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April 13, 2011

TO: *MAG Dark Sky Stakeholders Group*

FROM: *Jami Garrison, Socioeconomic Research Program Manager*

SUBJECT: *TENTATIVE AGENDA*

Tuesday, April 19, 2011, 1:30 p.m.
Saguaro Room 2nd Floor
302 North 1st Avenue, Phoenix

The MAG Dark Sky Stakeholders Group will meet at the time and location listed above. Interested parties may attend in person or by telephone conference call. Those attending by telephone conference call are requested to contact (602) 254-6300 prior to the meeting for dial-in instructions. Resource materials may be found at http://www.azmag.gov/Projects/Project.asp?CMSID=1082.

Parking is located under the building and tickets will be validated at the meeting. For those using transit, the Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage. If you have any questions about the meeting, please contact me at (602) 254-6300.

The following are tentative agenda items for the April 19, 2011 Dark Sky Stakeholders Group meeting:

1. *Welcome and Introductions*
2. *Brief presentations from stakeholders:*
    - *Arizona Association of Retailers*
    - *Arizona Food Marketing Alliance*
    - *Arizona Sign Association*
    - *Shopping Center Case Study*
    - *Summary Comments*
3. *Discussion of next steps*
4. *Items for next meeting*
5. *Date of Next Meeting: May 17, 2011 @ 1:30pm in MAG Saguaro room*

Please feel free to invite others that you feel may be interested in the topics on the agenda.

DRAFT

MAG Dark Sky Stakeholders Group (DSSG)
Draft Meeting Notes

February 15, 2011

Heidi Bickart welcomed the group to the February DSSG meeting. Introductions were made.

Heidi Bickart recapped the January 2011 meeting and asked for corrections to the meeting notes. No comments were provided.

Heidi Bickart stated that MAG staff has been providing regular updates to the Intergovernmental Representatives of MAG member agencies to ensure they are informed about the Dark Sky project.

Ms. Bickart noted that this is the third meeting since the October 2010 MAG Management Committee meeting where public comments were provided from those opposed to the MAG draft pattern outdoor lighting code. Comments received at the Management Committee meeting were recorded in the meeting minutes, which are public record. Comments heard at subsequent DSSG meetings were noted in the meeting notes. Multiple letters of concern have been provided. She thanked those for their comments. The goal of the DSSG is to work together to move the dark sky project forward. Since this is a stakeholders group there is an informal process. There are no meeting minutes, but there are meeting notes. There is no need to fill out a public comment card to speak.

At the January DSSG meeting, some attendees said they were not involved in the DSSG process since the beginning and would appreciate background on dark sky, and learning about the purpose and benefits of an Outdoor Lighting Code (OLC). MAG staff listened to that request and arranged for two guest speakers to give presentations on dark sky and the purpose and benefits of outdoor lighting codes. In addition, a PowerPoint was given on the Impacts of Artificial Night Lighting on Wildlife, by staff from Arizona Game and Fish Department. Presentations and meeting materials can be found at www.azmag.gov on the dark sky project web page.

Richard Green, Director of the Large Binocular Telescope Observatory, provided the presentation on dark sky [showing the beneficial effect of outdoor lighting codes on sky brightness as measured by astronomers over several decades.] Gordon Keig asked for clarification on the time of a typical exposure. Richard Green responded that it can be 5 hours worth of exposure time but exposure time varies depending on the task of the astronomer. Richard Green agreed that lighting stress is less at 3a.m. than at 9p.m. Mr. Keig visited www.cleardarksky.com and printed out some clear sky charts for various observatories. He asked questions about these charts. Richard Green and Gordon Keig discussed optimal viewing time. Gordon Keig said he thinks optimal viewing time is 3-5a.m. and Richard Green said optimal viewing time is from dusk to dawn and staff at observatories work from dusk to dawn. If the astronomer's object sets at midnight then it must be observed before it sets.

Gordon Keig did some research prior to the meeting to better understand why MAG would create a draft outdoor lighting code. He said he would share the information he researched with Heidi Bickart so it could be posted to the MAG dark sky project web page.

Gordon Keig is trying to understand why the MAG POLC does not address public roadway lighting, which, according to a study of light in Flagstaff by Chris Luginbuhl, is the largest source of light pollution. Chris Luginbuhl said that according to his study, about 16 percent of light pollution in Flagstaff comes from street lighting but the single greatest source of light pollution is sports lighting when it is on. The MAG POLC addresses street lighting in section 3.5. The MAG POLC states that lighting for public roadways and pedestrian lighting must comply with the code, except the lumens cap of Section 4.2. Typically the municipality's Street or Transportation Department sets and implements street lighting standards. Roadway lighting is addressed in the POLC, it states it must be fully shielded. ADOT has a policy where they use only fully shielded lighting for public roadways and ADOT is not impacted by the MAG POLC. Gordon Keig said he thinks it is unfair to hold private property owners responsible for reducing light levels but not hold municipalities responsible for light levels of municipal roadway lighting.

Chris Luginbuhl noted that due to commercial pressures gas station canopies have become very bright. The MAG POLC attempts to provide guidance for appropriate lighting levels for the task (e.g. pumping gas). According to Gordon Keig gas station canopies are well lit due to liability issues that arise from spilled gasoline as well as safety concerns for individuals pumping gas.

To clarify misconceptions, MAG staff reviewed some of the Frequently Asked Questions (FAQ) that were included in the February DSSG agenda packet. Items addressed included: street lights, grandfathering, retrofitting, enforcement, etc. The FAQ provide accurate and relevant information on the MAG draft POLC. The FAQ can be used as a resource for new participants to the process.

MAG staff introduced agenda item 5, which provides the rationale for all the technical figures in the OLC. Each rationale was reviewed and new information was requested. Heidi Bickart reminded that DSSG was requested by MAG Management Committee to evaluate each alternative thoroughly. To do this, the rationale for each alternative has been provided.

Michelle Alhmer asked for a definition of close of business. Chris Luginbuhl stated that close of business is when the business closes and there is no longer any activity by employees or customers. Ms. Alhmer noted that a curfew is difficult to administer by the business owner.

Chris Luginbuhl said any trademarked aspect of a sign is exempt from sign color restrictions. He said municipalities may want to ask what aspects of a sign are

trademarked and what aspects are not. Trish Hart asked for clarification. He said non-trademarked signs are subject to local regulation. Paul Blyer said any restrictions on sign trademarks are difficult to enforce. MAG staff noted that there is an alternative to eliminate signs from the OLC. James Carpentier said the Arizona Sign Association (ASA) supports alternative C on sections 5.1A and 5.2.

Paul Blyer asked if brightness limits only refer to LED digital display boards. Section 5.3A refers only to off premise signs and there is no brightness limit for on-premise signs. James Carpentier said he agrees with a limit of 300 nits for on-premise signs.

Stacy Langford asked for a clarification for what it means for a business to be closed. Heidi Bickart said this clarification will be added to the POLC and it will apply to all alternatives and sections of the code.

ASA is opposed to any sign curfew. Emergency response time can be hindered if a sign light is turned off due to curfew. Marketing of businesses will be hindered by a sign curfew. A sign curfew affects the most affordable form of advertising that a business has. There is little information on the advertising value of signs at night. James Carpentier said there is some documentation and he will provide 3 hard copy documents to MAG staff to scan and place on the MAG dark sky web page.

Mike Sills Trausch said city of Glendale requires full cut off fixtures for municipal street lights.

The Technical Basis and Background document was reviewed completely. Questions and answers shall be part of the next meeting to allow for a greater understanding of the material presented at the February DSSG meeting. The business coalition said they will provide a presentation on safety and lighting at the next meeting.

It was requested that MAG change the FAQ to be inclusive of all stakeholders, not only the astronomy community. Trish Hart said the food marketing alliance industry represents 5,600 stores, 100,000 employees and $28 billion annual revenue to the state of Arizona.

Since the observatory business community had presented the data they'd been asked to show to document their need and the results of similar outdoor lighting codes on sky brightness, Dr. Green requested data from the segments of the business coalition that would show the economic impact of the techniques used in the POLC on their segments. These techniques have been in use in many Arizona communities. Gordon Keig said they do not have this data. James Carpentier said he will provide some general information on the economic impact of signage to business.

A member of the public requested that MAG DSSG consider impacts to the general public when working on the dark sky project. She said she wants to be able to see the stars from her backyard and enjoy the nighttime sky but she is afraid that the big city light has ruined her view of the nighttime sky.

MAG staff requested to please let them know of other stakeholders not represented that should be at the table. MAG is encouraged to see everyone here and hopes that all participants will continue to participate.

Action Items for Future Meeting

- Business coalition to provide a presentation on the impacts of the MAG POLC to them (safety, economic impact, etc)
- Discussion on possible solutions or compromises for the signage section of the MAG draft POLC (trademarks, curfew, lighting, colors, backgrounds, etc).
- Questions and answers to February meeting content.
- Mark Greenawalt offered to give a presentation on good parking lot lighting in a shopping center if that would be helpful to the DSSG.