

CITY of BOISE

# STREET LIGHT POLICY & PRACTICE MANUAL



Prepared by the  
Public Works Department  
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## PUBLIC WORKS ENGINEERING STREET LIGHT POLICY & PRACTICE MANUAL

This manual is a guide to the policies and significant practices to be used in the management and placement of street lights within the incorporated City of Boise City Limits or within the city's area of impact. This is primarily intended for staff use, though it should also be helpful in explaining policies and practices to developers and the general public.

For information on detailed procedures used to implement these policies and practices see the Public Works Engineering Street Light Office Desk Manual.

Approved by the City of Boise Public Works Commission December 10, 2015.



**STREET LIGHT POLICY MANUAL**

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# PLACEMENT OF LIGHTS

## Overview

### INTENT

The intent is to identify for owners and developers the standard street light placement requirements, including locations and type of street lights, for new developments located within the incorporated City of Boise City Limits or within the City's area of impact. This policy will be utilized for new subdivisions, conditional uses, design reviews, building plan reviews, and other developments including City Projects.

### PURPOSE

Promote uniformity within the City's street lighting system. Properly designed street lighting systems will:

- Increase visibility and safety in locations where vehicular traffic, bicycle traffic, and pedestrian traffic share the right-of-way,
- Increase visibility and safety in locations where traffic at intersections and other areas of potential hazard exist,
- Act as a deterrent for certain types of crime, thereby increasing general public safety,
- Promote aesthetics within designated Historical Lighting Districts.

### LIGHTING LEVELS

In order to minimize long term operation and maintenance costs as well as reduce excessive lighting complaints, residential urban collector streets will be provided with lower lighting levels than urban collector streets in commercial/industrial areas.

Requirements for lights along residential urban collector streets will be in accordance with the requirements listed for local residential streets. The most current and approved revision of the functional street classification map, prepared by the Community Planning Association (COMPASS) will be utilized in the classification of streets as residential, residential collector, major collector, and arterial.

### REQUIREMENTS

Lighting levels along principal or minor arterial and urban collector streets located in predominantly industrial/commercial areas will be in accordance with national standards established by the Illuminating Engineering Society (ANSI/IES RP-8-14) and the American Association of State Highway and Traffic Officials (AASHTO). The decision for continuous lighting will be made on a case by case basis. Standard lighting levels are normally expressed in terms of foot candles, taking into account the uniformity of lighting levels as well as the intensity of light.

## **ATTACHMENTS**

Any and all attachments or connections, including but not limited to communication antenna, repeaters/boosters/extenders, banners, signs, cameras, art projects, sprinkler timers, traffic counters and decorative lighting to any street light pole that is owned and operated by the City shall be approved by the City Engineer or their designee. All attachments or connections shall meet the plan review requirements of the City Engineer or their designee including additional engineering, permits, and license agreements. No attachments will be allowed unless written authorization is provided by the City Engineer. Attachments or connections made without such authorization may be removed at the City's discretion. Unless otherwise specifically stated in a lease agreement, authorization for such attachments or connections may be revoked by the City Engineer or their designee at any time.

# **Street Light Installations Specific Requirements**

## **GENERAL CRITERIA**

The city has adopted the goal of providing street lights in local residential areas at a maximum spacing of 600 feet, a minimum spacing of 300 feet, and at locations where street lighting will improve public safety. For the purposes of this policy, the 600 foot maximum criteria applies in areas of relatively straight and level streets that have no obvious traffic conflicts with little to no bicycle and pedestrian use. These spacing standards are guidelines, not definitive requirements.

## **LOCAL RESIDENTIAL AND URBAN COLLECTOR STREETS**

Street lights will be required at:

- Intersections
- Pedestrian crossings
- Bike path crossings
- Sharp curves
- Steep inclines
- Bridges
- Steep embankments
- Dead-end streets
- Cul-de-sacs
- Round-a-bouts

Individual street lights may not be required at each location identified above if these locations are in close proximity and it is determined that adequate illumination can be achieved with a lesser number of lights.

Locations not specifically noted above but determined by Public Works Department as a special safety and/or security locations, may require increased levels of street lighting (e.g., schools, hospitals, churches, retail area, and other facilities with high potential of vehicle/bicycle/pedestrian accidents).

When considering development in the foothills, staff shall work to minimize light pollution into the neighboring areas. It may be necessary to locate fewer lights where possible, use specific fixtures and/or use shielding to minimize light pollution. During the review process lighting staff may want to consult with Planning & Development Services (PDS) staff as well to help determine lighting requirements. Under no circumstance will any adjustments to lighting supersede the public welfare, the interests of the City, or the intent of the Street Light Placement Policy.

To the greatest extent possible, street lights will be located in public right-of-way or lighting easements along property lines in common areas and median strips to minimize the impact on individual properties.

Fixtures will be a minimum of 4400 Lumens on poles with a 25 foot mounting height as noted in the Boise Standard Revisions to the Idaho Standards for Public Works Construction.

Once locations have been illuminated as required in the above list, the remaining unlighted portions of streets will be evaluated, providing for a maximum street light spacing of no more than 600 feet.

## **ARTERIAL AND COMMERCIAL/INDUSTRIAL COLLECTOR STREETS**

When possible, streets will be illuminated in accordance with national standards established by IES and AASHTO. If the existing streets are not fully developed and upgrading of the streets is not a condition of development approval, the following criteria will apply:

Street lights will be required at:

- Intersections
- Pedestrian crossings
- Sharp curves
- Bridges
- Steep embankments
- Business entrances
- Bike path crossings
- Steep Inclines
- Dead-end streets
- Round-a-bouts

Individual street lights may not be required at each location identified above if these locations are in close proximity and it is determined by the Public Works Department that adequate illumination can be achieved with a lesser number of lights.

Fixtures will be a minimum of 9100 Lumens on poles with a 30 foot to 40 foot mounting height as noted in the Boise Standard Revisions to the Idaho Standards for Public Works Construction.

If the roadway is four lanes or greater and/or the lights have any set back from the sidewalk, the use of mast arms from 6 feet up to 20 feet in length and fixtures larger than 9100 Lumens shall be considered to ensure proper illumination for both the sidewalk and the roadway. If overhead power is present it may be required to have a davit pole installed as per the ISPWC and NEC codes.

Specific street light construction, materials, equipment and installation requirements will be in accordance with *Street Light Installation Standards* on page 16.

# Developer Responsibilities

The owner or developer of all new developments located within the incorporated City limits and of all new subdivisions located within the City impact area will provide for street lights in accordance with this manual. The owner or developer will be responsible for all costs incurred in designing and installing street lights (to include the side of the street that the development fronts) including the payment of all street light fees as per Master Fee Schedule.

Contractors employed by the owner or developer to install street lights must possess a current Idaho Electrical Contractor's License.

All street light plans prepared by the owner or developer's engineer or electrical contractor will be in accordance with this manual. Final approval of street light plans will be by the Public Works Engineering Department. The level of detail required in the submission of street light plans is dependent upon the number of street lights and the complexity of the street light system to be installed. Plans and submittals will address all items shown on the Boise City Street Light Design Checklist. More complex commercial installations or installations designed to IES or AASHTO standards may require a more formalized design. A plan review fee will be required before final approval.

For new subdivisions, the street light installations must be completed within one year of the date of the City Engineer's approval of the final Plat or within 90 days of issuance of the first building permit (whichever comes first). Commercial developments require street lights to be complete prior to final occupancy unless special agreements have been approved in writing by the Public Works Department.

Inspection of all street light installations will be conducted by the Public Works Inspection office. The one exception to this is any metered service will also have to be inspected by an Electrical Inspector in addition to the Public Works Inspectors.

All inspection fees must be paid by the owner or developer prior to inspection and/or acceptance.

The owner or developer of required street light installations located outside of the incorporated City limits but within the City's area of impact shall install all required street lights and provide for maintenance and operation.

## Ownership & Maintenance of Lights

### **WITHIN THE INCORPORATED BOISE CITY LIMITS**

Following installation, final inspection, acceptance, and activation of street lights in new developments, the owner or developer has the following option regarding ownership and maintenance of said lights:

The owner or developer may allow the city to assume ownership and maintenance responsibility. The operation and maintenance of said street lights will then become the sole responsibility of the City, notwithstanding the owner or developer's responsibility to warranty said lights against all defects for a period of one (1) year from the effective date of transfer.

For non-standard street lighting see page 9.



## **OUTSIDE CITY LIMITS BUT WITHIN CITY'S AREA OF IMPACT**

Following installation, final inspection, and acceptance of street lights in new developments, the owner or developer has the following options regarding ownership and maintenance of lights.

The owner or developer may enter into agreements with the City wherein the owner or developer will retain ownership as well as sole responsibility of operation and maintenance of street lights until such time as the development is annexed by the City.

Proper agreements approved by both the Public Works Department and the City Attorney shall be developed following annexation that transfers ownership of said street lights and the sole responsibility of operation and maintenance of said street lights to the City.

A homeowner's or property-owner's association may retain ownership of street lights. Proper agreements approved by both the Public Works Department and the City Attorney will be developed that designate those parties responsible for operation and maintenance of said street lights.

For non-standard street lighting see section below.

## **PRIVATE STREETS AND LANES**

As private streets and lanes are not public roadways, lighting along said streets and lanes shall meet all the requirements of this manual, but the owner or developer will retain ownership as well as sole responsibility of operation and maintenance of street lights.

# **Non-Standard Street Lighting**

For purposes of minimizing system maintenance costs and providing for system longevity, Boise City Street Light Installation Standards (page 16) have been developed to identify acceptable materials, equipment, poles, and fixtures that can be incorporated into the City maintained street light system. In all cases, street light installations that will ultimately be operated and maintained by the City must meet these minimum standards.

Should an owner or developer choose specialty lighting or lighting equipment that does not meet the style, fixture, or pole type specified in the current version of the Boise City Standard Revisions for City of Boise Street Lighting, installation may only proceed if the system is operated and maintained by a homeowner or property owner association and the lighting system proposed will provide an equivalent or better level of light than would be provided by standard fixtures at specified intervals. The classic historic poles are only permitted within defined historical lighting districts as shown in the PDS zoning ordinance.

# Individual Commercial Development

Commercial development (both new and substantial remodels or change of use) will be required to comply with this manual. Refer to *Developer Responsibilities* on page 8.

## Historical Street Lighting

Developments (both new and substantial remodels or change of use) located within designated Historical Lighting Districts will be expected to comply with special lighting requirements. Approved lighting districts are reflected in the PDS zoning code.

Specific historical street light construction, materials, equipment, and installation standards will be in accordance with the current revision of the Boise City Standard Revisions to the ISPWC and page 16 of this manual. Historical lighting will be required to promote continuity of lighting within the Historical Districts.

## New Light Requests

The city council has approved limited funding from the General Fund for the installation of residential street lights at locations deemed to improve public safety. Under this program, requests for new lighting come from several sources (e.g., property owners, school districts, neighborhood watch, police, etc.). Requests shall be reviewed quarterly and prioritized based on public safety. The number of lights installed depends upon priority and budget limitations. All requests shall be considered using the policies contained in this manual.

New light requests shall be forwarded to the Municipal Lighting Technician. The lighting technician shall conduct a field site investigation collecting information regarding the location of the light, power sources for the light, possible conflicts such as neighbor's homes near the light, and notify and collect comments from the homeowners next to the light to determine public support or opposition for the light. The lighting technician will attempt to minimize any negative impact to opposing neighbors through the use of fixture design and shielding. Generally, lights will not be installed where the nearest neighbors object, unless there are significant public safety issues or significant broader neighborhood support.

If a light or group of lights meet the requirements for the Mayor's Neighborhood Reinvestment program the individual shall be referred to that program. See *Neighborhood Reinvestment Funds* on page 14.

## Modifications, Waivers, Appeals Process

### DEVELOPMENTS SUBJECT TO SUBDIVISION REQUIREMENTS

If unusual conditions exist in the new developments, subject to subdivision requirements, such that the strict application of this Street Light Placement Policy will result in substantial hardship or inequity, the City Council may waive or modify the requirements to allow the owner to develop the property in a reasonable manner.

Requests for modifications, waivers, and appeals for street lights within new developments will be subject to the requirements of the PDS zoning ordinance.

## **DEVELOPMENTS SUBJECT TO DESIGN REVIEW OR CONDITIONAL USE REQUIREMENTS**

Street light decisions of the Planning and Development Services Director or his designee, may be appealed to the City Planning and Zoning Commission in accordance with the requirements of PDS zoning ordinance.

Street light decisions of the Design Review Committee may be appealed to the City Planning and Zoning Commission in accordance with the requirements of the PDS zoning ordinance.

Street light decisions of the City Planning and Zoning commission may be appealed to Boise City Council in accordance with the requirements of the PDS zoning ordinance.

# **INSPECTION OF INSTALLATIONS**

## **Overview**

Public Works ensures that street light installations meet the standards of requirements of the Public Works Department. Public Works Inspections will be responsible for all inspection aspects of a new street light installations including electrical with one exception. Any metered service within the city limits will also require an inspection by the City Electrical Inspector, or outside the city limits but in the area of Impact, will require in inspection by the State Electrical Inspector in addition to the Public Works Inspection.

All inspections require a representative from the contractor to be present during the inspection. The only exception to this is contractors that have been approved not to be present based on previous performance, experience, and quality of work performed. This exception must be approved by the Street Light Technician in advance.

## **Fees**

Fees include the street light plan review fee, the street light inspection fee and any fees associated with the connection of the street lights to Idaho Power. Public Works fees will be based on cost recovery. Fees shall be periodically reviewed to determine that cost recovery is being achieved.

# OPERATION OF STREET LIGHTS

## Digline

The Street Lighting Division of Public Works receives notification services from Digline Inc. for those areas of the city that contain City-owned, underground, and metered street lighting systems that could be significantly impacted by underground construction activity. Staff will take a strategic approach to identify those areas to balance marking costs vs. potential facility damage. The requests generated by Digline will be routed through the KorWeb Ticket Management System.

The Municipal Lighting Technician will screen all Digline tickets clearing those that do not require any locating and dispatching the city's street light maintenance contractor or others for those tickets that require locating. The lighting technician shall locate as many tickets as possible given other demands on his time in order to reduce costs. For those tickets he is not able to locate he will notify the contractor for completion timeframes.

Tickets for Digline affecting street light facilities must be completed within 48 hours of notification. Occasionally Digline transmits a "Priority Locate" which must be completed within the prescribed time on the ticket, usually within 2 to 24 hours of notification or an "Emergency Locate" which must be located immediately. If the lighting technician cannot respond immediately to the emergency request he shall contact the street light maintenance contractor and have them respond.

## Mapping

The Street Lighting Division shall maintain a Geographic Information System (GIS) database for street lights. The actual base maps or layers for this system are maintained by the GIS Department based on information provided by the street light office. In the GIS database there are layers for street lights, City-owned underground conduit, and metered street light system service cabinets. The lighting technician has the responsibility to collect, update, and transmit layer information to the GPS Technician. The actual location of the lights and other layers on the mapping system and data entry into the GIS system may be done by the GIS technician.

## Outage Response

Public Works will rely on input/notification from the public, other government agencies, and its employees to detect and report malfunctioning street lights. Once a malfunctioning light is reported, the staff will determine first, if the light located within the city limits, second if in the City of Boise, Idaho Power Company, or a private party is responsible for the maintenance of that street light based on the ownership and tariff rate the light falls under. Once the responsible party is determined a work order is issued to either Idaho Power or to the city's maintenance contractor. The "response time" target is 5 working days or less for both Idaho Power and the city's maintenance contractor to complete any given work order.

# Accident Response

Public Works responds to calls from the public, police, and other agencies for accidents involving street lights 24 hours a day as needed. During normal business hours, calls shall be referred to the street lighting staff for response. During non-working hours, callers shall be directed to the municipal lighting technician's cell phone, the DIS Assistant City Engineer, and the maintenance contractor's 24-hour response number, in that order. The lighting technician and or the maintenance contractor will respond and disconnect any live electrical circuits and take any and all necessary steps to ensure the accident location is safe. Only the labor necessary to ensure the safety of the site will be accomplished after hours. All other maintenance required at the accident scene will be deferred to normal business hours. (For example, any downed poles that can be safely placed on the shoulder of the roadway and marked with cones and will not block a sidewalk or be a hazard to vehicle, bicycle and pedestrian traffic will be left in-place and removed during the next business day.)

# Bulb Replacement

## GENERAL

Staff will maintain a strategic approach to preventative maintenance such as bulb replacements with the goal of reducing overall, long-term maintenance costs. High Pressure Sodium (HPS) street light bulbs have an efficiency curve that requires that they be replaced on a five (5) year basis. Light Emitting Diode (LED) fixture replacement are estimated to occur at approximately every 10 years.

## SCHEDULE 41A

For lights falling under the Idaho Public Utilities Commission (IPUC) Tariff Schedule 41A, Idaho Power is required by the tariff to replace all street light bulbs and photo cell on a five (5) year basis as well as replace bulbs and photo cells that fail in between the five (5) year cycle. Idaho Power is responsible for tracking and scheduling the five (5) year replacement bulbs. The City is responsible for reporting any failures to Idaho Power for repair at no cost to the City.

## SCHEDULE 41C & CM

For lights falling under the IPUC Tariff Schedule 41C and 41CM, the City of Boise is responsible for all maintenance including bulb replacement. The City shall adopt the same schedule for bulb replacement on these lights and shall be responsible for tracking and scheduling the five (5) year replacement of bulbs. The lighting technician will run a semi-annual report from the VUEWorks data base on all HPS street lights approaching a five (5) year life and provide a work order to the maintenance contractor for bulb replacement. LED fixture replacement are estimated to occur at approximately every 10 years.



# CAPITAL IMPROVEMENT PROJECTS AND FUNDING

## Overview

In an effort to continually improve the safety or enhance the character of the neighborhoods and streets in the City, limited street light improvement projects are provided to bring all parts of the City to the standards of the Street Light Placement Policy. Various funding programs have been established to provide the means to facilitate capital improvement projects.

## Capital City Development Corporation

The Capital City Development Corporation (CCDC) is the re-development agency for Boise, Idaho providing economic development and infrastructure investment within their designated boundaries. As the CCDC invests in the revitalization of Boise, the Public Works Department shall coordinate on the lighting infrastructure that forms an integral part of the CCDC Street Scape Projects. The lighting technician shall work closely with CCDC to ensure coordinated installation of the historic lighting as it is installed within the designated Historic Street Light Districts in the city and insure it meets the city's standards. CCDC provides funding for their projects. Note that some streetscape projects are requirements of development but shall be similarly coordinated.

## Neighborhood Reinvestment Funds

Neighborhood reinvestment funds are awarded directly to the neighborhood associations by the Mayor's office through the Neighborhood Reinvestment Program. The selection of the sites for light installation is done by the neighborhood association with input from Public Works staff. The number of lights included depends on the request and the funding amount awarded by the Mayor's Office. The association should also notify and get approval from adjacent property owners for all locations they propose to install a light.

The street lighting staff shall ensure the neighborhood associations follow the Digline notification procedures outlined on page 12 for all new lights under the neighborhood reinvestment projects.

The street lighting staff will work closely with a contact person from the association to track the project's progress and fund expenditures. Public Works staff will oversee all streetlight projects that will eventually be included in the city streetlight system to ensure compliance and construction.

# Federal Grants

The Federal Government provides money to cities through Community Development Block Grants for the purpose of revitalizing low-income neighborhoods. These funds are often used to fund street lighting in qualifying neighborhoods. Neighborhood associations can apply for these funds through the City's Community Development Divisions.

In addition to the Community Development Block Grants the Federal Government will from time to time make additional funding available through specific legislation. An example of this is the American Recovery and Reinvestment Act which created the Energy Efficiency and Conservation Block Grant which was used to fund the City's initial Light Emitting Diode Street Light Upgrade.

# Other

Specific program funding is established during the budget preparation cycle. Programs may be added or deleted within any given adopted budget. An example of this is the current program to fund additional LED street light conversions within the city.

# Budgeting

The City's General Fund (property tax) supports street lighting; therefore, it is subject to an annual budget approval by the City Council. Administration of the street lighting system shall be through the Engineering Division of the Public works Department.

## **GENERAL**

Annually the City Council adopts a budget. A portion of that budget addresses street lighting. That budget provides for Capital Improvement projects, Equipment, and Maintenance & Operation.

Unless unforeseen situations occur that create a significant system operation or life safety hazard, system expenditures shall be limited to the approved budget.

## **BUDGET PROJECTIONS**

Anticipated system expansion and the previous year's actual expenditures for each of the budgetary categories shall be used as guidance to develop budget requests.

# INSTALLATION STANDARDS

## Overview

The City of Boise has adopted the Idaho Standards for Public Works Construction (ISPWC) for all Public Works construction projects. All street lighting shall be installed in accordance with this document and the Boise City Standard Revisions to the ISPWC.

## Idaho Standards for Public Works Construction

Street light installation is primarily covered under Division 1100- Traffic in the Idaho Standards for Public Works Construction (ISPWC). Additional divisions are referenced for trenching, concrete, traffic control, etc. It is required that all contractors installing street lights for the City have this document.

## Boise City Standard Revisions

The City has also compiled revisions to the ISPWC called “Boise Standard Revisions to the ISPWC”. These standard revisions detail specific changes or additions to the ISPWC as mandated by the City of Boise Public Works Department. Included is approved listing of materials and products for a complete street light pole by part number for each category. The Municipal Lighting Technician shall review and update the Standard Revisions annually to ensure it stays current.

## Approved Products Listing

The Municipal Lighting Technician shall maintain and review annually or more frequently if needed, an approved part number listing for all fixtures and associated equipment to be allowed for use in street lighting within the City of Boise. This approved part number listing shall be attached to the Boise City Standard Revisions for the ISPWC.

The Municipal Lighting Technician shall review any products vendors submit for listing for suitability and compliance with established specifications. Only those products most suited for use will be listed.

In order to promote uniformity within the City’s street lighting system and simplify maintenance, only the most energy efficient fixtures shall be used from any one vendor for each category of lights.

## LED Lighting Specifications

Light Emitting Diode (LED) fixtures used in the City of Boise shall meet the minimum specifications cited in the “City of Boise Specifications for Light Emitting Diode Street Lights”. The Municipal Lighting Technician shall maintain this document and review it annually to ensure it is current with the latest changes in the industry and reflects technology improvements as they occur.