



City of  
Garden City

Nestled by the River

# *Street Lighting*



## *Operations and Maintenance Guideline*



# CHAPTER 1 Street Light Placement

## 1.1 Overview

### Intent

This document identifies the standard street light placement recommendations, including location and type of street lights, for new developments located within the incorporated Garden City. This document will be utilized for new subdivisions, conditional uses, design reviews, building plan reviews, and other developments including City projects.

### Purpose

The purpose of this document is to promote uniformity within the City's street lighting system. Properly designed street lighting systems will:

- increase visibility and safety in locations where vehicular traffic and pedestrian traffic share the right-of-way,
- increase visibility and safety for vehicular traffic at intersections and other areas of potential hazard,
- act as a deterrent for certain types of crime, thereby increasing general public safety, and
- Provide for aesthetics in land use designations such as the live work create

### Criteria

The City has adopted the goal of providing street lights in local residential areas at a maximum spacing of 400 feet and at locations where street lighting will improve public safety. For purposes of this document, the 400 foot maximum criteria applies in areas of relatively straight and level streets that have no obvious traffic conflict. Locations that may require additional lighting for public safety include:

- pedestrian crossings
- steep embankments
- sharp curves
- public bike paths
- dead-end streets
- cul-de-sacs
- bridges
- steep inclines
- intersections

Locations not specifically mentioned but that may affect public safety and/or security may also require increased levels of street lighting.

### 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:

- local • collector • arterial

The adopted Garden City Comprehensive Plan will be used for the identification of future land use.

## Requirements

Requirements for lighting 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 (IES) (AA)* and the *American Association of State Highway and Traffic Officials (AASHTO) (AB)*. Standard lighting levels are normally expressed in terms of foot candles, taking into account the uniformity lighting levels as well as the intensity of light.

### 1.2 Street Light Installation Specific Requirements

#### Local and Residential Collector Streets

Street lights may be required at:

- intersections
- pedestrian crossings
- public bike paths
- sharp curves
- steep inclines
- bridges
- cul-de-sacs
- steep embankments
- dead-end streets

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 special safety and/or security locations, may require increased levels of street lighting (e.g., schools, churches, retail areas and other facilities with high potential of vehicle/pedestrian accidents).

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. A streetlight not on a public right-of-way may be maintained by the City if the developer and or Home Owners Association enter into an agreement with the City through consent of the Public Works director and Planning and Zoning Commission's approval.

Fixtures will be a minimum of 100 Watt High Pressure Sodium on poles with a 20 or 25 foot mounting height (20 foot - local, 25 foot collector).

Once locations have been illuminated as required in the above list, remaining unlighted portions of streets will be evaluated, providing for a maximum street light spacing of 400 feet.

New installations should meet construction, materials, equipment, and installation requirements will be in accordance with street light installation standards.

#### Arterial and Commercial/Industrial Collector Streets

When possible, streets will be illuminated in accordance with national standards established by *IES (AA)* and *AASHTO (AB)*. 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 may be required at:

- intersections
- business entrances
- pedestrian crossings
- sharp curves
- steep inclines
- bridges
- steep embankments
- dead-end streets
- public bike paths

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 200, 250, or 400 watt high pressure sodium on poles with a minimum mounting height of 30 feet in height.
- Specific street light construction, materials, equipment and installation requirements will be in accordance street light installation standards.

### **1.3 Developer Responsibility**

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 should provide for street lights in accordance with this Street Light Placement document. The owner or developer will be responsible for all costs incurred in designing and installing street lights (for the side of the street that the development fronts) including the payment of inspection fees. 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 will be in accordance with this Street Light Placement Document. Final approval of street light plans will be by the Public Works 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 supply all items shown on the *Garden City Street Light Plan Review Requirements*. More complex commercial installations or installations designed to IES (AA) or AASHTO (AB) standards may require a more formalized design. **A plan review fee will be required before final approval.**

For new subdivisions, street light installations will 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 first building permit (whichever comes first). Commercial developments require approval 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 Public Works Inspection. 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 will either:

- install all required street lights and provide for maintenance and operation, or
- deposit monies sufficient to design, install, and inspect required street lights under the direction of Public Works.

In situations where site conditions preclude the installation of street lights adjacent to the development, the owner or developer will be required to deposit monies sufficient to design, install, and inspect street lights under the direction of the Public Works Department. These lights will be installed in the general area of the owner or developer's project when suitable alternate locations are available or when adjacent development takes place.

### **1.4 Ownership & Maintenance of Lights**

#### **Within Garden City Limits**

Following installation, final inspection, acceptance, and activation of street lights in new developments, the owner or developer has the option to transfer possession of street lights to the City by entering into the proper agreements approved by both the Public Works Department and the City Attorney. 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 of ownership.

### **1.5 Non-Standard Street Lighting**

For purposes of minimizing system maintenance costs and providing for system longevity, Garden City street light installation standards 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 should meet these minimum standards. All lights accepted by the City must also provide for the greater public.

Should an owner or developer choose specialty lighting or lighting equipment that does not meet the style, fixture, or pole type recommended by Garden City, 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.

### **1.6 Individual Commercial Development**

Commercial development (both new and substantial remodels) may be required to comply with this document. Should site conditions preclude installation of street lights on a commercial development's street frontage, the owner or developer will deposit into a City trust funds sufficient to design, install, and inspect street lights required by this Street Light Placement Guideline. These funds will then be used, when appropriate, to install street lights required for the property at approved alternate locations.

Substantial remodel is defined as an improvement valued at 20% or more of the total value of the building where the improvement is being made.
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### **1.7 Street Light Installation Standards**

#### **Overview**

Garden City has adopted the *Idaho Standards for Public Works Construction (ISPWC), 2005 Edition*, for all public works construction projects. Street light installation is primarily covered under Division 1100 - Traffic in the *Idaho Standards for Public Works Construction (ISPWC), 2005 Edition*. 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.

### **1.8 Modifications, Waivers, and Appeals Process**

#### **Developments Subject to Subdivision Requirements**

If unusual conditions exist in new developments subject to subdivision requirements such that the strict application of this *Street Light Placement Guideline* 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. Under no circumstance will any modification or waiver supersede the public welfare, the interests of the City, or the intent of this Street Light Placement document.

Requests for modifications, waivers, and appeals for street lights within new developments will be subject to the approval of Garden City Planning and Zoning Commission.

#### **Developments Subject to Design Review or Conditional Use Requirements**

Decisions of the City Planning Division may be appealed to the City Planning and Zoning Commission. Decisions of the City Planning and Zoning Commission may be appealed to the City Council.



## CHAPTER 2 Operations

Street light administration, coordination, and design responsibilities are shared by staff.

### 2.1 New Light Requests

In order to accurately track and process new street light requests, the *Street Light Installation Request* form needs to be followed and completed. All lighting request information is entered in the Pending Light Requests database. After requests are reviewed an appropriate response letter issued to the requesting individual. To provide an accurate site assessment, it is important to acquire sufficient information either initially or with follow-up communication. If coinciding with new development, this can be done in conjunction with the associated development permit.

#### Procedures

1. Obtain name, address, and daytime phone number of requestor.
2. Obtain requestor's opinion for street light location.
3. Obtain reason(s) for light request (e.g., vandalism, school bus stops, etc.).
4. Enter information on the *Street Light Installation Request* form and into the database.
5. If sufficient information has not been provided, send *Street Light Standard Packet* to requestor.
6. Upon return of completed information, review information for determining lighting needs.
7. Staff will conduct field site investigation, finalize information, and conclude field site evaluation.
8. Staff will make recommendation for suitability of light in project where requested.
9. Requests meeting the criteria for installation are hierarchically rated and included in the [Capital Improvements Plan](#). The light will be installed upon adequate funding.

### 2.2 Digline Procedures

The street lighting section of Public Works requests notification services from Digline for those quarter sections of the City that contain City-owned, underground, and metered street lighting systems that could be significantly impacted by underground construction activity. When possible, sewer locating staff will be used to mark the facility locations where street lighting power supply is obvious. They also alert the street lighting staff if they see a potential problem, but can not determine the street lighting system location. The following addresses Digline notifications and facility marking procedures.

#### Digline Contact

1. Digline notifies public works staff of location request. All field marking of facilities must be completed within 48 hours of Digline notification.
2. A daily summary of the notifications will be provided by Digline to staff.

#### Initial Screening

1. Staff reviews request whether work will be in right-of-way or on private property. (Typically, all City facilities are in the right-of-way).
  - a. If the request is in the right-of-way, staff enters the address into the system mapping file and the project location. Potential impacts to the lighting system should be evaluated.
  - b. If proposed work is sufficiently distant from the system and does not present a hazard, the notification sheet will be marked and dated.
  - c. If there is a potential for the lighting system to be impacted, staff will proceed with having the system field marked.

### Clear Determinations

1. In house staff will mark the system if the location can be clearly determined from surface points (e.g., poles, junction boxes, etc.). When possible, coordinate with the Facilities Locator to see if they can undertake markings while on site.
2. Staff will document on the Digline notification sheet the time and date that the system was marked.

### Unclear Determinations

1. If locations cannot be easily determined from surface points by City staff, then a locating service contractor with underground locating equipment is dispatched to locate street lighting facilities. This may be a City's maintenance contractor or a special locating service.
2. The contractor should note the date and time on the Digline Notification Sheet.

Emergency Notifications - Occasionally Digline transmits an "Emergency" request as identified at the top of the notification sheet.

1. Immediately confirm receipt of the emergency locate request by notifying Digline.
2. Evaluate as per standard procedure.
3. If necessary, proceed with field location ASAP.

### Weekly Summary

1. On Fridays, staff reviews the daily Digline
  2. Circle the notification reference for those on private property.
  3. Send to Digline for credit so that we will not be billed. (Emergency locations must be counted in the monthly total for payment whether they are in the right-of-way or not.)
- Notification Files - All notifications will be kept in a file in chronological order.
  - Services - Digline services are based upon the *Digline Agreement*.

### **2.3 Mapping Maintenance**

A Geographic Information Systems (GIS) database for street lights will be maintained. The base maps for this system are maintained by the GIS Section. Street light locations are entered into the mapping system by downloading GPS field locations and corresponding field data directly into the ArcView system. The pole number is input by the GIS Technician at the time the field data is taken.

### **2.4 Street Light Turn On Procedure**

1. Upon notification from the PW Inspection, staff will notify IPCo and include a map of the light location.
2. IPCo will notify the City when connection has been completed and the light pole numbered.



## CHAPTER 3 Maintenance and Repair

### 3.1 Light Outage Response Procedure

Public Works responds to calls from the public on street lights that need to be repaired. Staff determines if the Garden City (City) or IPCo is responsible for the maintenance of malfunctioning street light(s). A repair request is completed and faxed to either IPCo or the City's street light maintenance contractor.

#### Light Outage Response

##### Response Initiation

1. Obtain name, phone number of reporting party.
2. Obtain location, pole number, street light problem (light out, cycling, continually on).
3. Check base inventory for pole number and location. (A, B or C light classification)
4. Input data into database.

A-The facilities required for supplying service including replacement and cleaning will be performed by Idaho Power, the company has two standard street lighting fixture options, drop glass or cut-off (shielded lighting); on existing utility poles. Charges based on Idaho Power's schedule 41 A fees.

B-The lighting system is installed and owned by the City, yet Idaho Power cleans the glassware and changes photocells and lamps if standard to IPC owned streetlights. Charges based on Idaho Power's schedule 41 B fees.

C-Installation and all maintenance performed by the City (contracted through Alloway). Charges based on Idaho Power's schedule 40 fees

##### Maintenance Contractor Repair Request

1. Street Light Repair Request is provided to the maintenance contractor by Building and Parks Manager.
2. Maintenance contractor will advise staff if they have repaired the light or will provide Building and Parks Manager with a time and cost estimate.
3. Building and Parks Manager will update database with comments and the estimated cost of repair.
4. When the light is repaired, the database is updated with the completion date and repair description.
5. Invoices from the maintenance contractor are reviewed and sent to Building and Parks Manager.
6. Invoice is returned it to the Sr. Administrator Assistant for payment.

### 3.2 Street Light Accident Procedure

During normal working hours Building and Parks Department responds to calls from the public, police, and other agencies for accidents involving street lights. During non-working hours, calls are directed to the Public Works emergency number. All final repairs follow normal repair request procedures.

### 3.3 Street Light Bulb Replacement

#### General

Street light bulbs have an efficiency curve that requires they be replaced on a five (5) year basis. IPCo. is required by the Idaho Public Utilities Commission tariff for service and maintenance to replace all street light bulbs for Schedule 41 A & B light on a five (5) year basis. Schedule C lights will also be replaced on a five year basis.



## CHAPTER 4 Inspections of Installations

### 4.1 Overview

Inspection insures that street light installations meet the requirements of the Public Works Department. Public Works will be responsible for all inspection aspects of a new installation.

### 4.2 Subdivisions and Commercial Developments

1. Two (2) sets of subdivision lighting plans are sent to PW Inspection after approval by the Lighting Technician.
2. Plans are logged in the GIS data base as proposed lights.
3. Plans are filed with the development plans.
4. Once the lights are installed inspections shall be done.
5. On the initial inspection the pole base excavation is inspected for depth and width, the type reinforcing rod cage, the grounding method used, and the conduit size and depth.
6. At final inspection of the pole installation, PW Inspection checks that the pole is plumb and verifies the photo cell installation. Additionally, PW Inspection will check for correct wire connections, grounding, and fusing of each installation.
7. Verify numbering.
8. After final inspection, "As-Built" drawing of the final pole location and power will be supplied to the City for inventory and turn on.

### 4.3 Capital Improvement Projects

1. The Notice of Award is issued after the City Council approves the budget expenditure through resolution.
2. Staff schedules a pre-construction meeting (Notice to Proceed is issued and a start date is set).
3. Within three days of the start date, staff is to stake the locations of the new light poles. At that same time, the staff will attempt to contact the property owner to discuss the location of the pole and deliver a door hanger to the properties adjacent to the new light.
4. During construction, staff will make periodic visits to ensure specification compliance. There are specific phases of inspections required during the course of the project.
  - a. Inspect materials for compliance of the specifications.
  - b. Inspect the pole base excavation for depth and width. During this initial inspection, the type reinforcing rod cage, the grounding method used, and the conduit size and depth are noted.
  - c. After pole installation check that the pole is plumb and verify photo cell installation. At this same time complete wire measurements and note quantities. Electrical inspections will also be undertaken at this time (this will be done by the State).
  - d. Verify site clean up and restoration.
5. Staff will prepare and process the pay estimates required for the project.
6. In cases where a metered system is being installed or extended, PW Inspection will number the street light poles per approved plans. If field changes were made during construction, verification of numbering will be done.
8. At the completion of the installation of the light poles, a clean and readable "As-Built" drawing of the final pole location will be provided for inventory and turn on.

### 4.4 Inspection Fees

PW Inspection fees will be based on cost recovery. Fees shall be periodically reviewed to determine that cost recovery is being achieved. Rates will be based upon the most current City Council adopted fees schedule.

\*This document was amended from the City of Boise's Streetlight Manual to fit the needs of Garden City.