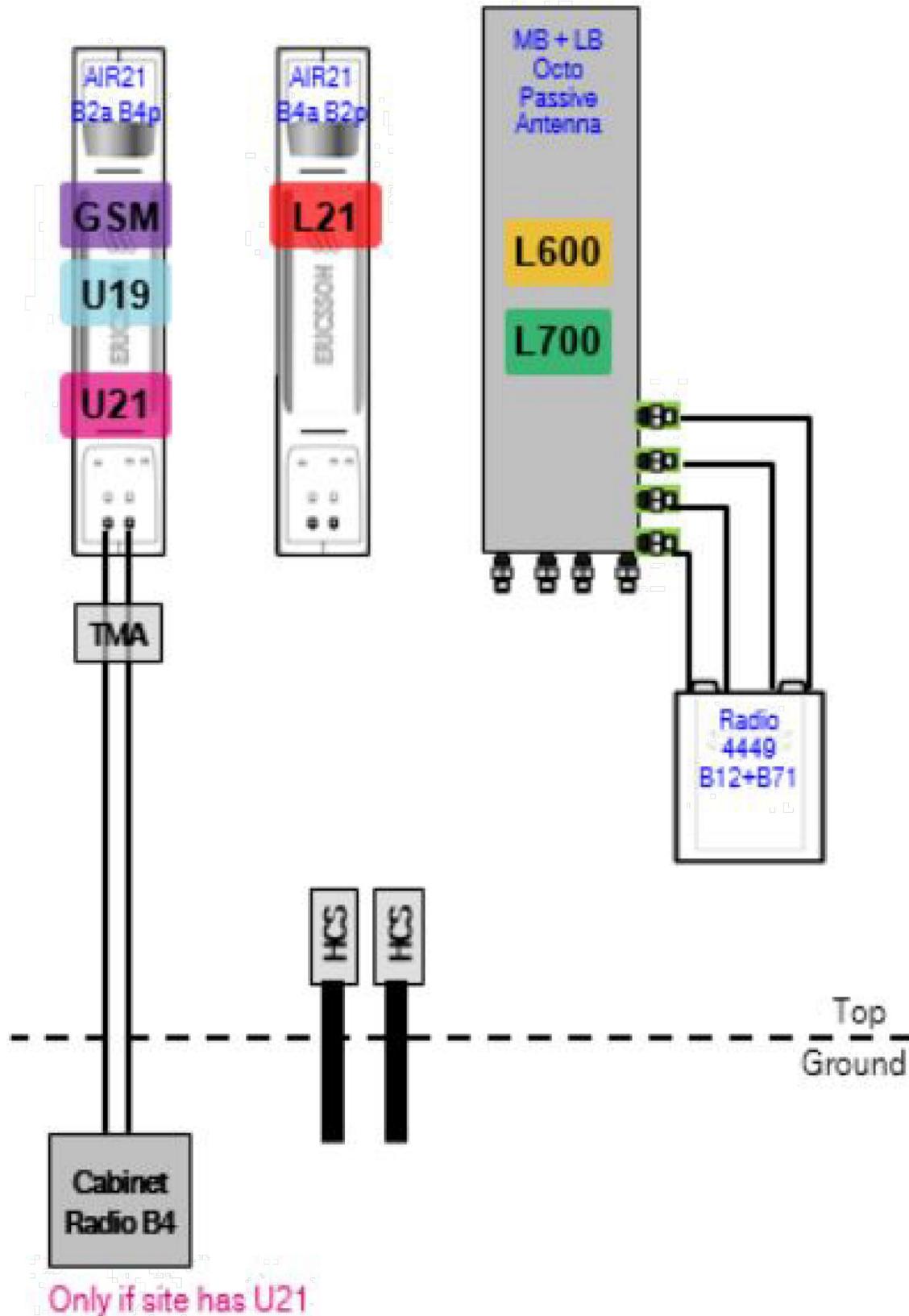
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SHEET TITLE:  
**ANTENNA PLANS & RF SCHEDULES**

SHEET NUMBER: **A-4** REVISION: **0**



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SHEET TITLE:  
RF PLUMBING  
DIAGRAMS

SHEET NUMBER:  
**A-4.1**

REVISION:  
**0**



121 W ELECTION RD, SUITE 330  
DRAPER, UT 84020



1505 WESTLAKE AVE N, SUITE 800  
SEATTLE, WA 98109



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BELLEVUE, WA 98004

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SL01122A  
ALPINE\_SHEPHERD\_HILL

CROWN CASTLE SITE:  
822343  
ALPINE\_SHEPHERD\_HILL

651 S BATEMAN  
ALPINE, UT 84004  
UTAH COUNTY

22'-0" MONOPOLE

DRAWINGS ISSUED FOR:

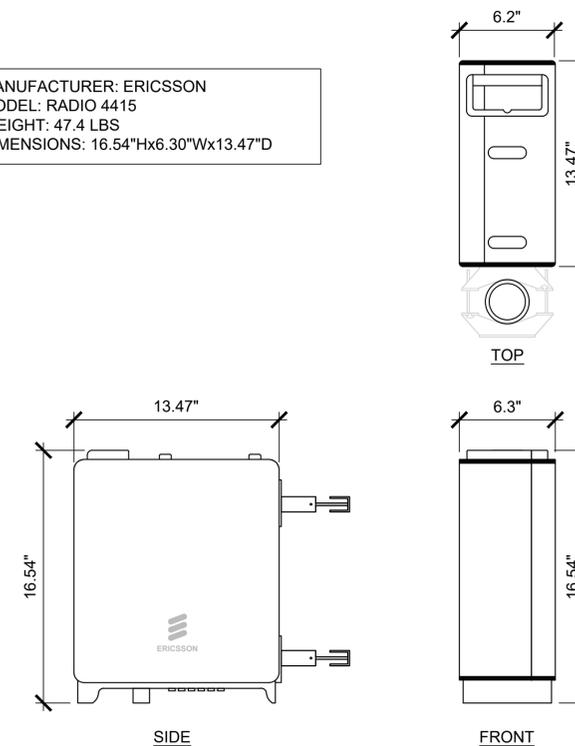
REV.	DATE	DRAWN	DESCRIPTION	QA/QC
A	07/16/20	RCD	PRELIMINARY REVIEW	PD
0	07/21/20	TJB	100% CONSTRUCTION	PD



SHEET TITLE:  
**EQUIPMENT  
DETAILS**

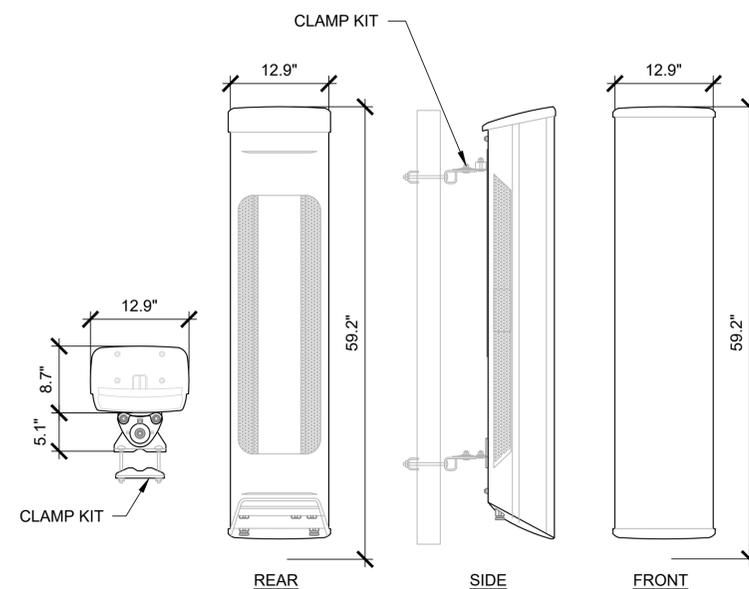
SHEET NUMBER: **A-5** REVISION: **0**

MANUFACTURER: ERICSSON  
MODEL: RADIO 4415  
WEIGHT: 47.4 LBS  
DIMENSIONS: 16.54"Hx6.30"Wx13.47"D

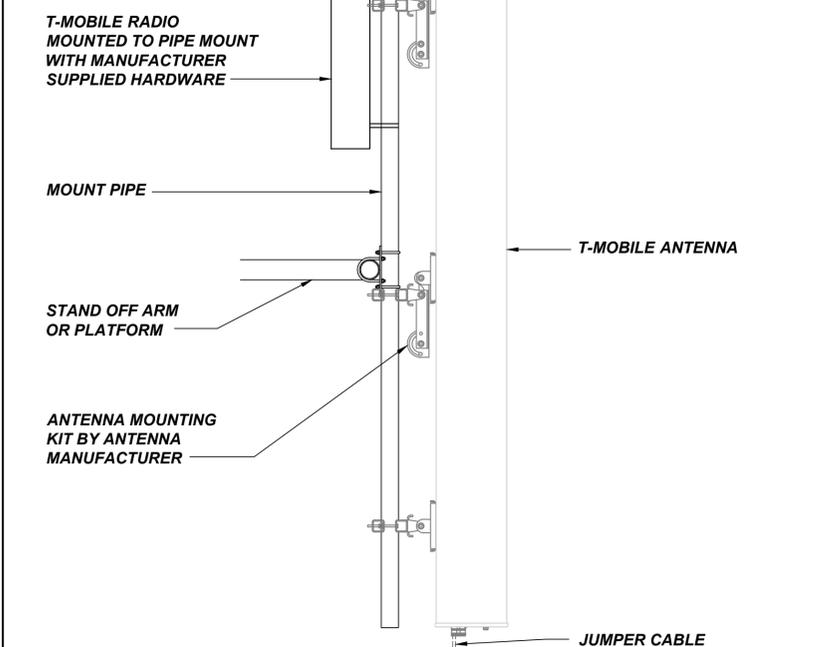


4 RADIO 4415 RRU DETAIL

MANUFACTURER: ERICSSON  
MODEL: AIR32 B2A/B66Aa  
WEIGHT: 132.2 LBS  
DIMENSIONS: 56.6" X 12.9" X 8.7"  
FREQUENCY: REFER TO RF DATA SHEET

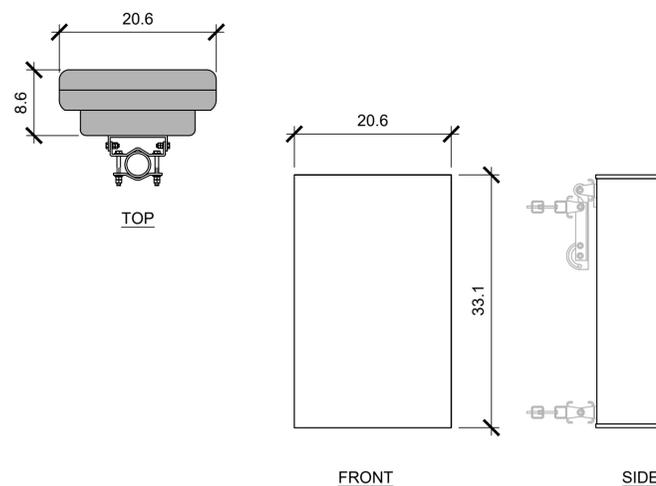


2 ANTENNA DETAIL



1 MOUNTING DETAIL

MANUFACTURER: ERICSSON  
MODEL: AIR6449 B41  
WEIGHT: 104.0 LBS  
DIMENSIONS: 33.1" X 20.6" X 8.6"  
FREQUENCY: REFER TO RF DATA SHEET



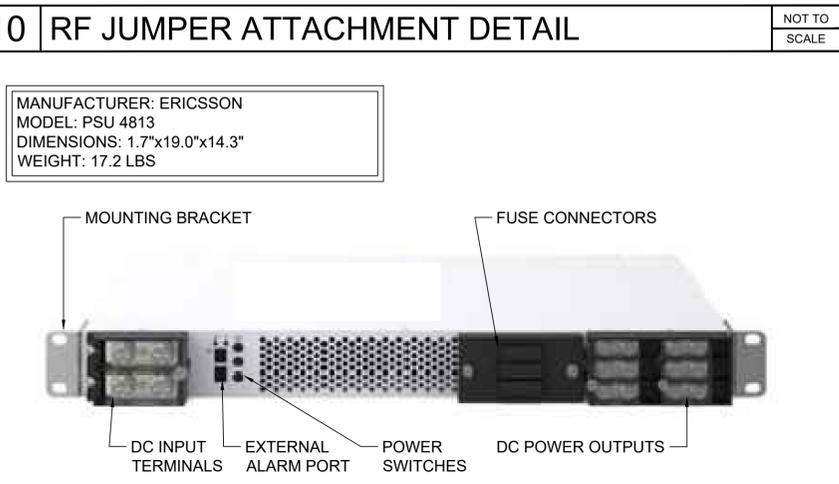
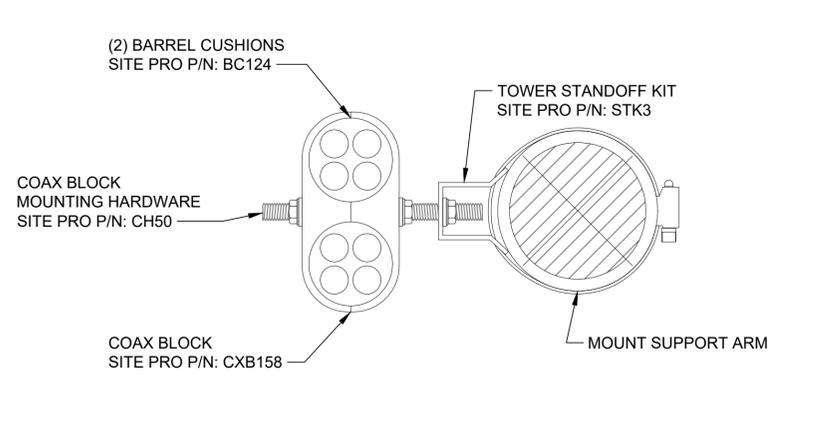
3 ANTENNA DETAIL

6 NOT USED

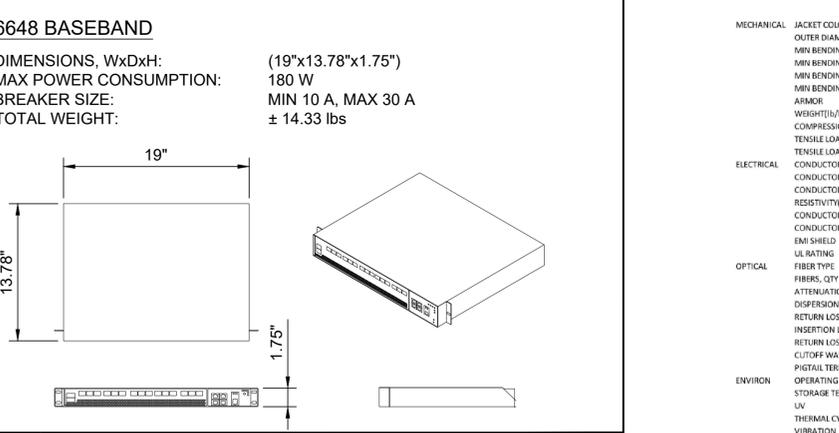
NOT TO SCALE

5 NOT USED

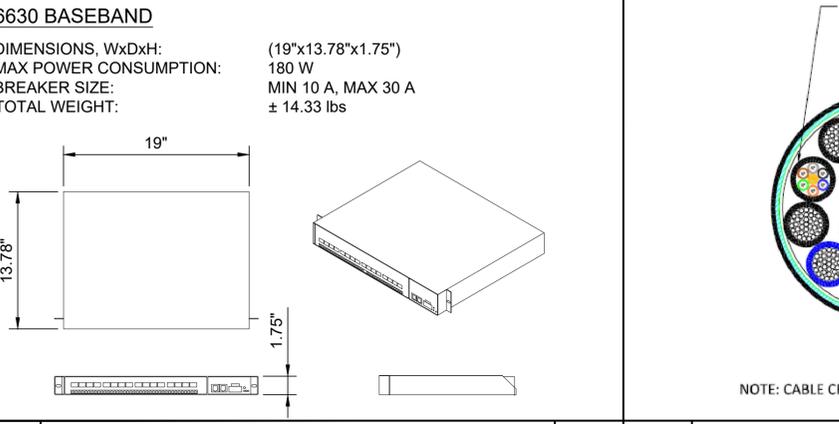
NOT TO SCALE



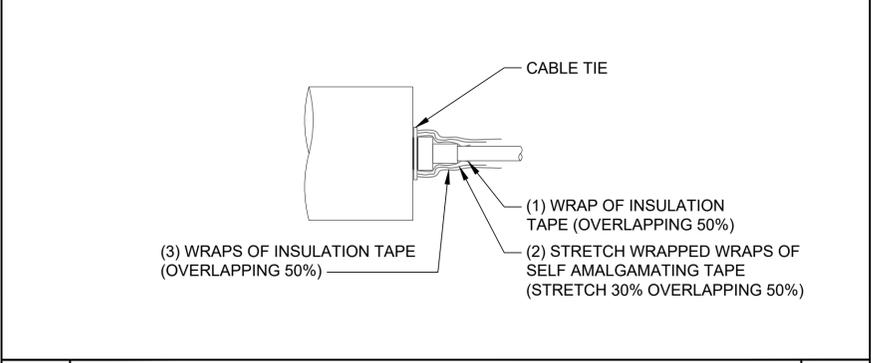
**10 RF JUMPER ATTACHMENT DETAIL** NOT TO SCALE



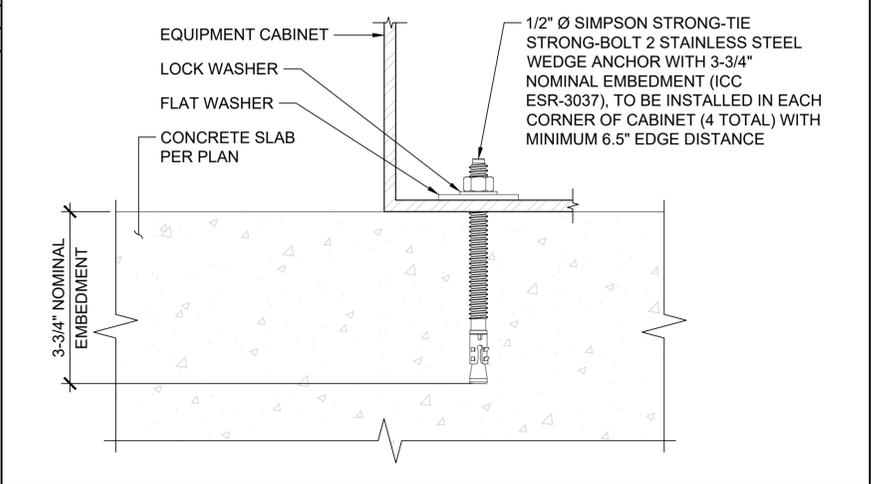
**5 BB 6648 DETAIL** NOT TO SCALE



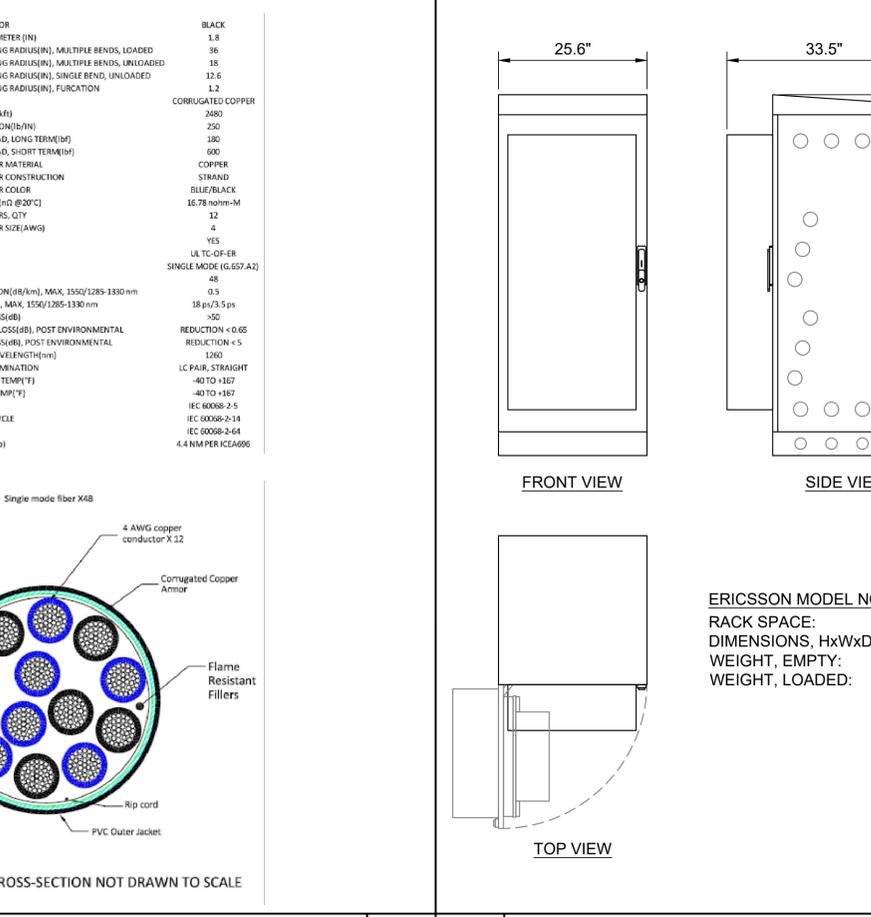
**4 BB 6630 DETAIL** NOT TO SCALE



**9 RF JUMPER CONNECTION DETAIL** NOT TO SCALE



**7 CABINET ATTACHMENT DETAIL** NOT TO SCALE



**3 HYBRID CABLE DETAIL** NOT TO SCALE

**6 COAX COLOR CODING** NOT TO SCALE

**INSTALLER NOTE:**  
JUMPERS TO BE TORQUED TO 221.27 IN/LBS

**Coax Color Coding**

- Antennas will be labeled (back of antenna view) right to left 1 - X ports
- Coax/jumper lines will be identified by sector color and by number of bands around the coax/jumper

SECTOR A	RED
SECTOR B	GREEN
SECTOR C	BLUE
SECTOR D	YELLOW
SECTOR E	WHITE
SECTOR F	PURPLE
LMU	BROWN + SECTOR COLOR BANDS (1 & 2)
FIBER ID	GRAY
UNUSED COAX	PINK
MICROWAVE	ORANGE
DWE T-1'S + GPS DOWNLINK CABLE	ID W/LABEL MAKER

**COLOR CODING NOTES:**

- color GSM
- color UMS 1900
- color UMS AWS
- color LTE
- color FIBER CABLE

**METALLIC TAG NOTES:**

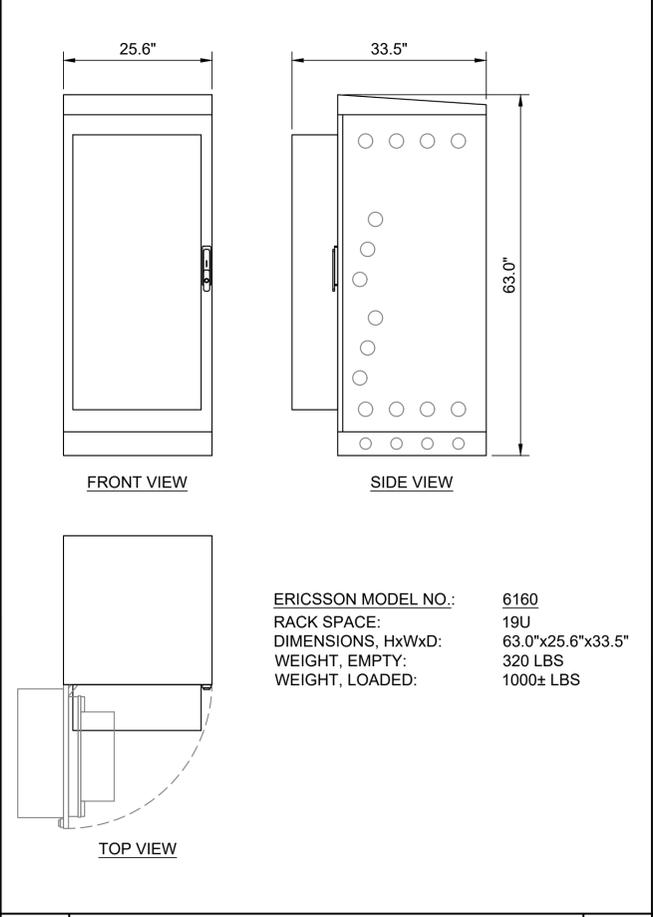
- TWO METALLIC TAGS SHALL BE ATTACHED AT EACH END OF EVERY CABLE LONGER THAN (3) THREE FEET
- CABLE LESS THAN (3) THREE FEET WILL HAVE TWO METALLIC TAGS ATTACHED AT THE CENTER OF THE CABLE
- TAGS WILL BE FASTENED WITH STAINLESS STEEL ZIP TIES APPROPRIATE FOR CABLE DIAMETER
- STANDARDIZED METALLIC TAG KIT WILL BE ASSEMBLED WITH TAGS ALREADY ENGRAVED TO ACCOMMODATE ALL CONFIGURATIONS.

**ANTENNA AND COAXIAL CABLE SCHEDULE**

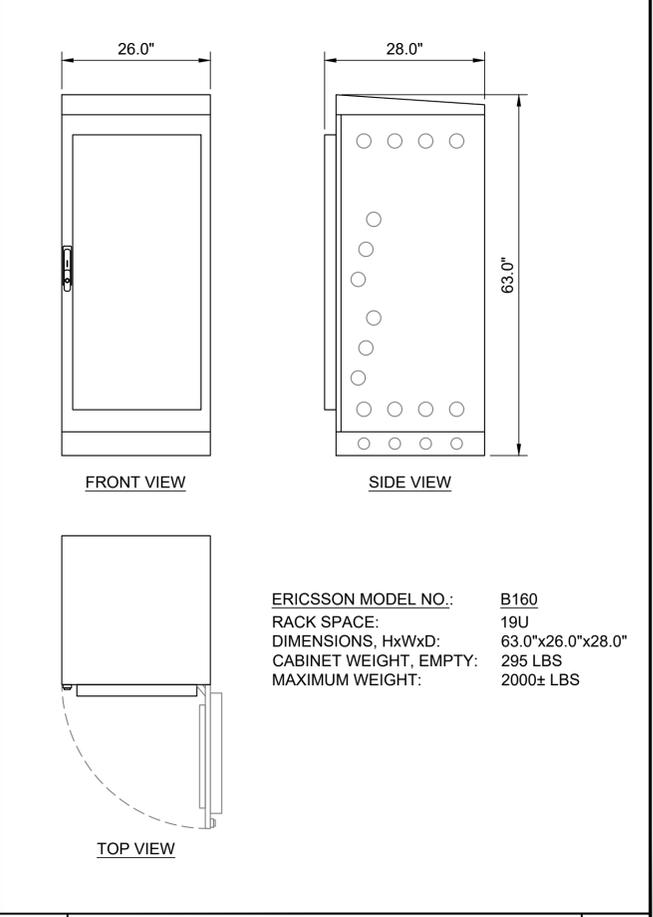
- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- CONTRACTOR SHALL INSTALL COLOR CODE RINGS ON EACH OF THE HYBRID CABLES AND JUMPER CABLES WITH UV RESISTANT TAPE. ALL CABLE SHALL BE MARKED AT TOP AND BOTTOM WITH 2" COLOR TAPE OR STENCIL TAG. COLOR TAPE MAY BE OBTAINED FROM GRAYBAR ELECTRONICS.

**EXAMPLE: COAX WITH FOUR BANDS OF RED TAPE WILL REPRESENT ALPHA SECTOR AND THE 4TH PORT OF ANTENNA**

**6 COAX COLOR CODING** NOT TO SCALE



**2 6160 CABINET DETAIL** NOT TO SCALE



**1 B160 CABINET DETAIL** NOT TO SCALE

**T-Mobile**  
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651 S BATEMAN  
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UTAH COUNTY

22'-0" MONOPOLE

**DRAWINGS ISSUED FOR:**

REV.	DATE	DRAWN	DESCRIPTION	QA/QC
A	07/16/20	RCD	PRELIMINARY REVIEW	PD
0	07/21/20	TJB	100% CONSTRUCTION	PD

**SHEET TITLE:**  
EQUIPMENT  
DETAILS

**SHEET NUMBER:** A-6      **REVISION:** 0

PANEL ID: <u>A</u>	<b>PANEL SCHEDULE</b> SINGLE PHASE	BUS: <u>200A</u>
LOCATION: <u>ON WALL</u>		MAIN: <u>200A BREAKER</u>
FED FROM: <u>--</u>		VOLTAGE: <u>120/240V</u>
		PHASE/WIRE: <u>1Ø/3 WIRE</u>
		AIC: <u>--</u>
		SPECIALS: <u></u>

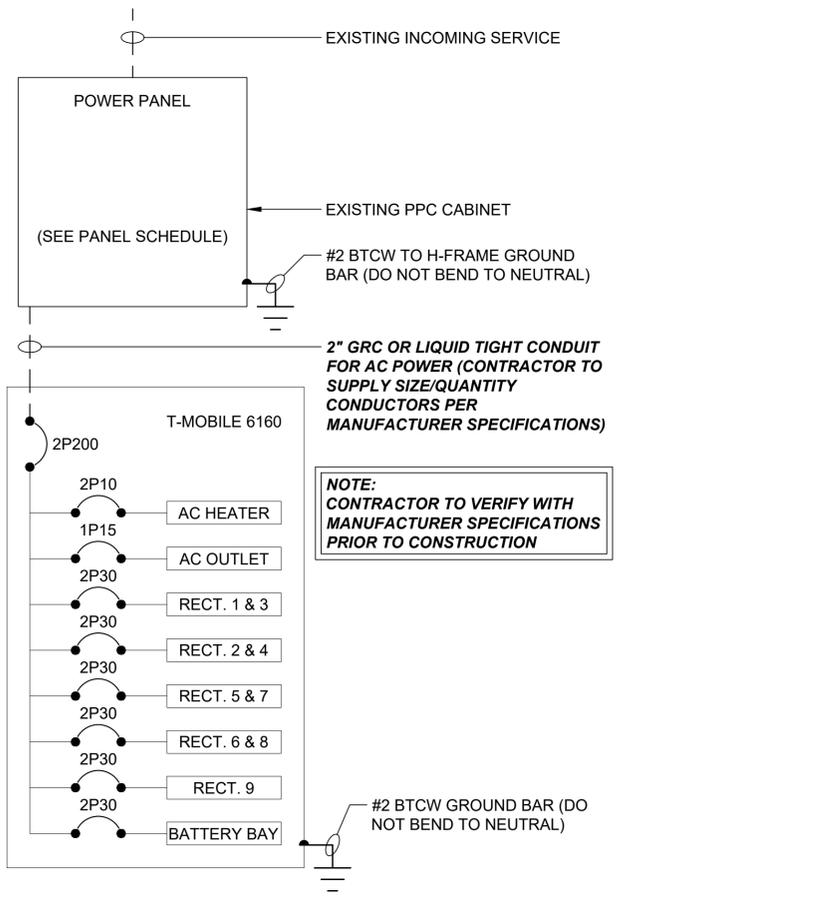
P#	CIRCUIT DESCRIPTION	AMPS / POLES	Ø	AMPS / POLES	CIRCUIT DESCRIPTION	P#
1	GENERATOR BLOCK HEATER	20A	1P	A 50A	SURGE SUPPRESSION	2
3	UNKNOWN (NO LABEL)	20A	2P	B	--	4
5	GENERATOR BATTERY CHARGER	50A	A	150A	RBS 3106	6
7	--	--	1P	B	--	8
9	UNKNOWN (NO LABEL)	60A	A	--	--	10
11	--	--	1P	B	--	12
13	SPACE	--	A	<b>200A</b>	<b>6160 CABINET</b>	14
15	SPACE	--	B	--	--	16
17	SPACE	--	A	--	--	18
19	SPACE	--	B	<b>2P</b>	--	20

PANEL ID: <u>SUB</u>	<b>SUBPANEL SCHEDULE</b> SINGLE PHASE	BUS: <u>--</u>
LOCATION: <u>ON WALL</u>		MAIN: <u>-- BREAKER</u>
FED FROM: <u>--</u>		VOLTAGE: <u>120/240V</u>
		PHASE/WIRE: <u>1Ø/3 WIRE</u>
		AIC: <u>--</u>
		SPECIALS: <u></u>

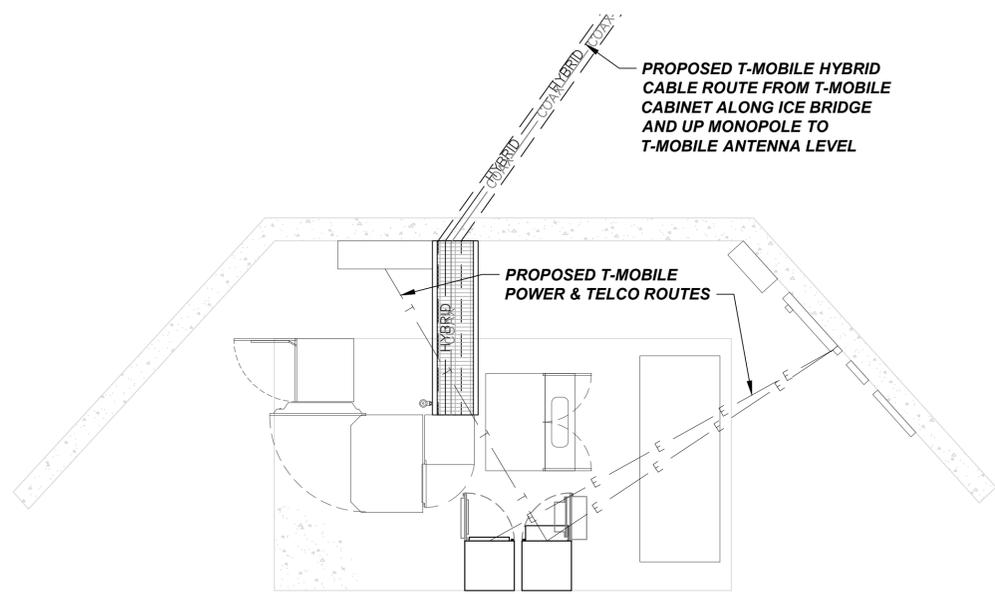
P#	CIRCUIT DESCRIPTION	AMPS / POLES	Ø	AMPS / POLES	CIRCUIT DESCRIPTION	P#
1	NOT AVAILABLE FOR USE	--	A 20A	1P	DOG HOUSE OUTLET	2
3	UNKNOWN (NO LABEL)	20A	1P	B 50	3RD EXT. BTS	4
5	[3RD EXT. BTS]	--	A 20A	2P	MCPA GAMMA	6
7	[MCPA GAMMA]	--	B	--	NOT AVAILABLE FOR USE	8

- UTILITY POINTS OF SERVICE AND WORK / MATERIALS SHOWN ARE BASED UPON PRELIMINARY INFORMATION PROVIDED BY THE UTILITY COMPANIES AND ARE FOR BID PURPOSES ONLY.
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK / MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL ROPES, CABLES, PULL BOXES, CONCRETE ENCASUREMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL, PAY ALL UTILITY COMPANY FEES AND INCLUDE ALL REQUIREMENTS IN SCOPE OF WORK.

**3 PANEL SCHEDULE** NOT TO SCALE



**2 ELECTRICAL ONE-LINE DIAGRAM** NOT TO SCALE



**1 UTILITY ROUTING PLAN**

**T-Mobile**  
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22'-0" MONOPOLE

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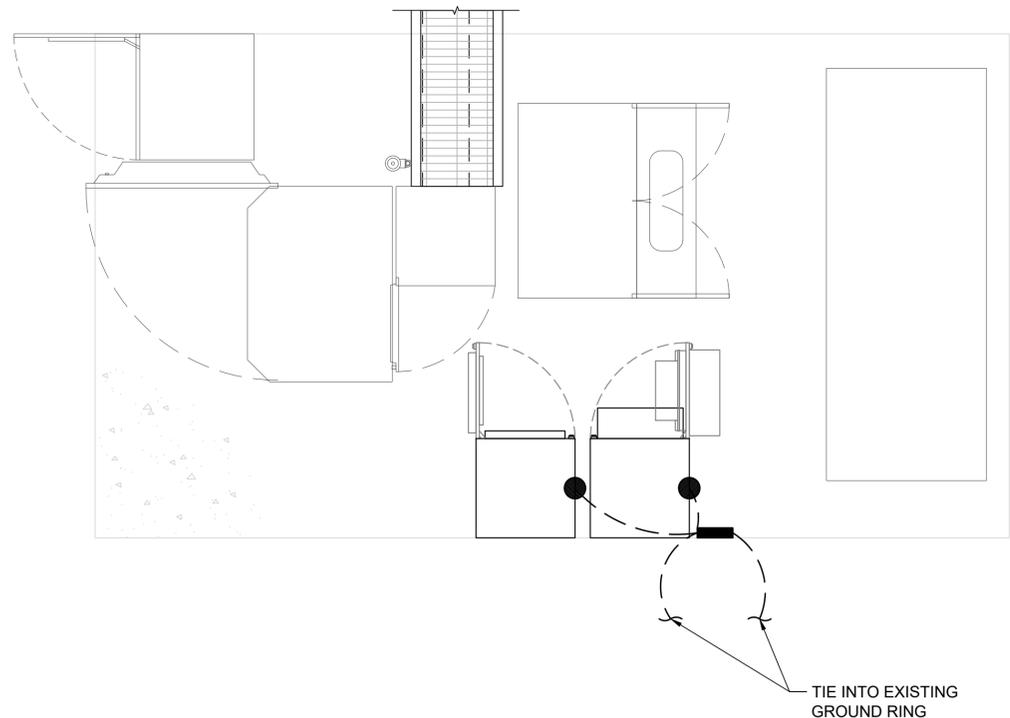
SHEET TITLE:  
**UTILITY ROUTING PLAN & DETAILS**

SHEET NUMBER: **E-1** REVISION: **0**

**GROUNDING SYMBOLS**

-  GROUND BAR
-  GROUND ROD WITH ACCESS
-  CHEMICAL GROUND ROD
-  GROUND ROD
-  CADWELD TYPE CONNECTION
-  COMPRESSION TYPE CONNECTION
-  GROUNDING WIRE

TYPICAL: #6 AWG FROM EQUIPMENT TO GROUND BAR; #2 FROM GROUND BAR TO GROUND RING, FROM METER TO GROUND RING, AND FOR GROUND RING.

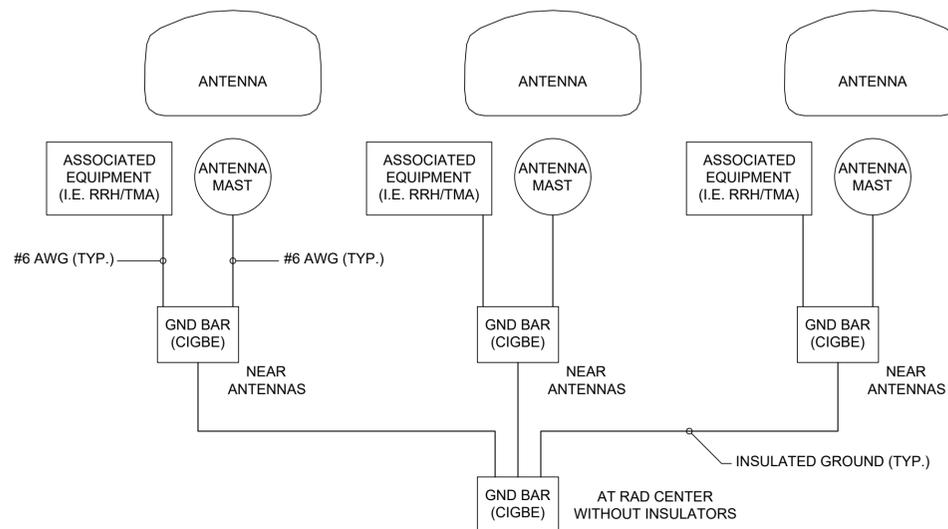


**3 NOT USED**

NOT TO SCALE

GENERAL GROUNDING NOTES:

1. TO ENSURE PROPER BONDING, ALL CONNECTIONS SHALL BE AS FOLLOWS:  
 - #2/0 BARE TINNED SOLID COPPER CONDUCTOR: CADWELD TO RODS OR GROUND RING  
 - LUGS AND BUS BAR (UNLESS NOTED OTHERWISE): SANDED CLEAN, COATED WITH OXIDE INHIBITOR AND BOLTED FOR MAXIMUM SURFACE CONTACT. ALL LUGS SHALL BE COPPER (NO ALUMINUM SHALL BE PERMITTED). PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
2. ALL GROUNDING CABLE IN CONCRETE OR THROUGH WALLS SHALL BE IN 3/4" PVC CONDUIT. SEAL AROUND CONDUIT THROUGH WALLS. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS.
3. OWNER'S REPRESENTATIVE WILL INSPECT CADWELDS AND CONDUCT MEGGER TEST PRIOR TO BURIAL. MAXIMUM 5 OHMS RESISTANCE IS REQUIRED.
4. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS SHALL BE A MINIMUM 8" RADIUS AND NO GREATER THAN 90 DEGREES.
5. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM.
6. THE PREFERRED LOCATION FOR COAX GROUNDING IS AT THE BASE OF THE TOWER PRIOR TO THE COAX BEND. BONDING IS SHOWN ON THE ICE BRIDGE DUE TO DIFFICULTY WITH WELDING OR ATTACHING TO TOWER LEGS. CONTRACTOR SHALL ADVISE CONSTRUCTION MANAGER PRIOR TO PLACING CIGBE ON ICE BRIDGE IF MOUNTING TO TOWER LEG IS POSSIBLE.
7. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250-30.



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 UTAH COUNTY

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0	07/21/20	TJB	100% CONSTRUCTION	PD



SHEET TITLE:  
**SCHEMATIC GROUNDING PLANS & NOTES**

SHEET NUMBER:  
**G-1**

REVISION:  
**0**

**2 EQUIPMENT GROUNDING PLAN**

22"x34" SCALE: 1/2" = 1'-0"  
 11"x17" SCALE: 1/4" = 1'-0"

**1 ANTENNA SCHEMATIC GROUNDING SYSTEM & NOTES**

NOT TO SCALE



T-MOBILE SITE:  
SL01122A  
ALPINE\_SHEPHERD\_HILL

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ALPINE\_SHEPHERD\_HILL

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22'-0" MONOPOLE

DRAWINGS ISSUED FOR:

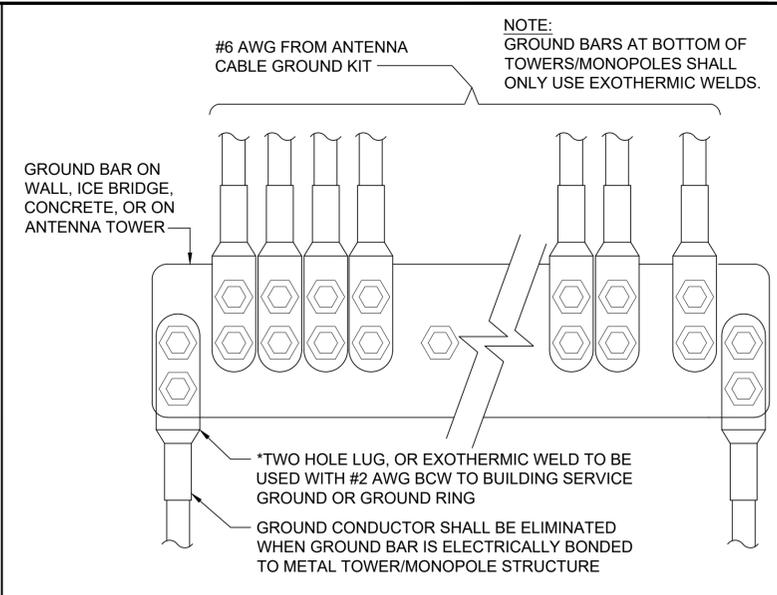
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A	07/16/20	RCD	PRELIMINARY REVIEW	PD
0	07/21/20	TJB	100% CONSTRUCTION	PD



SHEET TITLE:  
**GROUNDING DETAILS**

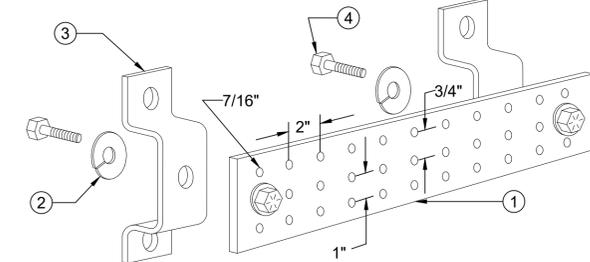
SHEET NUMBER:  
**G-2**

REVISION:  
**0**



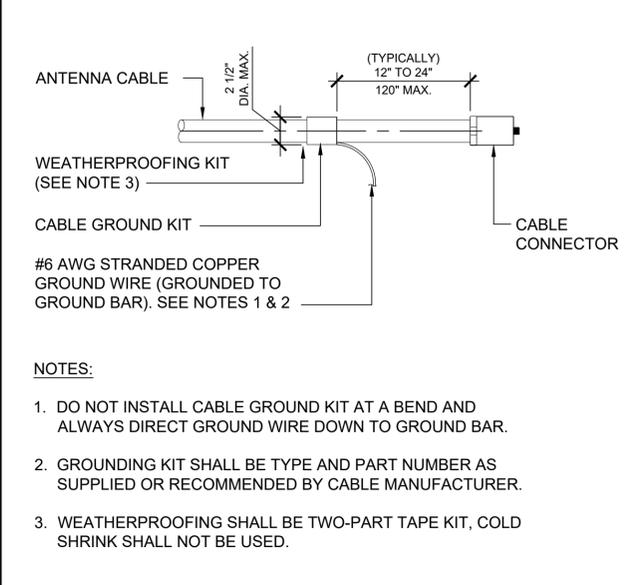
**9 GROUND WIRE INSTALLATION**

- 1.) COPPER GROUND BAR, 1/4"x 4"x 20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR APPROVED EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
- 2.) 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR APPROVED EQUAL
- 3.) WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR APPROVED EQUAL
- 4.) 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR APPROVED EQUAL



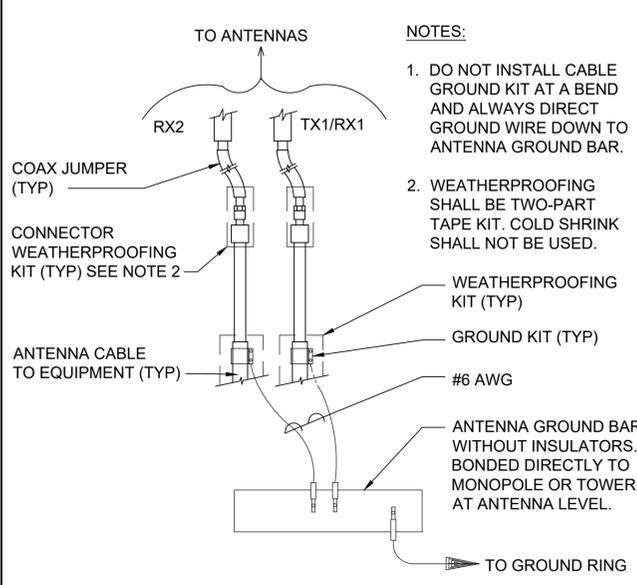
NOTES:  
GROUND BAR AT ANTENNA LEVEL TO BE BONDED DIRECTLY TO TOWER STRUCTURE; NO INSULATORS USED. GROUND BAR AT BASE OF TOWER STRUCTURE TO BE ATTACHED WITH INSULATORS. CONNECTION TO TOWER STRUCTURE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

**5 TYPICAL GROUND BAR**

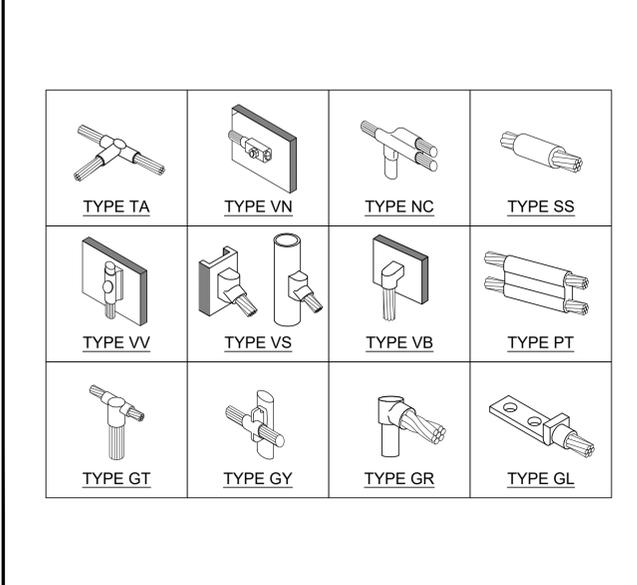


**2 CABLE GROUND KIT**

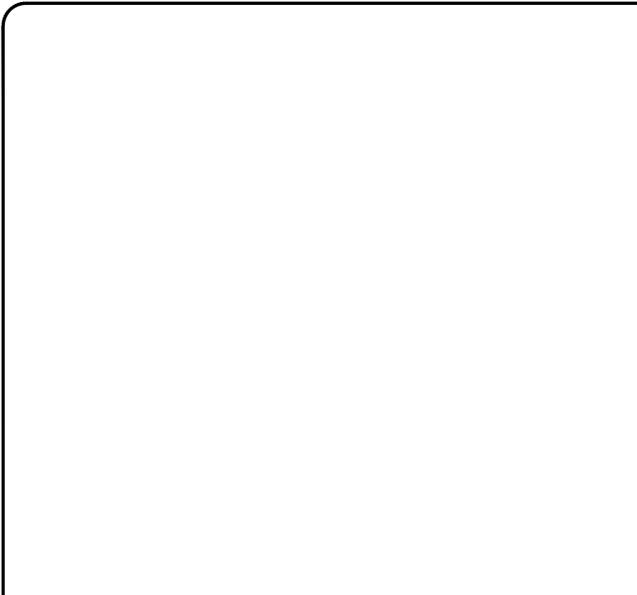
- NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
  2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
  3. WEATHERPROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.



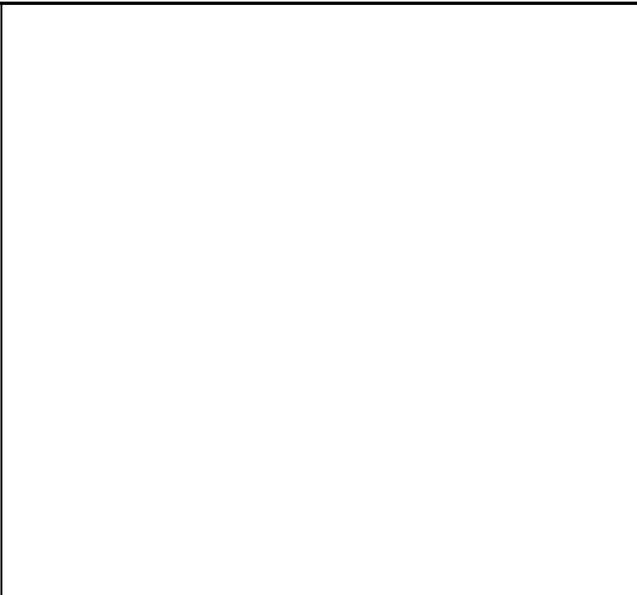
**3 CABLE GROUND CONNECTIONS**



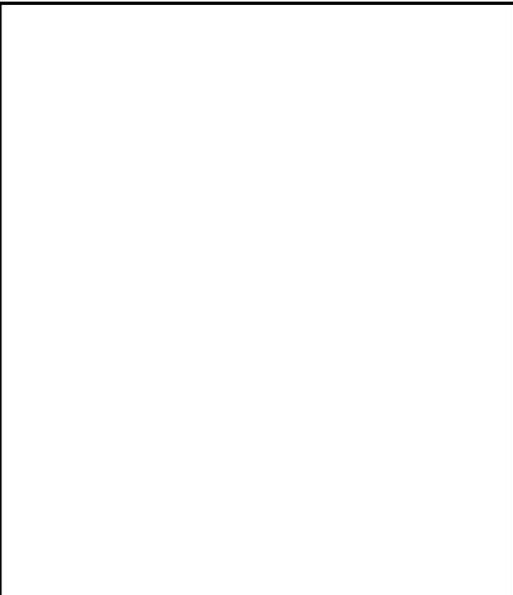
**4 EXOTHERMIC CONNECTIONS**



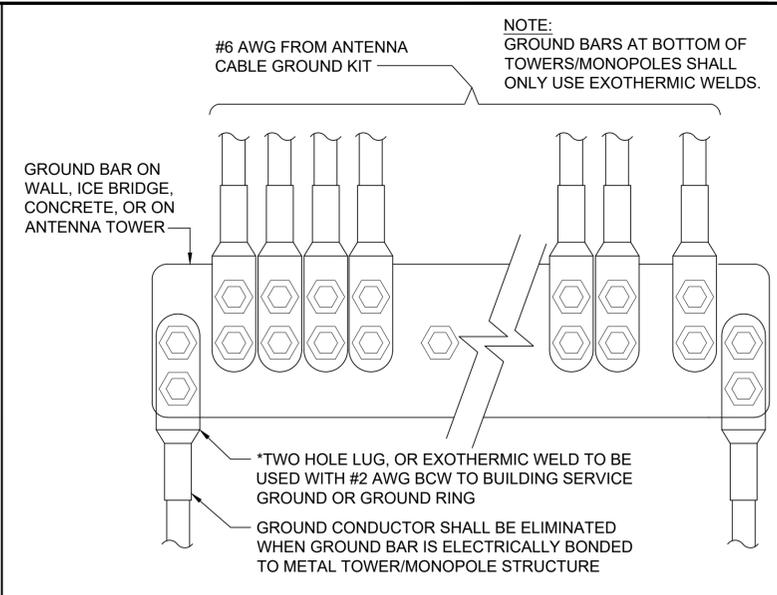
**12 NOT USED**



**11 NOT USED**



**10 NOT USED**



**9 GROUND WIRE INSTALLATION**





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# Site Plan Checklist

---

20 North Main Alpine, UT 84004 • 801-756-6347 (Phone) • 801-756-1189 (Fax) • [www.alpinecity.org](http://www.alpinecity.org)

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Article 4.14 of the Alpine Development Code outlines the requirements necessary for Site Plan compliance for single-family residential dwellings and commercial structures **not** located in an approved subdivision. Commercial Site Plans also need to be in accordance with any additional requirements of the Business Commercial zone that are applicable. Applicants must follow the City's planning process including making and attending appointments with the Development Review Committee (DRC) and the Planning Commission.

Please follow this checklist to ensure a complete and proper Site Plan submittal.

---

## Submission Requirements

Applicant Use	Office Use	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The applicant shall meet with the DRC to discuss the proposed site plan before submitting an application or any plans.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	All required documentation shall be submitted to the City Planner fourteen (14) days prior to a scheduled Planning Commission meeting or ten (10) days for a resubmission, including: <ul style="list-style-type: none"><li>• The Site Plan Checklist, Site Plan Application and required fees.</li><li>• an electronic copy of the site plan in a compatible format (AutoCAD);</li><li>• Three (3) D size (22" x 34") copies of the site plan drawn to scale; and</li><li>• ten (10) 11"x17" copies of the site plan drawn to scale.</li></ul>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The site plan conforms to Article 4.7 (Design Standards), Article 4.8 (Construction Standards), and Article 4.10 (Financial Responsibility) of the Alpine City Subdivision Ordinance. If it is a commercial site plan, it also conforms to any additional requirements that are applicable to the site plan in Article 3.7 (Business/Commercial District) of the Alpine City Development Code.

A Developer's Agreement shall be executed between the City and the Developer outlining the conditions of approval of the site plan. The Development Agreement may include but is not limited to the following examples: any special conditions, trails, landscape issues, or off-site improvements. Rights-of-ways must be dedicated to Alpine City.

Hello there, Mr. Chagnon,

We have received all the needed information to begin your dig permitting process.

The completed dig permit should be ready for you to pick up at our office by close

of business, ~~Monday, August 3~~



# Site Plan Application

Good day,

Matt Gooden, 201 North Main Alpine, UT 84004 • 801-756-6347 (Phone) • 801-756-1189 (Fax) • [www.alpinecity.org](http://www.alpinecity.org)

CADD Operator

## Contact Information

**Applicant** T-Mobile - Craig Chagnon as agent

Address 2055 S. Stearman Dr. City Chandler State AZ Zip 85286

Phone 801-979-9077 Fax \_\_\_\_\_ Email craig.chagnon@crowncastlel.com

**Engineer** INFINIGY ENGINEERING

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (206) 375-3798 Fax \_\_\_\_\_ Email pdanneberg@infinigy.com

**Representative** Craig Chagnon / Crown Castle

(Person who will be at City meetings to represent the proposed plan. If it is someone other than the applicant/engineer, please indicate his/her relationship to the project.)

Address 2055 S. Stearman Dr. City Chandler State AZ Zip 85286

Phone 801-979-9077 Fax \_\_\_\_\_ Email craig.chagnon@crowncastlel.com

Send City Engineer's review comments to:  Applicant  Engineer  Representative

## Project Information

Name of Project T-Mobile Anchor

Project Address 651 S Bateman Current Use Wireless Telecom Facility

Project Size (in acres) 0.01 Current Zoning CR-20,000

## Source of Water Rights N/A

Alpine Irrigation Shares: # of Primary Shares \_\_\_\_\_ # of Secondary Shares \_\_\_\_\_

Other Water Rights: Source \_\_\_\_\_ # of Acreage Feet \_\_\_\_\_

Requesting Cash in lieu of Water Rights Option

**Site Plan Fee** \$250.00 Amount Paid \$250.00 Date Paid 07.30.20

(Actual cost of City Engineer's review + \$150.00 [\$250.00 for commercial site plans])

**Applicant Signature** Craig Chagnon Date 07.28.2020

## **3.27 Wireless Telecommunications Ordinance**

### **3.27.010 General Provisions**

### **3.27.020 Location And Types Of Towers/Antennas**

### **3.27.030 Procedure**

### **3.27.040 Safety**

### **3.27.050 Additional Requirements**

## **3.27.010 General Provisions**

1. **Title.** This Ordinance shall be known as the Wireless Telecommunications Ordinance.
2. **Purpose & Intent.** The unique character, landscapes and scenic vistas of Alpine are among its most valuable assets. Preserving and promoting those assets are essential to the long- range social and economic wellbeing of the City and its inhabitants. Protecting these assets requires sensitive placement and design of wireless communication facilities so that these facilities remain in scale and harmony with the existing character of the community.
  - a. To amend Ordinance No. 2006-06 to accommodate new technology and develop regulations on the use and development of City property for new cell tower facilities.
  - b. To regulate personal wireless services antennas, with or without support structures, and related electronic equipment and equipment structures.
  - c. To provide for the orderly establishment of personal wireless services facilities in the City.
  - d. To minimize the number of antenna support structures by encouraging the co-location of multiple antennas on a single new or existing structure.
  - e. To establish siting, appearance and safety standards that will help mitigate the potential impacts related to the construction, use and maintenance of personal wireless communication facilities.
  - f. To comply with the Telecommunication Act of 1996 by establishing regulations that (1) do not prohibit or have the effect of prohibiting the provision of personal wireless services, (2) do not unreasonably discriminate among providers of functionally equivalent services, and (3) are not based on the environmental effects of radio frequency emissions to the extent that such facilities comply with the Federal Communications Commission's regulations concerning such emissions.

## **3. Findings**

- a. Personal wireless services facilities (PWSF) are an integral part of the rapidly growing and evolving telecommunications industry, and present unique zoning challenges and concerns by the City.
- b. The City needs to balance the interests and desires of the telecommunications industry and its customers to provide competitive and effective telecommunications systems in the City, against the sometimes differing interests and desires of others concerning health, safety, welfare, and aesthetics, and orderly planning of the community.
- c. The City has experienced an increased demand for personal wireless services facilities to be located in the City, and expects the increased demand to continue in the future.
- d. It is in the best interests of the City to have quality personal wireless services facilities available, which necessarily entails the erection of personal wireless services facilities in the City.

- e. The unnecessary proliferation of personal wireless services facilities through the City creates a negative visual impact on the community.
- f. The visual effects of personal wireless services facilities can be mitigated by fair standards regulating their siting, construction, maintenance and use.
- g. A private property owner who leases space for a personal wireless services facility is the only one who receives compensation for the facility, even though numerous other property owners in the area are adversely affected by the location of the facility.
- h. Chapter 69-3, Utah Code Annotated, grants cities the authority to create or acquire sites to accommodate the erection of telecommunications tower in order to promote the location of telecommunication towers in a manageable area and to protect the aesthetics and environment of the area. The law also allows the City to require the owner of any tower to accommodate the multiple use of the tower by other companies where feasible and to pay the City the fair market rental value for the use of any City-owned site.
- i. Telecommunications towers located on government property with the lease payments being paid to Alpine City instead of individual property owners evenly distributes the income from the lease payments to all citizens of Alpine through increased government services thus indirectly compensating all of the citizens of Alpine for the impact all citizens experience. The public policy objectives to reduce the proliferation of telecommunications towers and to mitigate their impact can be best facilitated by locating telecommunications and antenna support structures on property owned, leased or used by Alpine City as a highest priority whenever feasible.

4. **Definitions.** The following words shall have the described meaning when used in this ordinance, unless a contrary meaning is apparent from the context of the word.

- a. Antenna. A transmitting or receiving device used in telecommunications that radiates or captures radio signals.
- b. Antenna Support Structure. Any structure that can be used for the purpose of supporting an antenna(s).
- c. City. The City of Alpine, Utah.
- d. City-owned property. Real property that is owned by the City.
- e. Close to Tower Mount. Also known as slim mount, antennas on cell towers mounted very close to tower in order to appear less noticeable.
- f. Co-location. The location of an antenna on an existing structure, tower or building that is already being used for personal wireless services facilities.
- g. Monopole. A single, self-supporting, cylindrical pole that acts as the support structure for one (1) or more antennas for a personal wireless services facility.
- h. Personal Wireless Services. Commercial mobile telecommunications services, unlicensed wireless communications services, and common carrier wireless telecommunications exchange access services.
- i. Personal Wireless Services Antenna. An antenna used in connection with the provision of personal wireless services.
- j. Personal Wireless Services Facilities (PWSF). Facilities for the provision of personal wireless services. Personal wireless services facilities include transmitters, antennas, structures supporting antennas, and electronic equipment that is typically installed in close proximity to a transmitter.
- k. Private Property. Any real property not owned by the City, even if the property is owned

by another public or government entity.

- l. Quasi public use. Uses such as a school or church or other uses defined as quasi public uses in DCA 3.01.110.
- m. Tower. A freestanding structure that is used as a support structure for antenna.
- n. Whip antenna. An antenna that is cylindrical in shape. Whip antennas can be directional or omnidirectional and vary in size depending on the frequency and gain for which they are designed.

5. **Applicability.** This ordinance (the Wireless Telecommunications Ordinance) applies to both commercial and private low power radio services and facilities, such as “cellular” or PCS (personal communications system) communications and paging systems. This ordinance shall not apply to the following types of communications devices, although they may be regulated by other City ordinances and policies.

- a. Amateur Radio. Any tower or antenna owned and operated by an amateur radio operator licensed by the Federal Communication Commission.
- b. Amateur T.V. Any tower or antenna owned and operated by an amateur T.V. operator licensed by the Federal Communication Commission.
- c. Satellite. Any device designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service or direct satellite service.
- d. Cable. Any cable television head-end or hub towers and antennas used solely for cable television services.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

### **3.27.020 Location And Types Of Towers/Antennas**

1. **Personal Wireless Services Facilities Site Locations.** The following are currently approved locations:

- a. Co-location on an existing tower.
- b. City owned property.
- c. Property in conjunction with a quasi-public or public use.
- d. Commercial property in the business commercial zone.

No new towers shall be located in Lambert Park.

New towers shall be located no closer than a one-quarter (1/4) mile radius from another tower and shall be no closer to a residence than two (2) times the height of the tower.

If the applicant desires to locate on a site other than the approved sites listed above, the applicant shall have the burden of demonstrating to the City why it cannot locate on an approved site. To do so, the applicant shall provide the following information to the City:

- i. The identity and location of any approved sites located within the desired service area.
- ii. The reason(s) why the approved sites are not technologically, legally, or economically feasible. The applicant must make a good faith effort to locate towers and antennas on an approved site. The City may request information from

outside sources to justify or rebut the applicant's reason(s) for rejecting an approved site.

- iii. Why the proposed site is essential to meet the service demands of the geographic service area and the citywide network. If the applicant desires to construct a monopole, the applicant shall also submit a detailed written description of why the applicant cannot obtain coverage using existing towers.

## 2. Permitted and Non-Permitted Towers and Antennas

a. Permitted. The following are permitted:

- i. Co-location on existing towers.
- ii. Existing towers may be maintained, used, and upgraded or replaced. A replacement tower shall not exceed the height of the tower being replaced.

iii. Monopoles are permitted subject to the following:

- (1) A monopole shall not exceed eighty feet (80').

iv. Roof-mounted Antennas are permitted subject to the following:

- (1) A roof-mounted antenna shall be screened, constructed, and/or colored to match the structure to which it is attached.
- (2) A roof-mounted antenna shall be set back from the building edge one (1) foot for every one (1) foot of antenna height and shall not exceed fifteen (15) feet in height.

v. All new antennas shall be slim-mounted or mounted to an existing array.

b. Not Permitted. The following are not permitted:

- i. Lattice Towers. Lattice appearance is not permitted.
- ii. Guyed Towers.

3. **Co-location Requirement.** Unless otherwise authorized by the approving authority for good cause shown, every new tower shall be designed and constructed to be of sufficient size and capacity to accommodate at least two (2) additional wireless telecommunications providers on the structure in the future.

4. **Lease Agreement.** The City has no implied obligation to lease any particular parcel of City-owned property to an applicant. The City shall enter into a standard lease agreement with the applicant for any facility built on City property. The Mayor or designee is hereby authorized to execute the standard lease agreement on behalf of the City. The lease shall contain the condition that the approving authority must first approve the site plan before the lease can take effect, and that failure to obtain such approval renders the lease null and void.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

### **3.27.030 Procedure**

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical

dimensions of such tower or base station. For purposes of this Part, the term “eligible facilities request” means any request for modification of an existing wireless tower or base station that involves:

- collocation of new transmission equipment;
- removal of transmission equipment; or
- replacement of transmission equipment.

1. **Application Requirements.** Any person desiring to develop, construct or establish a personal wireless services facility in the City shall submit an application for site plan approval to the City. A site plan shall be required for all new towers and antennas and any modification or replacement of a tower or antenna. The City shall not consider the application until all required information has been included. The application shall be submitted to the City Planner at least fourteen (14) days prior to the public meeting at which it will be presented to the Planning Commission. The applicant shall include the following:

- a. **Fee.** The applicable fee shall be paid to the City Recorder, payable to Alpine City, as set forth in the Alpine City Consolidated Fee Schedule.
- b. **Site Plan.** A site plan meeting the City’s standard requirements for site plans.
- c. **Notification Letter.** The applicant shall submit a list of all property owners within five hundred (500) feet of the boundaries of the property where the proposed tower or antenna is to be located. The applicant shall also submit envelopes that have been stamped and addressed to all property owners on the list. The City may require a greater distance if deemed necessary or appropriate. The City shall prepare a notification letter to be sent to the property owners on the list submitted by the applicant to be mailed out at least seven (7) days prior to the public meeting at which the application will be presented to Planning Commission. The letter shall contain the following information:
  - i. Address or location of the proposed tower, co-location, tower modification, etc.
  - ii. Name of the applicant.
  - iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)
  - iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.
- d. **Sign.** The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:
  - i. Shall be 4 ft. (H) x 8 ft. (W)
  - ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and
  - iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:
    - (1) Address of location of the proposed tower, co-location, tower modification, etc.

- (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)
- (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

e. Written Information. The following written information shall be submitted:

- i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.
- ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.
- iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.
- iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.
- v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process.** The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. The application and site plan will be reviewed by Planning Commission for a recommendation to City Council. The City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

### 3. Building Permits

- a. General Requirements. No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.
- b. Additional Requirements for New Towers. If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:

- i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.
- ii. Seismic load design and wind load design for the new tower.
- iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.
- iv. Structural failure characteristics of the new tower and a demonstration that the site and setbacks are adequate size to contain debris.
- v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

### **3.27.040 Safety**

#### **1. Regulation Compliance**

- a. Compliance with FCC and FAA Regulations. All operators of personal wireless services facilities shall demonstrate compliance with applicable Federal Communication Commission (FCC) and Federal Aviation Administration (FAA) regulations, including FCC radio frequency regulations, at the time of application and periodically thereafter as requested by the City. Failure to comply with the applicable regulations shall be grounds for revoking a site plan.
  - b. Other Licenses and Permits. The operator of every personal wireless services facility shall submit copies of all licenses and permits required by other agencies and governments with the jurisdiction over the design, construction, location and operation of the facility to the City, shall maintain such licenses and permits in good standing, and shall provide evidence of renewal or extension thereof upon request by the City.
2. **Protection Against Climbing.** Towers shall be protected against unauthorized climbing by removing the climbing pegs from the lower 20 feet of the towers.
  3. **Fencing.** Towers shall be fully enclosed by a minimum 6-foot tall fence or wall, as directed by the City, unless the City determines that a wall or fence is not needed or appropriate for a particular site due to conditions specific to the site.
  4. **Security Lighting Requirement.** Towers shall comply with the FAA requirements for lighting. The City may also require security lighting for the site. If security lighting is used, the lighting impact on surrounding residential areas shall be minimized by using indirect lighting, where appropriate.
  5. **Emergency.** The City shall have the authority to move or alter a personal wireless services facility in case of emergency. Before taking any such action, the City shall first notify the owner of the facility, if feasible.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

### **3.27.050 Additional Requirements**

#### **1. Regulations for Accessory Structures**

- a. Storage Areas and Solid Waste Receptacles. No outside storage or solid waste

receptacles shall be permitted on site.

- b. **Equipment Enclosures.** All electronic and other related equipment and appurtenances necessary for the operation of any personal wireless services facility shall, whenever possible, be located within a lawfully pre-existing structure or completely below grade. When a new structure is required to house such equipment, the structure shall be harmonious with, and blend with, the natural features, buildings and structures surrounding such structure.
  - c. **Accessory Buildings.** Freestanding accessory buildings used with a personal wireless services facility shall not exceed 450 square feet and shall comply with the setback requirements for structures in the zone in which the facility is located.
2. **Parking.** The City may require a minimum of one (1) parking stall for sites containing a personal wireless services facility and/or accessory buildings, if there is insufficient parking available on the site.
  3. **Maintenance Requirements.** All personal wireless services facilities shall be maintained in a safe, neat, and attractive manner.
  4. **Landscaping.** A landscaping plan shall be submitted to the Planning Commission who will make a recommendation to the City Council who will approve the landscape plan.
  5. **Site Restoration Upon Abandonment.** All sites shall be restored to the original configuration upon abandonment.
  6. **Fencing.** The City will determine the type of fencing used on wireless telecommunications sites on a case by case basis. In the case of the Rodeo Grounds, the fencing shall match the existing fencing. Fencing will recommend by the Planning Commission and approved by the City Council.
  7. **Color and material standards.** The City shall make an administrative decision as to the color. To the extent the personal wireless services facilities extend above the height of the vegetation immediately surround it, they shall be painted in a nonreflective light gray, light blue or other hue, which blends with the skyline and horizon or a brown to blend in with the surrounding hillside.
  8. **Facility Lighting and Signage Standards.** Facility lighting shall be designed so as to meet but not exceed minimum requirements for security, safety and/or FAA regulations. Lighting of antennas or support structures shall be prohibited unless required by the FAA and no other alternatives are available. In all instances, the lighting shall be designed so as to avoid glare and minimize illumination on adjacent properties. Lighting shall also comply with any applicable City lighting standards.
  9. **Facility Signs.** Signs shall be limited to those needed to identify the numbers to contact in an emergency, public safety warnings, certifications or other required seals. These signs shall also comply with the requirements of the City's sign regulations.
  10. **Utility Lines.** All utility lines serving new cell towers shall be located underground.
  11. **Business License.** Each facility shall be considered as a separate use; and an annual business license shall be required for each facility.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

## ALPINE PLANNING COMMISSION AGENDA

**SUBJECT:** Public Hearing – Ordinance 2020-17 – Wireless Telecommunications

**FOR CONSIDERATION ON:** 1 September 2020

**PETITIONER:** Staff

**ACTION REQUESTED BY PETITIONER:** Hold a public hearing, review and recommend approval of the proposed ordinance.

### BACKGROUND INFORMATION:

Wireless telecommunications providers consistently upgrade towers or antennas in Alpine City. More often than not, the upgrades do not substantially change the physical dimensions of the existing towers or base stations. Per the FCC:

*State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term “eligible facilities request” means any request for modification of an existing wireless tower or base station that involves:*

- *collocation of new transmission equipment;*
- *removal of transmission equipment; or*
- *replacement of transmission equipment.*

Based on the above language the City must approve ALL modification to an existing wireless facility or tower if that modification does not “substantially change” the tower or base station. Since they must be approved in the above circumstances, staff is proposing that the ordinance be updated to allow these types of modifications to be approved at a staff level.

### STAFF RECOMMENDATION:

Recommend approval of Ordinance 2020-17 as proposed.

### SAMPLE MOTION TO APPROVE:

I motion to recommend that Ordinance 2020-17 be approved as proposed.

### SAMPLE MOTION TO APPROVE WITH CONDITIONS:

I motion to recommend that Ordinance 2020-17 be approved with the following conditions/changes:

- \*\*\*Insert Finding\*\*\*

### SAMPLE MOTION TO TABLE/DENY:

I motion to recommend that Ordinance 2020-17 be tabled/denied based on the following:

- \*\*\*Insert Finding\*\*\*

**ALPINE CITY  
ORDINANCE 2020-17**

**NOW THEREFORE**, be it ordained by the Council of Alpine City, in the State of Utah, as follows:

**SECTION 1:**            **AMENDMENT** “3.27.030 Procedure” of the Alpine City Development Code is hereby *amended* as follows:

A M E N D M E N T

3.27.030 Procedure

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term “eligible facilities request” means any request for modification of an existing wireless tower or base station that involves:

- collocation of new transmission equipment;
- removal of transmission equipment; or
- replacement of transmission equipment.

1. **Application Requirements.** Any person desiring to develop, construct or establish a personal wireless services facility in the City shall submit an application for site plan approval to the City. A site plan shall be required for all new towers and antennas and any modification or replacement of a tower or antenna. The City shall not consider the application until all required information has been included. The application shall be submitted to the City Planner at least fourteen (14) days prior to the public meeting at which it will be presented to the Planning Commission. The applicant shall include the following:

- a. Fee. The applicable fee shall be paid to the City Recorder, payable to Alpine City, as set forth in the Alpine City Consolidated Fee Schedule.
- b. Site Plan. A site plan meeting the City’s standard requirements for site plans.
- c. Notification Letter (new towers and antenna, or Substantial Changes to existing towers and antenna). The applicant shall submit a list of all property owners within five hundred (500) feet of the boundaries of the property where the proposed tower or antenna is to be located. The applicant shall also submit envelopes that have been stamped and addressed to all property owners on the list. The City may require a greater distance if deemed necessary or appropriate. The City shall prepare a notification letter to be sent to the property owners on the list submitted by the applicant to be mailed out at least seven (7) days prior to the public meeting at which the application will be presented to Planning

Commission. The letter shall contain the following information:

- i. Address or location of the proposed tower, co-location, tower modification, etc.
  - ii. Name of the applicant.
  - iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)
  - iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.
- d. Sign (new towers and antenna, or Substantial Changes to existing towers and antenna). The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:
- i. Shall be 4 ft. (H) x 8 ft. (W)
  - ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and
  - iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:
    - (1) Address of location of the proposed tower, co-location, tower modification, etc.
    - (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)
    - (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.
- e. Written Information. The following written information shall be submitted:
- i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.
  - ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.
  - iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.
  - iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.
  - v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process.** The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. For modifications to an existing tower, antenna or facility that does not make a Substantial Change, the application and site plan will be reviewed and approved by staff and staff shall act as the land use authority in approving or denying the application and site plan. For any new tower, antenna or facility and/or for any Substantial Change to an existing tower, antenna or facility the application shall be reviewed by the Planning Commission for a recommendation to City Council and. ~~the~~ City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

### 3. **Building Permits**

- a. General Requirements. No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.
- b. Additional Requirements for New Towers. If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:
  - i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.
  - ii. Seismic load design and wind load design for the new tower.
  - iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.
  - iv. Structural failure characteristics of the new tower and a demonstration that the site

and setbacks are adequate size to contain debris.  
v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL

\_\_\_\_\_.

	<b>AYE</b>	<b>NAY</b>	<b>ABSENT</b>	<b>ABSTAIN</b>
Lon Lott	_____	_____	_____	_____
Carla Merrill	_____	_____	_____	_____
Gregory Gordon	_____	_____	_____	_____
Jason Thelin	_____	_____	_____	_____
Jessica Smuin	_____	_____	_____	_____

Presiding Officer

Attest

\_\_\_\_\_  
Troy Stout, Mayor, Alpine City

\_\_\_\_\_  
Bonnie Cooper, City Recorder Alpine City

**ALPINE CITY  
ORDINANCE 2020-17**

**NOW THEREFORE**, be it ordained by the Council of Alpine City, in the State of Utah, as follows:

**SECTION 1:**            **AMENDMENT** “3.27.030 Procedure” of the Alpine City Development Code is hereby *amended* as follows:

A M E N D M E N T

3.27.030 Procedure

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  - ii. Name of the applicant.
  - iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)
  - iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.
- d. Sign. (new towers and antenna, or Substantial Changes to existing towers and antenna) The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:
- i. Shall be 4 ft. (H) x 8 ft. (W)
  - ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and
  - iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:
    - (1) Address of location of the proposed tower, co-location, tower modification, etc.
    - (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)
    - (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.
- e. Written Information. The following written information shall be submitted:
- i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.
  - ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.
  - iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.
  - iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.
  - v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process.** The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. For modifications to an existing tower, antenna or facility that does not make a Substantial Change, the application and site plan will be reviewed and approved by staff and staff shall act as the land use authority in approving or denying the application and site plan. For any new tower, antenna or facility and/or for any Substantial Change to an existing tower, antenna or facility the application shall be reviewed by the Planning Commission for a recommendation to City Council and the City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

### 3. **Building Permits**

- a. **General Requirements.** No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.
- b. **Additional Requirements for New Towers.** If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:
  - i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.
  - ii. Seismic load design and wind load design for the new tower.
  - iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.
  - iv. Structural failure characteristics of the new tower and a demonstration that the site

and setbacks are adequate size to contain debris.  
v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL

\_\_\_\_\_.

	<b>AYE</b>	<b>NAY</b>	<b>ABSENT</b>	<b>ABSTAIN</b>
Lon Lott	_____	_____	_____	_____
Carla Merrill	_____	_____	_____	_____
Gregory Gordon	_____	_____	_____	_____
Jason Thelin	_____	_____	_____	_____
Jessica Smuin	_____	_____	_____	_____

Presiding Officer

Attest

\_\_\_\_\_  
Troy Stout, Mayor, Alpine City

\_\_\_\_\_  
Bonnie Cooper, City Recorder Alpine City

**First Amendment to**  
**NATIONWIDE PROGRAMMATIC AGREEMENT**  
**For the**  
**COLLOCATION OF WIRELESS ANTENNAS**

**Executed by**

**The FEDERAL COMMUNICATIONS COMMISSION,**  
**The NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS**  
**and**  
**The ADVISORY COUNCIL ON HISTORIC PRESERVATION**

WHEREAS, the Federal Communications Commission (FCC), the Advisory Council on Historic Preservation (the Council) and the National Conference of State Historic Preservation Officers (NCSHPO) executed this Nationwide Collocation Programmatic Agreement on March 16, 2001 in accordance with 36 CFR Section 800.14(b) to address the Section 106 review process as it applies to the collocation of antennas; and,

WHEREAS, the FCC encourages collocation of antennas where technically and economically feasible, in order to reduce the need for new tower construction; and in its Wireless Infrastructure Report and Order, WT Docket No. 13-238, et al, released October 21, 2014, adopted initial measures to update and tailor the manner in which it evaluates the impact of proposed deployments on the environment and historic properties and committed to expeditiously conclude a program alternative to implement additional improvements in the Section 106 review process for small deployments that, because of their characteristics, are likely to have minimal and not adverse effects on historic properties; and,

WHEREAS, the Middle Class Tax Relief and Job Creation Act of 2012 (Title VI — Public Safety Communications and Electromagnetic Spectrum Auctions, Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156 (2012)) was adopted with the goal of advancing wireless broadband services, and the amended provisions in this Agreement further that goal; and,

WHEREAS, advances in wireless technologies since 2001 have produced systems that use smaller antennas and compact radio equipment, including those used in Distributed Antenna Systems (DAS) and small cell systems, which are a fraction of the size of traditional cell tower deployments and can be installed on utility poles, buildings, and other existing structures as collocations; and,

WHEREAS, the parties to this Collocation Agreement have taken into account new technologies involving use of small antennas that may often be collocated on utility poles, buildings, and other existing structures and increase the likelihood that such collocations will have minimal and not adverse effects on historic properties, and rapid deployment of such infrastructure may help meet the surging demand for wireless services, expand broadband access, support innovation and wireless opportunity, and enhance public safety—all to the benefit of consumers and the communities in which they live; and,

WHEREAS, the FCC, the Council, and NCSHPO have agreed that these new measures should be incorporated into this Collocation Agreement to better manage the Section 106 consultation process and streamline reviews for collocation of antennas; and,

WHEREAS, the FCC, the Council, and NCSHPO have crafted these new measures with the goal of promoting technological neutrality, with the goal of obviating the need for further amendments in the future as technologies evolve; and,

WHEREAS, notwithstanding the intent to draft provisions in a manner that obviates the need for future amendments, in light of the public benefits associated with rapid deployment of the facilities required to provide broadband wireless services, the FCC, the Council, and NCSHPO have agreed that changes in technology and other factors relating to the placement and operation of wireless antennas and associated equipment may necessitate further amendments to this Collocation Agreement in the future; and,

WHEREAS, the FCC, the Council, and NCSHPO have agreed that with respect to the amendments involving the use of small antennas, such amendments affect only the FCC's review process under Section 106 of the NHPA, and will not limit State and local governments' authority to enforce their own historic preservation requirements consistent with Section 332(c)(7) of the Communications Act and Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012; and,

WHEREAS, the FCC, the Council, and NCSHPO acknowledge that federally recognized Indian tribes (Indian tribes), Native Hawaiian Organizations (NHOs), SHPO/THPOs, local governments, and members of the public make important contributions to the Section 106 review process, in accordance with Section 800.2(c) & (d) of the Council's rules, and note that the procedures for appropriate public notification and participation in connection with the Section 106 process are set forth the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process (NPA); and,

WHEREAS, the parties hereto agree that the amended procedures described in this amendment to the Collocation Agreement are, with regard to collocations as defined herein, a proper substitute for the FCC's compliance with the Council's rules, in accordance and consistent with Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800; and,

WHEREAS, the FCC sought comment from Indian tribes and Native Hawaiian Organizations regarding the terms of this amendment to the Collocation Agreement by letters dated April 17, 2015, July 28, 2015, and May 12, 2016, as well as during face-to-face meetings and conference calls, including during the Section 106 Summit in conjunction with the 2015 annual conference of the National Association of Tribal Historic Preservation Officers (NATHPO); and,

WHEREAS, the terms of this amendment to the Collocation Agreement do not apply on "tribal lands" as defined under Section 800.16(x) of the Council's regulations, 36 CFR § 800.16(x) ("Tribal lands means all lands within the exterior boundaries of any Indian reservation and all dependent Indian communities."); and,

WHEREAS, the terms of this amendment to the Collocation Agreement do not preclude Indian tribes or NHOs from consulting directly with the FCC or its licensees, tower companies and applicants for antenna licenses when collocation activities off tribal lands may affect historic properties of religious and cultural significance to Indian tribes or NHOs; and,

WHEREAS, the execution and implementation of this amendment to the Collocation Agreement will not preclude members of the public from filing complaints with the FCC or the Council regarding adverse effects on historic properties from any existing tower or any activity covered under the terms of this Collocation Agreement;

NOW THEREFORE, in accordance with Stipulation XI (as renumbered by this amendment), the FCC, the Council, and NCSHPO agree to amend the Collocation Agreement to read as follows:

**NATIONWIDE PROGRAMMATIC AGREEMENT  
For the  
COLLOCATION OF WIRELESS ANTENNAS**

**Executed by**

**The FEDERAL COMMUNICATIONS COMMISSION,  
The NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS  
and  
The ADVISORY COUNCIL ON HISTORIC PRESERVATION**

WHEREAS, the Federal Communications Commission (FCC) establishes rules and procedures for the licensing of wireless communications facilities in the United States and its Possessions and Territories; and,

WHEREAS, the FCC has largely deregulated the review of applications for the construction of individual wireless communications facilities and, under this framework, applicants are required to prepare an Environmental Assessment (EA) in cases where the applicant determines that the proposed facility falls within one of certain environmental categories described in the FCC's rules (47 C.F.R. § 1.1307), including situations which may affect historical sites listed or eligible for listing in the National Register of Historic Places ("National Register"); and,

WHEREAS, Section 106 of the National Historic Preservation Act (54 U.S.C. §§ 300101 et seq.) ("the Act") requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (Council) a reasonable opportunity to comment; and,

WHEREAS, Section 800.14(b) of the Council's regulations, "Protection of Historic Properties" (36 CFR § 800.14(b)), allows for programmatic agreements to streamline and tailor the Section 106 review process to particular federal programs; and,

WHEREAS, in August 2000, the Council established a Telecommunications Working Group to provide a forum for the FCC, Industry representatives, State Historic Preservation Officers (SHPOs) and Tribal Historic Preservation Officers (THPOs), and the Council to discuss improved coordination of Section 106 compliance regarding wireless communications projects affecting historic properties; and,

WHEREAS, the FCC, the Council and the Working Group have developed this Collocation Programmatic Agreement in accordance with 36 CFR Section 800.14(b) to address the Section 106 review process as it applies to the collocation of antennas (collocation being defined in Stipulation I.B below); and,

WHEREAS, the FCC encourages collocation of antennas where technically and economically feasible, in order to reduce the need for new tower construction; and,

WHEREAS, the parties hereto agree that the effects on historic properties of collocations of antennas on towers, buildings and structures are likely to be minimal and not adverse, and that in the cases

where an adverse effect might occur, the procedures provided and referred to herein are proper and sufficient, consistent with Section 106, to assure that the FCC will take such effects into account; and,

WHEREAS, the execution of this Nationwide Collocation Programmatic Agreement will streamline the Section 106 review of collocation proposals and thereby reduce the need for the construction of new towers, thereby reducing potential effects on historic properties that would otherwise result from the construction of those unnecessary new towers; and,

WHEREAS, the FCC and the Council have agreed that these measures should be incorporated into a Nationwide Programmatic Agreement to better manage the Section 106 consultation process and streamline reviews for collocation of antennas; and,

WHEREAS, since collocations reduce both the need for new tower construction and the potential for adverse effects on historic properties, the parties hereto agree that the terms of this Agreement should be interpreted and implemented wherever possible in ways that encourage collocation; and,

WHEREAS, the parties hereto agree that the procedures described in this Agreement are, with regard to collocations as defined herein, a proper substitute for the FCC's compliance with the Council's rules, in accordance and consistent with Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800; and,

WHEREAS, the FCC has consulted with the National Conference of State Historic Preservation Officers (NCSHPO) and requested the President of NCSHPO to sign this Nationwide Collocation Programmatic Agreement in accordance with 36 CFR Section 800.14(b)(2)(iii); and,

WHEREAS, the FCC sought comment from Indian tribes and Native Hawaiian Organizations (NHOs) regarding the terms of this Nationwide Programmatic Agreement by letters of January 11, 2001 and February 8, 2001; and,

WHEREAS, the terms of this Programmatic Agreement do not apply on "tribal lands" as defined under Section 800.16(x) of the Council's regulations, 36 CFR § 800.16(x) ("Tribal lands means all lands within the exterior boundaries of any Indian reservation and all dependent Indian communities."); and,

WHEREAS, the terms of this Programmatic Agreement do not preclude Indian tribes or Native Hawaiian Organizations from consulting directly with the FCC or its licensees, tower companies and applicants for antenna licenses when collocation activities off tribal lands may affect historic properties of religious and cultural significance to Indian tribes or Native Hawaiian organizations; and,

WHEREAS, the execution and implementation of this Nationwide Collocation Programmatic Agreement will not preclude Indian tribes or NHOs, SHPO/THPOs, local governments, or members of the public from filing complaints with the FCC or the Council regarding adverse effects on historic properties from any existing tower or any activity covered under the terms of this Programmatic Agreement.

NOW THEREFORE, the FCC, the Council, and NCSHPO agree that the FCC will meet its Section 106 compliance responsibilities for the collocation of antennas as follows.

#### **STIPULATIONS**

The FCC, in coordination with licensees, tower companies, applicants for antenna licenses, and others deemed appropriate by the FCC, will ensure that the following measures are carried out.

## I. DEFINITIONS

For purposes of this Nationwide Programmatic Agreement, the following definitions apply.

- A. "Antenna" means an apparatus designed for the purpose of emitting radio frequency ("RF") radiation, to be operated or operating from a fixed location pursuant to FCC authorization, for the transmission of writing, signs, signals, data, images, pictures, and sounds of all kinds, including the transmitting device and any on-site equipment, switches, wiring, cabling, power sources, shelters or cabinets associated with that antenna and added to a Tower, structure, or building as part of the original installation of the antenna. For purposes of this Agreement, the term Antenna does not include unintentional radiators, mobile stations, or devices authorized under Part 15 of the FCC's rules.
- B. "Collocation" means the mounting or installation of an antenna on an existing tower, building or structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes, whether or not there is an existing antenna on the structure.
- C. "NPA" is the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process (47 C.F.R. Part 1, App. C).
- D. "Tower" is any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities.
- E. "Substantial increase in the size of the tower" means:
  - 1) The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
  - 2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
  - 3) The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
  - 4) The mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

## II. APPLICABILITY

- A. This Nationwide Collocation Programmatic Agreement applies only to the collocation of antennas as defined in Stipulations I.A and I.B, above.

- B. This Nationwide Collocation Programmatic Agreement does not cover any Section 106 responsibilities that federal agencies other than the FCC may have with regard to the collocation of antennas.

III. COLLOCATION OF ANTENNAS ON TOWERS CONSTRUCTED ON OR BEFORE MARCH 16, 2001

- A. An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless:
  - 1. The mounting of the antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E, above; or,
  - 2. The tower has been determined by the FCC to have an adverse effect on one or more historic properties, where such effect has not been avoided or mitigated through a conditional no adverse effect determination, a Memorandum of Agreement, a programmatic agreement, or a finding of compliance with Section 106 and the NPA; or,
  - 3. The tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106 of the National Historic Preservation Act; or,
  - 4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

IV. COLLOCATION OF ANTENNAS ON TOWERS CONSTRUCTED AFTER MARCH 16, 2001

- A. An antenna may be mounted on an existing tower constructed after March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless:
  - 1. The Section 106 review process for the existing tower set forth in 36 CFR Part 800 (including any applicable program alternative approved by the Council pursuant to 36 C.F.R. § 800.14) and any associated environmental reviews required by the FCC have not been completed; or,
  - 2. The mounting of the new antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E, above; or,
  - 3. The tower as built or proposed has been determined by the FCC to have an adverse effect on one or more historic properties, where such effect has not been avoided or mitigated through a conditional no adverse effect determination, a Memorandum of Agreement, a Programmatic Agreement, or otherwise in compliance with Section 106 and the NPA; or,

4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

## V. COLLOCATION OF ANTENNAS ON BUILDINGS AND NON-TOWER STRUCTURES

A. An antenna may be mounted on a building or non-tower structure without such collocation being reviewed through the Section 106 process set forth in the NPA, unless:

1. The building or structure is over 45 years old, and the collocation does not meet the criteria established in Stipulation VI herein for collocations of small antennas;<sup>1</sup> or,

2. The building or structure is inside the boundary of a historic district, or if the antenna is visible from the ground level of a historic district, the building or structure is within 250 feet of the boundary of the historic district, and the collocation does not meet the criteria established in Stipulation VII herein for collocations of small or minimally visible antennas; or,

3. The building or non-tower structure is a designated National Historic Landmark, or listed in or eligible for listing in the National Register of Historic Places based upon the review of the FCC, licensee, tower company or applicant for an antenna license, and the collocation does not meet the criteria established in Stipulation VII herein for collocations of small or minimally visible antennas; or,

4. The collocation licensee or the owner of the building or non-tower structure has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

B. An antenna (including associated equipment included in the definition of Antenna in Stipulation I.A.) may be mounted in the interior of a building, regardless of the building's age or location in a historic district and regardless of the antenna's size, without such collocation being reviewed through the Section 106 process set forth in the NPA, unless:

1) The building is a designated National Historic Landmark, or listed in or eligible for listing in the National Register of Historic Places; or,

2) The collocation licensee or the owner of the building has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or

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<sup>1</sup> For purposes of this Agreement, suitable methods for determining the age of a building or structure include, but are not limited to: (1) obtaining the opinion of a consultant who meets the Secretary of Interior's Professional Qualifications Standards for Historian or for Architectural Historian (36 CFR Part 61); or (2) consulting public records.

more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

- C. Subsequent to the collocation of an antenna, should the SHPO/THPO or Council determine that the collocation of the antenna or its associated equipment installed under the terms of Stipulation V has resulted in an adverse effect on historic properties, the SHPO/THPO or Council may notify the FCC accordingly. The FCC shall comply with the requirements of Section 106 and the NPA for this particular collocation.

VI. ADDITIONAL EXCLUSION FOR COLLOCATION OF SMALL WIRELESS ANTENNAS AND ASSOCIATED EQUIPMENT ON BUILDINGS AND NON-TOWER STRUCTURES THAT ARE OUTSIDE OF HISTORIC DISTRICTS AND ARE NOT HISTORIC PROPERTIES

- A. A small wireless antenna (including associated equipment included in the definition of Antenna in Stipulation I.A.) may be mounted on an existing building or non-tower structure or in the interior of a building regardless of the building's or structure's age without such collocation being reviewed through the Section 106 process set forth in the NPA unless:
  - 1. The building or structure is inside the boundary of a historic district, or if the antenna is visible from the ground level of a historic district, the building or structure is within 250 feet of the boundary of the historic district, and the collocation does not meet the criteria established in Stipulation VII herein for collocations of small or minimally visible antennas; or,
  - 2. The building or non-tower structure is a designated National Historic Landmark; or,
  - 3. The building or non-tower structure is listed in or eligible for listing in the National Register of Historic Places, and the collocation does not meet the criteria established in Stipulation VII herein for collocations of small or minimally visible antennas; or,
  - 4. The collocation licensee or the owner of the building or non-tower structure has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register; or,
  - 5. The antennas and associated equipment exceed the volume limits specified below:
    - a. Each individual antenna, excluding the associated equipment (as defined in the definition of Antenna in Stipulation I.A.), that is part of the collocation must fit within an enclosure (or if the antenna is exposed, within an imaginary enclosure, i.e., one that would be the correct size to contain the equipment) that is individually no more than three cubic feet in volume, and all antennas on the structure, including any pre-existing antennas on

the structure, must in aggregate fit within enclosures (or if the antennas are exposed, within imaginary enclosures, i.e., ones that would be the correct size to contain the equipment) that total no more than six cubic feet in volume; and,

- b. All other wireless equipment associated with the structure, including pre-existing enclosures and including equipment on the ground associated with antennas on the structure, but excluding cable runs for the connection of power and other services, may not cumulatively exceed:
  - i. 28 cubic feet for collocations on all non-pole structures (including but not limited to buildings and water tanks) that can support fewer than 3 providers; or,
  - ii. 21 cubic feet for collocations on all pole structures (including but not limited to light poles, traffic signal poles, and utility poles) that can support fewer than 3 providers; or,
  - iii. 35 cubic feet for non-pole collocations that can support at least 3 providers; or,
  - iv. 28 cubic feet for pole collocations that can support at least 3 providers; or,

6. The depth and width of any proposed ground disturbance associated with the collocation exceeds the depth and width of any previous ground disturbance (including footings and other anchoring mechanisms). Up to four lightning grounding rods of no more than three-quarters of an inch in diameter may be installed per project regardless of the extent of previous ground disturbance.

- B. The volume of any deployed equipment that is not visible from public spaces at the ground level from 250 feet or less may be omitted from the calculation of volumetric limits cited in this Section.
- C. Subsequent to the collocation of an antenna, should the SHPO/THPO or Council determine that the collocation of the antenna or its associated equipment installed under the terms of Stipulation VI has resulted in an adverse effect on historic properties, the SHPO/THPO or Council may notify the FCC accordingly. The FCC shall comply with the requirements of Section 106 and the NPA for this particular collocation.

## VII. ADDITIONAL EXCLUSIONS FOR COLLOCATION OF SMALL OR MINIMALLY VISIBLE WIRELESS ANTENNAS AND ASSOCIATED EQUIPMENT IN HISTORIC DISTRICTS OR ON HISTORIC PROPERTIES

- A. A small antenna (including associated equipment included in the definition of Antenna in Stipulation I.A.) may be mounted on a building or non-tower structure or in the interior of a building that is (1) a historic property (including a property listed in or eligible for listing in the National Register of Historic Places) or (2) inside or within 250 feet of the boundary of a historic district without being reviewed through the Section 106 process set forth in the NPA, provided that:

1. The property on which the equipment will be deployed is not a designated National Historic Landmark.
2. The antenna or antenna enclosure (including any existing antenna), excluding associated equipment, is the only equipment that is visible from the ground level, or from public spaces within the building (if the antenna is mounted in the interior of a building), and provided that the following conditions are met:
  - a. No other antennas on the building or non-tower structure are visible from the ground level, or from public spaces within the building (for an antenna mounted in the interior of a building);
  - b. The antenna that is part of the collocation fits within an enclosure (or if the antenna is exposed, within an imaginary enclosure i.e., one that would be the correct size to contain the equipment) that is no more than three cubic feet in volume; and,
  - c. The antenna is installed using stealth techniques that match or complement the structure on which or within which it is deployed;
3. The antenna's associated equipment is not visible from:
  - a. The ground level anywhere in a historic district (if the antenna is located inside or within 250 feet of the boundary of a historic district); or,
  - b. Immediately adjacent streets or public spaces at ground level (if the antenna is on a historic property that is not in a historic district); or,
  - c. Public spaces within the building (if the antenna is mounted in the interior of a building).
4. The facilities (including antenna(s) and associated equipment identified in the definition of Antenna in Stipulation I.A.) are installed in a way that does not damage historic materials and permits removal of such facilities without damaging historic materials;
5. The depth and width of any proposed ground disturbance associated with the collocation does not exceed the depth and width of any previous ground disturbance (including footings and other anchoring mechanisms). Up to four lightning grounding rods of no more than three-quarters of an inch in diameter may be installed per project, regardless of the extent of previous ground disturbance; and
6. The collocation licensee or the owner of the building or non-tower structure has not received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

- B. A small antenna (including associated equipment included in the definition of Antenna in Stipulation I.A.) may be mounted on a utility pole or electric transmission tower (but not including light poles, lamp posts, and other structures whose primary purpose is to provide public lighting) that is in active use by a utility company (as defined in Section 224 of the Communications Act) or by a cooperatively-owned, municipal, or other governmental agency and is either: (1) a historic property (including a property listed in or eligible for listing in the National Register of Historic Places); (2) located on a historic property (including a property listed in or eligible for listing in the National Register of Historic Places); or (3) located inside or within 250 feet of the boundary of a historic district, without being reviewed through the Section 106 process set forth in the NPA, provided that:
1. The utility pole or electric transmission tower on which the equipment will be deployed is not located on a designated National Historic Landmark;
  2. The antenna, excluding the associated equipment, fits within an enclosure (or if the antenna is exposed, within an imaginary enclosure, i.e., one that would be the correct size to contain the equipment) that is no more than three cubic feet in volume, with a cumulative limit of 6 cubic feet if there is more than one antenna/antenna enclosure on the structure;
  3. The wireless equipment associated with the antenna and any pre-existing antennas and associated equipment on the structure, but excluding cable runs for the connection of power and other services, are cumulatively no more than 21 cubic feet in volume;
  4. The depth and width of any proposed ground disturbance associated with the collocation does not exceed the depth and width of any previous ground disturbance (including footings and other anchoring mechanisms). Up to four lightning grounding rods of no more than three-quarters of an inch in diameter may be installed per project, regardless of the extent of previous ground disturbance; and
  5. The collocation licensee or the owner of the utility pole or electric transmission tower has not received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.
- C. Proposals to mount a small antenna on a traffic control structure (*i.e.*, traffic light) or on a light pole, lamp post or other structure whose primary purpose is to provide public lighting, where the structure is located inside or within 250 feet of the boundary of a historic district, are generally subject to review through the Section 106 process set forth in the NPA. These proposed collocations will be excluded from such review on a case-by-case basis, if (1) the collocation licensee or the owner of the structure has not received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties; and (2) the structure is not historic (not a designated National Historic Landmark or a property listed in or eligible for listing in the National Register of Historic Places) or considered a contributing or compatible element within the historic district, under the following procedures:

1. The applicant must request in writing that the SHPO concur with the applicant's determination that the structure is not a contributing or compatible element within the historic district.
  2. The applicant's written request must specify the traffic control structure, light pole, or lamp post on which the applicant proposes to collocate and explain why the structure is not a contributing element based on the age and type of structure, as well as other relevant factors.
  3. The SHPO has thirty days from its receipt of such written notice to inform the applicant whether it disagrees with the applicant's determination that the structure is not a contributing or compatible element within the historic district.
  4. If within the thirty-day period, the SHPO informs the applicant that the structure is a contributing element or compatible element within the historic district or that the applicant has not provided sufficient information for a determination, the applicant may not deploy its facilities on that structure without completing the Section 106 review process.
  5. If, within the thirty day period, the SHPO either informs the applicant that the structure is not a contributing or compatible element within the historic district, or the SHPO fails to respond to the applicant within the thirty-day period, the applicant has no further Section 106 review obligations, provided that the collocation meets the following requirements:
    - a. The antenna, excluding the associated equipment, fits within an enclosure (or if the antenna is exposed, within an imaginary enclosure, i.e., one that would be the correct size to contain the equipment) that is no more than three cubic feet in volume, with a cumulative limit of 6 cubic feet if there is more than one antenna/antenna enclosure on the structure;
    - b. The wireless equipment associated with the antenna and any pre-existing antennas and associated equipment on the structure, but excluding cable runs for the connection of power and other services, are cumulatively no more than 21 cubic feet in volume; and,
    - c. The depth and width of any proposed ground disturbance associated with the collocation does not exceed the depth and width of any previous ground disturbance (including footings and other anchoring mechanisms). Up to four lightning grounding rods of no more than three-quarters of an inch in diameter may be installed per project, regardless of the extent of previous ground disturbance.
- D. A small antenna mounted inside a building or non-tower structure and subject to the provisions of this Stipulation VII is to be installed in a way that does not damage historic materials and permits removal of such facilities without damaging historic materials.
- E. Subsequent to the collocation of an antenna, should the SHPO/THPO or Council determine that the collocation of the antenna or its associated equipment installed under the terms of Stipulation VII has resulted in an adverse effect on historic properties, the SHPO/THPO or

Council may notify the FCC accordingly. The FCC shall comply with the requirements of Section 106 and the NPA for this particular collocation.

#### VIII. REPLACEMENTS OF SMALL WIRELESS ANTENNAS AND ASSOCIATED EQUIPMENT

A. An existing small antenna that is mounted on a building or non-tower structure or in the interior of a building that is (1) a historic property (including a designated National Historic Landmark or a property listed in or eligible for listing in the National Register of Historic Places); (2) inside or within 250 feet of the boundary of a historic district; or (3) located on or inside a building or non-tower structure that is over 45 years of age, regardless of visibility, may be replaced without being reviewed through the Section 106 process set forth in the NPA, provided that:

1. The antenna deployment being replaced has undergone Section 106 review, unless either (a) such review was not required at the time that the antenna being replaced was installed, or (b) for deployments on towers, review is not required pursuant to Stipulation III above.

2. The facility is a replacement for an existing facility, and it does not exceed the greater of:

a. The size of the existing antenna/antenna enclosure and associated equipment that is being replaced; or,

b. The following limits for the antenna and its associated equipment:

i. The antenna, excluding the associated equipment, fits within an enclosure (or if the antenna is exposed, within an imaginary enclosure, i.e., one that would be the correct size to contain the equipment) that is no more than three cubic feet in volume, with a cumulative limit of 6 cubic feet if there is more than one antenna/antenna enclosure on the structure; and,

ii. The wireless equipment associated with the antenna and any pre-existing antennas and associated equipment on the structure, but excluding cable runs for the connection of power and other services, are cumulatively no more than 21 cubic feet in volume; and,

3. The replacement of the facilities (including antenna(s) and associated equipment as defined in Stipulation I.A.) does not damage historic materials and permits removal of such facilities without damaging historic materials; and,

4. The depth and width of any proposed ground disturbance associated with the collocation does not exceed the depth and width of any previous ground disturbance (including footings and other anchoring mechanisms). Up to four lightning grounding rods of no more than three-quarters of an inch in diameter may be installed per project, regardless of the extent of previous ground disturbance.

B. A small antenna mounted inside a building or non-tower structure and subject to the provisions of this Stipulation VIII is to be installed in a way that does not damage historic materials and permits removal of such facilities without damaging historic materials.

## IX. RESERVATION OF RIGHTS

Neither execution of this Agreement, nor implementation of or compliance with any term herein shall operate in any way as a waiver by any party hereto, or by any person or entity complying herewith or affected hereby, of a right to assert in any court of law any claim, argument or defense regarding the validity or interpretation of any provision of the National Historic Preservation Act (54 U.S.C. §§ 300101 *et seq.*) or its implementing regulations contained in 36 CFR Part 800.

## X. MONITORING

- A. FCC licensees shall retain records of the placement of all licensed antennas, including collocations subject to this Nationwide Programmatic Agreement, consistent with FCC rules and procedures.
- B. The Council will forward to the FCC and the relevant SHPO any written objections it receives from members of the public regarding a collocation activity or general compliance with the provisions of this Nationwide Programmatic Agreement within thirty (30) days following receipt of the written objection. The FCC will forward a copy of the written objection to the appropriate licensee or tower owner.
- C. Any member of the public may notify the FCC of concerns it has regarding the application of this Programmatic Agreement within a State or with regard to the review of individual undertakings covered or excluded under the terms of this Agreement. Comments shall be directed to the FCC's Federal Preservation Officer. The FCC will consider public comments and, following consultation with the SHPO, potentially affected Tribes, or the Council, as appropriate, take appropriate actions. The FCC shall notify the objector of the outcome of its actions.

## XI. AMENDMENTS

If any signatory to this Nationwide Collocation Programmatic Agreement believes that this Agreement should be amended, that signatory may at any time propose amendments, whereupon the signatories will consult to consider the amendments. This agreement may be amended only upon the written concurrence of the signatories.

## XII. TERMINATION

- A. If the FCC determines, or if NCSHPO determines on behalf of its members, that it or they cannot implement the terms of this Nationwide Collocation Programmatic Agreement, or if the FCC, NCSHPO or the Council determines that the Programmatic Agreement is not being properly implemented or that the spirit of Section 106 is not being met by the parties to this Programmatic Agreement, the FCC, NCSHPO or the Council may propose to the other signatories that the Programmatic Agreement be terminated.
- B. The party proposing to terminate the Programmatic Agreement shall notify the other signatories in writing, explaining the reasons for the proposed termination and the particulars of the asserted improper implementation. Such party also shall afford the other signatories a reasonable period of time of no less than thirty (30) days to consult and remedy the problems resulting in improper implementation. Upon receipt of such notice, the parties shall consult with each other and notify and consult with other entities that either are involved in such

implementation or would be substantially affected by termination of this Agreement, and seek alternatives to termination. Should the consultation fail to produce within the original remedy period or any extension a reasonable alternative to termination, a resolution of the stated problems, or convincing evidence of substantial implementation of this Agreement in accordance with its terms, this Programmatic Agreement shall be terminated thirty days after notice of termination is served on all parties and published in the Federal Register.

- C. In the event that the Programmatic Agreement is terminated, the FCC shall advise its licensees and tower owner and management companies of the termination and of the need to comply with any applicable Section 106 requirements on a case-by-case basis for collocation activities.

### XIII. ANNUAL MEETING OF THE SIGNATORIES

The signatories to this Nationwide Collocation Programmatic Agreement will meet annually on or about the anniversary of the effective date of the NPA to discuss the effectiveness of this Agreement and the NPA, including any issues related to improper implementation, and to discuss any potential amendments that would improve the effectiveness of this Agreement.

### XIV. DURATION OF THE PROGRAMMATIC AGREEMENT

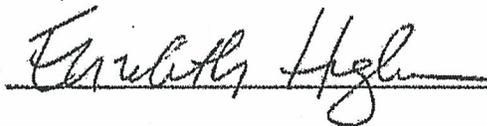
This Programmatic Agreement for collocation shall remain in force unless the Programmatic Agreement is terminated or superseded by a comprehensive Programmatic Agreement for wireless communications antennas.

Execution of this Nationwide Programmatic Agreement by the FCC, NCSHPO and the Council, and implementation of its terms, constitutes evidence that the FCC has afforded the Council an opportunity to comment on the collocation as described herein of antennas covered under the FCC's rules, and that the FCC has taken into account the effects of these collocations on historic properties in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

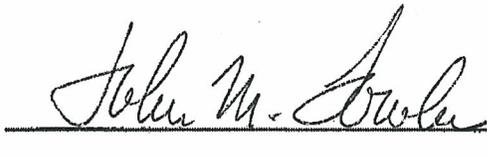
**FEDERAL COMMUNICATIONS COMMISSION**

 Date: 8/3/2016

**NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS**

 Date: 8.3.2016

**ADVISORY COUNCIL ON HISTORIC PRESERVATION**

 Date: 8/3/16

## ALPINE PLANNING COMMISSION AGENDA

**SUBJECT: Public Hearing: Ordinance 2020-16: Intermunicipal Street Connections**

**FOR CONSIDERATION ON: 1 September 2020**

**PETITIONER: Staff**

**ACTION REQUESTED BY PETITIONER: Hold a public hearing, review and recommend approval of the proposed ordinance.**

### BACKGROUND INFORMATION:

On July 14, 2020, the City Council adopted Resolution 2020-09, which began the process of amending the City's General Plan and land use ordinances as they pertain to streets and roads going in and out of the City. On August 4, 2020 the Planning Commission discussed new language for the Transportation Element of the General Plan, and on August 18, 2020 the Planning Commission drafted a new ordinance to help enforce the language from the General Plan. Ordinance 2020-16 regulates intermunicipal street connections, which are limited to existing or planned street connections.

The Planning Commission must now hold a public hearing on the proposed ordinance and make a recommendation to the City Council.

#### STAFF RECOMMENDATION:

Recommend approval of Ordinance 2020-16 as proposed.

#### SAMPLE MOTION TO APPROVE:

I motion to recommend that Ordinance 2020-16 be approved as proposed.

#### SAMPLE MOTION TO APPROVE WITH CONDITIONS:

I motion to recommend that Ordinance 2020-16 be approved with the following conditions/changes:

- \*\*\*Insert Finding\*\*\*

#### SAMPLE MOTION TO TABLE/DENY:

I motion to recommend that Ordinance 2020-16 be tabled/denied based on the following:

- \*\*\*Insert Finding\*\*\*

**ALPINE CITY  
ORDINANCE 2020-16**

**AN ORDINANCE ADOPTING AMENDMENTS TO ARTICLE 4.07.040 AND OF  
THE ALPINE CITY DEVELOPMENT CODE PERTAINING TO STREET  
CONNECTIONS TO OTHER MUNICIPALITIES.**

**WHEREAS,** The City Council of Alpine, Utah has deemed it in the best interest of Alpine City to amend the ordinance to set forth the requirements for street connections to other municipalities; and

**WHEREAS,** the Alpine City Planning Commission has reviewed the proposed Amendments to the Development Code, held a public hearing, and has forwarded a recommendation to the City Council; and

**WHEREAS,** the Alpine City Council has reviewed the proposed Amendments to the Development Code:

**NOW THEREFORE,** be it ordained by the Council of Alpine City, in the State of Utah, as follows: The amendments to Article 3.01.130 contained in the attached document will supersede Article 4.07.040 as previously adopted. This ordinance shall take effect upon posting.

**SECTION 1:            AMENDMENT** “4.07.040 Streets And Street Requirements” of the Alpine City Development Code is hereby *amended* as follows:

A M E N D M E N T

4.07.040 Streets And Street Requirements

1. Subdivision plans shall be consistent with the Major Street Plan, which has been adopted as part of the Transportation and Circulation element of the General Plan of the City.
  - a. Collector Streets (feeder). Where the area of a proposed subdivision includes any Collector class streets, as shown on the Major Street Plan, the subdivision plan shall incorporate such streets in the location shown on the Major Street Plan, and the approval of the Final Plat shall include the dedication of the right-of-way and its improvement in accordance with the applicable City standards.
  - b. Minor Streets (local service). Where the area of a proposed subdivision includes any Minor class streets, as shown on the Major Street Plan, the subdivision plan shall provide for such street in the approximate location shown on the Major Street Plan, and the approval of the Final Plat shall include the dedication of the right-of-way and its improvement in accordance with the applicable City standards.
  - c. Arterial Streets. Where the area of a proposed subdivision includes any arterial

class streets, as shown on the Major Street Plan, the subdivision plan shall incorporate such streets in the location shown on the Major Street Plan, and the approval of the Final Plat shall include the dedication of the right-of-way and its improvement in accordance with the applicable City standards.

2. **Through Traffic.** Minor streets shall be laid out to encourage circulation but discourage through traffic. Subdivisions with 20 or more lots shall provide two working accesses to the development.
3. **Stub Streets** (Amended by Ord. 96-08, 5/28/96; Amended by Ord. 2013-01, 1/15/13). Shall be required to provide adequate circulation – Temporary turnaround required in certain instances--Subsequent development of adjacent property to incorporate.
  - a. In order to facilitate the development of an adequate and convenient circulation system within the City, and to provide access for the logical development of adjacent vacant properties, the City shall, as a condition of approval, require the subdivision plan to include one or more temporary dead end streets (stub streets) which extend to the boundary of the parcel, and dedicate the right-of-way to the property line to the City to insure that adjacent properties are not landlocked.
  - b. All such stub streets shall be fully developed with full City street and utility improvements to the boundary of the subdivision unless it can be shown by the applicant for the subdivision that the need for a fully improved street does not have an essential link to a legitimate government interest or that the requirement to fully improve the stub street is not roughly proportionate, both in nature and extent to the impact of the proposed subdivision on the City.
  - c. Factors to be considered in determining whether or not the requirement to install a fully improved street is considered proportionate may include but not be limited to:
    - i. The estimated cost to improve the stub street;
    - ii. Whether or not the stub street will be essential to provide reasonable access to the undeveloped parcel;
    - iii. The number of lots in the proposed subdivision that will be accessed from the improved stub street;
    - iv. The estimated number of lots that can be developed in the future on the adjacent undeveloped parcel through use of the stub street.

After receiving a recommendation by the Planning Commission, if the City Council determines that the stub street need not be fully developed either because it does not further a legitimate government interest or that the requirement is disproportionate to the impact of the proposed subdivision on the City, then only the right-of-way for the stub street shall be dedicated to the City and the requirement to improve the stub street shall be placed on the undeveloped adjacent parcel as a condition of the development if the adjacent property is ever developed.

- d. Any such stub street having a length of more than 150 feet or providing primary vehicular access to one or more lots shall be terminated by an improved temporary turn-around designed and constructed in accordance with the City

Standards. Where any portion of the temporary turn-around is to be located on private property, use of the portion located on private property by the public shall be secured through the conveyance of an easement for that purpose.

- e. Any plan for the subsequent development of the adjacent property shall provide for the continuation of any such stub street and shall bear the burden of designing such stub street or streets in accordance with City standards.
4. **Intersections.** Intersections of minor streets with major streets shall be kept to the minimum.
5. **Right-of-Way Width.** Minimum right-of-way widths for local streets shall be the following:
  - a. Arterial major street: 66 feet
  - b. Collector street: 60 feet
  - c. Minor street, rural road, secondary access, or frontage road: 54 feet
6. **Roadway Width.** Local streets shall have roadway widths and classifications as follows (add four feet [4'] for curb where required):
  - a. Arterial street: 42 feet, paved
  - b. Collector street: 36 feet, paved
  - c. Minor street or frontage road: 30 feet, paved
  - d. (Rural roads: 26 feet, paved) - Requires a recommendation by the Planning Commission and approval by the City Council through the Subdivision exception procedure.
  - e. Secondary Access: At least the minimum width and improvements required by the Utah State Fire Code, or its successor code, for emergency access along with such other improvements such as surface type, curb and gutter, and gating at the discretion of the City Council and upon recommendation of the Planning Commission and City Engineer approval.
7. **Road Shoulders.** Where curbs are not required to be installed, a minimum of ten foot shoulders shall be provided on each side of the street unless parking is prohibited.
8. **Partial-Width Streets.** All streets within and adjacent to a subdivision shall either have been previously conveyed to the City by deed or dedication or shall be shown on the final plat for dedication to the City for street purposes.

All streets shown on the final plat for dedication to the City shall conform to the minimum standards for street width and improvements for the entire width of the street, except that the City Council may accept the dedication and improvement of partial width streets provided:

- a. That the proposed partial width street is located at the border of the subdivision and the land abutting the proposed uncompleted side of the street is not owned by the subdivider.
- b. The width of the right-of-way of the partial width street shall be not less than thirty- nine (39) feet in the instance of a minor class street and forty-two (42) feet in the instance of a collector class street.
- c. Upon approval of the City Council the improvements constructed on the partial width street may include: (a) the curb, gutter and sidewalk improvements adjacent to all abutting lots in the subdivision, (b) the water and sewer line, (c) a

hard surfaced travelway portion having a width not less than one-half that required for the specified street class plus an additional twelve (12) feet of width, (d) all utility systems in the partial width street shall be located and constructed as set forth in City standards, and (e) storm drains.

- d. That there are no existing conditions which would have the effect of preventing the subsequent development of the remaining portion of the street.
- e. That construction of the partial width street at the proposed location will not create an unsafe or hazardous condition.

No final plat shall be approved where access to a proposed or existing street from adjacent property is proposed to be prohibited or is impaired by an access retainer strip ("nuisance" or "protective" strip).

- 9. **Cul-de-sac Streets.**(Ord 96-08 amended 5/28/96) Cul-de-sacs (dead end streets) shall be used only where unusual conditions exist which make other designs undesirable. Each cul-de-sac street shall have a minimum right-of-way width of fifty-four (54) feet and must be terminated by a turn-around having a radius of not less than sixty (60) feet to the property line. The maximum length of a cul-de-sac shall be four hundred and fifty (450) feet as measured from the center of the turn-around to the point of connection to the next intersecting street. Surface water must drain away from the turn-around, except where surface water cannot be drained away from the turn-around along the street, due to grade, necessary catch basins and drainage easements shall be provided.
- 10. **Number of Streets at Intersection.** No more than four streets shall enter an intersection.
- 11. **Angle of Street Intersections.** Streets shall intersect at ninety degrees, except where otherwise recommended as necessary by the Planning Commission and approved by the City Council. The minimum radius of property lines and back of curb at intersections shall be fifteen (15) feet and twenty-five (25) feet respectively
- 12. **Centerline of Intersecting Streets.** The centerline of two subordinate streets meeting a through street from opposite sides shall extend as a continuous line, or the centerline shall be offset at least one hundred fifty (150') feet. An exception may be given to the off-set requirement of up to 15 feet as recommended by the City Engineer and Planning Commission and approved by the City Council. (Amended by Ord. 2004-13, 9/28/04)
- 13. **Curved Streets Preferred.** In the design of subdivisions, curving streets shall be preferred to straight streets or rigid ninety degree grid systems.
- 14. **Frontage on Arterial Streets.** Driveways or other vehicular accesses to an individual lot that open onto any public street designated by the official City Street Plan as an arterial street may be used as an access if it is recommended by the City Engineer and Planning Commission and approved by the City Council. Turn-arounds, hammerhead or side-entry driveways must be incorporated to ensure that vehicles will not back out on arterial streets. (Amended by Ord. 2004-13, 9/28/04)
- 15. **Wildland Urban Interface.**
  - a. Access. All developments in the Wildland Urban Interface area shall have more than one access route which provides simultaneous access for emergency equipment and civilian evacuation. The design of access routes shall take into consideration traffic circulation and provide for looping of roads as required to

ensure at least two access points. Looped roads with a single access are not allowed.

- b. Exceptions. Where terrain features or other physical obstacles make provision of a second access impractical, a single access may be approved by the City Council after obtaining the recommendation of the Fire Chief and the Planning Commission.
- c. Specifications. All secondary access roads shall have a minimum all weather surface width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches to permit two-way traffic. These provisions will apply in lieu of those provided in Section 503 of the International Fire Code.

**16. Intermunicipal Street Connections. There shall be no new street connections to municipalities outside of Alpine City unless the connection is existing or planned as shown on the Transportation Master Plan.**

(Ord. 98-19 amending Ord. 78-03)  
 (Amended by Ord. 2014-12, 7/08/14; Ord. 2016-03, 02/23/16)

PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL

	<b>AYE</b>	<b>NAY</b>	<b>ABSENT</b>	<b>ABSTAIN</b>
Lon Lott	_____	_____	_____	_____
Carla Merrill	_____	_____	_____	_____
Gregory Gordon	_____	_____	_____	_____
Jason Thelin	_____	_____	_____	_____
Jessica Smuin	_____	_____	_____	_____

Presiding Officer

Attest

\_\_\_\_\_  
 Troy Stout, Mayor, Alpine City

\_\_\_\_\_  
 Bonnie Cooper, City Recorder Alpine City

**ALPINE CITY  
ORDINANCE 2020-16**

**AN ORDINANCE ADOPTING AMENDMENTS TO ARTICLE 4.07.040 AND OF  
THE ALPINE CITY DEVELOPMENT CODE PERTAINING TO STREET  
CONNECTIONS TO OTHER MUNICIPALITIES.**

**WHEREAS**, The City Council of Alpine, Utah has deemed it in the best interest of Alpine City to amend the ordinance to set forth the requirements for street connections to other municipalities; and

**WHEREAS**, the Alpine City Planning Commission has reviewed the proposed Amendments to the Development Code, held a public hearing, and has forwarded a recommendation to the City Council; and

**WHEREAS**, the Alpine City Council has reviewed the proposed Amendments to the Development Code:

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**SECTION 1:**        **AMENDMENT** “4.07.040 Streets And Street Requirements” of the Alpine City Development Code is hereby *amended* as follows:

A M E N D M E N T

4.07.040 Streets And Street Requirements

1. Subdivision plans shall be consistent with the Major Street Plan, which has been adopted as part of the Transportation and Circulation element of the General Plan of the City.
  - a. Collector Streets (feeder). Where the area of a proposed subdivision includes any Collector class streets, as shown on the Major Street Plan, the subdivision plan shall incorporate such streets in the location shown on the Major Street Plan, and the approval of the Final Plat shall include the dedication of the right-of-way and its improvement in accordance with the applicable City standards.
  - b. Minor Streets (local service). Where the area of a proposed subdivision includes any Minor class streets, as shown on the Major Street Plan, the subdivision plan shall provide for such street in the approximate location shown on the Major Street Plan, and the approval of the Final Plat shall include the dedication of the right-of-way and its improvement in accordance with the applicable City standards.
  - c. Arterial Streets. Where the area of a proposed subdivision includes any arterial

class streets, as shown on the Major Street Plan, the subdivision plan shall incorporate such streets in the location shown on the Major Street Plan, and the approval of the Final Plat shall include the dedication of the right-of-way and its improvement in accordance with the applicable City standards.

2. **Through Traffic.** Minor streets shall be laid out to encourage circulation but discourage through traffic. Subdivisions with 20 or more lots shall provide two working accesses to the development.
3. **Stub Streets** (Amended by Ord. 96-08, 5/28/96; Amended by Ord. 2013-01, 1/15/13). Shall be required to provide adequate circulation – Temporary turnaround required in certain instances--Subsequent development of adjacent property to incorporate.
  - a. In order to facilitate the development of an adequate and convenient circulation system within the City, and to provide access for the logical development of adjacent vacant properties, the City shall, as a condition of approval, require the subdivision plan to include one or more temporary dead end streets (stub streets) which extend to the boundary of the parcel, and dedicate the right-of-way to the property line to the City to insure that adjacent properties are not landlocked.
  - b. All such stub streets shall be fully developed with full City street and utility improvements to the boundary of the subdivision unless it can be shown by the applicant for the subdivision that the need for a fully improved street does not have an essential link to a legitimate government interest or that the requirement to fully improve the stub street is not roughly proportionate, both in nature and extent to the impact of the proposed subdivision on the City.
  - c. Factors to be considered in determining whether or not the requirement to install a fully improved street is considered proportionate may include but not be limited to:
    - i. The estimated cost to improve the stub street;
    - ii. Whether or not the stub street will be essential to provide reasonable access to the undeveloped parcel;
    - iii. The number of lots in the proposed subdivision that will be accessed from the improved stub street;
    - iv. The estimated number of lots that can be developed in the future on the adjacent undeveloped parcel through use of the stub street.

After receiving a recommendation by the Planning Commission, if the City Council determines that the stub street need not be fully developed either because it does not further a legitimate government interest or that the requirement is disproportionate to the impact of the proposed subdivision on the City, then only the right-of-way for the stub street shall be dedicated to the City and the requirement to improve the stub street shall be placed on the undeveloped adjacent parcel as a condition of the development if the adjacent property is ever developed.

- d. Any such stub street having a length of more than 150 feet or providing primary vehicular access to one or more lots shall be terminated by an improved temporary turn-around designed and constructed in accordance with the City

Standards. Where any portion of the temporary turn-around is to be located on private property, use of the portion located on private property by the public shall be secured through the conveyance of an easement for that purpose.

- e. Any plan for the subsequent development of the adjacent property shall provide for the continuation of any such stub street and shall bear the burden of designing such stub street or streets in accordance with City standards.
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  - e. Secondary Access: At least the minimum width and improvements required by the Utah State Fire Code, or its successor code, for emergency access along with such other improvements such as surface type, curb and gutter, and gating at the discretion of the City Council and upon recommendation of the Planning Commission and City Engineer approval.
7. **Road Shoulders.** Where curbs are not required to be installed, a minimum of ten foot shoulders shall be provided on each side of the street unless parking is prohibited.
8. **Partial-Width Streets.** All streets within and adjacent to a subdivision shall either have been previously conveyed to the City by deed or dedication or shall be shown on the final plat for dedication to the City for street purposes.

All streets shown on the final plat for dedication to the City shall conform to the minimum standards for street width and improvements for the entire width of the street, except that the City Council may accept the dedication and improvement of partial width streets provided:

- a. That the proposed partial width street is located at the border of the subdivision and the land abutting the proposed uncompleted side of the street is not owned by the subdivider.
- b. The width of the right-of-way of the partial width street shall be not less than thirty- nine (39) feet in the instance of a minor class street and forty-two (42) feet in the instance of a collector class street.
- c. Upon approval of the City Council the improvements constructed on the partial width street may include: (a) the curb, gutter and sidewalk improvements adjacent to all abutting lots in the subdivision, (b) the water and sewer line, (c) a

hard surfaced travelway portion having a width not less than one-half that required for the specified street class plus an additional twelve (12) feet of width, (d) all utility systems in the partial width street shall be located and constructed as set forth in City standards, and (e) storm drains.

- d. That there are no existing conditions which would have the effect of preventing the subsequent development of the remaining portion of the street.
- e. That construction of the partial width street at the proposed location will not create an unsafe or hazardous condition.

No final plat shall be approved where access to a proposed or existing street from adjacent property is proposed to be prohibited or is impaired by an access retainer strip ("nuisance" or "protective" strip).

- 9. **Cul-de-sac Streets.**(Ord 96-08 amended 5/28/96) Cul-de-sacs (dead end streets) shall be used only where unusual conditions exist which make other designs undesirable. Each cul-de-sac street shall have a minimum right-of-way width of fifty-four (54) feet and must be terminated by a turn-around having a radius of not less than sixty (60) feet to the property line. The maximum length of a cul-de-sac shall be four hundred and fifty (450) feet as measured from the center of the turn-around to the point of connection to the next intersecting street. Surface water must drain away from the turn-around, except where surface water cannot be drained away from the turn-around along the street, due to grade, necessary catch basins and drainage easements shall be provided.
- 10. **Number of Streets at Intersection.** No more than four streets shall enter an intersection.
- 11. **Angle of Street Intersections.** Streets shall intersect at ninety degrees, except where otherwise recommended as necessary by the Planning Commission and approved by the City Council. The minimum radius of property lines and back of curb at intersections shall be fifteen (15) feet and twenty-five (25) feet respectively
- 12. **Centerline of Intersecting Streets.** The centerline of two subordinate streets meeting a through street from opposite sides shall extend as a continuous line, or the centerline shall be offset at least one hundred fifty (150') feet. An exception may be given to the off-set requirement of up to 15 feet as recommended by the City Engineer and Planning Commission and approved by the City Council. (Amended by Ord. 2004-13, 9/28/04)
- 13. **Curved Streets Preferred.** In the design of subdivisions, curving streets shall be preferred to straight streets or rigid ninety degree grid systems.
- 14. **Frontage on Arterial Streets.** Driveways or other vehicular accesses to an individual lot that open onto any public street designated by the official City Street Plan as an arterial street may be used as an access if it is recommended by the City Engineer and Planning Commission and approved by the City Council. Turn-arounds, hammerhead or side-entry driveways must be incorporated to ensure that vehicles will not back out on arterial streets. (Amended by Ord. 2004-13, 9/28/04)
- 15. **Wildland Urban Interface.**
  - a. Access. All developments in the Wildland Urban Interface area shall have more than one access route which provides simultaneous access for emergency equipment and civilian evacuation. The design of access routes shall take into consideration traffic circulation and provide for looping of roads as required to

ensure at least two access points. Looped roads with a single access are not allowed.

- b. Exceptions. Where terrain features or other physical obstacles make provision of a second access impractical, a single access may be approved by the City Council after obtaining the recommendation of the Fire Chief and the Planning Commission.
- c. Specifications. All secondary access roads shall have a minimum all weather surface width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches to permit two-way traffic. These provisions will apply in lieu of those provided in Section 503 of the International Fire Code.

**16. Intermunicipal Street Connections.** There shall be no new street connections to municipalities outside of Alpine City unless the connection is existing or planned as shown on the Transportation Master Plan.

(Ord. 98-19 amending Ord. 78-03)  
 (Amended by Ord. 2014-12, 7/08/14; Ord. 2016-03, 02/23/16)

PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL

	<b>AYE</b>	<b>NAY</b>	<b>ABSENT</b>	<b>ABSTAIN</b>
Lon Lott	_____	_____	_____	_____
Carla Merrill	_____	_____	_____	_____
Gregory Gordon	_____	_____	_____	_____
Jason Thelin	_____	_____	_____	_____
Jessica Smuin	_____	_____	_____	_____

Presiding Officer

Attest

\_\_\_\_\_  
 Troy Stout, Mayor, Alpine City

\_\_\_\_\_  
 Bonnie Cooper, City Recorder Alpine City

## ALPINE PLANNING COMMISSION AGENDA

**SUBJECT:** Public Hearing – Transportation Master Plan Update

**FOR CONSIDERATION ON:** 1 September 2020

**PETITIONER:** Staff

**ACTION REQUESTED BY PETITIONER:** Hold a public hearing, review and recommend approval of the proposed Transportation Master Plan.

### BACKGROUND INFORMATION:

On July 14, 2020, the City Council adopted Resolution 2020-09, which began the process of amending the City's General Plan and land use ordinances as they pertain to streets and roads going in and out of the City. On August 4, 2020, the Planning Commission discussed new language for the Transportation Element of the General Plan, and on August 18, 2020 the Planning Commission discussed changes to the Transportation Master Plan to help enforce the language from the General Plan. The proposed Transportation Master Plan highlights intermunicipal street connections, which are limited to existing or planned street connections.

The Planning Commission must now hold a public hearing on the proposed Transportation Master Plan and make a recommendation to the City Council.

#### **STAFF RECOMMENDATION:**

Recommend approval of Transportation Master Plan as proposed.

#### **SAMPLE MOTION TO APPROVE:**

I motion to recommend that the Transportation Master Plan be approved as proposed.

#### **SAMPLE MOTION TO APPROVE WITH CONDITIONS:**

I motion to recommend that the Transportation Master Plan be approved with the following conditions/changes:

- \*\*\*Insert Finding\*\*\*

#### **SAMPLE MOTION TO TABLE/DENY:**

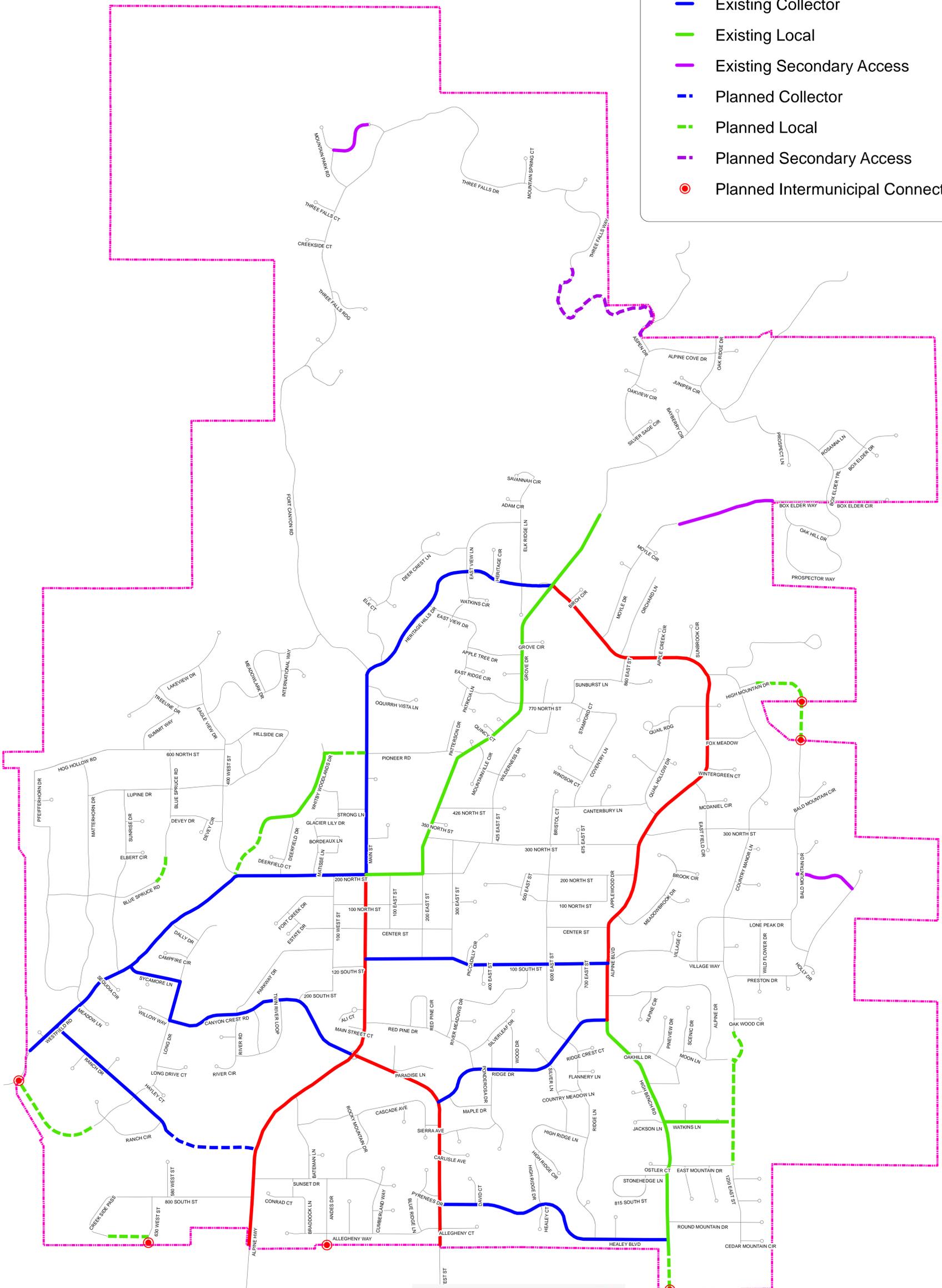
I motion to recommend that the Transportation Master Plan be tabled/denied based on the following:

- \*\*\*Insert Finding\*\*\*

City Boundary

**Street Classifications**

- Existing Arterial
- Existing Collector
- Existing Local
- Existing Secondary Access
- Planned Collector
- Planned Local
- Planned Secondary Access
- Planned Intermunicipal Connection



**DRAFT**



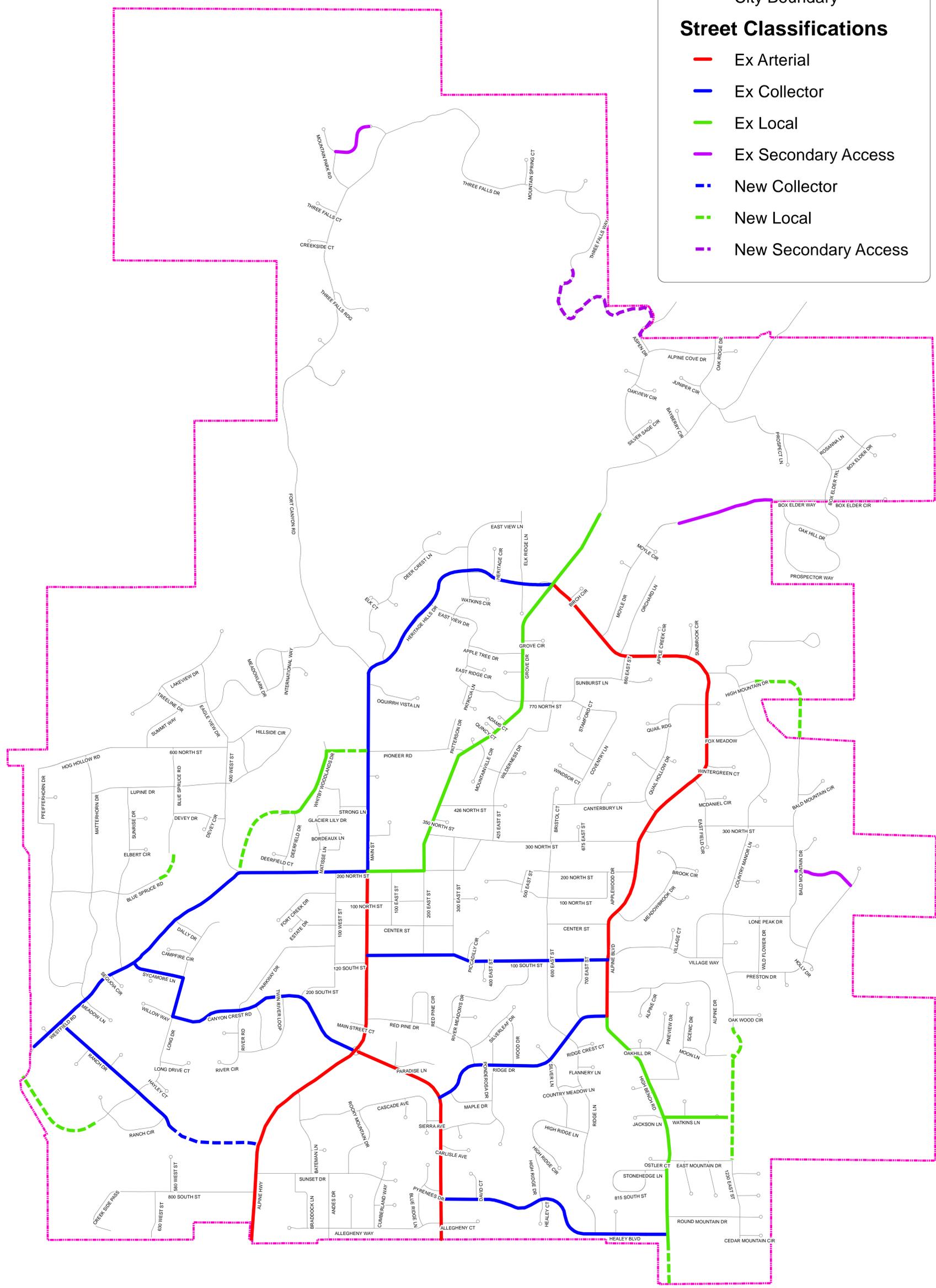
# Alpine City Transportation Master Plan

Proposed 2020 Update

City Boundary

**Street Classifications**

- Ex Arterial
- Ex Collector
- Ex Local
- Ex Secondary Access
- New Collector
- New Local
- New Secondary Access



# Alpine City Transportation Master Plan



Adopted  
August 27, 2019

## **ALPINE CITY PLANNING COMMISSION AGENDA**

**SUBJECT:** Discussion – Building Code and Ordinance Issues – Outdoor Lighting

**FOR CONSIDERATION ON:** 1 September 2020

**PETITIONER:** Mayor

**ACTION REQUESTED BY PETITIONER:** Review and discuss.

### **BACKGROUND INFORMATION:**

Mayor Stout has asked that the Planning Commission review and discuss potential building code and ordinance issues with the goal of protecting the qualities of Alpine City and it's neighborhoods for the future. In this discussion, the Planning Commission will be looking at outdoor lighting and dark sky ordinances from other municipalities in the state.

### **STAFF RECOMMENDATION:**

Review and discuss outlined issues.

# Building Code & Ordinance Issues

## Changes in Measuring Structure Height

- Should be measured from original/natural grade, not allowing artificial buildup (Unless building on existing grade of xx% of slope, then modify accordingly)
- Evaluate changes to current measuring to "midline" of roof
- Look at basement wall height allowances, which are used to increase height
- Look at max height as it relates to minimum setback from the street (Should we allow a home to rise to maximum height without depth or dimension next to the sidewalk or road?)
- Monolithic structures that occupy an entire lot, rising to max height, wrapping around the corner to create a 30' wall

## Garage Doors On Frontage

- Size and number of "RV-style" doors on frontage (limit to 1 or 2 on street)
- Total number of garage doors as percentage of building on frontage

## Lighting

- Total number of lights projecting from building (soffits and structure)
- Total wattage/lumens allowed to project from structure or property
- Limit "influence" of lighting: no projection onto sidewalk, street or across property lines
- Limit hours of full light to 10:00 pm, similar to noise ordinances (reduce to minimum levels after 10)
- Look at other city (Park City, Midway, Boulder, etc.) lighting ordinances to see how far they go to contain light pollution
- I want to make the lighting laws retroactive to the extent the law allows us to do so. We are going to dim the lights in Alpine!

## Recreational Structures

- Setbacks for "natural" or artificial features that rise above the fence line into neighbors' field of view
- Ratio of rec. structure as compared to dwelling should be strict
- Re-evaluate height restrictions
- Elevation and setbacks for swimming pools

## Artificially Increasing Driveway Slope

- Max grade increase should be imposed (will likely be redundant to new grade language, which is good)
- Setback should be increased commensurate with slope increase
- No use of retaining walls to facilitate (engineered) steeper driveway

Massive Additions (by lot acquisition or on existing)

- Automatic increase in setback and dimensional requirements (roofline) when monolithic building stretches from border to border
- Stricter guidelines on building being more congruent with others in the area, and with the original structure
- Look at limiting addition square footage, not to exceed xx% of original structure
- When acquiring neighboring lot for expansion, require additional setback and smaller building envelope
- Evaluate language regarding "addition" vs. auxiliary building, and how the two attach to the original structure

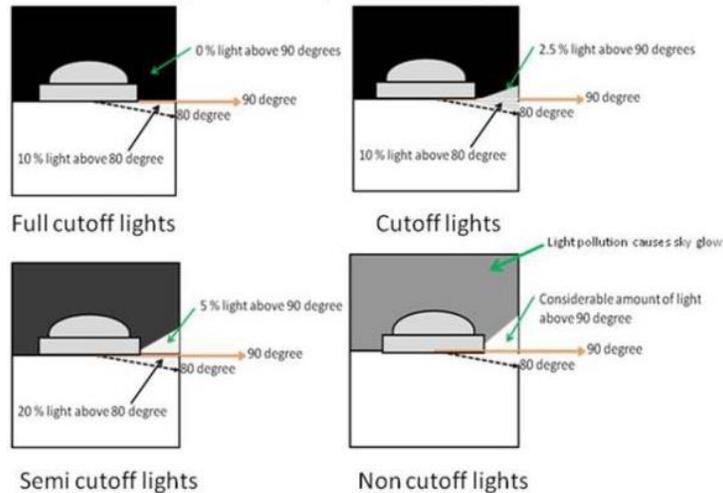
## 19.24.240: Outdoor Lighting Standards

A. The purpose of this Section is to provide for adequate and appropriate site lighting that increases nighttime visibility, adds aesthetic quality, and improves safety. These standards are designed to enhance night vision while mitigating glare and light pollution. All exterior lighting shall be designed and located to minimize glare, light trespass, skyglow and energy waste.

B. DEFINITIONS: For the purpose of this chapter, certain words, phrases and terms used herein shall have the meanings assigned to them by this section:

1. **ARCHITECTURAL LIGHTING:** Lighting of building surfaces, landscape features, statues and similar items for the purpose of decoration, accents, or ornamentation; or lighting that does not contribute to the safety or security of residents, guests, employees or customers on a property.
2. **DIRECT ILLUMINATION:** Illumination resulting from light emitted directly from a luminaire. This does not include light reflected from other surfaces, such as the ground or building faces.
3. **FLOODLIGHT:** A luminaire designed to "flood" an area with light; A specific form of luminaire designed to direct its output in a specific direction. Such luminaires are often designated by the manufacturer and are commonly used in residential outdoor lighting.

4. **FULL CUTOFF LUMINAIRE:** An outdoor luminaire designed so that the installed luminaire emits no light above the horizontal plane. Full cutoff luminaires must be shielded in and of themselves. Surrounding structures, like



- canopies, are not to be considered when determining if the luminaire is full cutoff. Full cutoff luminaires must be appropriately mounted so that the shielding prevents direct illumination from escaping above the horizontal and all direct illumination is directed downward.
5. **INTERNALLY ILLUMINATED:** As it relates to signs, any sign which has a light source entirely enclosed within the sign and not directly visible to the eye.
  6. **LIGHT POLLUTION:** Any adverse effect of manmade light. Often used to denote "sky glow" from cities, but also includes glare, light trespass, visual clutter and other adverse effects of lighting.
  7. **LIGHT SOURCE:** The part of a luminaire that produces light, e.g., the bulb.

8. **LIGHT TRESPASS:** Light falling where it is not wanted or needed. Spill light falling over property lines that illuminates adjacent grounds or buildings in an objectionable manner.
9. **LUMINAIRE:** A complete lighting unit consisting of a light source such as a lamp or lamps, together with the parts designed to position the light source and connect it to the power supply. It may also include parts to protect the light source or the ballast or to distribute the light. A lampholder itself is not a luminaire. Includes light fixtures, lamps, reflectors, and other similar devices.
10. **OUTDOOR LUMINAIRE:** A luminaire used for lighting the exterior of structures, parking lots, pathways, service canopies, recreational areas, signs or other similar outdoor lighting uses.
11. **RECREATIONAL LIGHTING:** Lighting used to illuminate sports fields, ball courts, playgrounds or similar outdoor recreational facilities.
12. **SECURITY LIGHTS:** Lighting designed to illuminate a property or grounds for the purpose of visual security.
13. **TOWER:** Any monopole, antenna or the like that exceeds eighteen feet (18') in height.
14. **UNSHIELDED LUMINAIRE:** A luminaire that allows direct illumination to be emitted above the horizontal either directly or indirectly from the luminaire; Any luminaire that is not a full cutoff luminaire.

C. Use of Luminaires.

1. All outdoor luminaires must be full cutoff luminaires unless otherwise specified within this section. No unshielded luminaires are permitted. All outdoor luminaires shall have the light source downcast and fully shielded from view with the following exceptions:
  - a. If the luminaires are less than one thousand (1,000) lumens per luminaire (equal to one sixty (60) watt incandescent lamp) provided the luminaire has an opaque top or is under a solid overhang;
  - b. Floodlights with external shielding of the light source and is angled down toward the ground at thirty (30) degrees or less;
  - c. Temporary lighting needed by emergency services;
  - d. Lighting for the United States of America and State of Utah flags;
  - e. The lighting of telecommunication towers to meet Federal Aviation Administration regulations;
  - f. Lighting associated with an approved and permitted exterior sign;
  - g. Luminaires used only for recreational lighting when all reasonable measures have been taken to minimize the lighting of surrounding properties. Any adjacent luminaires surrounding the recreational facility, such as lighting for sidewalks, are not exempt.
  - h. Exterior emergency exit lighting.
  - i. Motion sensing luminaires that are on for less than five minutes at a time, and are not used for extended lighting beyond the five-minute increments.

- j. Lighting for private or public outdoor events. Lighting must be turned off by 12:00 a.m. and property may not have lighting on more than twice a week. Lighting for private or public outdoor events must comply with all other standards set forth in any other applicable section of this or any other chapter.
- k. Holiday Lighting: Any decorative lighting put up on a temporary time period for the celebration of a special event or holiday.

#### D. Standards.

##### 1. Height and Location.

- a. Luminaire height and location shall be designed to illuminate the site only. Light cut-offs are required to prevent spillover of direct light.
- b. Luminaires and supporting structures shall be placed on the same property as intended to light.
- c. Parking areas and exterior freestanding luminaires shall be no taller than thirty-two (32) feet, including the pole and base. When a parking area is adjacent to a residential zone, freestanding luminaires on the perimeter closest to the residential zone shall be no taller than eighteen (18) feet.
- d. Freestanding luminaires on private property in residential zones shall be no taller than twelve (12) feet.
- e. Luminaires for public street lights and recreational lighting are exempt from height regulations.
- f. Soffit and canopy luminaires shall be recessed or flush mounted to the bottom surface of the structure.
- g. Luminaires for lighting private streets and alleyways shall be mounted between eight (8') to sixteen (16') feet above grade to provide continuous illumination of all street sidewalks and shall reflect the architectural design and characteristics of the surrounding area.
- h. Exterior building luminaires affixed to buildings on street-front elevations shall be mounted between 6' and 14' above adjacent grade.

##### 2. Visual Characteristics.

- a. All public areas shall be lighted with average minimum and maximum levels as follows:
  - i. Minimum (for low or non-pedestrian and vehicular traffic areas) of 0.5 foot candles;
  - ii. Moderate (for moderate or high volume pedestrian areas) of 1-2 foot candles; and
  - iii. Maximum (for high volume pedestrian areas and building entries) of 4 foot candles.

- b. Lighting shall be provided at consistent levels, with gradual transitions between maximum and minimum levels of lighting and between lit areas and unlit areas. Highly contrasting pools of light and dark areas shall be avoided.
- c. Architectural lighting is not permitted, except as approved through design review for highlighting signature landscape features, signs or building elements. Architectural lighting shall be designed to only light the feature, shall not trespass onto any adjacent property, and shall be limited in use from 7:00 a.m.- to 12:00 a.m.
- d. HID or fluorescent tube lights (except compact fluorescent bulbs) are not permitted as exterior building lights.

E. New Structures

- 1. Commercial, Neighborhood Commercial, Institutional, and Industrial buildings must submit a lighting plan with their building permit application with sufficient detail to determine compliance with lighting standards.
  - a. Details needed include lighting information for parking lots, signs, walkways, luminaires over doorways, or architectural lighting.
- 2. All new residential structures must comply with standards within this chapter

F. Compliance of Existing Nonconforming Luminaires.

- 1. Compliance: All outdoor luminaires installed after the effective date hereof in all zones in the city shall conform to the requirements established by this chapter. This chapter does not apply to indoor lighting. However, Light Trespass from interior lighting that negatively impacts adjacent properties is also prohibited.
- 2. Nonconforming Uses: All existing outdoor luminaires that do not meet the requirements of this chapter and are not exempted by this chapter shall be considered a nonconforming use. The city will encourage property owners to voluntarily bring nonconforming luminaires into compliance with this chapter. Where appropriate, the city may also provide technical assistance and expertise to homeowners in bringing their outdoor luminaires into compliance with this chapter.
- 3. Modifications; Compliance Through Building Permit Process: The city may require outdoor luminaires to be brought into compliance through the building permit process if substantial modifications are made to the exterior of the building or if the footprint of the structure is enlarged.
- 4. Conflicts: Should this chapter be found to conflict with other ordinances of the city, the more restrictive shall apply.

#### G. VIOLATIONS:

1. The following constitute violations of this chapter:
  - a. The installation, maintenance or operation of any luminaire not in compliance with the provisions of this chapter if such luminaire is installed after this chapter is formally adopted.
  - b. The alteration of outdoor luminaires after a certificate of occupancy has been issued without the review and approval of the building inspector when such alteration does not conform to the provisions of this chapter.
  - c. Failure to shield, correct or remove lighting that is installed, operated, maintained or altered in violation of this chapter.

#### H. PENALTIES:

1. Violations and Legal actions. If, after investigation, the City Planner finds that any provision of this chapter is being violated, the City Planner or designee shall give notice by hand delivery or by certified mail, return receipt requested, of such violation to the owner and/or occupant of such premises, demanding that the violation be abated within 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 said violation. If the violation is not abated within the 30-day period, the City Planner or designee may institute actions and proceedings, either legal or equitable, to enjoin, restrain or abate any violations of this chapter and to collect penalties for such violations.
2. Penalties. A violation of this chapter, or any provision thereof, shall be punishable by a Infractions as defined in NCC 1.08, and each day of violation after the expiration of the 30-day period shall constitute a separate offense for the purpose of calculating the fine.

# CHAPTER 15C

## OUTDOOR LIGHTING

### SECTION:

#### **10-15C-1: Purpose**

#### **10-15C-2: Scope And Applicability**

#### **10-15C-3: Full Cutoff Fixture Requirements**

#### **10-15C-4: General Conditions And Standards**

#### **10-15C-5: Specialized Outdoor Lighting; Conditions And Standards**

#### **10-15C-6: Hillside, Ridgelines, And Special Cases**

#### **10-15C-7: Lumen Allowances**

#### **10-15C-8: Towers**

#### **10-15C-9: Exemptions**

#### **10-15C-10: Prohibited Lighting**

#### **10-15C-11: Application And Review Procedures**

#### **10-15C-12: Amortization Of Nonconforming Outdoor Lighting**

#### **10-15C-13: Violations**

#### **10-15C-14: Definitions**

#### **10-15C-1: PURPOSE:**

The purposes of this chapter are:

- A. To encourage outdoor lighting practices that will minimize light pollution, glare, light trespass and sky glow in order to preserve the natural dark of the night sky and to prevent lighting nuisances on properties.
- B. To promote energy conservation.
- C. To maintain nighttime safety, utility and security.
- D. To maintain an uncluttered nighttime appearance in the town.
- E. To prevent unnecessary or inappropriate outdoor lighting.
- F. To minimize nighttime impacts on nocturnal wildlife.
- G. To maintain the rural atmosphere and village character of the town.
- H. To encourage the low level outdoor lighting through the use of low wattage bulbs, full cutoff light fixtures, and limits on the location and uses of outdoor lighting. (Ord. 2009-04, 8-12-2009)

#### **10-15C-2: SCOPE AND APPLICABILITY:**

A. All exterior outdoor lighting installed after the effective date of this chapter in all zones in the town shall conform to the requirements established by this chapter. This chapter does not apply to indoor lighting. However, light trespass from interior lighting is regulated by other sections of this code.

B. All existing outdoor lighting that does not meet the requirements of this chapter and is not exempted by this chapter shall be considered a nonconforming use and as such shall be scheduled for amortization as

outlined in section 10-15C-11 of this chapter.

C. Should this chapter be found to be in conflict with other sections of this code, the more restrictive shall apply. (Ord. 2009-04, 8-12-2009)

### **10-15C-3: FULL CUTOFF FIXTURE REQUIREMENTS:**

A. Required: Unless specifically exempted by this chapter, all outdoor lighting shall use full cutoff fixtures and shall be installed so light is directed downward with no light emitted above the horizontal. Lighting must not be placed at a location, angle, or height that directs illumination outside the property boundaries where the light fixtures are located.

B. Characteristics: In order to qualify as a "full cutoff" fixture, a light fixture must meet all of the criteria below:

1. The top and sides must be made of completely opaque material, such that light only escapes through the bottom of the fixture. Fixtures with translucent or transparent sides, or sides with perforations or slits, do not qualify as full cutoff. The light source must be entirely contained inside the opaque sides of the fixture housing.

2. If mounted on or attached to a building or structure other than a parking lot light pole or a sign, the bottom of the light source (including all lenses, diffusers, reflectors, or similar elements) must be at least two inches higher than the bottom of the fixture housing.

3. Surrounding structures such as eave overhangs, canopies, or patio covers are not to be considered in determining if a fixture is a full cutoff fixture. The fixture must be a full cutoff fixture in and of itself.

4. If mounted on or attached to a building or structure other than a parking lot light pole or a sign, the light source of a fixture must not be visible from any point not on the property where the fixture is located.

C. Exemptions To Full Cutoff Fixture Requirements:

1. Fixtures having a total light output less than one thousand (1,000) lumens are exempted from the full cutoff requirement provided:

a. The fixture has a top that is completely opaque such that no light is directed upwards.

b. The fixture has sides that completely cover the light source and are made of opaque or semiopaque material. Fixtures with opaque sides may have incidental decorative perforations that emit small amounts of light. Semiopaque material such as dark tinted glass or translucent plastic may be used if the light source is not discernable behind the material. Completely transparent materials, such as clear or colored glass, are not allowed.

c. The light source must not be visible from any point outside the property on which the fixture is located.

d. All light from the fixture is directed downwards, with no light directed above the horizontal plane.

2. Spotlights controlled by motion sensors having a light output less than one thousand (1,000) lumens per lamp are exempted from the full cutoff requirement provided:

a. The fixture is a spotlight or other type of directed light that shall be directed at a forty five degree (45°) angle or less, where the zero angle is pointing straight down.

b. The fixture must not be placed in such a manner that results in illumination being directed outside the property boundaries where the light fixtures are located.

c. The fixture must be hooded or shielded to the extent necessary to prevent glare on adjacent properties or roadways.

3. Pathway lights less than eighteen inches (18") in height are exempted from the full cutoff fixture requirement, if the total light output from each pathway light is less than three hundred (300) lumens. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

### **10-15C-4: GENERAL CONDITIONS AND STANDARDS:**

A. Minimum Necessary: Outdoor lighting should be the minimum necessary to provide for safety and functionality. The lowest wattage light source necessary for a lighting application should be used. Outdoor lighting that does not serve a functional purpose, including landscape lighting, is prohibited. Such lighting can be a significant source of sky glow.

B. Allowable Applications: Outdoor lighting shall only be allowed in the following applications:

1. To illuminate the entrances to buildings (including garage entrances).
2. To illuminate pathways and walkways.
3. To illuminate parking areas and parking area access lanes.
4. To illuminate outdoor gathering areas such as patios, pool and hot tub areas, outdoor dining areas, and recreation areas.
5. For security purposes, provided all the following conditions are met:
  - a. The lighting is activated by motion sensors and does not stay on all night.
  - b. The lighting is placed and directed such that no direct illumination falls outside the property boundaries where the security lighting is placed.
6. To illuminate signage.
7. For architectural lighting, provided all of the following conditions are met:
  - a. The property where the architectural lighting is placed is in a commercial zone.
  - b. The architectural lighting is compatible with the purposes of this chapter as determined by the Planning Commission.
  - c. All architectural lighting is mounted on and directed onto the front of a commercial building facing the street.
  - d. The architectural lighting is sufficiently shielded such that the light source is not visible beyond the property boundaries.
  - e. The architectural lighting is directed such that all light falls on the front of the building, and not on the adjacent ground or into the night sky.
  - f. The architectural lighting uses low wattage light sources.
  - g. The architectural lighting is not used to illuminate landscape, statues, or other similar features.
8. To illuminate outdoor water features, provided all of the following conditions are met:
  - a. The lighting is angled at or below the horizontal plane.
  - b. The lighting is placed underneath or behind the water such that the water diffuses the light from all points where the light is visible.
  - c. Each light source has a total light output of one thousand (1,000) lumens or less.

C. Light Color Temperature: All lighting must be of a warm color temperature. All light sources in all outdoor lighting must have color temperature equal to or less than three thousand degrees Kelvin (3,000°K). (Ord. 2009-04, 8-12-2009; Ord. 2017-05, 6-7-2017; Ord. 2019-09, 10-9-2019)

**10-15C-5: SPECIALIZED OUTDOOR LIGHTING; CONDITIONS AND STANDARDS:**

A. Gas Station Canopies: Gas station canopies may be illuminated provided all light fixtures are mounted on the undersurface of the canopy and all light fixtures are full cutoff. Except for directed beam lighting, merely placing the fixtures on the underside of the canopy does not qualify as fully shielding the light fixture. Directed beam lighting mounted under the canopy is allowed, provided the light source cannot be seen from outside the property boundaries.

B. Roadway/Streetlights: Streetlights are prohibited unless recommended by the town engineer or required by UDOT to ensure the safety of the public. All streetlights shall utilize lamp types that are energy efficient and minimize sky glow and other unintended impacts of artificial lighting. For lights along SR-9, the lowest illumination design that meets the minimum illumination requirements set by UDOT shall be used. Lights along SR-9 shall use decorative light fixtures similar in appearance to the shuttle stop lighting.

C. Parking Lots:

1. Spot or flood lighting of parking lots from a building or other structure is prohibited.

2. The overall height of any light post used to illuminate parking lots in commercial zones shall not exceed fourteen feet (14'). All post mounted parking lot lights shall be set back from property lines a distance equal to two and one-half ( $2\frac{1}{2}$ ) times the height of the pole.

3. The overall height of any light post used to illuminate parking lots in residential zones shall not exceed six feet (6').

4. All parking lot lighting shall use full cutoff fixtures.

#### D. Recreational Lighting:

1. The planning commission shall review all requests for new recreational lighting fixtures for fields or courts. The planning commission shall approve such requests only after finding:

a. The recreational lighting has provisions for minimizing glare, spill light, and uplight by the use of louvers, hoods, or shielding.

b. The recreational lighting does not exceed illumination levels for class IV sports lighting set by the Illuminating Engineering Society of North America.

c. The recreational lighting will only illuminate the field or court area with no direct illumination falling outside of those areas.

d. The light source for the recreational light will not be visible from adjacent properties.

2. Pole mounted recreational lighting shall be limited to eighteen feet (18') in height. Pole mounted recreational lighting must be set back a minimum of sixty feet (60') from adjacent properties.

3. The lighting for nonfield and noncourt areas shall conform to all provisions of this chapter.

E. Amphitheater Lighting: Outdoor amphitheatres may use illumination to light the performance area of the amphitheater and for the safety of the public. The following standards apply to all amphitheater lighting:

1. Lighting used to illuminate the performance area must be either directed spotlighting or full cutoff lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.

2. Lighting used to illuminate the performance area may only be turned on during performances or rehearsals.

3. Lighting used to illuminate the seating areas, pathways, and other areas of the amphitheater must meet all standards of this chapter. (Ord. 2009-04, 8-12-2009)

F. Signs: Signs may be unlighted, lighted externally, lighted internally, or backlit. All sign lighting must be designed, directed, and shielded in such a manner that the light source is not visible beyond the property boundaries where the sign is located. Lighting for signs must be directed such that only the sign face is illuminated. All lighted signs must have stationary and constant lighting.

#### 1. Standards For Externally Illuminated Signs:

a. Lighting for externally illuminated signs must be aimed and shielded so that light is directed only onto the sign face and does not trespass onto adjacent streets, roads or properties or into the night sky.

b. Lighting for externally illuminated signs must be mounted at the top of the sign (or within 2 feet of the top of a building mounted sign).

#### 2. Standards For Internally Illuminated Signs:

a. Only sign copy areas may be illuminated on an internally illuminated sign.

b. Internally illuminated signs shall use semiopaque materials for sign copy such that the light emanating from the sign is diffused. Transparent, clear, or pure white materials are not allowed for sign copy. Noncopy portions of the sign (e.g., background and graphics) shall be made of completely opaque material that is consistent with subsection 10-24-3A of this title.

### 3. Standards For Backlit Signs:

a. Backlit signs shall be designed such that the light source is not visible.

b. Backlit signs shall be designed such that harsh, direct illumination does not emanate out of the sign. Rather, the backlighting shall only allow indirect illumination to emanate from the sign. For example, signs that create a "halo" effect around sign text are allowed.

c. Backlit signs shall use low wattage light sources.

4. Light Color Temperature Standard: All light sources used to illuminate signage must have color temperature equal to or less than three thousand degrees Kelvin (3,000°K).

G. Vending Machines, Gas Station Pumps, ATM Machines, Etc.: Machines and kiosks that provide self-service dispensing of goods or money, such as vending machines, gas station pumps, and ATM machines, may be illuminated subject to the standards below:

1. The machine is placed entirely underneath a solid covering (such as a patio cover) such that light coming from the machine does not escape into the night sky.

2. The machine is either:

a. Completely screened from view from adjacent properties and streets by a solid and opaque screen such that no illumination from the machine is visible from adjacent properties or the street, or

b. Illuminated in such a way that no more than 15% of the surface area of the machine, or one and a half square feet, whichever is less, is illuminated. This area includes any screen area of the machine that is illuminated.

3. The light source used to illuminate the machine has color temperature of three thousand degrees Kelvin (3,000°K) or less.

4. The light source used to illuminate the machine has constant a constant level of illumination. The light source may not blink on and off or undulate in lighting intensity.

5. All parts of the machine, specifically including the illuminated portions of the machine, must meet the town's color palette for signage. No illuminated portion of the machine may be white. (Ord. 2017-05, 6-7-2017; Ord. 2019-09, 10-9-2019)

### **10-15C-6: HILLSIDES, RIDGELINES, AND SPECIAL CASES:**

In certain cases (such as, but not limited to, properties on or near ridgelines or hillsides), additional shielding may be required to mitigate glare or light trespass. The need for additional shielding will be considered as part of the review process described in section 10-15C-10 of this chapter. (Ord. 2009-04, 8-12-2009)

### **10-15C-7: LUMEN ALLOWANCES:**

In the VC and CC zones, each property (or group of adjacent properties developed together as a commercial center) is allowed no more than 30,000 lumens of total lighting per acre. With the exception of sign illumination, all outdoor lighting (building mounted, pathway lights, parking lot lights, etc.) are included in the lumen allowance. The lighting plan described in section 10-15C-11 will be used to demonstrate compliance with the lumen allowance standard. Each light shown on the lighting plan must be included in the calculation of total lumens on the property.

A. The lumens associated with each fixture shall be calculated in the lumen allowance as described below:

1. Full cutoff fixtures located under solid canopies, solid patio covers, or solid roof eave overhangs where all parts of the fixture are at least five (5) feet away from the nearest outer edge of the canopy, cover, or overhang, shall only be counted as twenty five percent (25%) of the fixture's lumen output for determining compliance with the lumen allowance.

2. All outdoor non-signage illumination and light fixtures not described in paragraph A above shall be counted as one hundred percent (100%) of the fixture's lumen output for determining compliance with the lumen allowance.

3. Illumination of signage is not included in determining compliance with the lumen allowance.

D. The lumen allowance described in this section applies to all new construction, as well as to all reconstruction, remodels, or additions to existing construction that impact fifty percent (50%) or more of an existing structure, or add fifty percent (50%) or more building size to an existing structure.

E. The lumen allowance described in this section is calculated based only on the developed portion of a property. For example, a five (5) acre property which only has two (2) acres of developed area would have a lumen allowance of sixty thousand (60,000) lumens (thirty thousand (30,000) lumens per acre times two (2) acres of developed area). In determining what portion of a property is developed, the following criteria shall be employed:

1. All areas where there are physical improvements (e.g. buildings, parking areas, walkways, driveways, patios, pools, courtyards, walls, accessory structures, etc.) are included as developed areas.

2. All areas of landscaping required by Chapter 10-18 (either vegetative landscape or natural open space) are included as developed areas. (Ord. 2019-09, 10-9-2019)

#### **10-15C-8: TOWERS:**

A. All monopole, antenna, tower or support facility lighting not required by the Federal Aviation Administration (FAA) or the Federal Communication Commission (FCC) is prohibited.

B. When lighting is required by the FAA or the FCC, such lighting shall not exceed the minimum requirements of those agencies. Collision markers should have a dual mode for day and night to minimize impact to the night sky and migrating birds.

C. All other lighting used on the property not regulated by the FAA or FCC shall conform to this chapter. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

#### **10-15C-9: EXEMPTIONS:**

The following shall be exempt from the requirements of this chapter:

A. Holiday lighting from October 15 to January 15 as long as it does not create a hazard or nuisance from glare.

B. Traffic control signals and devices.

C. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.

D. The lighting of Federal or State flags, provided that the light is a narrow down-directed beam aimed and shielded to illuminate only the flag. Flag lighting should use appropriate illumination levels to light flag, while at the same time fulfilling the purposes of this chapter. Uplighting is not allowed for flag illumination.

E. Low voltage LED lights and solar lights used to illuminate pathways in residential areas, provided the lights are installed no more than eighteen inches (18") above the adjacent ground level. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

#### **10-15C-10: PROHIBITED LIGHTING:**

The following are prohibited:

A. Uplighting to illuminate buildings and other structures, or vegetation, except as allowed by subsection 10-15C-4B7 of this chapter.

B. Flashing, blinking, intermittent or other lights that move or give the impression of movement, not including holiday lighting between November 15 and January 15.

C. Floodlights or spotlights affixed to buildings for the purpose of lighting parking lots or sales display lot areas.

D. Searchlights, laser source lights, or any similar high intensity light.

E. Except when used in window signage pursuant to subsection 10-24-9B6b of this title, neon or luminous tube lighting, either when outdoor mounted or indoor mounted if visible beyond the property boundaries. (Ord. 2015-01, 4-8-2015)

#### **10-15C-11: APPLICATION AND REVIEW PROCEDURES:**

A. Lighting Plans Required: All sign permit applications, PD applications, subdivision applications, building permit applications, and design development review applications shall include a lighting plan that shows evidence that the proposed lighting fixtures and light sources shall comply with this Code and shall include the following:

1. Plans or drawings indicating the proposed location of lighting fixtures, height of lighting fixtures on the premises, and type of illumination devices, lamps, supports, shielding and reflectors used and installation and electrical details.

2. Illustrations, such as contained in a manufacturer's catalog cuts, of all proposed lighting fixtures. The applicant must provide sufficient information regarding the light fixture, bulb wattage, and shielding mechanisms for the Planning Commission (or DCD, when applicable) to be able to determine compliance with the provisions of this chapter.

3. A table showing the total amount of proposed exterior lights, by fixture type, wattage, lumens, and lamp type.

4. For properties in the commercial zones, a calculation of the total lumen output from all outdoor fixtures on the property.

B. Approval Procedure:

1. The lighting plan for all new development shall be submitted for approval concurrent with the associated application process.

2. A certificate of occupancy shall not be issued until such time as the property is subject to a postinstallation nighttime inspection by the DCD and at least one member of the Planning Commission. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

#### **10-15C-12: AMORTIZATION OF NONCONFORMING OUTDOOR LIGHTING:**

A. Amortization: The town shall require the termination of use of any and all outdoor lighting fixtures, structures, lamps, bulbs or other devices that emit or generate light which do not comply with the standards of this chapter as adopted on August 12, 2009, and which are not otherwise exempted by this chapter, pursuant to the amortization schedule contained in this section. Revisions to the standards in this chapter adopted by the Town Council after August 12, 2009 do not trigger renewed amortization requirements.

B. Schedule Of Amortization: All outdoor lighting legally existing and installed prior to August 12, 2009 and which is not exempted shall be considered nonconforming and shall be brought into compliance by the property owner as follows:

1. Immediate abatement as a condition for approval upon application for a building permit, sign permit, conditional use permit, new (nonrenewal) business license, design development review or similar town permit or review when said site improvements, construction, reconstruction, expansion, alteration or modification of existing sites, structures, or uses individually or cumulatively equal or exceed one thousand five hundred (1,500) square feet. Projects less than one thousand five hundred (1,500) square feet will not be subject to immediate abatement. However, they will count towards a cumulative total of projects on the same property. When the cumulative total equals or exceeds one thousand five hundred (1,500) square feet abatement shall be immediate.

2. All damaged or inoperative nonconforming lighting shall be replaced or repaired only with lighting equipment and fixtures compliant with this chapter.

3. All outdoor lighting not previously scheduled for amortization or otherwise exempted shall be brought into conformance with this chapter within seven (7) years from August 12, 2009.

C. Audits: The town shall perform two (2) audits of all outdoor lighting in the town, one four (4) years and the other six (6) years after August 12, 2009. These audits will identify all lighting that does not conform to the standards of this chapter. The results of these audits will be made available to the public. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

#### **10-15C-13: VIOLATIONS:**

A. The following constitute violations of this chapter:

1. The installation, maintenance, operation, of any lighting fixture not in compliance with the provisions of this chapter.

2. The alteration of outdoor lighting fixtures after a certificate of occupancy has been issued when such alteration does not conform to the provisions of this chapter.

3. Failure to shield, correct, or remove lighting that is installed, operated, maintained or altered in violation of this chapter.

B. Violations of this chapter are subject to enforcement as outlined in chapter 4 of this title. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

#### **10-15C-14: DEFINITIONS:**

For the purpose of this chapter, certain words, phrases and terms used herein shall have the meaning assigned to them by this section:

ACCENT OR ARCHITECTURAL LIGHTING:	Lighting of building surfaces, landscape features, statues, and similar items for the purpose of decoration or ornamentation; or lighting that does not contribute to the safety or security of residents, guests, employees, or customers on a property.
DIRECT ILLUMINATION:	Illumination resulting from light emitted directly from a lamp, luminary, or reflector. This does not include light reflected from other surfaces such as the ground or building faces.
FLOODLIGHT:	A fixture or lamp designed to "flood" an area with light. A specific form of lamp or fixture designed to direct its output in a specific direction. Such lamps are often designated by the manufacturer and are commonly used in residential outdoor lighting.
FULL CUTOFF FIXTURE:	An outdoor light fixture designed so that the installed fixture emits no light above the horizontal plane, as described in section 10-15C-3.
INTERNALLY ILLUMINATED:	As it relates to signs, any sign which has a light source entirely enclosed within the sign and not directly visible to the eye.
LIGHT POLLUTION:	Any adverse effect of manmade light. Often used to denote "sky glow" from cities or towns, but also includes glare, light trespass, visual clutter and other adverse effects of lighting.

LIGHT SOURCE:	The part of a lighting fixture that produces light, e.g., the bulb.
LIGHT TRESPASS:	Light falling where it is not wanted or needed. Spill light falling over property lines that illuminates adjacent grounds or buildings in an objectionable manner.
LUMEN:	A standard measurement of light emitted by a light fixture. For determining compliance with the regulations of this chapter, the lumen output of a fixture shall mean the manufacturer's published documentation of initial lumens for the fixture.
MANUFACTURER'S CATALOG CUTS:	A publication or other printed material of a lamp or lighting manufacturer offering visual and technical information about a lighting fixture or lamp.

OUTDOOR LIGHT FIXTURE:	An outdoor electrically powered illuminating lamp or similar device used for lighting structures, parking lots, pathways, service canopies, recreational areas, signs or other similar outdoor lighting uses.
RECREATIONAL LIGHTING:	Lighting used to illuminate sports fields, ball courts, playgrounds, or similar outdoor recreational facilities.
SECURITY LIGHTS:	Lighting designed to illuminate a property or grounds for the purpose of visual security.
SPOTLIGHT:	See definition of Floodlight. A fixture or lamp designed to light a small area very brightly.
TOWER:	Any monopole, antenna, or the like that exceeds eighteen feet (18') in height.
UNSHIELDED FIXTURE:	A fixture that allows light to be emitted above the horizontal plane either directly from the lamp or indirectly from the fixture or reflector. Any fixture not full cutoff. (Ord. 2009-04, 8-12-2009; Ord. 2019-09, 10-9-2019)

# **Dark Sky Lighting Ordinance**

I	Purpose
II	Applicability
III	Severability
IV	Definitions
V	General Prohibition of Non-Dark Sky Lights and Fixtures
VI	Light Fixtures Permitted by this Ordinance
VII	Replacement of Non-Dark Sky Fixtures
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XIII	Disclaimer
XIV	Effective Date

## **SECTION I - PURPOSE**

This ordinance is intended to promote the preservation of dark skies over the Town of Springdale and to protect the view of the night sky for the enjoyment of the citizens of the Town of Springdale.

## **SECTION II - APPLICABILITY**

- A. This ordinance applies to all outdoor lighting within the Town of Springdale unless otherwise exempted in this Section.
- B. This ordinance does not apply to emergency lighting.
- C. This ordinance does not apply to temporary lighting.
- D. This ordinance does not apply to vehicular lighting.
- E. This ordinance does not apply to lighting on wheeled farm machines.

## **SECTION III - SEVERABILITY**

Should any portion of this ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected.

## **SECTION IV - DEFINITIONS**

- A. Light fixture means any device intended to produce outdoor illumination.
- B. "Dark Sky"<sup>1</sup> fixture means any light fixture that emits its light below 90 degrees when measured from 0 to 180 degrees vertical. Dark Sky fixtures keep most of their light from reaching the night sky.
- C. "Dark Sky Cutoff" fixture means any light fixture that emits its light below 45 degrees when measured from 0 to 180 degrees vertical. Dark Sky Cutoff fixtures keep most of their light from reaching the night sky and also minimize ground reflection and reduce light scatter beyond the property line.
- D. "Dark Sky Shade" means anything that is used to shade a light

fixture so that it behaves as a Dark Sky fixture. These include but are not limited to, for example, fixtures outfitted with caps or housings or installed under canopies, building overhangs, roof eaves or shaded by other structures, objects or devices.

- E. "Dark Sky Shield" means anything that is used to shield a light fixture so that it behaves as a Dark Sky Cutoff fixture. These include but are not limited to, for example, fixtures outfitted with caps or housings or installed under canopies, building overhangs, roof eaves or shielded by other structures, objects or devices.
- F. "Motion sensor" means any device that turns a light fixture on when it detects motion and off when motion stops.
- G. "Switch" means any device that can be manually controlled by a person to turn a light fixture on and off. For the purpose of this ordinance, switches include motion sensors but switches do not include light sensors or timers.
- H. "Emergency" refers to lighting as required by civil officers, agents and officials to perform their duties to maintain the public health, safety and welfare.
- I. "Temporary" refers to lighting as required by citizens to carry out legally approved activities for durations as specified in the permits for those activities. These include but are not limited to, for example, activities such as nighttime agricultural operations, construction work lighting, and seasonal decorations, but in no case for more than a period of 3 months without an exemption granted by the Town of Springdale.
- J. "Photocell" refers to an automatic means of turning lights on at dusk and off in daylight.
- K. "Timers/Timeclocks" mean an electric-mechanical device to turn on lights at a predetermined time and off at a predetermined time.
- L. Dusk-to-Dawn Lights means any light that automatically turns on in low light conditions and automatically turns off in lighted conditions with no switch to override the automatic operation of the light.

## **SECTION V - GENERAL PROHIBITION OF NON-DARK SKY LIGHTS AND FIXTURES**

Non-Dark Sky fixtures and Dusk-to-Dawn Lights are prohibited in the Town of Springdale unless they are permitted by this ordinance.

## **SECTION VI - LIGHT FIXTURES PERMITTED BY THIS ORDINANCE**

- A. All Non-Dark Sky light fixtures and Dusk-to-Dawn Lights that were installed prior to the effective date of this ordinance are grandfathered, approved and permitted by this ordinance.
- B. All light fixtures that are Dark Sky fixtures and Dark Sky Cutoff fixtures are approved and permitted by this ordinance.
- C. All light fixtures that have a Dark Sky Shade or a Dark Sky Shield are approved and permitted by this ordinance.
- D. All light fixtures that were installed prior to the effective date of this ordinance may be repaired instead of being replaced at the

owner's discretion.

#### **SECTION VII - REPLACEMENT OF NON-DARK SKY FIXTURES**

- A. When a Non-Dark Sky fixture is replaced it shall be replaced with one of the following:
  - 1. Dark Sky fixture, or
  - 2. Dark Sky Cutoff fixture, or
  - 3. Non-Dark Sky fixture that has a Dark Sky Shade or a Dark Sky Shield that causes it to operate as if it were a Dark Sky fixture or a Dark Sky Cutoff fixture.

#### **SECTION VIII - INSTALLATION OF NEW DARK SKY FIXTURES AND DARK SKY CUTOFF FIXTURES**

- A. When a new light fixture is installed, it shall be installed with a switch to allow it to be manually turned on and off or with a motion sensor to automatically turn it on when motion is detected and turn it off when motion ends.
- B. Lights may also be installed with short-period timers but not dawn to dusk lights, except for agricultural uses as defined in Section 2 of the Town of Springdale Land Use Plan.

#### **SECTION IX - LIGHT FIXTURES ENCOURAGED BUT NOT REQUIRED UNDER THIS ORDINANCE**

- A. Light fixtures with motion sensors are encouraged to minimize the duration of nighttime lighting
- B. Light fixtures with soft yellow or orange lights instead of harsh white lights are encouraged to protect the view of the night sky.
- C. Dark Sky Shades and Dark Sky Shields are encouraged for old existing fixtures to protect the view of the night sky, minimize ground reflection and reduce light scatter beyond the property line.
- D. Dark Sky Cutoff fixtures are encouraged where light fixtures are mounted on structures or poles higher than the first level above ground level to protect the view of the night sky, minimize ground reflection and reduce light scatter beyond the property line.

#### **SECTION X - EXEMPTIONS**

- A. The Town of Springdale Board may allow Exemptions from this ordinance as needed to relieve any unusual circumstances or difficulties or costs that would be encountered if an attempt were made to comply with this ordinance.
- B. The Town of Springdale Board may allow Exemptions from this ordinance to recognize that a good faith attempt has been made to comply with this ordinance but compliance is still not possible due to unusual circumstances or difficulties or costs encountered.
- C. Lights for a specific purpose and time duration that do not fit the classification of temporary or seasonal lighting and the purpose served cannot be accommodated with a Dark Sky fixture shade or shield.

**SECTION XI - LIABILITY**

A person utilizing or maintaining an outdoor light shall be responsible for all costs and any other liability resulting from failure to comply with this ordinance. Responsibility for costs and liability begins from and after the day after passage and publication of this ordinance as required by law.

**SECTION XII - ENFORCEMENT AND PENALTIES**

- A. The Town Building Inspector and Town Board are authorized to enforce the provisions of this ordinance.
- B. The Town Building Inspector shall review all electrical permit applications for compliance with this Ordinance and shall inspect all electrical installations involving outside lighting for compliance.
- C. The penalty for violation of any portion of this ordinance shall be:
  - 1. First violation: A notice to the property owner requesting compliance within 6 months.
  - 2. Second violation: If after 6 months no Exemption from this ordinance has been granted and there is continued non-compliance, a forfeiture of \$100 plus the cost of prosecution, including actual reasonable attorney’s fees. Penalties are doubled for third and subsequent offense

**SECTION XIII - DISCLAIMER**

The Town of Springdale does not, by approving or disapproving a lighting fixture, warranty or make assurance of any kind whatsoever, specifically as to whether the subject of the approval or disapproval is safe, suitable for its intended purpose, merchantable, or in compliance with any applicable codes or regulations.

**SECTION XIV - EFFECTIVE DATE**

This ordinance is effective on publication or posting. This ordinance shall not apply to lighting installed pursuant to an existing electrical permit, issue prior to publication of this ordinance.

The town clerk shall properly publish this ordinance as required under s. 60.80. Wis. stats. Adopted this 17th day of March, 2014.

\_\_\_\_\_  
Ed Eloranta, Chairman

\_\_\_\_\_  
Richard Schwenn, Supervisor

\_\_\_\_\_  
Jeff Smith, Supervisor

\_\_\_\_\_  
Attest: Vicki Andersen, Town Clerk

Post: March 21, 2014                      Publish: March 27, 2014

**Signed Copy on File**

## **Chapter 108-16 Outdoor Lighting**

[Sec 108-16-1 Purpose And Intent](#)

[Sec 108-16-2 Applicability](#)

[Sec 108-16-3 General Standards](#)

[Sec 108-16-4 Specific Standards](#)

[Sec 108-16-5 Exemptions](#)

[Sec 108-16-6 Procedures For Compliance](#)

[Sec 108-16-7 Required Replacement Of Nonconforming Outdoor Lighting](#)

[Sec 108-16-8 Violations, Enforcement, And Implementation](#)

[Sec 108-16-9 Examples Of Direct Artificial Light](#)

[Sec 108-16-10 Examples Of Unshielded And Shielded Light Sources](#)

[Sec 108-16-10 Examples Of Unshielded And Shielded Light Sources\\*](#)

[Sec 108-16-11 Example Of Light Trespass](#)

[Sec 108-16-12 Standard Kelvin Temperature Chart](#)

[Sec 108-16-13 Example Of Canopy Lighting](#)

[Sec 108-16-14 Example Of Parking Lot Lighting](#)

[Sec 108-16-15 Example Of Recreation Facility Lighting](#)

**Editor's note**—Ord. No. 2017-24, Exh. B, adopted June 27, 2017, effectively repealed the former titl. 108, ch. 16, §§ 108-16-1—108-16-10, and enacted a new ch. 16 as set out herein. The former ch. 16 pertained to Ogden Valley lighting and derived from §§ 39-1—39-10 of an ordinance adopted in 1956; Ord. No. 2000-3; Ord. No. 2003-18.

### HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

## **Sec 108-16-1 Purpose And Intent**

The purpose and intent of this chapter is to promote the community character of the Ogden Valley, as provided for in the Ogden Valley general plan, and other areas of the County and may be applicable, by providing regulations and encouragement for the preservation of a dark sky. This chapter is also intended to promote the health, safety, and general welfare of Ogden Valley and other County residents and visitors by:

- (a) Reducing, eliminating, or preventing light trespass;
- (b) Reducing, eliminating, or preventing unnecessary or inappropriate outdoor lighting;
- (c) Reducing, eliminating, or preventing the effects of outdoor lighting on wildlife;
- (d) Preventing unsightly and unsafe glare;
- (e) Promoting energy conservation;
- (f) Maintaining nighttime safety, utility, and security;
- (g) Encouraging a minimal light footprint of land uses in order to reduce light pollution; and
- (h) Promoting and supporting astrotourism and recreation, including the pursuit or retention of accreditation of local parks by the International Dark-Sky Association.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

### HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

**Sec 108-16-2 Applicability**

In the Ogden Valley, and other areas of the County as may be provided in this Land Use Code, the following apply:

- (a) *New outdoor lighting.* All outdoor lighting installed after August 1, 2017, shall conform to the requirements established by this chapter.
- (b) *Existing outdoor lighting.* Except as provided in subsection (c) below, all existing outdoor lighting that does not meet the requirements of this chapter and is not exempted by this chapter shall be considered a nonconforming use and as such shall be phased out as outlined in section 108-16-7 of this chapter.
- (c) *Lighting for residential use.* Except as may be provided in section 108-16-7, the lighting standards of this chapter are not mandatory for a single-family, two-family, or three-family dwelling in existence or approved on or before August 1, 2017. The county shall employ educational methods and incentives to encourage voluntary compliance for these residential uses.
- (d) *Conflict.* Should this chapter be found to be in conflict with other sections of this code, the more restrictive shall apply.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

**HISTORY**

Amended by Ord. [2020-8](#) on 6/16/2020

**Sec 108-16-3 General Standards**

- (a) *Light shielding and direction.* Unless specifically exempted in section 108-16-5, all outdoor lighting shall be fully shielded and downward directed in compliance with the following, examples of which are graphically depicted in section 108-16-10:
  - (1) No artificial light source shall project direct artificial light into the nighttime sky.
  - (2) No artificial light source shall be placed at a location, angle, or height that creates a light trespass, as defined in section 101-1-7 and graphically depicted in section 108-16-11.
  - (3) The shielding shall be made of completely opaque material such that light escapes only through the bottom. Shielding that is translucent, transparent, has perforations or slits of any kind, or allows light to escape through it in any other manner is not permitted.
  - (4) Shielding may be attained by light fixture design, building design, or other site design features such as fencing, walls, landscaping, or other screening, provided it is in strict compliance with subsections (a)(1) through (3) of this section.
  - (5) To ensure light does not trespass on neighboring property, light fixtures that comply with the shielding provisions of this section may also require additional or extended shielding elements to further mitigate its angle of light travel to ensure the direct artificial light source does not trespass on neighboring property. This concept is graphically depicted in section 108-16-11.
- (b) *Light color.* Unless otherwise specified in this chapter, the color of any outdoor artificial light source shall be equal to or less than 3000K, in accordance with the standard Kelvin temperature chart, as graphically depicted in section 108-16-12.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

**Sec 108-16-4 Specific Standards**

In addition to the general standards of section 108-16-3. The following are specific standards that apply to all commercial, industrial, manufacturing, public and quasi-public, institutional, recreation, and resort uses, and multiple-family dwellings as defined in Section 101-1-7:

- (a) *Light curfew.* Unless exempt in section 108-16-5, outdoor lighting shall be turned off by 10:00 p.m., or, if applicable, within one hour after the close of business, whichever is later, except the following, so long as they are activated by a motion sensor controller that is set to extinguish the light source within two minutes after the last detection of motion:
  - (1) Lighting to illuminate the building's point of only building;
  - (2) Safety lighting of parking lots and pedestrian areas;
  - (3) Limited lighting that is absolutely necessary for after-hours business.
- (b) *Flashing or flickering light.* No flickering or flashing lights shall be permitted.
- (c) *Canopy lighting.* All direct artificial light sources shall be sufficiently recessed so as not to project direct light greater than five feet from the outside perimeter of the canopy, and shall not produce more than a ratio of eight lumens per square foot of canopy area. This ratio shall be calculated by combining the total lumen output of each artificial light source and dividing by the square footage of the canopy. See section 108-16-13 for a graphic depiction.
- (d) *Parking lot lighting.* All artificial light sources in open-air parking lots shall not exceed a ratio of two lumens per square foot of parking lot area. This ratio shall be calculated by combining the total lumen output of each artificial light source divided by the square footage of the parking lot area. See section 108-16-14 for a graphic depiction.
- (e) *Recreation facility lighting.* Recreation facility lighting, as defined in section 101-1-7, shall comply with the following:
  - (1) The lighting for the recreation activity area shall only be directed onto the area where the recreation activities are occurring. It shall not be allowed to illuminate surfaces that are not essential to the function of the recreation activity.
    - a. The lighting shall not exceed a ratio of 10 lumens per square foot of recreation activity area. This ratio shall be calculated by combining the total lumen output of each artificial light source divided by the square footage of the recreation activity area. See section 108-16-15 for a graphic depiction.
    - b. The recreation activity area shall be lit only when it is in use.
    - c. The light color standard of 108-16-3 does not apply to lighting for the recreation activity area.
- (f) *Sign lighting.* Sign lighting shall comply with the requirements of 110-2-12.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

## **Sec 108-16-5 Exemptions**

The following artificial light sources are exempt from the requirements of this chapter:

- (a) *Agricultural lighting.* Lighting for agricultural uses;
- (b) *Federal and state flag lighting.* The outdoor lighting of a United States or State of Utah official flag, provided it is in compliance with the following:
  - (1) The light shall be downward directed from the top of the flag pole;
  - (2) The light shall be as narrow a beam as possible and aimed and shielded to illuminate, to the best effort practicable, only the area which the flag occupies in all wind conditions; and
  - (3) The light level shall be minimized to create the least amount of impact on the dark sky, while still offering noticeable illumination of the flag;
- (c) *Federal and state facilities lighting.* Federal and state facilities are exempt from the requirements of this chapter. However, they are encouraged to cooperate and to coordinate with the county during the construction of their facilities to be in compliance with this chapter;
- (d) *Fossil fuel lighting.* Fossil fuel light, produced directly by the combustion of natural gas or other utility-type fossil fuels;
- (e) *Holiday or festive lighting.* Holiday or festive outdoor lighting for residential uses, provided it is in compliance with the following:
  - (1) That the lighting shall not create a hazard or glare nuisance; and
  - (2) That the lighting shall be temporary in nature and not permanently installed. It shall be removed within a reasonable time after the end of the holiday or festive event, but at least once per year;
- (f) *Low output light source.* An artificial light source having an output equal to or less than 105 lumens, provided that the cumulative lumen output of all low output light sources shall not exceed a ratio of one and one-half lumens per square foot of cumulative area intended to be illuminated. This ratio shall be calculated by combining the total lumen output of each low output light source divided by the square footage of the area intended to be illuminated. The low output light sources shall be distributed across the area intended to be illuminated and not organized in a focused location. Low output light sources are exempt from the requirements of this chapter so long as they comply with the definition and use outlined in this section, except that a low output light source may not be integrated into a new or replacement outdoor light fixture that is either:
  - (1) rated to produce a lighting output that exceeds 105 lumens; or
  - (2) does not conform to the shielding requirements of section 108-16-3(a);
- (g) *Mobile lighting.* Lighting affixed to a vehicle, provided the lighting is not intended for the stationary illumination of an area;
- (h) *Motion sensor controlled light source with an integrated camera system.* A motion controlled artificial light source with an integrated camera system, provided it is in compliance with the following:
  - (1) The light output is equal to or less than 1,800 lumens;
  - (2) The color temperature of the light source does not exceed 5,000 degrees kelvin;
  - (3) The motion sensor is set to turn the artificial light source off two minutes after the last

detection of motion;

(4) Lighting shall not be triggered by any activity outside the property boundary; and

(5) The artificial light source is sufficiently shielded in a manner that prevents light trespass;

(i) *Safety or security lighting.* For the sole purpose of mitigating legitimate and verifiable safety or security hazards, the land use authority may exempt an artificial light source if it is shown to be necessary. The land use authority may apply reasonable conditions to ensure optimal compliance with the purpose and intent of this chapter. Evidence demonstrating that it is necessary shall be one or both of the following:

(1) Submitted proof of lighting requirements from a property insurance company that demonstrates that compliance with this chapter will render the property uninsurable. The minimum amount of lighting required by the property insurance company shall be considered the maximum for the purposes of this chapter; or

(2) Submitted reasonable research findings, from a qualified professional, as defined by section 101-1-7, that offer a compelling argument for the need for the exemption. However, if the land use authority is aware of other research findings that refute what is submitted, then the land use authority must determine which research findings are more persuasive under the circumstances. If the land use authority grants the exemption, then the minimum amount of lighting necessary to ensure appropriate safety or security, as recommended by the qualified professional, shall be considered the maximum for the purposes of this chapter;

(j) *Occasional event lighting.* Outdoor lighting intended for an occasional event, such as a wedding, party, social gathering, or other similar event that occurs on an occasional basis, provided it is in compliance with the following:

(1) Occasional event lighting shall be turned off by 10:30 p.m. and any remaining lighting shall comply with this chapter; and

(2) Occasional events shall not occur more than twice per month;

(k) *Underwater lighting.* Underwater lighting in a swimming pool or other water feature provided it is not intended to illuminate features above water;

(l) *Temporary public agency lighting.* Temporary outdoor lighting in use by law enforcement or a government agency or at their direction;

(m) *Tower lighting.* Tower lighting required by the FAA or the FCC, provided that it shall not exceed the minimum requirements of those agencies. Collision markers shall have a dual mode for day and night to minimize impact to the night sky and migrating birds; and

(n) *Traffic control devices.* Traffic control devices and signals.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

#### HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

### **Sec 108-16-6 Procedures For Compliance**

(a) *Applications.* Any application for a permit or approval required by this Land Use Code shall contain evidence that the proposed work complies with this chapter.

(b) *Contents of application or submittal.*

- (1) In addition to the specific application requirements elsewhere in this Land Use Code, the application submittal shall contain the following:
  - a. Plans indicating the location of all artificial light sources on the premises, including their height above the ground.
  - b. Description of each artificial light source device, and supporting structure. This description may include, but is not limited to, device specifications from the manufacturer, drawings, details, and cross sections, when available.
- (2) The required plans and descriptions set forth in subsection (b)(1) of this section shall be complete and shall be presented in a manner that clearly demonstrates compliance with this chapter. The land use authority may require the applicant to submit photometric schematics and attestation from a qualified professional that the submittal complies with this chapter.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

### **Sec 108-16-7 Required Replacement Of Nonconforming Outdoor Lighting**

After the effect of this chapter, which is August 1, 2017, all outdoor lighting that does not comply with the requirements of this chapter shall be considered nonconforming outdoor lighting. All nonconforming outdoor lighting shall be phased out in accordance with the following schedule:

- (a) *Lighting conversion.* Except for outdoor lighting for a single-family, two-family, or three-family dwelling in existence or approved on or before August 1, 2017, any nonconforming outdoor artificial light source shall be terminated, replaced, or retrofitted to conform to the requirements of this chapter within ten years after the effect of this chapter. The county shall provide periodic public notice of the effect, of this chapter. The county shall employ educational methods and incentives to encourage voluntary compliance prior to this 10-year period and to assist the public in understanding and complying with this chapter;
- (b) *Lighting replacement.* The replacement of any nonconforming outdoor artificial light source shall comply with the requirements of this chapter;
- (c) *Building exterior modification.* When the replacement of a building's exterior materials exceeds 25 percent of the building's exterior area, excluding roof area, whether by a single modification project or by an accumulation of separate modification projects, all nonconforming outdoor lighting on the premises on or within 25 feet of the building shall be brought into compliance with the requirements of this chapter. This shall not include repainting or re-roofing.
- (d) *Building expansion.* When a building's expansion exceeds the threshold established in this subsection, whether by a single expansion project or by an accumulation of separate expansion projects, all nonconforming outdoor lighting on the premises on or within 25 feet of the building shall be brought into compliance with the requirements of this chapter. The established threshold of expansion shall be the smaller of the following:
  - (1) Twenty-five percent of the total area of the building as it exists on August 1, 2017; or
  - (2) Two thousand five hundred square feet; and
- (e) *Site improvements.* When a site improvement which requires a land use permit, conditional use permit, or design review approval, modifies an area that exceeds the threshold established in this subsection, whether by a single modification project or by an accumulation of separate modification projects, all nonconforming outdoor lighting on the premises shall be brought into

compliance with the requirements of this chapter. The established threshold of modification shall be the smaller of the following:

- (1) Twenty-five percent of the site area; or
- (2) Twenty thousand square feet.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

**Sec 108-16-8 Violations, Enforcement, And Implementation**

(a) *Violations.* The following constitute violations of this chapter:

- (1) The installation, maintenance, or operation of any outdoor artificial light source not in compliance with the provisions of this chapter.
- (2) The alteration of any outdoor artificial light source after outdoor lighting plan approval without the review and approval of the land use authority when such alteration does not conform to the provisions of this chapter.
- (3) Failure to shield, correct, or remove lighting that is installed, operated, maintained or altered in a manner that does not comply with this chapter.

(b) *Enforcement.* Violations of this chapter are subject to enforcement and penalties as outlined in section 102-4-4.

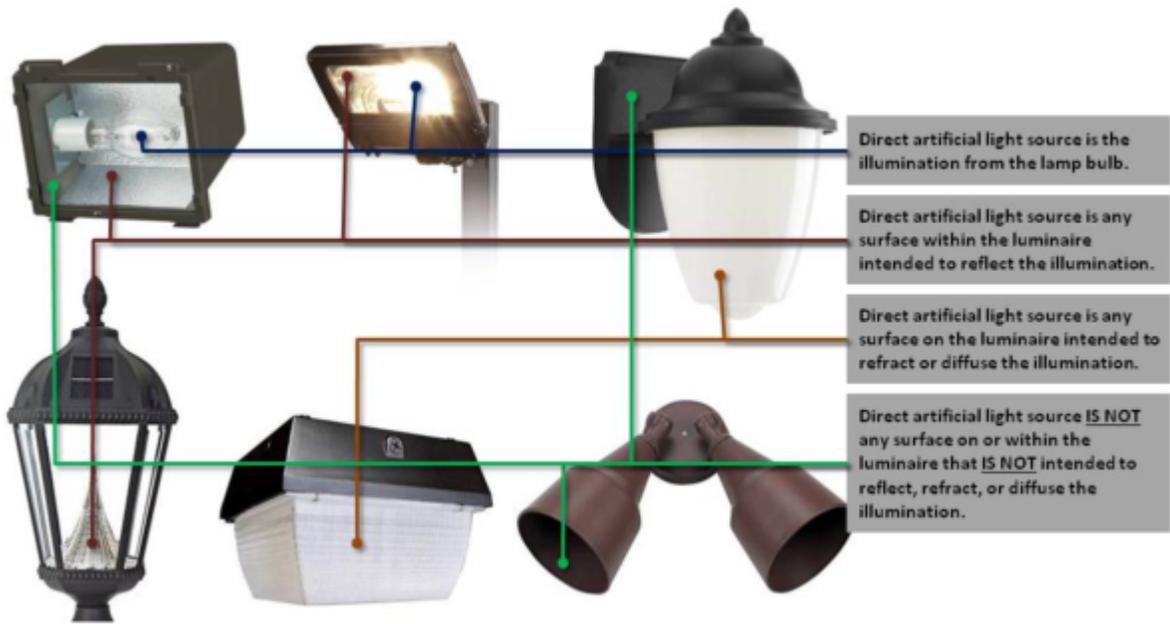
(c) *Creation of dark sky committee.* The county will create an Ogden Valley dark sky committee to include representatives as follows: one planning division employee, two Ogden Valley residents at large, two Ogden Valley Business Association members, and one individual from the Ogden Weber Chamber of Commerce. The committee's purpose shall be to advise the county on dark sky best practices, implementation strategies, incentive programs, public/private partnerships, and anything else as the county commission deems necessary.

(Ord. No. 2017-24, Exh. B, 6-27-2017)

HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

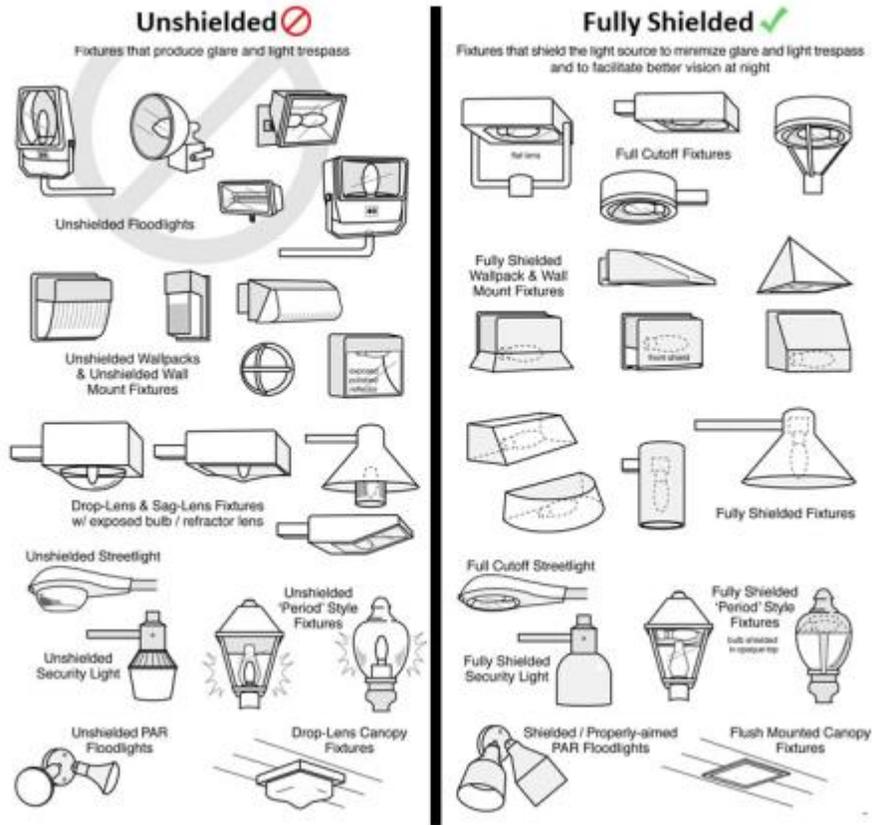
**Sec 108-16-9 Examples Of Direct Artificial Light**



(Ord. No. 2017-24, Exh. B, 6-27-2017)

**Sec 108-16-10 Examples Of Unshielded And Shielded Light Sources**

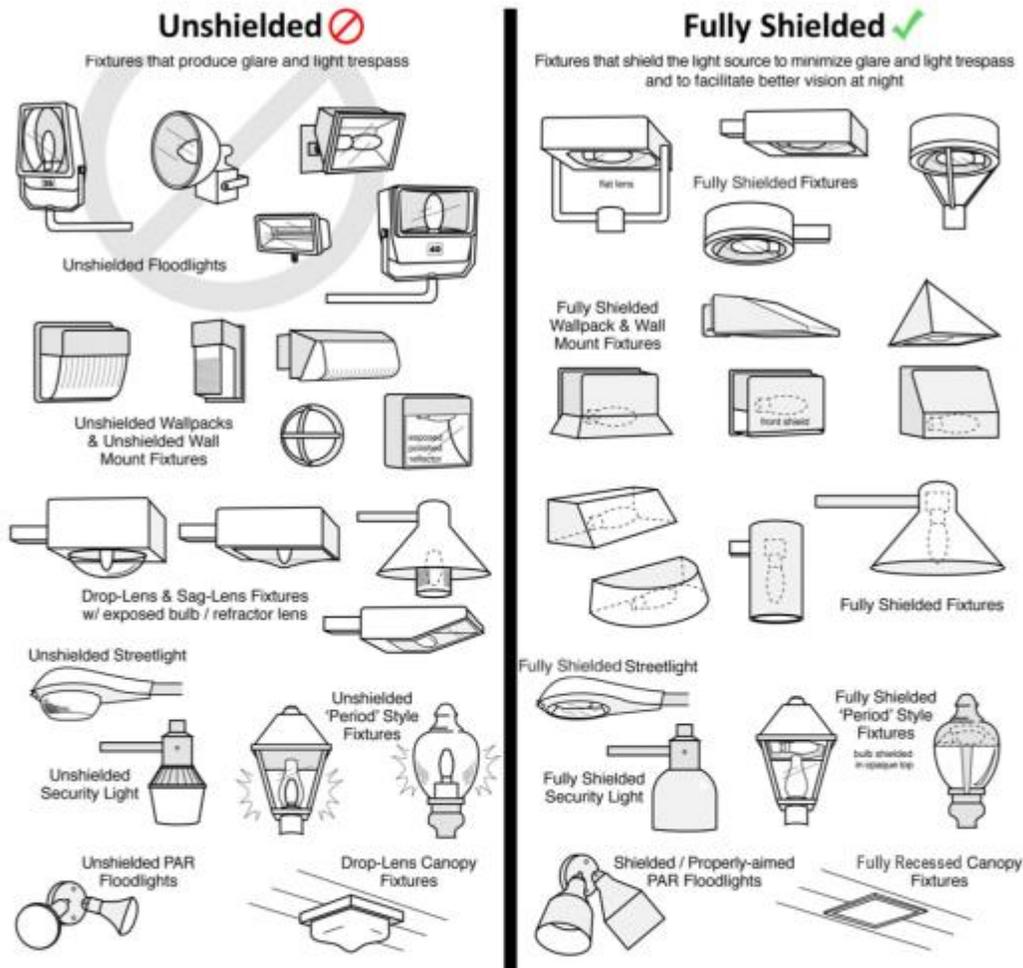




(Ord. No. 2017-24, Exh. B, 6-27-2017)

**Sec 108-16-10 Examples Of Unshielded And Shielded Light Sources\***



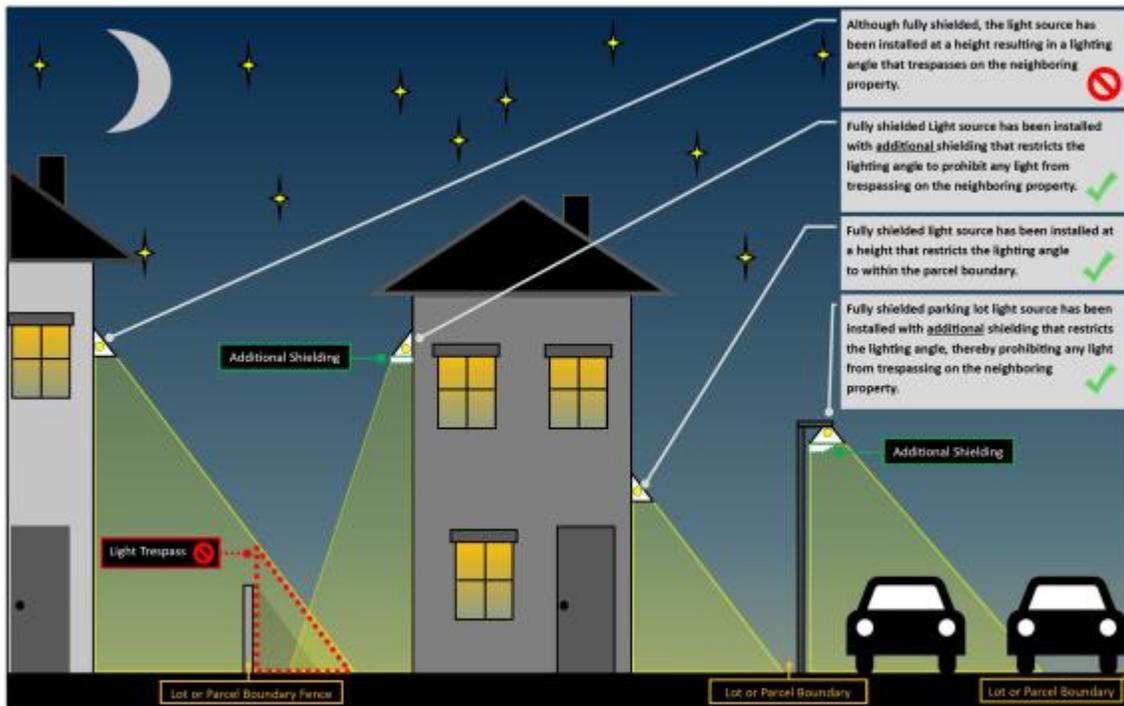
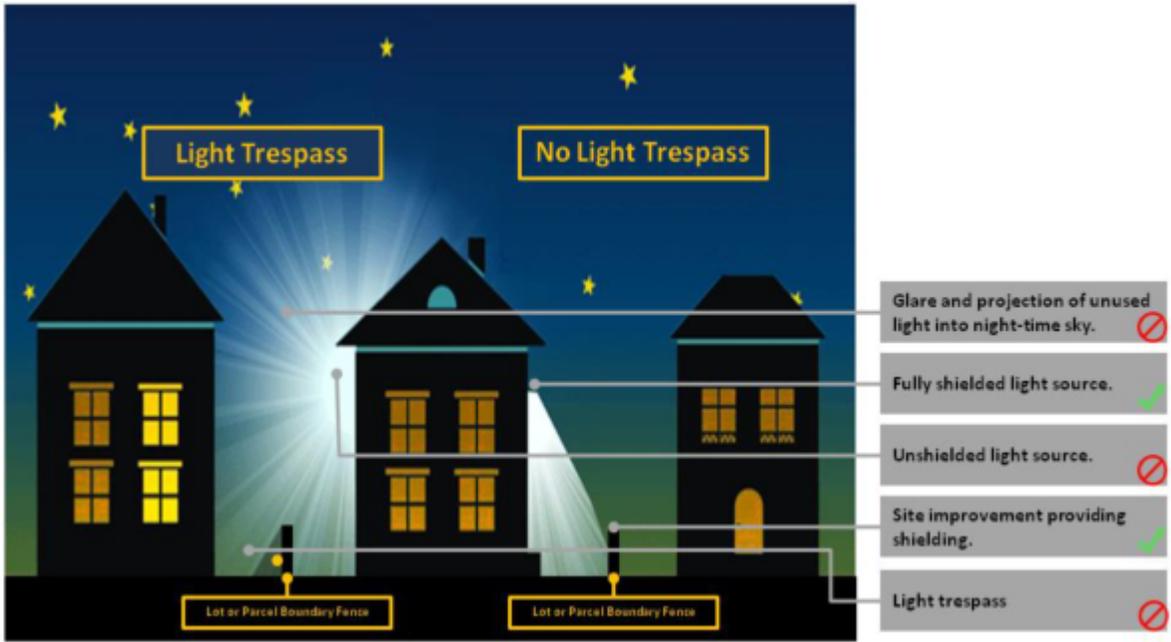


(Ord. No. 2017-24, Exh. B, 6-27-2017)

HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

**Sec 108-16-11 Example Of Light Trespass**

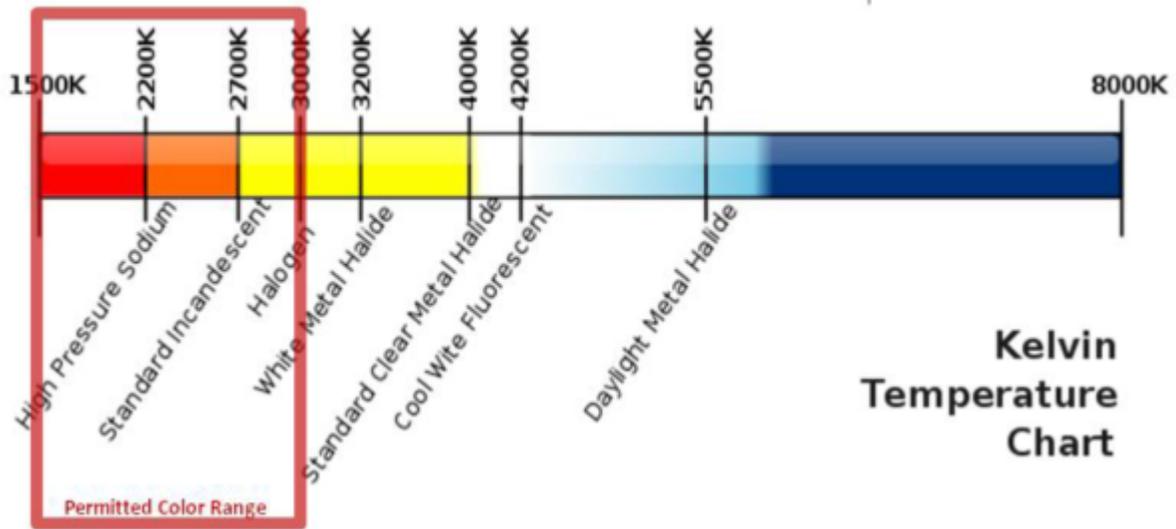


(Ord. No. 2017-24, Exh. B, 6-27-2017)

HISTORY

Amended by Ord. [2020-8](#) on 6/16/2020

**Sec 108-16-12 Standard Kelvin Temperature Chart**



(Ord. No. 2017-24, Exh. B, 6-27-2017)

**Sec 108-16-13 Example Of Canopy Lighting**

Lumen per Square Foot Ratio	
(14) 2800 Lumen Bulbs	7.78 Lumens per Square Foot of Canopy Area
5040 Square Feet of Canopy Area	

- Total combined lumens less than or equal to 8 lumens per square foot. ✓
- Fully shielded, recessed light source. Only incidental reflection. ✓
- Direct light projected no greater than five feet from canopy perimeter. ✓

(Ord. No. 2017-24, Exh. B, 6-27-2017)

**Sec 108-16-14 Example Of Parking Lot Lighting**

Lumen per Square Foot Ratio	
(60) 8000 Lumen Bulbs	1.92 Lumens per Square Foot of Parking Lot Area
250,000 Square Feet of Parking Lot Area	

- Total combined lumens less than or equal to 2 lumens per square foot. ✓
- Parking lot lighting spill-over shielded by wall. ✓
- Direct artificial light source only visible when on parking lot area. ✓
- No spill-over onto non-parking lot area. ✓

(Ord. No. 2017-24, Exh. B, 6-27-2017)

**Sec 108-16-15 Example Of Recreation Facility Lighting**



Lumen per Square Foot Ratio	
(162) 6000 Lumen Bulbs	9.72 Lumens
100,000 Square Feet of Field Area	= per Square Foot of Field Area
Total combined lumens less than or equal to 10 lumens per square foot. ✓	
Fully shielded light source. Only incidental reflection. ✓	
No spill-over onto non-recreation activity areas. ✓	
Direct artificial light source only visible when on recreation activity area. ✓	

(Ord. No. 2017-24, Exh. B, 6-27-2017)

## **6.6 Outdoor Lighting**

### **6.6.1 Purpose**

The purposes of this section are to:

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

[Ord. 588, 2019.]

### **6.6.2 Scope and Applicability**

- A.** All lighting should be consistent with and promote the purposes set forth in Section [6.6.1](#).
- B.** All exterior outdoor lighting installed after the effective date of this section in all zones in the County shall conform to the requirements established by this section. This section does not apply to indoor lighting.
- C.** All existing outdoor lighting that does not meet the requirements of this section and is not exempted by this section shall be considered a nonconforming use or part of a nonconforming structure subject to the five-year amortization schedule outlined in Section [6.6.10B.3](#).

[Ord. 588, 2019.]

### 6.6.3 Definitions

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

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

“BUG rating” means backlight, uplight, and glare rating, which exists on a scale of zero to five and describes the light output of a luminaire.



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

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

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

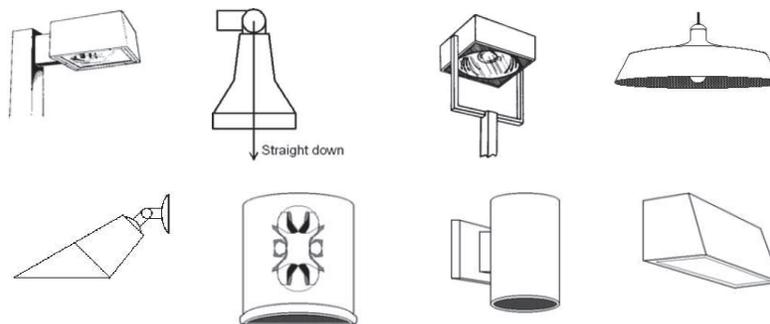
acreage.

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

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

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

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



**Examples of fully shielded light fixtures.**

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

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

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

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

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

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

**Common relationships between bulb types, wattages and lumen levels**

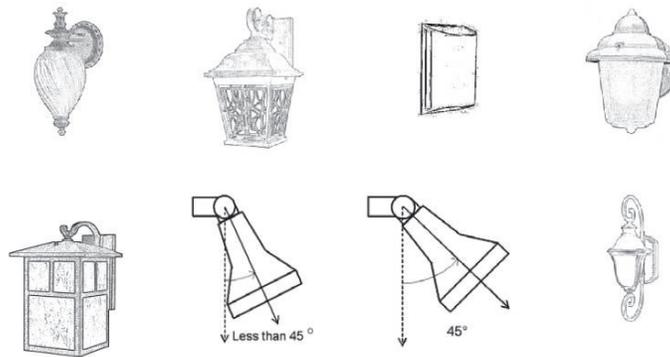
<b>Brightness in Lumens</b>	<b>220+</b>	<b>400+</b>	<b>700+</b>	<b>900+</b>	<b>1300+</b>
Standard	25W	40W	60W	75W	100W
Halogen	18W	28W	42W	53W	70W
CFL	6W	9W	12W	15W	20W
LED	4W	6W	10W	13W	18W

“Luminaire” means the same as “fixture.”

“Manufacturer’s catalog cuts” means a publication or other printed material of a bulb or lighting manufacturer offering visual and technical information about a lighting fixture or bulb.

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

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



**Examples of partially shielded lighting fixtures.**

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

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

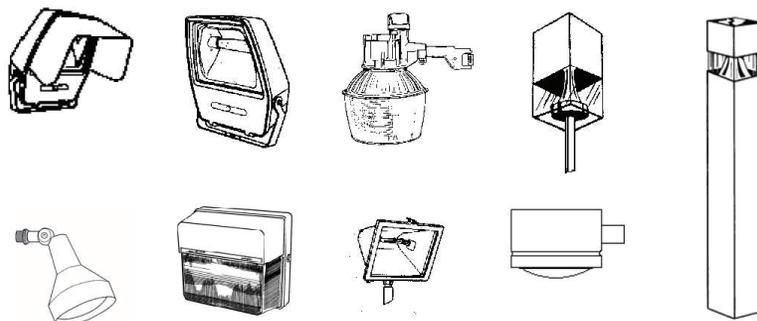
“Spotlight” means a fixture or bulb designed to light a small area very brightly. See definition of “Floodlight.”

“Total” means the sum of shielded and unshielded light.

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

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

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



### Examples of unshielded light fixtures.

“Uplight” means all the light emanating above the horizontal plane of a luminaire. [Ord. 588, 2019.]

#### 6.6.4 Fully Shielded Fixture Requirements

**A.** Unless specifically exempted by this section, all outdoor lighting shall use fully shielded fixtures and shall be installed so light is directed downward with no light emitted above the horizontal plane of the fixture. Where a light manufacturer provides a BUG rating, the uplight rating (U) must equal zero.

**B.** In order to qualify as a “fully shielded” fixture, a light fixture must have the top and sides made of completely opaque material such that light only escapes through the bottom of the fixture. Fixtures with translucent or transparent sides, or sides with perforations or slits, do not qualify as fully shielded. Any glass or diffuser on the bottom of the fixture must be flush with the fixture (no drop lenses). Merely placing a light fixture under an eave, canopy, patio cover, or other similar cover does not qualify as fully shielded.

**C.** Fixtures must not be placed at a location, angle, or height that directs illumination outside the property boundaries where the light fixtures are located.

**D.** Notwithstanding the exemptions in subsection E of this section, all residential and commercial luminaires shall be fully shielded within 25 feet of adjacent residential property lines.

#### **E. Exemptions to Fully Shielded Fixture Requirements**

1. All lights exempted by this section shall be included in the calculation for total light output.
2. Fixtures having a total light output less than 1,000 lumens are exempted from the fully shielded requirement provided the following criteria are met:
  - a. The fixture has a top that is completely opaque such that no light is directed upwards.
  - b. The fixture has sides that completely cover the light source and are made of opaque or semi-opaque material. Fixtures with opaque sides may have incidental decorative perforations that emit small amounts of light. Semi-opaque material such as dark tinted glass or translucent plastic may be used if the light source is not discernable behind the material. Completely transparent materials, such as clear or lightly tinted colored glass, are not allowed.
  - c. The light source must not be visible from any point outside the property on which the fixture is located.
3. Spotlights controlled by motion sensors having a light output less than 1,000 lumens per

lamp are exempted from the fully shielded requirement provided:

- a. The fixture is a spotlight or other type of directed light that shall be directed straight down; and
  - b. The fixture must not be placed in such a manner that results in illumination being directed outside the property boundaries where the light fixtures are located; and
  - c. Lights controlled by motion sensors shall not be triggered by movement or activity located off the property on which the light is located.
4. Pathway lights less than 18 inches in height are exempted from the fully shielded fixture requirement, if the total light output from each pathway light is less than 300 lumens.
5. Temporary exterior lighting intended as holiday or seasonal decorations displayed between November 15th and the following January 15th; provided, that individual lamps do not exceed 70 lumens and neither cause light trespass nor interfere with the reasonable use and enjoyment of any other property.
6. Traffic control signals and devices.
7. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.
8. The lighting of federal or state flags; provided, that the light is a top-down and narrow beam aimed and shielded to illuminate only the flag.
9. An applicant requesting approval for lighting that does not conform to these standards shall follow the procedures and findings requirements set forth in Section 9.14, Variances.

[Ord. 588, 2019.]

#### **6.6.5 Total Light Output**

##### **A. Commercial**

Total outdoor light output shall not exceed 50,000 lumens per developed acre. Streetlights used for illumination of public rights-of-way are excluded from this calculation. Commercial developments shall be permitted a minimum of 5,000 lumens of lighting regardless of parcel size.

1. In nonresidential zone districts, partially and unshielded lighting on a property shall not exceed 5,000 lumens per developed acre, and shall be included in the total outdoor light output calculation.

##### **B. Residential**

Total outdoor light output shall not exceed 10,000 lumens of lighting for parcels one-half acre, or larger, in size. Parcels smaller than one-half acre shall be permitted 5,000 lumens of lighting regardless of parcel size. Total outdoor light output of any multifamily residential development including five or more separate lots or units shall not exceed 20,000 lumens of lighting per developed acre.

1. In residential zones, partially and unshielded lighting on a property shall not exceed 1,000 lumens per lot, and shall be included in the total outdoor light output calculation.
2. Residential units used for overnight accommodations or other commercial uses shall comply with the residential standards for total light output.

[Ord. 588, 2019.]

#### 6.6.6 Lighting Hours

**A.** Commercial establishments shall turn off all outdoor lighting, except that listed below, by 12:00 midnight:

1. Businesses open to the public after 12:00 midnight may leave all outdoor lighting on until one hour after the close of business.
2. Lighting to illuminate the entrance to the commercial establishments.
3. Parking lot and pathway lighting required for the safety of guests or customers.

**B.** Recreational lighting (residential and commercial) shall be turned off by 10:00 p.m. or one hour after conclusion of a specific sporting event, whichever is later.

[Ord. 588, 2019.]

#### 6.6.7 Lighting Color

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



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

[Ord. 588, 2019.]

**6.6.8 Specialized Outdoor Lighting Conditions and Standards**

- A.** Gas station canopies may be illuminated provided all light fixtures are mounted on the undersurface of the canopy and all light fixtures are fully shielded. Merely placing the fixtures on the underside of the canopy does not qualify as fully shielding the light fixture.
- B.** Roadway and street lights are prohibited unless recommended by the County Engineer or required by UDOT to provide for the safety of the public. When deemed necessary, streetlights shall utilize lamp types that are fully shielded luminaires that minimize sky glow, light trespass, and other unintended impacts of artificial lighting. All streetlights shall utilize the lowest illuminance levels acceptable to the County Engineer and UDOT.
- C.** Parking lots may not utilize spot or flood lighting whether mounted on a post or exterior building wall. The overall height of any light post used to illuminate parking lots in commercial zones shall not exceed 25 feet. All post-mounted parking lot lights shall be set back from property lines a distance equal to two and one-half times the height of the pole unless an internal or external shield prevents the fixture being visible from outside the property boundaries. The overall height of any light post used to illuminate parking lots in residential zones shall not exceed 25 feet. All parking lot lighting shall use fully shielded downward directed fixtures. Internal or external shields shall prevent the fixture being visible from outside the parking lots.
- D.** Outdoor recreation areas or athletic fields at publicly owned facilities may use illumination to light the surface of play and viewing stands and for the safety of the public. The following standards shall apply to outdoor recreation area or athletic field lighting:
1. The recreational lighting does not exceed illuminance levels for class IV sports lighting set by the Illuminating Engineering Society of North America.
  2. The recreational lighting provides illuminance for the surface of play and viewing stands, and not for any other areas or applications.
  3. Off-site impacts of the lighting will be limited to the greatest practical extent possible.
  4. The lighting for areas or applications outside the surface of play and viewing stands shall conform to all provisions in this section.
  5. The recreational or athletic facility shall extinguish lighting exempted by this section no later than 10:00 p.m. or one hour after the end of play, whichever is later.
  6. The recreational lighting shall have timers that automatically extinguish lighting to ensure lights are not left on after the curfew or when the facilities are not in use.
- E.** Outdoor amphitheaters may use illumination to light the performance area of the amphitheater

and for the safety of the public. The following standards apply to all amphitheater lighting:

1. Lighting used to illuminate the performance area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.
2. Lighting used to illuminate the performance area may only be turned on during performances or rehearsals.
3. Lighting used to illuminate the seating areas, pathways, and other areas of the amphitheater must meet all standards of this section.

F. Special events may use illumination to light the event area and for the safety of the public. The following standards apply to all amphitheater lighting:

1. Lighting used to illuminate the event area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.
2. Lighting used to illuminate the event area may only be turned on during the hours event activities are open to the public or paying guests.
3. Lighting used to illuminate the seating areas, pathways, and other areas of the event must meet all standards of this section.

G. All illuminated signs shall comply with the standards of Section 6.5.

[Ord. 588, 2019.]

#### **6.6.9 Application and Review Procedures**

##### **A. Lighting Plan**

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

1. Plans or drawings indicating the proposed location of lighting fixtures, height of lighting fixtures on the premises, and type of illumination devices, lamps, supports, shielding and reflectors used and installation and electrical details.
2. Illustrations, such as contained in a manufacturer's catalog cuts, of all proposed lighting fixtures. For commercial uses, photometric diagrams of proposed lighting fixtures are also required. In the event photometric diagrams are not available, the applicant must provide sufficient information regarding the light fixture, bulb wattage, and shielding mechanisms for

the Planning Commission to be able to determine compliance with the provisions of this section.

3. A table showing the total amount of proposed exterior lights, by fixture type, wattage, lumens, and lamp type.

**B. Approval Procedure**

1. The lighting plan for all new development shall be submitted for approval concurrent with the associated application process.

2. A certificate of occupancy shall not be issued until such time as the property is subject to a post installation nighttime inspection by the Planning and Zoning Administrator.

[Ord. 588, 2019.]

**6.6.10 Amortization of Nonconforming Outdoor Lighting**

A. The County shall require the termination of use of any and all nonconforming outdoor lighting fixtures, structures, lamps, bulbs or other devices that emit or generate light which are not otherwise exempted by this section, pursuant to the amortization schedule contained in subsection B of this section.

B. All outdoor lighting legally existing and installed prior to the effective date of this section, and which is not otherwise exempted, shall be considered nonconforming and shall be brought into compliance by the property owner as follows:

1. Immediately as a condition for approval upon application for a building permit, sign permit, conditional use permit, new (nonrenewal) business license, site plan review or similar County permit or review.

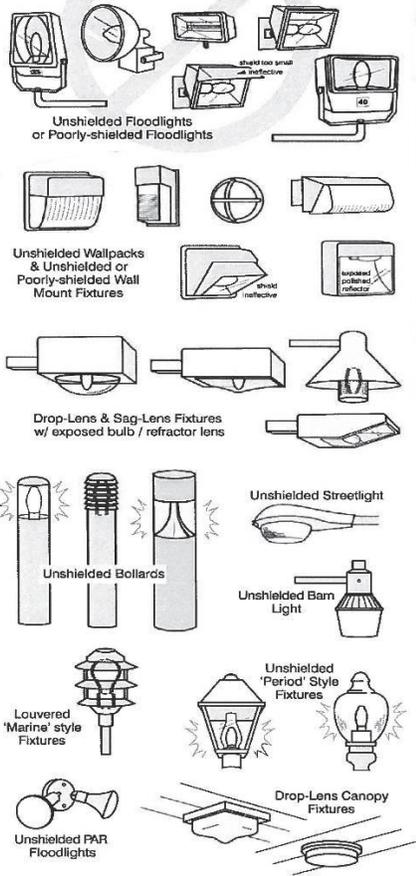
2. Immediately in the case of damaged or inoperative nonconforming lighting upon replacement or repair.

3. Within five years from the effective date of this section for all other outdoor lighting.

Additional Images:

### Examples of Acceptable / Unacceptable Lighting Fixtures

#### Unacceptable / Discouraged Fixtures that produce glare and light trespass



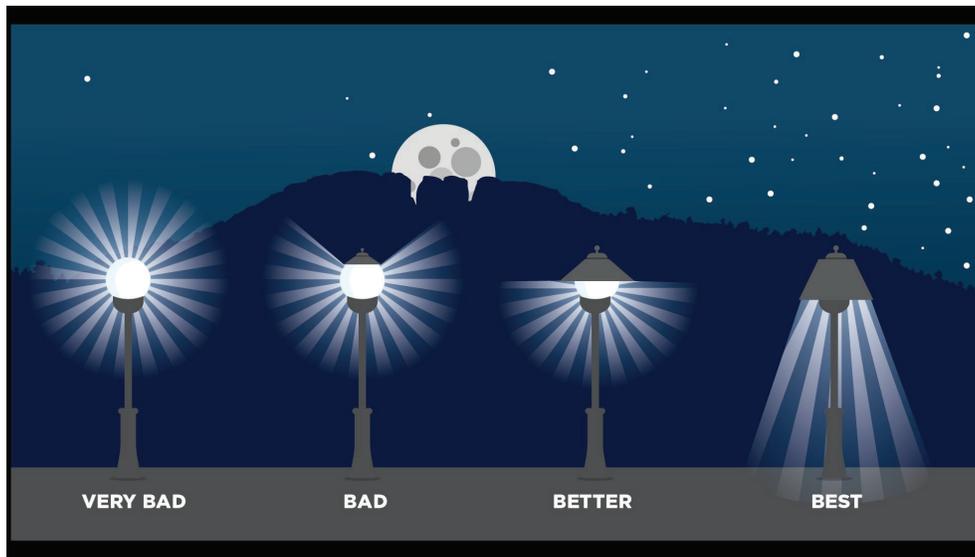
#### Acceptable

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



Illustrations by Bob Crelin © 2008. Rendered for the Town of Southampton, NY. Used with permission.

Used by permission



[Ord. 588, 2019.]



**Illuminating**  
ENGINEERING SOCIETY



**JOINT IDA - IES**

**MODEL**

**LIGHTING**

**ORDINANCE**

**(MLO)**

**with USER'S GUIDE**

**June 15, 2011**

## The User Notes

The User Notes are intended to clarify the sections of the MLO for the various audiences who will use it: lighting designers, city officials, engineers, citizen groups, and others. Every effort has been made to keep the language technically accurate and clear, but since different disciplines may use the same term in different ways, or have different interpretations, some guidance may be helpful. While these Notes can not be a full tutorial on modern lighting design, it is hoped that the Notes will help facilitate the dialogue necessary to adopt the MLO.

## Background

The problems of light pollution first became an issue in the 1970s when astronomers identified the degradation of the night sky due to the increase in lighting associated with development and growth. As more impacts to the environment by lighting have been identified, an international “dark sky” movement is advocating for the precautionary approach to outdoor lighting design.

Many communities have passed anti-light-pollution laws and ordinances. However, there is little or no agreement among these laws, and they vary considerably in language, technical quality, and stringency. This is confusing for designers, engineers, and code officials. The lack of a common basis prevents the development of standards, educational programs, and other means of achieving the goal of effective lighting control.

This MLO will allow communities to drastically reduce light pollution and glare and lower excessive light levels. The recommended practices of the IES can be met using readily available, reasonably priced lighting equipment. However, many conventional lighting practices will no longer be permitted, or will require special permits.

This Model Lighting Ordinance (MLO) is the result of extensive efforts by the International Dark Sky Association (IDA) and the Illuminating

Engineering Society of North America (IES). Among its features is the use of lighting zones (LZ0-4) which allow each governing body to vary the stringency of lighting restrictions according to the sensitivity of the area as well as accommodating community intent. In this way, communities can fine-tune the impact of the MLO without having to customize the MLO. The MLO also incorporates the Backlight-Uplight-Glare (BUG) rating system for luminaires, which provides more effective control of unwanted light.

Joint IDA-IESNA  
Model Outdoor Lighting  
Ordinance (MLO)

June 15, 2011

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**General Notes in Adopting this Model Ordinance**

Adoption of this ordinance should follow the established development, review, and approval processes of the adopting authority. If no such processes are in place, this ordinance may be adopted as a new independent section of the Municipal Code.

The MLO is probably best adopted as an “overlay zoning” ordinance. This means that it overlays, but is different from, land-use zoning. It can be added to or integrated into existing ordinances or codes and cross-referenced to other applicable codes and ordinances such as the electrical code, the sign code, planning ordinances, etc.

The MLO may best be managed by assigning it to planning officials and using existing administrative structures.

Because of the diverse community and lighting needs across large areas, this MLO is not intended for adoption as a state, provincial or national ordinance. Regional coordination is encouraged. Light pollution knows no boundaries, and the effects of polluting light persist as far as 200 kilometers (about 120 miles) from the source. One large city could adopt the MLO and dramatically affect a region, but adoption in suburbs and small towns must be part of a regional effort to achieve significant improvements in the overall quality of the night sky.

Adopting agencies should also consider that the MLO, like all other modern codes, is designed to evolve over time. Lighting technology will change, and MLO changes will be needed every few years. On-going renewal cycles are strongly recommended as any part of an adopting ordinance.

**MLO Development and Task Force Members**

This Model Lighting Ordinance has been developed as a joint undertaking by the Illuminating Engineering Society and the International Dark-Sky Association.

The Joint Task Force responsible for developing the MLO include

IDA  
Co-Chair: Jim Benya  
Co-Chair: Nancy Clanton  
Leslie Lipstein  
Leo Smith  
Michael Mutmansky

IES  
Naomi Miller  
Cheryl English  
Denis Lavoie  
Eric Gibson

John Walter representing the electric utility industry also contributed as a member of the Joint Task Force.

**I. PREAMBLE - User's Guide**

In general, the preamble is part of the ordinance but is typically not part of the code. It establishes the reasons why the municipality is undertaking these regulations.

Local governments may add other purposes to the Preamble including established local government environmental or energy goals that support the model lighting ordinance. The environmental impacts of outdoor lighting fall into two categories: carbon footprint (energy used in the life of a lighting product) and obtrusive light.

CARBON FOOTPRINT	OBTRUSIVE LIGHT
Cost & Impact of Mining the Materials Used	Impact on Humans
Energy Used in Production	Impact on the Environment
Energy Used during Product Life	
Disposal/Recycling Costs	

**II. LIGHTING ZONES - User's Guide**

Lighting zones reflect the base (or ambient) light levels desired by a community. The use of lighting zones (LZ) was originally developed by the International Commission on Illumination (CIE) and appeared first in the US in IES Recommended Practice for Exterior Environmental Lighting, RP-33-99.

It is recommended that lower lighting zone(s) be given preference when establishing zoning criteria. Selection of lighting zone or zones should be based not on existing conditions but rather on the type of lighting environments the jurisdiction seeks to achieve. For instance, new development on previously rural or undeveloped land may be zoned as LZ-1. Using lighting zones allows a great deal of flexibility and customization without the burden of excessive regulation. For example, a jurisdiction may choose to establish vertical lighting zones with the lighting zone at street level at a higher zone than the residential housing on upper levels.

**I. PREAMBLE - Ordinance Text**

The purpose of this Ordinance is to provide regulations for outdoor lighting that will:

- a. Permit the use of outdoor lighting that does not exceed the minimum levels specified in IES recommended practices for night-time safety, utility, security, productivity, enjoyment, and commerce.
- b. Minimize adverse offsite impacts of lighting such as light trespass, and obtrusive light.
- c. Curtail light pollution, reduce skyglow and improve the nighttime environment for astronomy.
- d. Help protect the natural environment from the adverse effects of night lighting from gas or electric sources.
- e. Conserve energy and resources to the greatest extent possible.

**II. LIGHTING ZONES - Ordinance Text**

The Lighting Zone shall determine the limitations for lighting as specified in this ordinance. The Lighting Zones shall be as follows:

**LZ0: No ambient lighting**

Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.

**II. LIGHTING ZONES (cont.) - User's Guide**

**II. LIGHTING ZONES (cont.) - Ordinance Text**

However, if an adjacent use could be adversely impacted by allowable lighting, the adopting authority may require that a particular site meet the requirements for a lower lighting zone. For example, the authority could specify Lighting Zone 1 or 2 requirements if a commercial development were adjacent to a residence, hospital or open space, or to any land assigned to a lower zone.

**LZ1: Low ambient lighting**

Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.

Lighting zones are best implemented as an overlay to the established zoning especially in communities where a variety of zone districts exists within a defined area or along an arterial street. Where zone districts are cohesive, it may be possible to assign lighting zones to established land use zoning. It is recommended that the lighting zone includes churches, schools, parks, and other uses embedded within residential communities.

**LZ2: Moderate ambient lighting**

Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.

Zone	Recommended Uses or Areas	Zoning Considerations
LZ-0	Lighting Zone 0 should be applied to areas in which permanent lighting is not expected and when used, is limited in the amount of lighting and the period of operation. LZ-0 typically includes undeveloped areas of open space, wilderness parks and preserves, areas near astronomical observatories, or any other area where the protection of a dark environment is critical. Special review should be required for any permanent lighting in this zone. Some rural communities may choose to adopt LZ-0 for residential areas.	Recommended default zone for wilderness areas, parks and preserves, and undeveloped rural areas.  Includes protected wildlife areas and corridors.
LZ-1	Lighting Zone 1 pertains to areas that desire low ambient lighting levels. These typically include single and two family residential communities, rural town centers, business parks, and other commercial or industrial/storage areas typically with limited nighttime activity. May also include the developed areas in parks and other natural settings.	Recommended default zone for rural and low density residential areas.  Includes residential single or two family; agricultural zone districts; rural residential zone districts; business parks; open space include preserves in developed areas.

**LZ3: Moderately high ambient lighting**

Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.

**LZ4: High ambient lighting**

Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and/or convenience and it is mostly uniform and/or continuous. After curfew, lighting may be extinguished or reduced in some areas as activity levels decline.

**II. LIGHTING ZONES (cont.) - User's Guide**

Zone	Recommended Uses or Areas	Zoning Considerations
<b>LZ-2</b>	Lighting Zone 2 pertains to areas with moderate ambient lighting levels. These typically include multifamily residential uses, institutional residential uses, schools, churches, hospitals, hotels/motels, commercial and/or businesses areas with evening activities embedded in predominately residential areas, neighborhood serving recreational and playing fields and/or mixed use development with a predominance of residential uses. Can be used to accommodate a district of outdoor sales or industry in an area otherwise zoned LZ-1.	<p><b>Recommended default zone for light commercial business districts and high density or mixed use residential districts.</b></p> <p>Includes neighborhood business districts; churches, schools and neighborhood recreation facilities; and light industrial zoning with modest nighttime uses or lighting requirements.</p>
<b>LZ-3</b>	Lighting Zone 3 pertains to areas with moderately high lighting levels. These typically include commercial corridors, high intensity suburban commercial areas, town centers, mixed use areas, industrial uses and shipping and rail yards with high night time activity, high use recreational and playing fields, regional shopping malls, car dealerships, gas stations, and other nighttime active exterior retail areas.	<p><b>Recommended default zone for large cities' business district.</b></p> <p>Includes business zone districts; commercial mixed use; and heavy industrial and/or manufacturing zone districts.</p>
<b>LZ-4</b>	Lighting zone 4 pertains to areas of very high ambient lighting levels. LZ-4 should only be used for special cases and is not appropriate for most cities. LZ-4 may be used for extremely unusual installations such as high density entertainment districts, and heavy industrial uses.	<p><b>Not a default zone.</b></p> <p>Includes high intensity business or industrial zone districts.</p>

### III. GENERAL REQUIREMENTS - User's Guide

This Section sets out the requirements that apply to all lighting, both residential and non-residential.

Each adopting jurisdiction should incorporate their existing standards as to when compliance with new regulations is required, when repair or remodeling triggers compliance and if the new ordinance will be retroactive to existing development. The Applicability section of this model ordinance should serve as a guide if the adopting jurisdiction does not have standards or policies in place. Likewise, the adopting jurisdiction should use their existing policies and definitions of what constitutes public monuments, and temporary and/or emergency lighting. Community attitudes and precedents should be taken into account in deciding to regulate seasonal holiday lighting.

#### EXEMPTIONS - User's Guide

This is standard language intended to prevent conflict of laws and to give the community the ability to set specific lighting requirements in special plans and under use permits. It can be amended to conform to similar language in other ordinances. For example, while public monuments, statuary, and flags should be lighted, the lighting also should be limited to avoid excess.

Lighting for streets, roads, and highways is usually regulated by a street lighting ordinance, and is not covered by this model ordinance. However, since street lighting can affect nearby areas, some recognition of its effect is appropriate. (See Section XI)

#### SIGN LIGHTING - User's Guide

A sign lighting ordinance is strongly recommended if not already in place. It should carefully limit lighting to prevent over-lighted signs from being used to circumvent lighting ordinances.

### III. GENERAL REQUIREMENTS - Ordinance Text

#### A. *Conformance with All Applicable Codes*

All outdoor lighting shall be installed in conformance with the provisions of this Ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code.

#### B. *Applicability*

Except as described below, all outdoor lighting installed after the date of effect of this Ordinance shall comply with these requirements. This includes, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party.

***Exemptions from III.(B.)*** The following are not regulated by this Ordinance

- a. Lighting within public right-of-way or easement for the principal purpose of illuminating streets or roads. No exemption shall apply to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside the public right of way or easement, unless regulated with a streetlighting ordinance.

***Note to adopting agency: if using the street lighting ordinance (Section XI), this exemption should read as follows:***

Lighting within the public right-of-way or easement for the principal purpose of illuminating roads and highways. No exemption shall apply to any street lighting and to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside of the public right of way or easement.

- b. Lighting for public monuments and statuary.
- c. Lighting solely for signs (lighting for signs is regulated by the Sign Ordinance).
- d. Repairs to existing luminaires not exceeding 25% of total installed luminaires.

**III. GENERAL REQUIREMENTS (cont.) - Ordinance Text**

- e. Temporary lighting for theatrical, television, performance areas and construction sites;
- f. Underwater lighting in swimming pools and other water features
- g. Temporary lighting and seasonal lighting provided that individual lamps are less than 10 watts and 70 lumens.
- h. Lighting that is only used under emergency conditions.
- i. In lighting zones 2, 3 and 4, low voltage landscape lighting controlled by an automatic device that is set to turn the lights off at one hour after the site is closed to the public or at a time established by the authority.

*Exceptions to III. (B.)* All lighting shall follow provisions in this ordinance; however, any special requirements for lighting listed in a) and b) below shall take precedence.

- a. Lighting specified or identified in a specific use permit.
- b. Lighting required by federal, state, territorial, commonwealth or provincial laws or regulations.

**C. Lighting Control Requirements**

- 1. Automatic Switching Requirements  
Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a program-mable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

**LIGHTING CONTROLS - User's Guide**

This section requires all outdoor lighting to have lighting controls that prohibit operation when sufficient daylight is available, and to include the capability, either through circuiting, dimming or alternating sources, to be able to reduce lighting without necessarily turning all lighting off.

**III. GENERAL REQUIREMENTS (cont.) - Ordinance Text**

**CURFEW REQUIREMENTS - User's Guide**

The intent is to reduce or eliminate lighting after a given time. Benefits include reduced environmental impact, longer hours of improved astronomy, energy savings, and improved sleeping conditions for residents. Additionally, some police departments have indicated that post-curfew light reductions make drive-by patrolling easier because it allows them to see further into and through a site.

The authority should determine the time of curfew and the amount of lighting reduction based on the character, norms and values of the community.

Typically, curfews go into effect one hour after the close of business. Restaurants, bars and major entertainment facilities such as sports stadiums, may require the curfew go into effect two hours after the close of business. The authority may elect to have no curfew for facilities with shift workers and 24 hour operations, or to extend the curfew time to meet specific needs. The MLO can be modified to address those concerns.

Areas without street lights or with very low ambient light levels should consider turning off all non-emergency lighting at curfew while commercial areas or urban areas may prefer a reduction in lighting levels. A reduction of at least 30% is recommended for most uses.

*Exceptions to III.(C.) 1.* Automatic lighting controls are not required for the following:

- a. Lighting under canopies.
- b. Lighting for tunnels, parking garages, garage entrances, and similar conditions.

2. Automatic Lighting Reduction Requirements  
The Authority shall establish curfew time(s) after which total outdoor lighting lumens shall be reduced by at least 30% or extinguished.

*Exceptions to III.(C.) 2.* Lighting reductions are not required for any of the following:

- a. With the exception of landscape lighting, lighting for residential properties including multiple residential properties not having common areas.
- b. When the outdoor lighting consists of only one luminaire.
- c. Code required lighting for steps, stairs, walkways, and building entrances.
- d. When in the opinion of the Authority, lighting levels must be maintained.
- e. Motion activated lighting.
- f. Lighting governed by special use permit in which times of operation are specifically identified.
- g. Businesses that operate on a 24 hour basis.

#### IV. NON-RESIDENTIAL LIGHTING - User's Guide

This section addresses non-residential lighting and multiple-family residences having common spaces, such as lobbies, interior corridors or parking. Its intent is to:

- Limit the amount of light that can be used
- Minimize glare by controlling the amount of light that tends to create glare
- Minimize sky glow by controlling the amount of uplight
- Minimize the amount of off-site impacts or light trespass

This MLO provides two methods for determining compliance. The *prescriptive method* contains precise and easily verifiable requirements for luminaire light output and fixture design that limit glare, uplight, light trespass and the amount of light that can be used. The *performance method* allows greater flexibility and creativity in meeting the intent of the ordinance. Note that both the prescriptive and the performance method limit the *amount* of light that can be used, but do not control *how* the lighting is to be used.

Most outdoor lighting projects that do not involve a lighting professional will use the prescriptive method, because it is simple and does not require engineering expertise.

For the prescriptive method, the initial luminaire lumen allowances defined in Table A (Parking Space Method) or B (Hardscape Area Method) will provide basic lighting (parking lot and lighting at doors and/or sensitive security areas) that is consistent with the selected lighting zone. The prescriptive method is intended to provide a safe lighting environment while reducing sky glow and other adverse offsite impacts. The Per Parking Space Method is applicable in small rural towns and is a simple method for small retail “mom and pop” operations without drive lane access and where the parking lot is immediately adjacent to the road. A jurisdiction may

#### IV. NON-RESIDENTIAL LIGHTING - Ordinance Text

For all non-residential properties, and for multiple residential properties of seven domiciles or more and having common outdoor areas, all outdoor lighting shall comply either with Part A or Part B of this section.

**PRESCRIPTIVE METHOD - User's Guide**

also allow a prescriptive method for classes of sites, such as car dealerships, gas stations, or other common use areas.

Note that the values are for initial luminaire lumens, not footcandles on the target (parking lot, sidewalk, etc). Variables such as the efficiency of the luminaire, dispersion, and lamp wear can affect the actual amount of light so the lumens per square foot allowance is not equal to footcandles on the site. By specifying initial luminaire lumen values, it is easier for officials to verify that the requirement is being met. Initial luminaire lumens are available from photometric data. Each initial luminaire lumens calculation should be supplied on the submittal form.

Solid state luminaires, such as LEDs, do not have initial lamp lumens, only initial luminaire lumens (absolute photometry). Other luminaires tested with relative photometry will have initial luminaire lumens which can be calculated by multiplying initial lamp lumens by the luminaire efficiency. In this example, three types of luminaires are used to light a parking area and building entry in a light commercial area. Two of these three luminaires use metal halide lamps: 70 watt wall mounted area lights and 150 watt pole mounted area lights. For these, the Initial Luminaire Lumens is equal to the initial lamp lumens multiplied by the luminaire efficiency. These values are entered into the compliance chart. The lumen value for the building mounted LED luminaires is equal to the lumens exiting the luminaire. Therefore, the value already represents the Initial Luminaire Lumens and no luminaire efficiency is needed. The total Luminaire Lumens for the site is equal to 247,840.

The allowable lumens are based on the lighting zone and the total hardscape area. Referencing Table B, the allowed lumens are 2.5/SF for LZ2. Multiplying this by the total hardscape square footage gives a value of 250,000 lumens allowed. Because this value is greater than the value calculated for the site, the project complies. Listed below is an example on a typical compliance worksheet for the Prescriptive Method.

**IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text*****A. Prescriptive Method***

An outdoor lighting installation complies with this section if it meets the requirements of subsections 1 and 2, below.

**1. Total Site Lumen Limit**

The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the Parking Space Method (Table A) or the Hardscape Area Method (Table B). Only one method shall be used per permit application, and for sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires.

**IV. NON-RESIDENTIAL LIGHTING (cont.) - User's Guide**

**IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text**

In this example, three types of luminaires are used to light a parking area and building entry in a light commercial area. Two of these three luminaires use metal halide lamps: 70 watt wall mounted area lights and 150 watt pole mounted area lights. For these, the Initial Luminaire Lumens is equal to the initial lamp lumens multiplied by the luminaire efficiency. These values are entered into the compliance chart. The lumen value for the building mounted LED luminaires is equal to the lumens exiting the luminaire. Therefore, the value already represents the Initial Luminaire Lumens and no luminaire efficiency is needed. The total Luminaire Lumens for the site is equal to 247,840. The allowable lumens are based on the lighting zone and the total hardscape area. Referencing Table B, the allowed lumens are 2.5/SF for LZ2. Multiplying this by the total hardscape square footage gives a value of 250,000 lumens allowed. Because this value is greater than the value calculated for the site, the project complies.

PRESCRIPTIVE METHOD EXAMPLE - COMPLIANCE CHART			
Lamp Descriptions	QTY	Initial Luminaire Lumens	Total
70 W Metal Halide	8	3,920	31,360
150 W Metal Halide	20	9,600	192,000
18 W LED	24	1,020	24,480
TOTAL INITIAL LUMINAIRE LUMENS			247,840
SITE ALLOWED TOTAL INITIAL LUMENS*			250,000
PROJECT IS COMPLIANT?			YES

\* Listed below is the method of determining the allowed total initial lumen for non-residential outdoor lighting using the hardscape areamethod. (Table B).

SITE ALLOWED TOTAL INITIAL LUMENS	
Site Description	Light Commercial
Lighting Zone	LZ-2
Hardscape Area (SF)	100,000
Allowed Lumens per SF of Hardscape (Table B)	2.5
Site Allowed Total Initial Lumens (lumens per SF X hardscape area)	250,000

**PRESCRIPTIVE METHOD (cont.) - User's Guide**

**IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text**

**LIMITS TO OFFSITE IMPACTS**

**PRESCRIPTIVE METHOD**

The prescriptive method of the MLO restricts uplighting, including upward light emitted by decorative luminaires. A jurisdiction may choose to preserve some types of lighting, including lighting of monuments or historic structures. In this case, the adopting jurisdiction should exempt or otherwise regulate these types of lighting carefully so that it does not inadvertently allow glaring or offensive lighting systems.

Offsite effects of light pollution include glare, light trespass, sky glow, and impacts on the nocturnal environment . All of these are functions of the fixture or luminaire design and installation. This document replaces the previous luminaire classification terminology of full cut-off, semi cut-off, and cut-off because those classifications were not as effective in controlling offsite impacts as with the new IESNA luminaire classification system as described in TM-15-07.

A traditional method of defining light trespass is to identify a maximum light level at or near the property line. However, this method does not address offensive light that is not directed toward the ground, or the intensity of glaring light shining into adjacent windows. The requirements defined in Table C limit the amount of light in all quadrants that is directed toward or above the property line. The Backlight/Uplight/ Glare (BUG) rating will help limit both light trespass and glare. (A detailed explanation of the BUG system is provided in the section on Table C.)

The limits for light distribution established in Table C (for the BUG rating system) prevent or severely limit all direct upward light. A small amount of uplight reflected by snow, light-colored pavement or a luminaire's supporting arms is inevitable and is not limited by the prescriptive method of this ordinance.

2. Limits to Off Site Impacts

All luminaires shall be rated and installed according to Table C.

3. Light Shielding for Parking Lot Illumination

All parking lot lighting shall have no light emitted above 90 degrees.

Exception:

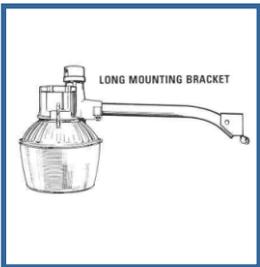
a) Ornamental parking lighting shall be permitted by special permit only, and shall meet the requirements of Table C-1 for Backlight, Table C-2 for Uplight, and Table C-3 for Glare, without the need for external field-added modifications.

**PRESCRIPTIVE METHOD (cont.) - User's Guide**

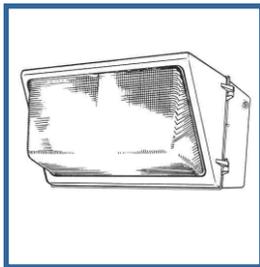
**IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text**

**LIMITS TO OFFSITE IMPACTS**

A seemingly non-compliant fixture, such as a post-top translucent acorn luminaire, may in certain cases meet the BUG ratings, as long as it has proper interior baffling within the acorn globe. However, the BUG ratings in Table C will limit the use of the following types of luminaires in all lighting zones:



**Barn Lights**



**Non-Shielded  
Wall Packs**



**Floodlights or  
lights not aimed  
downward**

**PERFORMANCE METHOD - User's Guide**

**IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text**

The performance method is best for projects with complex lighting requirements or when the applicant wants or needs more flexibility in lighting design. The performance method is also used when any lighting designer plans to aim or direct any light fixture upward (above 90 degrees). An engineer or lighting professional generally will be required to design within the performance method. An adopting jurisdiction may also wish to hire an engineer or lighting professional to review and approve projects using this method and/or incorporate review of the performance method into special review procedures.

***B. Performance Method***

**1. Total Site Lumen Limit**

The total installed initial luminaire lumens of all lighting systems on the site shall not exceed the allowed total initial site lumens. The allowed total initial site lumens shall be determined using Tables D and E. For sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

The Performance Method is also best for projects where higher lighting levels are required compared to typical area lighting. An example might be a car sales lot where more light might be required on the new cars than would be needed for a standard parking lot. Another example is a gas station canopy requiring more light than a building entrance canopy.

The total installed initial luminaire lumens of all is calculated as the sum of the initial luminaire lumens for all luminaires.

The first step in the Performance Method regulates overlighting by establishing the Total Initial Site Lumens (Table D) that are allowed.

Allowances include the summation of the following (Table D):

- 1) Initial lumen allowance per site
- 2) Per area (SF) of hardscape

Table E allows additional lumens for unique site conditions.

Examples of allowances include:

- 1) Per building entrance/exit
- 2) Per length (linear feet) of Outdoor Sales Frontage Perimeter
- 3) Per area (SF) of Vehicle Service Station Canopy
- 4) Plus more ...

The Site Total Initial Site Lumens allowed are a combination of allowances from Table D and Table E.

**IV. NON-RESIDENTIAL LIGHTING (cont.) - User's Guide**

**IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text**

**LIMITS TO OFFSITE IMPACTS (cont.)**

**PERFORMANCE METHOD**

The second step in the Performance Method is to determine if the proposed luminaires are producing off site impacts such as glare, sky glow and light trespass. One may either use Option A which are the Maximum Allowable BUG Ratings in Table C, or Option B through computer lighting calculations show compliance with Maximum Vertical Illuminance at any point in the plane of the property line in Table F. Option B will be required for all non-residential luminaires that

- A) do not have BUG ratings, or
- B) exceed the BUG ratings,
- C) are not fully shielded, or
- D) have adjustable mountings.

For the performance method, Option B (2) requires photometric calculations for the site perimeter, to a height of no less than 33 feet (10 meters) above the tallest luminaire. Vertical illuminances at eye height (5 feet above grade) will give values that can be used to verify compliance by comparing actual site conditions to the photometric plan submitted during review.

Note that the MLO specifies 'total initial luminaire lumens' as a measurement in addition to footcandles/lux. The footcandle (lux) is equal to one lumen per square meter. Lux is the metric unit and is equal to one lumen per square meter.

**2. Limits to Off Site Impacts**

All luminaires shall be rated and installed using either Option A or Option B. Only one option may be used per permit application.

Option A: All luminaires shall be rated and installed according to Table C.

Option B: The entire outdoor lighting design shall be analyzed using industry standard lighting software including inter-reflections in the following manner:

- 1) Input data shall describe the lighting system including luminaire locations, mounting heights, aiming directions, and employing photometric data tested in accordance with IES guidelines. Buildings or other physical objects on the site within three object heights of the property line must be included in the calculations.
- 2) Analysis shall utilize an enclosure comprised of calculation planes with zero reflectance values around the perimeter of the site. The top of the enclosure shall be no less than 33 feet (10 meters) above the tallest luminaire. Calculations shall include total lumens upon the inside surfaces of the box top and vertical sides and maximum vertical illuminance (footcandles and/or lux) on the sides of the enclosure.

The design complies if:

- a) The total lumens on the inside surfaces of the virtual enclosure are less than 15% of the total site lumen limit; and
- b) The maximum vertical illuminance on any vertical surface is less than the allowed maximum illuminance per Table F.

## DESIGN COMPLIANCE - User's Guide

The application form will require information about the number of luminaires, the number of lamps in each luminaire, the initial luminaire lumens for each luminaire and the initial lumen output for each lamp (based on the wattage and type of lamp selected) as well as plans showing the site area measurements. This will allow the reviewer to verify that the lumen output of all the luminaires does not exceed the allowance.

Field verification can be achieved by asking the applicant and/or owner to verify that the luminaire type, lamp type and wattages specified have been used. Also ask the applicant for photometric data for each luminaire, since the initial luminaire lumens and B-U-G ratings are stated on the photometric report.

However, if a jurisdiction requires additional on-site verification, it may also request a point-by-point photometric plan. While this will not be a true measure of compliance with the criteria of this Ordinance, comparing the actual measured levels on site to the photometric plan can be an indication whether or not the installed lighting varies from the approved design.

**V. RESIDENTIAL LIGHTING - User's Guide**

This section applies to single family home, duplexes, row houses, and low rise multi-family buildings of 6 dwelling units or less.

**RESIDENTIAL LIGHTING EXCEPTIONS**

The exceptions allow for typical lighting that might exceed the specified limits.

Landscape Lighting - While not common in residential areas, it can cause light pollution and light trespass if it is not controlled.

Lighting controlled by Vacancy (Motion) Sensor - Reduces light pollution and light trespass and should be encouraged.

**RESIDENTIAL LIGHTING EXAMPLE**

In this example on the following page, five different luminaires are used on a residential property. Each luminaire must comply to meet the requirements. The site plan following shows luminaire types followed by a tabulation of each uminaire, whether or not it is fully shielded, lamp type, and initial luminaire lumens. If the luminaire lumens are not known, multiply the initial lamp lumens by the luminaire efficiency. If the efficiency is not known, multiply the initial lamp lumens by 0.7 as a reasonable assumption. The maximum allowable lumen values come from Table G, based on the shielding classification and location on the site. In this case, each luminaire complies with the requirements of Table G.

Comparison of efficacy by power  
(120 Volt Incandescent lamps)

Output (Lumens)	Power (Watt)		
	Incan	CFL	LED
500	40	8 - 10	9
850	60	13 - 18	12 - 15
1,200	75	18 - 22	15
1,700	100	23 - 28	18

**V. RESIDENTIAL LIGHTING - Ordinance Text**

*A. General Requirements*

For residential properties including multiple residential properties not having common areas, all outdoor luminaires shall be fully shielded and shall not exceed the allowed lumen output in Table G, row 2.

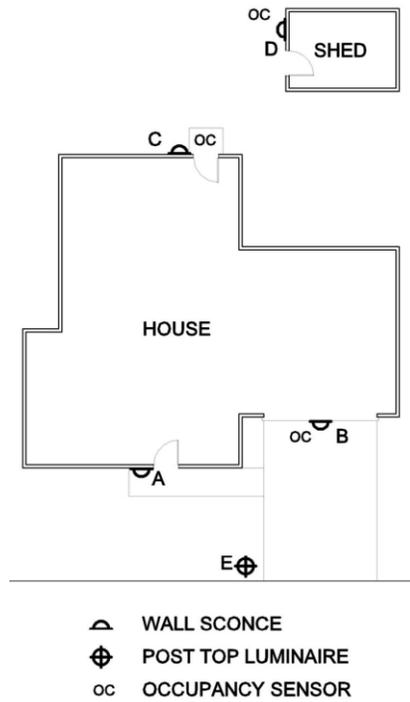
*Exceptions*

1. One partly shielded or unshielded luminaire at the main entry, not exceeding the allowed lumen output in Table G row 1.
2. Any other partly shielded or unshielded luminaires not exceeding the allowed lumen output in Table G row 3.
3. Low voltage landscape lighting aimed away from adjacent properties and not exceeding the allowed lumen output in Table G row 4.
4. Shielded directional flood lighting aimed so that direct glare is not visible from adjacent properties and not exceeding the allowed lumen output in Table G row 5.
5. Open flame gas lamps.
6. Lighting installed with a vacancy sensor, where the sensor extinguishes the lights no more than 15 minutes after the area is vacated.
7. Lighting exempt per Section III (B.).

*B. Requirements for Residential Landscape Lighting*

1. Shall comply with Table G.
2. Shall not be aimed onto adjacent properties.

**V. RESIDENTIAL LIGHTING - User's Guide**



Property Type: Residential Lighting Zone 1								
Luminaire Type	Location	Luminaire Description	Fully Shielded	Lamp Type	Initial Luminaire Lumens*	Maximum Allowed Initial Luminaire Lumens (Table G)	Controls	Compliant
A	Front Entry	Decorative wall sconce	No	9W CFL	420	420	None	Yes
B	Garage Door	Fully shielded wall pack	Yes	23W CFL	1050	1260	Occupancy Sensor	Yes
C	Back Entry	Decorative wall sconce	No	7W CFL	280	315	Occupancy Sensor	Yes
D	Shed Entry	Fully shielded wall pack	Yes	40W INC	343	1260	Occupancy Sensor	Yes
E	Driveway	Fully shielded post top	Yes	13W CFL	1260	1260	None	Yes

\*Initial Luminaire Lumens are calculated by multiplying the total initial lamp lumens by the luminaire efficiency. If the luminaire efficiency is not known, assume an efficiency of 70% and multiply the lamp lumens value by 0.7.

**VI. LIGHTING BY SPECIAL PERMIT ONLY - User's Guide**

This section addresses types of lighting that are intrusive or complex in their impacts and need a higher level of scrutiny and/or site sensitivity.

It should be noted that safety could be compromised if lighting conforming to this ordinance is located adjacent to excessively bright and/or glaring lighting.

It is important that the authority set clear and reasonable guidelines for applying for a special lighting use permit, and establish rules and procedures for granting or refusing them. They may differ from existing special use policies, in which case one or the other may be changed to achieve the overall goal of effective lighting without glare, sky glow, or light trespass.

**SPORTS FIELD LIGHTING**

For athletic and sports fields, the appropriate level of lighting will depend on the Class of Play and Facilities. Class of Play is divided into 4 categories, depending on the number of fixed spectator seats. (Competition play intended for nighttime TV broadcast may require higher lighting levels).

**CLASS I:** Competition play at facilities with 5,000 or more fixed spectator seats. (Professional, Colleges & Universities, some Semi-Professional & Large Sports Clubs)

**CLASS II:** Games at facilities with over 1,500 fixed spectator seats. (Smaller Universities and Colleges, some Semi-pro, large amateur leagues and high schools with large spectator facilities)

**CLASS III:** Games at facilities with over 500 fixed spectator seats. (Sports Clubs and amateur leagues, some high schools and large training professional training facilities with spectator sections)

**CLASS IV:** Competition or recreational play at facilities with 500 fixed spectator seats or less. Class IV Class of Play applies to games at which family and close friends of the players and staff are usually the majority of spectators. (Smaller amateur leagues, park and recreation department facilities, most Little Leagues smaller high schools, elementary and middle schools, and social events)

**VI. LIGHTING BY SPECIAL PERMIT ONLY - Ordinance Text*****A. High Intensity and Special Purpose Lighting***

The following lighting systems are prohibited from being installed or used except by special use permit:

1. Temporary lighting in which any single luminaire exceeds 20,000 initial luminaire lumens or the total lighting load exceeds 160,000 lumens.
2. Aerial Lasers.
3. Searchlights.
4. Other very intense lighting defined as having a light source exceeding 200,000 initial luminaire lumens or an intensity in any direction of more than 2,000,000 candelas.

***B. Complex and Non-Conforming Uses***

Upon special permit issued by the Authority, lighting not complying with the technical requirements of this ordinance but consistent with its intent may be installed for complex sites or uses or special uses including, but not limited to, the following applications:

1. Sports facilities, including but not limited to unconditioned rinks, open courts, fields, and stadiums.
2. Construction lighting.
3. Lighting for industrial sites having special requirements, such as petrochemical manufacturing or storage, shipping piers, etc.
4. Parking structures.
5. Urban parks
6. Ornamental and architectural lighting of bridges, public monuments, statuary and public buildings.
7. Theme and amusement parks.
8. Correctional facilities.

To obtain such a permit, applicants shall demonstrate that the proposed lighting installation:

- a. Has sustained every reasonable effort to mitigate the effects of light on the environment and surrounding properties, supported by a signed statement describing the mitigation measures. Such statement shall be accompanied by the calculations required for the Performance Method.

**SPORTS FIELD LIGHTING**

When Class of Play is above Class IV, a dual control should be installed to limit illumination to Class IV levels during practices where spectators are fewer than 500.

(See IES Recommended Practice for Sports and Recreational Area Lighting RP-6)

**VII. EXISTING LIGHTING - User's Guide**

Adoption of this section on existing lighting is strongly encouraged.

If the adopting jurisdiction has criteria in place that require a property to come into compliance with the current zoning ordinance, it is recommended that the criteria also be applied to bringing existing lighting into compliance. If there are no established criteria, this section of the MLO is recommended.

Amortization allows existing lighting to gradually and gracefully come into compliance. Substantial changes or additions to existing properties are considered the same as new construction, and must comply.

Most outdoor lighting can be fully depreciated once it is fully amortized, usually no longer than 10 years, if not sooner, from the date of initial installation. Some jurisdictions may prefer to require phase-out in a substantially shorter period. The Authority may also wish to require compliance much sooner for "easy fixes" such as re-aiming or lowering lumen output of lamps. Where lighting is judged to be a safety hazard, immediate compliance can be required.

**VI. LIGHTING BY SPECIAL PERMIT ONLY (cont.) - Ordinance Text**

- b. Employs lighting controls to reduce lighting at a Project Specific Curfew ("Curfew") time to be established in the Permit.
- c. Complies with the Performance Method after Curfew.

The Authority shall review each such application. A permit may be granted if, upon review, the Authority believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass.

**VII. EXISTING LIGHTING - Ordinance Text**

Lighting installed prior to the effective date of this ordinance shall comply with the following.

**A. Amortization**

On or before [amortization date], all outdoor lighting shall comply with this Code.

**B. New Uses or Structures, or Change of Use**

Whenever there is a new use of a property (zoning or variance change) or the use on the property is changed, all outdoor lighting on the property shall be brought into compliance with this Ordinance before the new or changed use commences.

**C. Additions or Alterations**

**1. Major Additions.**

If a major addition occurs on a property, lighting for the entire property shall comply with the requirements of this Code. For purposes of this section, the following are considered to be major additions:

**VII. EXISTING LIGHTING (cont.) - Ordinance Text**

Additions of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions after the effective date of this Ordinance.

Single or cumulative additions, modification or replacement of 25 percent or more of installed outdoor lighting luminaires existing as of the effective date of this Ordinance.

**2. Minor Modifications, Additions, or New Lighting Fixtures for Non-residential and Multiple Dwellings**

For non-residential and multiple dwellings, all additions, modifications, or replacement of more than 25 percent of outdoor lighting fixtures existing as of the effective date of this Ordinance shall require the submission of a complete inventory and site plan detailing all existing and any proposed new outdoor lighting.

Any new lighting shall meet the requirements of this Ordinance.

**3. Resumption of Use after Abandonment**

If a property with non-conforming lighting is abandoned for a period of six months or more, then all outdoor lighting shall be brought into compliance with this Ordinance before any further use of the property occurs.

**VIII. ENFORCEMENT & PENALTIES - Ordinance Text**

**(Reserved)**

**VIII. ENFORCEMENT AND PENALTIES - User's Guide**

Enforcement and penalties will vary by jurisdiction. There are, however, certain practices that will promote compliance with lighting regulations. Education is a key tool in promoting compliance. Proactive enforcement procedures can include providing a copy of the lighting regulations to every contractor at the time they visit to obtain a building permit. Another effective tool is a requirement that the builder or developer acknowledge in writing that the he or she is familiar with the lighting requirements and will submit a lighting plan for approval.

**VIII. ENFORCEMENT AND PENALTIES (cont.) - User's Guide**

Submission of the Lighting Plan should be required as a precondition to any approvals. The Lighting Plan should include the location and BUG rating for each luminaire, specify whether compliance is by the performance or prescriptive method, and a worksheet to show that the luminaires and their BUG ratings are compliant.

**IX. TABLES - User's Guide**

The tables are to be reviewed periodically by a joint committee of the IES and IDA, and adjusted as standards and technology permit. If more research on the impacts of outdoor lighting shows the effects of light pollution to be a significant concern, then the values in the tables may be modified. Such changes will have no significant impact to the balance of the language of the Ordinance or Code.

**VIII. ENFORCEMENT & PENALTIES - Ordinance Text**

**IX. TABLES - Ordinance Text**

**Table A - Allowed Total Initial Luminaire Lumens per Site for Non-residential Outdoor Lighting, Per Parking Space Method**

May only be applied to properties up to 10 parking spaces (including handicapped accessible spaces).

LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
350 lms/space	490 lms/space	630 lms/space	840 lms/space	1,050 lms/space

**Table B - Allowed Total Initial Lumens per Site for Non-residential Outdoor Lighting, Hardscape Area Method**

May be used for any project. When lighting intersections of site drives and public streets or road, a total of 600 square feet for each intersection may be added to the actual site hardscape area to provide for intersection lighting.

LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
<b>Base Allowance</b>				
0.5 lumens per SF of Hardscape	1.25 lumens per SF of Hardscape	2.5 lumens per SF of Hardscape	5.0 lumens per SF of Hardscape	7.5 lumens per SF of Hardscape

**IX. TABLES - Ordinance Text**

**Table B - Lumen Allowances, in Addition to Base Allowance**

	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
<b>Additional allowances for sales and service facilities. No more than two additional allowances per site, Use it or Lose it.</b>					
<b>Outdoor Sales Lots.</b> This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non sales areas. To use this allowance, luminaires must be within 2 mounting heights of sales lot area.	<b>0</b>	<b>4 lumens per square foot</b>	<b>8 lumens per square foot</b>	<b>16 lumens per square foot</b>	<b>16 lumens per square foot</b>
<b>Outdoor Sales Frontage.</b> This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area	<b>0</b>	<b>0</b>	<b>1,000 per LF</b>	<b>1,500 per LF</b>	<b>2,000 per LF</b>
<b>Drive Up Windows.</b> In order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	<b>0</b>	<b>2,000 lumens per drive-up window</b>	<b>4,000 lumens per drive-up window</b>	<b>8,000 lumens per drive-up window</b>	<b>8,000 lumens per drive-up window</b>
<b>Vehicle Service Station.</b> This allowance is lumens per installed fuel pump.	<b>0</b>	<b>4,000 lumens per pump (based on 5 fc horiz)</b>	<b>8,000 lumens per pump (based on 10 fc horiz)</b>	<b>16,000 lumens per pump (based on 20 fc horiz)</b>	<b>24,000 lumens per pump (based on 20 fc horiz)</b>

**IX. TABLES - TABLE C BUG RATING - User's Guide**

Work on the BUG system started in 2005 when the IES upgraded the roadway cutoff classification system. The original system, which included the ratings full cutoff, cutoff, semi-cutoff and non cutoff, had been designed as a rating system focused on brightness and glare control. However, with increasing demand for control of uplight and light trespass in addition to glare, IES realized that a more comprehensive system was needed. IES developed *TM-15 Luminaire Classification System for Outdoor Luminaires*.

As this is a relatively new rating system, and many people may not be familiar with it, more explanation of how the rating system works is provided here. For example, some people are familiar with terms such as "full cutoff" and they may expect the MLO to include those terms. It will be very important that all groups recognize that older terms and concepts are inadequate for the complex tasks of controlling light pollution. It is recommended that the new rating system adopted in TM-15, as followed herein by the MLO, be used intact and exclusively.

BUG requires downlight only with low glare (better than full cut off) in lighting zones 0, 1 and 2, but allows a minor amount of uplight in lighting zones 3 and 4. In lighting zones 3 and 4, the amount of allowed uplight is enough to permit the use of very well shielded luminaires that have a decorative drop lens or chimney so that dark sky friendly lighting can be installed in places that traditional-appearing luminaires are required. BUG typically cannot be used for residential luminaires unless they have been photometrically tested. For non-photometrically tested residential luminaires, shielding description is used instead.

The lumen limits established for each lighting zone apply to all types of lighting within that zone. This includes, but is not limited to, specialty lighting, façade lighting, security lighting and the front row lighting for auto dealerships. BUG rating limits are defined for each luminaire and

**IX. TABLES (cont.) - Ordinance Text**

**Table C - Maximum Allowable Backlight, Uplight and Glare (BUG) Ratings**

May be used for any project. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all ratings B, U and G. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.

<b>TABLE C-1</b>	<b>Lighting Zone 0</b>	<b>Lighting Zone 1</b>	<b>Lighting Zone 2</b>	<b>Lighting Zone 3</b>	<b>Lighting Zone 4</b>
<b>Allowed Backlight Rating*</b>					
<b>Greater than 2 mounting heights from property line</b>	<b>B1</b>	<b>B3</b>	<b>B4</b>	<b>B5</b>	<b>B5</b>
<b>1 to less than 2 mounting heights from property line and ideally oriented**</b>	<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>B4</b>
<b>0.5 to 1 mounting heights from property line and ideally oriented**</b>	<b>B0</b>	<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B3</b>
<b>Less than 0.5 mounting height to property line and properly oriented**</b>	<b>B0</b>	<b>B0</b>	<b>B0</b>	<b>B1</b>	<b>B2</b>

\*For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the center-line of the public roadway or public transit corridor for the purpose of determining compliance with this section. NOTE: This adjustment is relative to Table C-1 and C-3 only and shall not be used to increase the lighting area of the site.

\*\* To be considered 'ideally oriented', the luminaire must be mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

**IX. TABLES - TABLE C BUG RATING (cont.) - User's Guide**

**IX. TABLES (cont.) - Ordinance Text**

are based on the internal and external design of the luminaire, its aiming, and the initial luminaire lumens of the specified luminaires. The BUG rating limits also take into consideration the distance the luminaire is installed from the property line in multiples of the mounting height (See Table C).

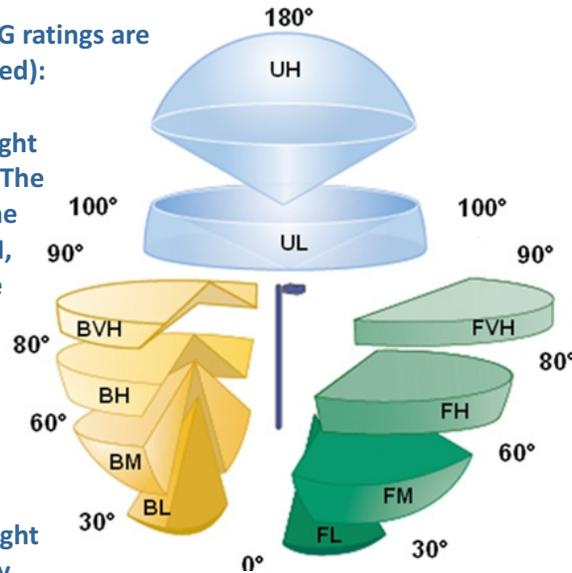
The three components of BUG ratings are based on IES TM-15-07 (revised):

**Backlight**, which creates light trespass onto adjacent sites. The B rating takes into account the amount of light in the BL, BM, BH and BVH zones, which are in the direction of the luminaire OPPOSITE from the area intended to be lighted.

**Uplight**, which causes artificial sky glow. Lower uplight (zone UL) causes the most sky glow and negatively affects professional and academic astronomy. Upper uplight (UH) not reflected off a surface is mostly energy waste. The U rating defines the amount of light into the upper hemisphere with greater concern for the light at or near the horizontal angles (UL).

**Glare**, which can be annoying or visually disabling. The G rating takes into account the amount of frontlight in the FH and FVH zones as well as BH and BVH zones.

BUG ratings apply to the Lighting Zone of the property under consideration.



**IX. TABLES - TABLE C BUG RATING (cont.) - User's Guide**

(Key: UH=Uplight High, UL=Uplight Low, BVH=Backlight Very High, BH=Backlight High, BM=Backlight Medium, BL=Backlight Low, FVH=Forward Light Very High, FH=Forward Light High, FM=Forward Light Medium, FL=Forward Light Low.)

In general, a higher BUG rating means more light is allowed in solid angles, and the rating increases with the lighting zone. However, a higher B (backlight) rating simply indicates that the luminaire directs a significant portion of light behind the pole, so B ratings are designated based on the location of the luminaire with respect to the property line. A high B rating luminaire maximizes the spread of light, and is effective and efficient when used far from the property line. When luminaires are located near the property line, a lower B rating will prevent unwanted light from interfering with neighboring properties.

At the 90-180 degree ranges:

- Zone 0 allows no light above 90 degrees.
- Zone 1 allows only 10 lumens in the UH and UL zones, 20 lumens total in the complete upper hemisphere. (This is roughly equivalent to a 5 W incandescent lamp).
- Zone 2 allows only 50 lumens in the UH and UL zones, 100 lumens total (less than a 25W incandescent lamp).
- Zone 3 allows only 500 lumens in the UH and UL zones, 1000 lumens total (about the output of a 75W incandescent bulb).
- Zone 4 allows only 1,000 lumens in the UH and UL zones, 2000 lumens total (about the output of a 100W incandescent bulb).

**IX. TABLES (cont.) - Ordinance Text**

**Table C - 2 Maximum Allowable Uplight (BUG) Ratings - Continued**

<b>TABLE C-2</b>	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Uplight Rating	U0	U1	U2	U3	U4
Allowed % light emission above 90° for street or Area lighting	0%	0%	0%	0%	0%

**Table C - 3 Maximum Allowable Glare (BUG) Ratings - Continued**

<b>TABLE C-3</b>	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Glare Rating	G0	G1	G2	G3	G4
Any luminaire not ideally oriented*** with 1 to less than 2 mounting heights to any property line of concern	G0	G0	G1	G1	G2
Any luminaire not ideally oriented*** with 0.5 to 1 mounting heights to any property line of concern	G0	G0	G0	G1	G1
Any luminaire not ideally oriented*** with less than 0.5 mounting heights to any property line of concern	G0	G0	G0	G0	G1

\*\*\* Any luminaire that cannot be mounted with its backlight perpendicular to any property line within 2X the mounting heights of the luminaire location shall meet the reduced Allowed Glare Rating in Table C-3.

**TABLE D EXAMPLE - PERFORMANCE METHOD - User's Guide**

The first step in the Performance Method is to establish the Site Total Initial Site Lumens which regulates overlighting. The performance method allows layers of light depending on the complexity of the site.

Table D establishes the basic total initial site lumens allowed. These lumen allowances are added together for a total initial site lumen allowance. Allowances include:

- 1) Initial lumen allowance per site
- 2) Per area (SF) of hardscape

**IX. TABLES (cont.) - Ordinance Text**

**Table D Performance Method Allowed Total Initial Site Lumens**

*May be used on any project.*

Lighting Zone	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Allowed Lumens Per SF	0.5	1.25	2.5	5.0	7.5
Allowed Base Lumens Per Site	0	3,500	7,000	14,000	21,000

**Table E Performance Method Additional Initial Luminaire Lumen Allowances. All of the following are "use it or lose it" allowances.**

All area and distance measurements in plan view unless otherwise noted.

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
<b>Additional Lumens Allowances for All Buildings except service stations and outdoor sales facilities. A MAXIMUM OF THREE (3) ALLOWANCES ARE PERMITTED. THESE ALLOWANCES ARE "USE IT OR LOSE IT".</b>					
<b>Building Entrances or Exits.</b> This allowance is per door. In order to use this allowance, luminaires must be within 20 feet of the door.	400	1,000	2,000	4,000	6,000
<b>Building Facades.</b> This allowance is lumens per unit area of building façade that are illuminated. To use this allowance, luminaires must be aimed at the façade and capable of illuminating it without obstruction.	0	0	8/SF	16/SF	24/SF

**TABLE E PERFORMANCE METHOD - User's Guide**

The allowable light levels for these uses defined in Table E may be used to set a prescriptive lighting allowance for these uses in each lighting zone. It should be noted that the lighting allowance defined in Table E is only applicable for the area defined for that use and cannot be transferred to another area of the site. For some uses, such as outdoor sales, the jurisdiction is encouraged to define a percentage of the total hardscape area that is eligible for the additional lighting allowance. For example, a set percentage of a car dealership's lot may be considered a display area and receive the additional lighting allowance where the remainder of the lot would be considered storage, visitor parking, etc. and cannot exceed the base light levels defined in Table A.

**TABLE E EXAMPLE - PERFORMANCE METHOD - User's Guide**

**IX. TABLES (cont.) - Ordinance Text**

**Table E - Performance Method Additional Initial Lumen Allowances (cont.)**

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
<b>Sales or Non-sales Canopies.</b> This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to qualify for this allowance, luminaires must be located under the canopy.	0	3/SF	6/SF	12/SF	18/SF
<b>Guard Stations.</b> This allowance is lumens per unit area of guardhouse plus 2000 sf per vehicle lane. In order to use this allowance, luminaires must be within 2 mounting heights of a vehicle lane or the guardhouse.	0	6/SF	12/SF	24/SF	36/SF
<b>Outdoor Dining.</b> This allowance is lumens per unit area for the total illuminated hardscape of outdoor dining. In order to use this allowance, luminaires must be within 2 mounting heights of the hardscape area of outdoor dining	0	1/SF	5/SF	10/SF	15/SF
<b>Drive Up Windows.</b> This allowance is lumens per window. In order to use this allowance, luminaires must be within 20 feet of the center of the window.	0	2,000 lumens per drive-up window	4,000 lumens per drive-up window	8,000 lumens per drive-up window	8,000 lumens per drive-up window
<b>Additional Lumens Allowances for Service Stations only. Service stations may not use any other additional allowances.</b>					
<b>Vehicle Service Station Hardscape.</b> This allowance is lumens per unit area for the total illuminated hardscape area less area of buildings, area under canopies, area off property, or areas obstructed by signs or structures. In order to use this allowance, luminaires must be illuminating the hardscape area and must not be within a building, below a canopy, beyond property lines, or obstructed by a sign or other structure.	0	4/SF	8/SF	16/SF	24/SF

**IX. TABLES (cont.) - Ordinance Text**

**Table E - Performance Method Additional Initial Lumen Allowances (cont.)**

<b>Lighting Application</b>	<b>LZ 0</b>	<b>LZ 1</b>	<b>LZ 2</b>	<b>LZ 3</b>	<b>LZ 4</b>
<p><b>Vehicle Service Station Canopies.</b> This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to use this allowance, luminaires must be located under the canopy.</p>	<b>0</b>	<b>8/SF</b>	<b>16/SF</b>	<b>32/SF</b>	<b>32/SF</b>
<p><b>Additional Lumens Allowances for Outdoor Sales facilities only.</b>                      Outdoor Sales facilities may not use any other additional allowances.  <b>NOTICE:</b> lighting permitted by these allowances shall employ controls extinguishing this lighting after a curfew time to be determined by the Authority.</p>					
<p><b>Outdoor Sales Lots.</b> This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non sales areas and shall not exceed 25% of the total hardscape area. To use this allowance, Luminaires must be within 2 mounting heights of the sales lot area.</p>	<b>0</b>	<b>4/SF</b>	<b>8/SF</b>	<b>12/SF</b>	<b>18/SF</b>
<p><b>Outdoor Sales Frontage.</b> This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.</p>	<b>0</b>	<b>0</b>	<b>1,000/LF</b>	<b>1,500/LF</b>	<b>2,000/LF</b>

**IX. TABLES (cont.) - Ordinance Text**

**Table F Maximum Vertical Illuminance at any point in the plane of the property line**

<b>Lighting Zone 0</b>	<b>Lighting Zone 1</b>	<b>Lighting Zone 2</b>	<b>Lighting Zone 3</b>	<b>Lighting Zone 4</b>
<b>0.05 FC or 0.5 LUX</b>	<b>0.1 FC or 1.0 LUX</b>	<b>0.3 FC or 3.0 LUX</b>	<b>0.8 FC or 8.0 LUX</b>	<b>1.5 FC or 15.0 LUX</b>

**IX. TABLES (cont.) - Ordinance Text**

**Table G - Residential Lighting Limits**

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
<b>Row 1</b> Maximum Allowed Luminaire Lumens* for Unshielded Luminaires at one entry only	Not allowed	420 lumens	630 lumens	630 lumens	630 lumens
<b>Row 2</b> Maximum Allowed Luminaire Lumens* for each Fully Shielded Luminaire	630 lumens	1,260 lumens	1,260 lumens	1,260 lumens	1,260 lumens
<b>Row 3</b> Maximum Allowed Luminaire Lumens* for each Unshielded Luminaire excluding main entry	Not allowed	315 lumens	315 lumens	315 lumens	315 lumens
<b>Row 4</b> Maximum Allowed Luminaire Lumens* for each Landscape Lighting	Not allowed	Not allowed	1,050 lumens	2,100 lumens	2,100 lumens
<b>Row 5</b> Maximum Allowed Luminaire Lumens* for each Shielded Directional Flood Lighting	Not allowed	Not allowed	1,260 lumens	2,100 lumens	2,100 lumens
<b>Row 6</b> Maximum Allowed Luminaire Lumens* for each Low Voltage Landscape Lighting	Not allowed	Not allowed	525 lumens	525 lumens	525 lumens

**\* Luminaire lumens equals Initial Lamp Lumens for a lamp, multiplied by the number of lamps in the luminaire**

**TABLE G RESIDENTIAL LIGHTING - User's Guide**

**Residential Light Levels**

Most residential lighting has traditionally used incandescent lamps which are identified by their wattage. However, since new technologies provide more light for fewer watts, it is no longer possible to regulate residential lighting solely by providing a maximum wattage. Table G, therefore, lists maximum initial luminaire lumens only.

**X. DEFINITIONS - User's Guide**

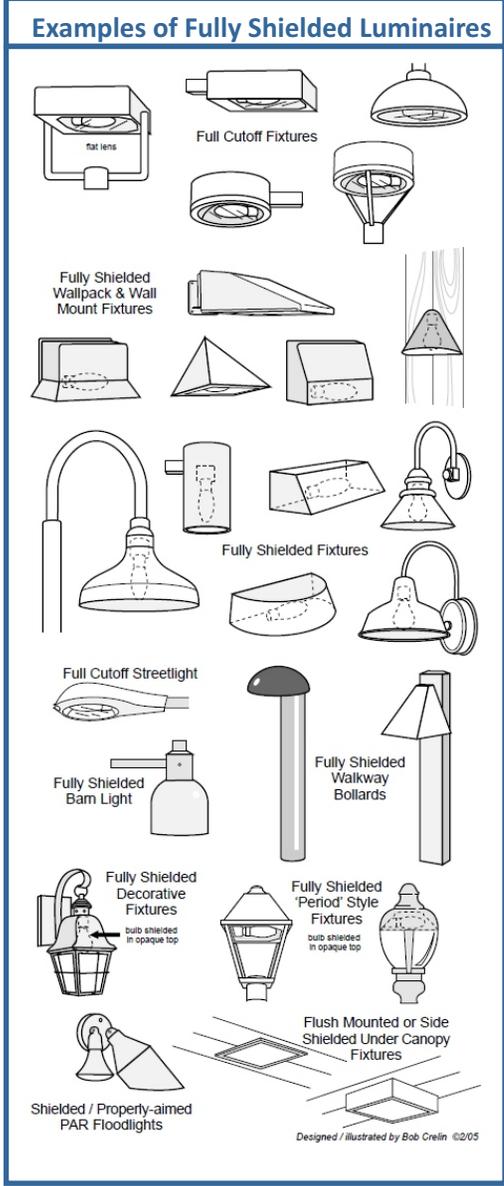
Definitions are typically generally added to any code when new code sections are added. The definitions are legally required and play a significant role in the interpretation of the ordinance and code.

Most city attorneys will not accept references to outside sources regardless of credibility, such as the IES Handbook. Thus as a general rule, a definition for an unfamiliar term (e.g. lumens) must be added by the adopting ordinance.

When adopting or integrating the MLO definitions, be sure to retire conflicting technical terminology. In particular, the latest IES Luminaire Classification System as defined in IES TM-15-07 is likely to need attention.

**X. DEFINITIONS - Ordinance Text**

<i><b>Absolute Photometry</b></i>	Photometric measurements (usually of a solid-state luminaire) that directly measures the footprint of the luminaire. Reference Standard IES LM-79
<i><b>Architectural Lighting</b></i>	Lighting designed to reveal architectural beauty, shape and/or form and for which lighting for any other purpose is incidental.
<i><b>Authority</b></i>	The adopting municipality, agency or other governing body.
<i><b>Astronomic Time Switch</b></i>	An automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction.
<i><b>Backlight</b></i>	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light.
<i><b>BUG</b></i>	A luminaire classification system that classifies backlight (B), uplight (U) and glare (G).
<i><b>Canopy</b></i>	A covered, unconditioned structure with at least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.)
<i><b>Common Outdoor Areas</b></i>	One or more of the following: a parking lot; a parking structure or covered vehicular entrance; a common entrance or public space shared by all occupants of the domiciles.
<i><b>Curfew</b></i>	A time defined by the authority when outdoor lighting is reduced or extinguished.



**X. DEFINITIONS - Ordinance Text**

<p><b>Emergency conditions</b></p>	<p>Generally, lighting that is only energized during an emergency; lighting fed from a backup power source; or lighting for illuminating the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm.</p>
<p><b>Footcandle</b></p>	<p>The unit of measure expressing the quantity of light received on a surface. One footcandle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.</p>
<p><b>Forward Light</b></p>	<p>For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the direction of the intended orientation of the luminaire.</p>
<p><b>Fully Shielded Luminaire</b></p>	<p>A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.</p>
<p><b>Glare</b></p>	<p>Lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.</p>
<p><b>Hardscape</b></p>	<p>Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, etc.</p>
<p><b>Hardscape Area</b></p>	<p>The area measured in square feet of all hardscape. It is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition.</p>

**X. DEFINITIONS - Ordinance Text**

<b><i>Hardscape Perimeter</i></b>	The perimeter measured in linear feet is used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition.
<b><i>IDA</i></b>	International Dark-Sky Association.
<b><i>IESNA</i></b>	Illuminating Engineering Society of North America.
<b><i>Impervious Material</i></b>	Sealed to severely restrict water entry and movement
<b><i>Industry Standard Lighting Software</i></b>	Lighting software that calculates point-by-point illuminance that includes reflected light using either ray-tracing or radiosity methods.
<b><i>Lamp</i></b>	A generic term for a source of optical radiation (i.e. “light”), often called a “bulb” or “tube”. Examples include incandescent, fluorescent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as light-emitting diode (LED) modules and arrays.
<b><i>Landscape Lighting</i></b>	Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.
<b><i>LED</i></b>	Light Emitting Diode.
<b><i>Light Pollution</i></b>	Any adverse effect of artificial light including, but not limited to, glare, light trespass, sky-glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

**X. DEFINITIONS - Ordinance Text**

<b><i>Light Trespass</i></b>	Light that falls beyond the property it is intended to illuminate.
<b><i>Lighting</i></b>	“Electric” or “man-made” or “artificial” lighting. See “lighting equipment”.
<b><i>Lighting Equipment</i></b>	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
<b><i>Lighting Zone</i></b>	An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community.
<b><i>Lighting Equipment</i></b>	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
<b><i>Low Voltage Landscape Lighting</i></b>	Landscape lighting powered at less than 15 volts and limited to luminaires having a rated initial luminaire lumen output of 525 lumens or less.
<b><i>Lumen</i></b>	The unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from “watt,” a measure of power consumption).
<b><i>Luminaire</i></b>	The complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply.

**X. DEFINITIONS - Ordinance Text**

**Mounting Height:** The horizontal spacing of poles is often measured in units of “mounting height”. Example: “The luminaires can be spaced up to 4 mounting heights apart.”

<b><i>Luminaire Lumens</i></b>	For luminaires with relative photometry per IES, it is calculated as the sum of the initial lamp lumens for all lamps within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%. For luminaires with absolute photometry per IES LM-79, it is the total luminaire lumens. The lumen rating of a luminaire assumes the lamp or luminaire is new and has not depreciated in light output.
<b><i>Lux</i></b>	The SI unit of illuminance. One lux is one lumen per square meter. 1 Lux is a unit of incident illuminance approximately equal to 1/10 footcandle.
<b><i>Mounting height</i></b>	The height of the photometric center of a luminaire above grade level.
<b><i>New lighting</i></b>	Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs.
<b><i>Object</i></b>	A permanent structure located on a site. Objects may include statues or artwork, garages or canopies, outbuildings, etc.
<b><i>Object Height</i></b>	The highest point of an entity, but shall not include antennas or similar structures.
<b><i>Ornamental lighting</i></b>	Lighting that does not impact the function and safety of an area but is purely decorative, or used to illuminate architecture and/or landscaping, and installed for aesthetic effect.

**X. DEFINITIONS - Ordinance Text**

<p><b><i>Ornamental Street Lighting</i></b></p>	<p>A luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics:</p> <ul style="list-style-type: none"> <li>· designed to mount on a pole using an arm, pendant, or vertical tenon;</li> <li>· opaque or translucent top and/or sides;</li> <li>· an optical aperture that is either open or enclosed with a flat, sag or drop lens;</li> <li>· mounted in a fixed position; and</li> <li>· with its photometric output measured using Type C photometry per IESNA LM-75-01.</li> </ul>
<p><b><i>Outdoor Lighting</i></b></p>	<p>Lighting equipment installed within the property line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated lighting control equipment.</p>
<p><b><i>Partly shielded luminaire</i></b></p>	<p>A luminaire with opaque top and translucent or perforated sides, designed to emit most light downward.</p>
<p><b><i>Pedestrian Hardscape</i></b></p>	<p>Stone, brick, concrete, asphalt or other similar finished surfaces intended primarily for walking, such as sidewalks and pathways.</p>
<p><b><i>Photoelectric Switch</i></b></p>	<p>A control device employing a photocell or photodiode to detect daylight and automatically switch lights off when sufficient daylight is available.</p>
<p><b><i>Property line</i></b></p>	<p>The edges of the legally-defined extent of privately owned property.</p>

**X. DEFINITIONS - Ordinance Text**

<i>Relative photometry</i>	Photometric measurements made of the lamp plus luminaire, and adjusted to allow for light loss due to reflection or absorption within the luminaire. Reference standard: IES LM-63.
<i>Repair(s)</i>	The reconstruction or renewal of any part of an existing luminaire for the purpose of its on-going operation, other than relamping or replacement of components including capacitor, ballast or photocell. Note that retrofitting a luminaire with new lamp and/or ballast technology is not considered a repair and for the purposes of this ordinance the luminaire shall be treated as if new. "Repair" does <b>not</b> include normal relamping or replacement of components including capacitor, ballast or photocell.
<i>Replacement Lighting</i>	Lighting installed specifically to replace existing lighting that is sufficiently broken to be beyond repair.
<i>Sales area</i>	Uncovered area used for sales of retail goods and materials, including but not limited to automobiles, boats, tractors and other farm equipment, building supplies, and gardening and nursery products.
<i>Seasonal lighting</i>	Temporary lighting installed and operated in connection with holidays or traditions.
<i>Shielded Directional Luminaire</i>	A luminaire that includes an adjustable mounting device allowing aiming in any direction and contains a shield, louver, or baffle to reduce direct view of the lamp.
<i>Sign</i>	Advertising, directional or other outdoor promotional display of art, words and/or pictures.

**X. DEFINITIONS - Ordinance Text**

<i><b>Sky Glow</b></i>	The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky.
<i><b>Temporary lighting</b></i>	Lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days.
<i><b>Third Party</b></i>	A party contracted to provide lighting, such as a utility company.
<i><b>Time Switch</b></i>	An automatic lighting control device that switches lights according to time of day.
<i><b>Translucent</b></i>	Allowing light to pass through, diffusing it so that objects beyond cannot be seen clearly (not transparent or clear).
<i><b>Unshielded Luminaire</b></i>	A luminaire capable of emitting light in any direction including downwards.
<i><b>Uplight</b></i>	For an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane.
<i><b>Vertical Illuminance</b></i>	Illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

**XI. OPTIONAL STREETLIGHT ORDINANCE - User's Guide**

This section was added since the first public review. It is designed to work closely with the proposed revision to ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting.

Street and roadway lighting is one of the world's largest causes of artificial skyglow. Many adopting agencies will recognize that the MLO will make privately owned lighting more efficient and environmentally responsible than their street lighting systems. But because the process of designing street lighting often requires more precise lighting calculations, applying the MLO directly to street lighting is not advised. Using existing standards of street lighting is recommended, particularly IES RP-8 and AASHTO standards.

Until a new recommended practice for street lighting can be developed, this section can serve to prevent most of the uplift of street lighting systems without setting specific requirements for the amount of light, uniformity of light, or other performance factors. Adopting agencies should include these basic improvements to street lighting along with regulations to private lighting.

Lighting streets with "period" ornamental luminaires that evoke the look of a time when the light source was a gas flame can cause glare if high-lumen lamps are used. Such ornamental street lights should not exceed a BUG rating of G1. If additional illuminance and/or uniformity is desired, the ornamental fixtures should be supplemented by higher mounted fully shielded luminaires, as illustrated in RP-33-99.

Few street lighting warranting processes exist. The adopting agency needs to gauge whether a complex warranting systems is required, or if a simple one using posted speeds, presence of pedestrians, or other practical considerations is sufficient.

Examples of a current street lighting warranting system are included in the Transportation Association of Canada's Guide for the Design of Roadway Lighting 2006.

**XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text**

**Note to the adopting authority:** *the intent of this section is that it only applies to streets and not to roadways or highways.*

**A. Preamble**

The purpose of this Ordinance is to control the light pollution of street lighting, including all collectors, local streets, alleys, sidewalks and bike-ways, as defined by ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting and in a manner consistent with the Model Lighting Ordinance.

**B. Definitions**

Roadway or Highway lighting is defined as lighting provided for freeways, expressways, limited access roadways, and roads on which pedestrians, cyclists, and parked vehicles are generally not present. The primary purpose of roadway or highway lighting is to help the motorist remain on the roadway and help with the detection of obstacles within and beyond the range of the vehicle's headlights.

Street lighting is defined as lighting provided for major, collector, and local roads where pedestrians and cyclists are generally present. The primary purpose of street lighting is to help the motorist identify obstacles, provide adequate visibility of pedestrians and cyclists, and assist in visual search tasks, both on and adjacent to the roadway.

Ornamental Street Lighting is defined as a luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics:

- designed to mount on a pole using an arm, pendant, or vertical tenon;
- opaque or translucent top and/or sides;
- an optical aperture that is either open or enclosed with a flat, sag or drop lens;
- mounted in a fixed position; and
- with its photometric output measured using Type C photometry per IESNA LM-75-01.

**XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text*****C. Scope***

All street lighting not governed by regulations of federal, state or other superceding jurisdiction.

**EXCEPTION:** lighting systems mounted less than 10.5 feet above street level and having less than 1000 initial lumens each.

***D. Master Lighting Plan***

The Authority shall develop a Master Lighting Plan based on the American Association of State Highway and Transportation Officials (AASHTO) Roadway Lighting Design Guide GL-6, October 2005, Chapter 2. Such plan shall include, but not be limited to, the Adoption of Lighting Zones and:

1. Goals of street lighting in the jurisdiction by Lighting Zone
2. Assessment of the safety and security issues in the jurisdiction by Lighting Zone
3. Environmentally judicious use of resources by Lighting Zone
4. Energy use and efficiency by Lighting Zone
5. Curfews to reduce or extinguish lighting when no longer needed by Lighting Zone

***E. Warranting***

The Authority shall establish a warranting process to determine whether lighting is required. Such warranting process shall not assume the need for any lighting nor for continuous lighting unless conditions warrant the need. Lighting shall only be installed where warranted.

**XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text**

***F. Light Shielding and Distribution***

All street lighting shall have no light emitted above 90 degrees.

Exception: Ornamental street lighting for specific districts or projects shall be permitted by special permit only, and shall meet the requirements of Table H below without the need for external field-added modifications.

**Table H - Uplight Control Requirements for Ornamental Street Lights - by Special Permit Only**

Lighting Zone	Maximum Uplight Rating
LZ-0	U-0
LZ-1	U-1
LZ-2	U-2
LZ-3	U-3
LZ-4	U-4

## **ALPINE PLANNING COMMISSION AGENDA**

**SUBJECT: Planning Commission Minutes August 18, 2020**

**FOR CONSIDERATION ON: 1 September 2020**

**PETITIONER: Staff**

**ACTION REQUESTED BY PETITIONER: Approve Minutes**

**BACKGROUND INFORMATION:**

Minutes from the August 18, 2020 Planning Commission Meeting.

**STAFF RECOMMENDATION:**

Review and approve the Planning Commission Minutes.

**ALPINE CITY PLANNING COMMISSION MEETING**  
**Alpine City Hall, 20 North Main, Alpine, UT**  
**August 18, 2020**

**I. GENERAL BUSINESS**

**A. Welcome and Roll Call:** The meeting was called to order at 7:00 p.m. by Chairwoman Jane Griener. The following were present and constituted a quorum:

Chairman: Jane Griener

Commission Members: Ethan Allen, John MacKay, Troy Slade, Sylvia Christiansen, Alan MacDonald

Excused: Ed Bush

Staff: Austin Roy, Jed Muhlestein, Marla Fox

Others:

**B. Prayer/Opening Comments:** Sylvia Christiansen

**C. Pledge of Allegiance:** Ethan Allen

**II. PUBLIC COMMENT**

No Comment.

**III. ACTION ITEMS**

**A. Discussion – General Plan and Land Use Regulations – Intermunicipal Connecting Streets**

Austin Roy, City Planner, said on July 14, 2020, the City Council adopted Resolution 2020-09, which began the process of amending the City's General Plan and land use ordinances as they pertained to streets and roads entering in and out of the City. On August 4, 2020, the Planning Commission discussed new language for the Transportation Element of the General Plan. The City Attorney reviewed the proposed language and provided feedback for discussion, indicating that the Council should address a new ordinance to be enforced through the Street Master Plan to show stub streets to neighboring municipalities.

Austin Roy said 1.6 was re-written to say: *Intermunicipal street connections shall be limited to existing planned connections only. Street connections to other municipalities outside the City boundaries must be compatible with the goals and policies of the General Plan and shall require City Council approval and an update to the General Plan, Street Master Plan, and applicable ordinances.*

Alan MacDonald said the Council should use consistent language throughout the document. In the Subdivision Ordinance under Streets and Street Requirements, he asked that number 1.6 be changed to say: *Intermunicipal Street Connections: There shall be no new street connections to municipalities outside of Alpine City unless the connection is existing or planned as shown on the Transportation Master Plan.*

Sylvia Christiansen said she would like to change 1.6 to say: *Limit intermunicipal street connections to existing planned connections only. Ensure that street connections to other municipalities outside the City boundaries are compatible with the goals and policies of the General Plan, require City Council approval, and include required updates to the General Plan, Street Master Plan, and applicable ordinances.*

The Planning Commission talked about the language in the Development Code in the Transportation Section. Jed Muhlestein said Minor Streets were the same as Local Streets. Jane Griener said the Council should have the same language on the Street Master Plan Map, so the map matched the City ordinance. She said to add the name *Minor* before *Local Street* on the Street Master Plan Map.

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## **B. Discussion – Training Materials**

Austin Roy said in July 2020, City Councilwoman Jessica Smuin shared specific training videos with the Planning Commission. Planning Commissioner Alan MacDonald had since drafted training materials for discussion, based on these videos.

Austin Roy said the videos came from the Land Use Academy of Utah, which was an organization made up by Legislatures and State Ombudsman. He said the draft Training Materials from the videos were a great cheat sheet for future meetings.

Alan MacDonald stated he had questions about Administrative functions and when to hold a Public Hearing. Austin Roy said it was up to the City Council if they wanted the Planning Commission to hold a Public Hearing. Alan MacDonald said they held public meetings but not always a public hearing. He said the Council needed to know the rules and then educate the public. Jane Griener asked if Austin Roy would introduce agenda items as Administrative or Legislative, so she knew how to guide the meeting and the Planning Commission knew how to address the public. Alan MacDonald requested that procedures be added to the document.

Sylvia Christiansen said she was confused about the sentence that read: *making the citizen's desires into law*. Alan MacDonald said the videos said that “citizen wants” were policy. Austin Roy said that “policy” was considered the General Plan.

Jane Griener asked the Planning Commission to read what the City Attorney wrote as well as the materials that Alan MacDonald put together. She suggested they make notes and any additions to improve the document.

## **C. Discussion – Building Code and Ordinance Issues**

Austin Roy said Mayor Stout asked that the Planning Commission review and discuss potential building code and ordinance issues with the goal of protecting the qualities of Alpine City and its neighborhoods for the future. A number of specific issues were outlined for discussion:

1. Height of Structures
2. Garage Doors on Frontage
3. Lighting
4. Recreational Structures
5. Artificially Increasing Driveway Slope
6. Massive Additions

The Planning Commission had a discussion about how to tackle these issues. Jane Griener said they could look at addressing one issue per meeting. Austin Roy said this would require a Public Hearing after the Planning Commission worked on each one.

Sylvia Christiansen said a schedule would be nice so the Planning Commission could be prepared for the meeting.

Jane Griener said she would like to start with a simple, straight forward subject. The Planning Commission decided to start with Height of Structures for the next meeting.

John MacKay wanted to know what other municipalities were doing. He did not think they should change the Municipal Code because of one ugly building.

1 **IV. Communication**

2 Austin Roy said there was no expected timeframe for the Planning Commission to return to holding  
3 meetings in City Hall. They would continue to hold meetings via teleconference.  
4

5 Jane Griener asked for information about the fire the City had last week. Austin Roy said the fire burnt  
6 about one acre. He said the contractor was on site and had water trucks there. Austin Roy said the source  
7 of the fire had not been identified.  
8

9 **V. APPROVAL OF PLANNING COMMISSION MINUTES: August 4, 2020**

10  
11 **MOTION:** Alan MacDonald moved to approve the minutes for August 4, 2020, with changes by Sylvia  
12 Christiansen. John MacKay seconded the motion. There were 6 Ayes and 0 Nays (recorded below). The  
13 motion passed unanimously.  
14

15 **Ayes:**

- 16 Alan MacDonald
- 17 Ethan Allen
- 18 John MacKay
- 19 Jane Griener
- 20 Sylvia Christiansen
- 21 Troy Slade

**Nays:**

None

22  
23 The meeting was adjourned at 8:20 p.m.

