STUDY OF KENSINGTON CIRCUIT 3 STREET LIGHTS

CITY OF SAN DIEGO

EXISTING CONDITIONS AND RESTORATION ASSESSMENT

MAY 10, 2024

CJ ROBERTS INC
ENGINEERING DIVISION

PREPARED BY: CHRISTOPHER J ROBERTS, PE

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1.0 BACKGROUND

Kensington is a community within the City of San Diego. Its borders are defined by Interstate 15 to the west, Interstate 8 to the north, Fairmount Avenue to the east, and El Cajon Boulevard to the south.

The neighborhood is comprised primarily of single-family homes, of which many remain from the time of the founding of the neighborhood in the early 1900's. In addition there are some newer developments located along the main street of Adams Avenue which is the gateway to the community.

As part of the City of San Diego's program to maintain infrastructure and improve energy efficiency, a contract has been awarded to replace the existing incandescent streetlights in the Kensington community with LED streetlights.

For the proposed LED lighting upgrades, the City undertook a search for new production light standards that would closely match the architectural features of the original "Empire" style lights while providing efficient LED emitters and having structural and electrical designs to meet current codes and requirements of the City.

As this lighting upgrade project began in the area known as Circuit 2, the City received comments from the community that they would prefer to retain the existing light standards rather than replace them with new lights. While the new LED lights closely resemble the design of the existing incandescent lights, members of the community felt that retaining the existing lights would better maintain the character of the neighborhood.

To address this request from the community, the City retained CJ Roberts Inc under the existing as-needed engineering contract with prime consultant WSP. The City requested that the engineering team inspect the existing lights and determine the feasibility of retrofitting the lights with LED emitters and refinishing the lights to extend their lifespan.

This report documents the investigation that was undertaken and the findings and recommendations.

2.0 STUDY SCOPE OF WORK

For this study the City of San Diego identified several items to be considered by the engineering team as follows.

1. Complete an existing condition inspection of the streetlights for Circuit 3 located in the vicinity of Marlborough Drive and Ridgeway Drive and comprised of 21 lights in total.

2. Determine required structural and finish repairs to restore the lights to a good condition.

3. Determine the feasibility to retrofit the existing fixtures for LED emitters.

4. Consider environmental regulations and other factors impacting the feasibility of the work.

5. Determine costs associated with the potential repair, refinishing, and retrofit work.

6. Determine the likely lifespan of rehabilitated lights.

The City noted that the carriage style post top lights called “Empire” were the ones to be considered for rehabilitation. Other lights within Circuit 3 such as those with glass globes would not be studied as they are planned to be removed and replaced with Empire lights.

3.0 EXISTING CONDITIONS

Prior to commencing field work, a review of existing documents and project information was completed.

As-constructed electrical drawings for the lights were reviewed indicating an original installation date of 1927. A map of the existing lights was also provided by the City and is included as Appendix A.

As part of the initial survey of Circuit 3 lighting we examined the original Empire lights and noted the other style of lights including steel light standards with globe fixtures, mid-century concrete post lights with globe fixtures, and new production Empire style lights installed as replacements to the original lights in recent years by the community.

The total of each light type in Circuit 3 was determined to be eleven (11) original Empire lights, two (2) steel pole globe lights, three (3) concrete post globe lights, and five (5) recent production Empire lights.

Photos of existing Circuit 3 lights are included in Appendix B.

Original Empire light (#13)

3.1 Light Components

The Empire lights were determined to be approximately 15 feet in height consisting of three main components; a cast iron base consisting of three sections and a hand hole cover, a corrugated sheet steel light pole, and a decorative “Empire” light fixture comprised of a steel frame with glass panels and high voltage incandescent bulb.

The lights are placed on concrete foundations in the sidewalk and landscaped areas. The base of the lights in the sidewalk areas appeared to be embedded a few inches into the concrete due to the sidewalks being constructed several years after the lights had been installed. The sidewalk concrete being placed at a higher elevation than the street light foundation has resulted in the light bases trapping rain and irrigation water inside the lower cast iron section accelerating the corrosion of the light.

In one existing light location in Circuit 2, the moisture inside the light base had caused the anchor rods to corrode completely through. The light only remained in place due to gravity and internal wiring. The contractor who removed this light noted that the bottom of the cast iron light base disintegrated once removed from the concrete.

The anchor rods from the concrete foundations are secured to a mounting plate inside the top segment of the cast iron light base (collar). This plate also connects three steel vertical rods that run the length of the sheet steel pole and connect to another mounting plate at the top of the light standard where the light fixture is attached.

The cast iron light base has a hand hole access to examine internal components and wiring. Portions of the cast iron around the hand hole were often missing from each light base from what appeared to be attempts to pry off the hand hold cover in past years.

A measurement of the hand hole cover indicates the cast iron used in the light base varies in thickness from 0.24” to 0.40” (varies due to corrugations) which is approximately half the thickness of castings used in modern decorative lighting.

Circuit 2 anchor bolts disintegrated by corrosion over time

Top of anchor rods and internal assembly rods not accessible due to soldered connection at collar.

Three sections of the cast iron base.

The light pole is formed of what was estimated to be 1/16" sheet steel that is rolled into a cylindrical shape and longitudinally butt welded together.

The combination of the light post outer sheet steel and the three internal steel assembly rods provide the structural system that carries the light fixture.

It was noted that a bead of lead solder was applied to the joint where the sheet steel pole is press fit into the cast iron light base. This appears to be to prevent water ingress at the joint and possibly to add strength to the connection.

Soldered pole to base joint.

3.2 Light Condition

The condition of the Empire lights varied with some cast iron bases being cracked and chipped with heavy surface corrosion and others appearing structurally intact with minor corrosion and paint loss.

The sheet steel light poles were often missing paint in areas but were without significant corrosion having benefited from a zinc coating or some other form of base metal protection.

One light at a cul-de-sac was dented from a vehicle impact and a few poles showed signs of the longitudinal welds splitting open.

Light fixtures appeared in fair condition with external paint mostly intact although often stained by corrosion of the steel frame.

The Interior of the fixtures had no paint present and showed surface corrosion of the steel frame. Glass panels of the fixtures had yellowed and turned opaque.

A test of the paint coatings detected the presence of lead-based paint in the original layers while the more recent surface layer of paint tested lead free.

An inspection report of the lights can be found in Appendix C. The report also includes references to environmental regulations applicable to the handling of lead-based paints.

Cast iron base and hand hole.

Broken hand hole cover.

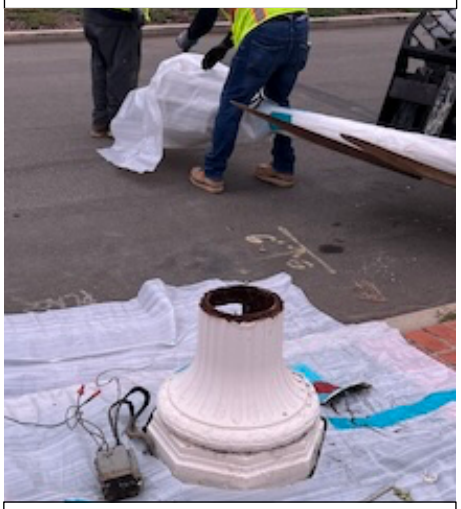
4.0 Restoration Considerations

Upon completing the initial inspection of the lights, we began to research the various options and techniques that could be employed to restore the structure and finish of the lights.

Due to the presence of lead contaminated paint we were not able to identify any vendor or contractor who was willing or able to complete repairs and refinishing of the lights in place. And as the City noted a preference for powder coating finish of the lights, it was determined that the work could only be completed by removing the lights and transporting to a shop with a powder coating booth that could accommodate components of this size.

Corrosion of internal assembly rods

Internal corrosion of cast iron base.



Lead paint wrapping.

4.1 Street Light Removal

During the removal of original lights in Kensington Circuit 2 we were able to observe the process to detach the lights from the existing foundations, wrap for lead containment, and place on a transport truck for delivery. This involved several laborers, operators, and equipment including a fork truck and transport truck.

The removal requires the cutting of the three anchor rods inside the street light base as well as internal wiring. Once anchors are cut the light is lifted off the base with a sling using a fork truck.

The light standard comes apart in three sections; the pole with fixture and cast-iron collar attached, the middle section of the cast iron base, and the bottom section of the cast iron base.

One important point to note with the light removal is that the internal anchor rods are not completely accessible. Only the bottom portion set in the concrete foundation can be viewed through the hand hole opening. These rods were cut with a hand saw as needed to free the light from the foundation.

The top of the anchor rods and fastening nuts are located above the top collar of the cast-iron base which is soldered to the sheet steel pole. There is no opening to access the

fastening nuts to remove the rods without disassembly of the collar from the pole.

As the cast-iron collar has been soldered to the steel pole, the removal requires heating the collar to 400°F for a sufficient time to melt the solder joint and then applying significant force to free the pole from the collar. Given the age and fragile condition of the components this disassembly process may result in cracking of the cast iron collar and damage to the thin-walled sheet steel pole.

4.2 Base and Pole Repairs

Based on the corrosion and damage to the cast iron light bases that we observed, it will not be feasible to repair several of the light base assemblies. The cast iron is too old, thin walled, and corroded in many of the lights inspected to withstand a significant amount of welding and grinding operations needed to restore them and would likely further crack and crumble in the repair process.

Instead, the restoration of light components for Circuit 3 will require selecting the best condition existing lights from Circuit 2 and Circuit 3 for restoration as needed to provide the twenty-one (21) light locations.

Due to the way the light were originally assembled in the field including the soldering of components together prior to painting, a new mounting plate will be required to properly secure the light and allow the light to be re-assembled in the shop for the powder coating process.

Some anticipated tasks in the restoration process include the following.

1. Sandblast and grind to remove corrosion.
2. Weld defects and apply filler as needed to restore surface details.
3. Weld new flanges to the hand hole openings to properly secure the covers with screws.
4. Manufacture new light mounting plates and weld to the bottom of the existing cast iron base as needed to secure the lights to the new foundations.
5. Weld the steel light pole longitudinal seam which has split open in a number of the existing lights.
6. Modify internal components to accept wiring conduit.
7. Install new assembly rods and fasteners.
8. Re-assemble cast-iron base sections and sheet steel pole and powder coat completely assembled light standard.

4.3 Fixture Repairs and Modifications

Our inspection of the light fixtures determined that they are a steel and glass construction with a relatively thin frame with a top cover that is hinged for access to the light bulb. The internal fixture components include the high voltage bulb socket

New LED Empire fixture vs yellowed opaque glass of exisitng light

The existing fixtures does not have the necessary heat sinks and mounting points needed to attach the LED panels. Attempts to drill or weld the frame to retrofit them would likely damage the frames due to the age of the metals and the corrosion present.

Modifications would also require unique designs to be prepared, manufacturing of parts, and potentially a review of the unique design for electrical standards certification.

A retrofit of the fixtures may also be feasible with a modification of the light socket to accommodate a screw in LED conversion emitter. There are models available with built in heat sink and dark sky compatibility such as the Wave Lighting LCE39-54C-DS.

The use of such conversion bulbs is not common practice in the City and would require review and acceptance of nonstandard items by the City departments.

Bulb socket requires replacement. Frame corrosion.

Additional work required for the fixture restoration would require the drilling out of the mounting screws to allow the replacement of the existing glass panels which have yellowed and become opaque with age.

We note that some light fixture assembly screw heads are broken off indicating the brittle nature of the existing metal components. These screws would need to be drilled out to be removed which risks cracking the brittle steel frame.

If the modifications to the existing fixtures to adapt a LED emitter are not possible then the City may consider replacing the entire fixture with the type used for the new lights in Circuit 2. This may require an adapter collar to mount the fixture to the top of the light standard.

4.4 Lead Paint Removal and Powder Coating

In discussions with a number of local finishing shop we were able to determine the effort and cost likely required to strip the existing lead paint coating and restore the lights with a powder coat finish. Some of the key items for the work are as follows.

1. Lights must be delivered to the shop properly contained. It is not possible to do any portion of the work in the field due to current regulations and the logistics of working with lead paint in a residential neighborhood.

2. Sandblasting product used in the work would need to be contained and disposed of and not reused due to lead contamination. This increases the cost of the work.

3. All corrosion must be removed prior to powder coating.

4. The typical powder coating finish has a 5-year warranty against defects or color fading. More expensive powder coat products can be used with a 10-year warranty at additional cost.

5. Powder coat warranty covers fading and chipping only. Base metal corrosion damaging the finish is not covered.

6. Powder coat can be painted over in future years with enamel or latex refresh the finish of the lights.

4.5 Re-Installation of Lights

With the light standards and fixtures repaired and powder coated the next step will be to construct new foundations for the lights. This will include anchor bolts to suit the newly installed mounting plates in the light base and fasteners to allow leveling of the light. Break away bolts may also be considered when lights may be at risk of vehicle impact.

Conduit, junction boxes, wiring and other needed infrastructure will need to be installed prior to the light delivery to each location.

Once the light standards are set and leveled, the fixtures would be attached, wiring pulled and connected, and the lights tested.

5.0 Estimated Costs

In considering the estimated costs for the restoration work we have reviewed recent street light bids, observed the light removal process, discussed repairs and refinishing with various local shops, and consulted with our inspectors.

We have developed total restoration and reinstallation costs for Circuit 3 lights to closely relate to the work involved in the bid for a new LED light installation in the contract for Circuit 2. Specifically,

we considered the cost to provide a complete light standard in good condition including installation on a new foundation. We have provided a breakdown of these potential costs as shown in Appendix D.

Based on our understanding of the work involved, and assuming the components of the light are in a condition suitable for restoration, we have developed a restoration and installation cost of approximately twenty thousand dollars ($20,000) for each of the twenty-one (21) lights needed for Circuit 3.

These costs do not include the underground infrastructure (conduit, wiring, pull boxes) for the neighborhood light electrical distribution system or demolition of the old system. It also does not include design costs, consultant fees, staff time, permitting, or contingency funds.

6.0 Lifespan and Maintenance

It is difficult to determine the lifespan of the restored lights due to the variance in condition of the existing lights and the unknown outcome of the restoration process, but we can consider several factors as follows:

1. The wall thickness of the existing cast iron base components is relatively thin (about half that of modern castings) and will be further reduced by sandblasting and grinding required to remove corrosion.

2. Corrosion will rapidly reappear under new finishes (powder coating or paint) if even a tiny spot of rust remains as this will act as a catalyst for the rapid spread on new corrosion of the metals. Given the condition of the existing lights, completely removing corrosion during the refinishing work would be very difficult if not impossible.

3. The existing light fixtures are of a lightweight design and the steel frames will have become brittle over the past 100 years of weathering. Cracking or breaking of existing steel frame and components may be expected.

4. The powder coating finish has a maximum warranty of 10 years but that is only for fading and chipping. It does not warranty against defects caused by corrosion from underlying metals. The City should expect a more involved repainting and maintenance process for the lights than is typically required with a new light standard.

5. There are no replacement parts available. The City may be able to salvage a few spare parts from existing lights but will need to refinish them and store them in a suitable facility to prevent continued corrosion of the parts.

Considering the above issues, we would expect some amount of maintenance required within the first few years due to corrosion reappearing and damaging the powder coat finish.

Depending on the initial condition of the components used and the quality of the restoration work, and with continued weathering and corrosion, we estimate that refinished lights for Circuit 3 would require additional repairs or replacement within a 10-to-25-year period.

7.0 Conclusion

The existing Empire lights in the Kensington community were assembled of a lightweight sheet steel pole, thin-walled cast-iron base, and thin frame steel fixture not likely expected to last for 100 years or more.

It is uncertain if the restoration process for the Circuit 3 Empire lights would be successful due to the amount of corrosion both externally and internally of the existing lights and the brittle nature of the aged and weathered metals.

The restoration of the lights if successful will cost the City more than the replacement of the lights with a new light standard as is being done in Circuit 2. The structural quality of the restored lights will be less than that of a new light with a much shorter lifespan and with no spare parts available for future repairs.

The LED retrofit options for the restored light fixtures would need City approval and possibly electrical code certification which may be an involved and long process.

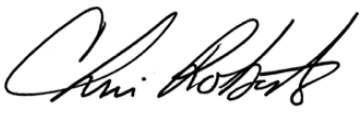
The unique design of the light standard with thin-walled sheet steel and internal assembly rods does not appear to be a compliant design for today's crash worthiness standards of monolithic lighting equipment located along city streets. The relatively fragile and non-ductile condition of the light components may be considered a hazard in the event of a vehicle collision.

The number of lights to be restored in Circuit 3 is a fraction of the total lights being replaced in Kensington with new LED light standards. The community in recent years have already replaced several of the exiting lights in Circuit 3 with new light standards as the existing lights have deteriorated. The area of Circuit 3 is not a location of tourism or commerce or gateway to the community which is instead Adams Avenue.

Based on the above we cannot recommend the restoration of Circuit 3 lights as the preferred engineering alternative.

We hope this report provides some valuable information to the City in considering how to proceed.

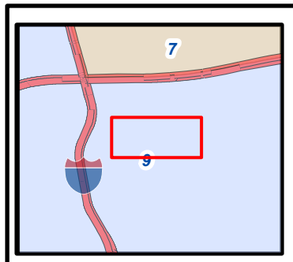
CJ Roberts Inc



Christopher J Roberts, PE
May 10, 2024

APPENDIX A

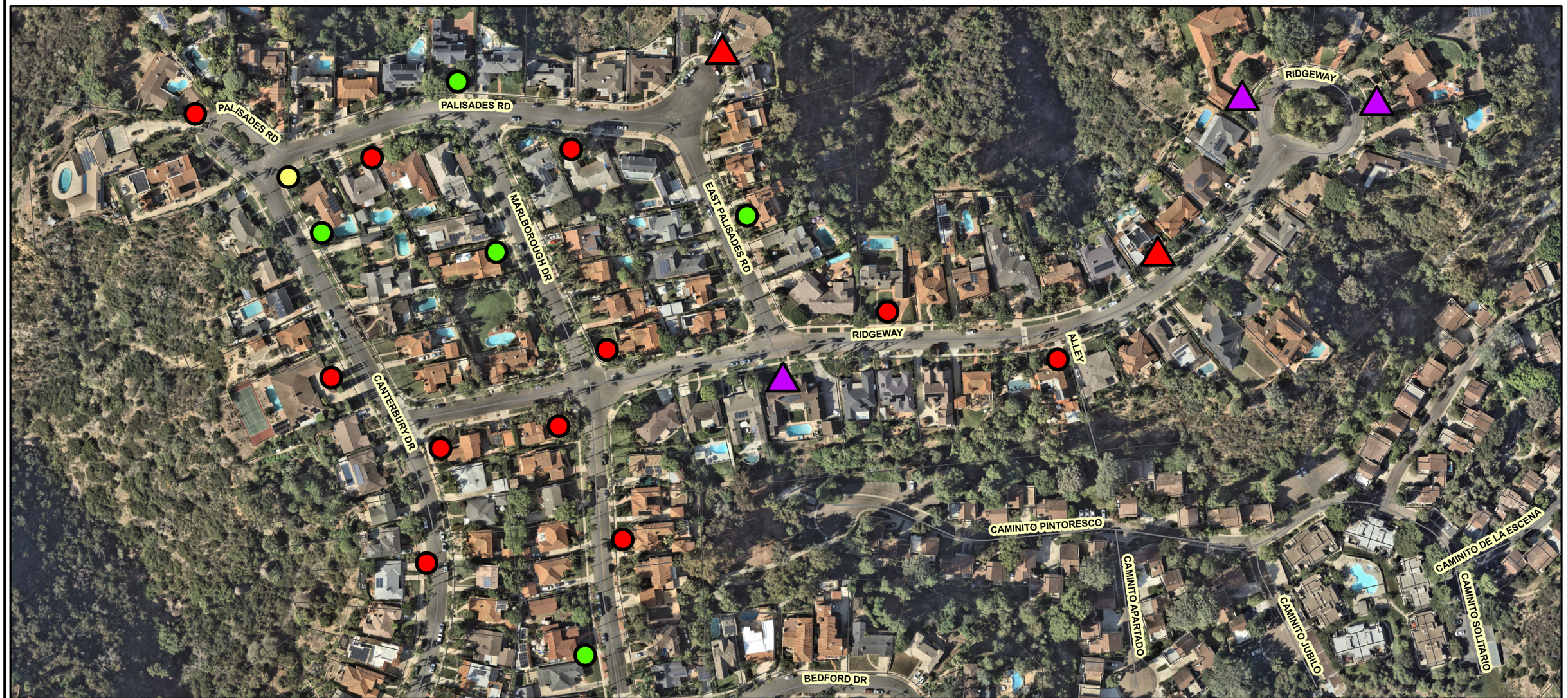
SITE MAP



Engineering & Capital Projects

KENSINGTON SERIES CIRCUIT UPGRADE #3

SENIOR ENGINEER	PROJECT MANAGER	PROJECT ENGINEER	FOR QUESTIONS ABOUT THIS PROJECT
DAYUE ZHANG	JIE XIAO	FEDERICO LAUSE	Call: (619) 533-4207
619-533-7409	619-533-5496	619-533-4667	Email: engineering@sandiego.gov



Legend

Type, Condition

- Empire, Appears New (5)
- Empire, Poor Condition (11)
- Empire, Proposed Pole (1)
- Globe, Poor Condition (2)
- Globe, Short Pole (3)

N W E S

COMMUNITY NAME: MID-CITY, KENSINGTON-TALMADGE

COUNCIL DISTRICT: 9

WBS NO: B23084)

Date: 1/16/2024

SanGIS

APPENDIX B

STREET LIGHT PHOTOS


LIGHT 1
LIGHT 2


LIGHT 3
LIGHT 4


LIGHT 5
LIGHT 1
LIGHT 1


LIGHT 6
TOYOTA


LIGHT 7
LIGHT 8
WATCH
IN EFFECT


LIGHT 9


LIGHT 10


LIGHT 11
4165
LIGHT 12


LIGHT 13
LIGHT 14


LIGHT 15


LIGHT 16


LIGHT 17
LIGHT 18


LIGHT 19


LIGHT 20


LIGHT 21

APPENDIX C

INSPECTION REPORT

FEBRUARY 15, 2024

CJ ROBERTS INC
ENGINEERING DIVISION

10515 Blue Granite Drive
San Diego, CA 92127
859.609.9089

SPECIAL INSPECTION DAILY REPORT

Special Inspection Reports must be distributed within 14 days of the inspection. Reports of non-compliant conditions must be distributed immediately. Separate reports shall be prepared for each type of special inspection, on a daily basis. Each report shall be completed and signed by the special inspector conducting the inspection.

Project Name: KENSINGTON STREET LIGHT STUDY — Date: FEBRUARY 15, 2024

Bldg Permit #: _____ — Time Arrived: _____

Project Location: MARBOROUGH DRIVE AND RIDGEWAY DRIVE — Time Departed: _____

Contractor: _____ — Travel Time: _____

Type of Inspection			
☐ Soils	x Coatings	☐ Non-Destructive Tests	☐ Fireproofing
☐ Masonry	☐ Concrete	☐ High Strength Bolting	☐ Electrical
	☐ Epoxy	☐ Welding	☐ Mechanical

Street Light Description: The lamp post inspected are segmented assemblies that can be listed as three different parts as follows:

A. Base. The base of the lamp post is cast iron. The surface has been painted numerous times. From observation the paint application has multiple layers and has a thickness of approximately 26 -27 mils. This may indicate that the posts were painted 8 or more times over the years with an average mil thickness of 3 mils per coat as an estimate. The paint was tested for lead and the result was positive. The paint exhibited clear signs of an aged paint application i.e. cracking chipping, flaking, chalking, etc.

The rust condition of the cast base appears to be substantially below worse than rust Grade D identified in the SSPC-VIS 1 Guide – indicating heavy pitting and lose of metal with layers of oxidation. So if grit blasting is employed for surface preparation the result would be a surface of heavy pitting and the creation of multiple penetrations(holes) in the bases that would need repair if salvage is intended. In addition, due to the age and brittleness of cast and the potential progression path of crevice corrosion or fretting that maybe present even larger sections of the base maybe destroyed under grit blasting.

Graphitization was not observed but maybe present under the corrosion or remaining paint. Pockets of moisture were still present in the cast iron bases from the past week rain indicating deep pockets of corrosion in areas of the bases.

Certain sections of the base around the cover have broken off. This is most likely due to attempts to pry off the cover either because of the layers of paint or of it being rusted to the base. Any rehabilitation of the bases would require welding on cast which would be difficult on these bases since the cast is thin and it would still remain a weak point for future damage. Epoxy repair would be possible for aesthetics

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reasons but would be subject to easy future damage. It is unknown as to the condition of the bases after blasting and the amount of repair would vary from one piece to another for pitting, design rebuild and hole repair.

B. **Stem of Lamp Post**. The stem of the lamp post is constructed of sheet metal. Other than the condition of the paint and the presence of lead, the substrate metal appears to be in good shape. From the metals appearance in areas where the paint has fallen off, it appears the stem was either hot dipped for corrosion protection or there is a layer of manufacture mill scale present which can provide a level of corrosion protection. Delamination of the paint due to age(as paints age they lose flexibility and disbond as they are unable to expand and contract with a substrate), and additionally poor adhesion to the substrate because of no surface preparation.

C. **Street Light Fixture**. Some of the lamp tops have been work on in the past exhibiting different substitute metal fittings screws, caulking etc. To rehabilitate the fixtures, it is recommended to disassemble and soak in paint/lacquer remover as this is a common practice for removal of paint rather than blasting that may damage the pieces. Lead containment for this process would also be required.

Lead Testing: The photo below is the result of the field lead test. The red/pink spot on the test card shows the test application will detect the presence of lead. The paint chips shown are the back side of paint chips from the posts. They also showed the presence of lead. The top coat of the painted lamb posts were tested and a very light tenge of pink appeared around the perimeter of the test. This maybe from the lead leaching directly through to the higher layers of paint or through the abundant complex cracking and chipping of the paint. The cracking and chipping encompasses and is visible in the whole paint system layers on the lamp posts inspected.

Lead Construction Abatement: Based on the research of the California Department of Health regulations regarding the handling of lead contaminated sites it is necessary under the California code to complete the following.

a. Inspection conducted by a Certified Lead Inspector/Assessor. An inspector/assessor, sampling technician cannot conduct abatement on the same structure. Reference: CDPH CA ADC CCR 36000

b. All lead removal activities must use containment. Reference: CDPH CA ADC CCR#36050.

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c. Lead abatement must be conducted only by a certified lead supervisor/lead worker. A certified lead supervisor must be on site. Reference: CDPH CA ADC CR#36100

d. Prior to lead removal, a work notification must be posted in work area.

e. Forms CDPH form 8551 and 8552 must be submitted.

Dave Kijowski
NACE Certified Coating Inspector Level 3 #32769

Attachments: Reference Codes CCR 36000, CCR 36050, CCR36100

§ 36000. Requirements for Lead Hazard Evaluation for Public and Residential Buildings.

17 CA ADC § 36000Barclays Official California Code of Regulations

Barclays California Code of Regulations
Title 17. Public Health
Division 1. State Department of Health Services (Refs & Annos)
Chapter 8. Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards
Article 16. Work Practice Standards
17 CCR § 36000
§ 36000. Requirements for Lead Hazard Evaluation for Public and Residential Buildings.
Currentness
(a) Lead hazard evaluation for public and residential buildings shall:
(1) Be conducted only by a certified lead inspector/assessor or as specified in Subsections (c)(3)(A) or (d). The certified lead inspector/assessor, certified lead project monitor, and certified lead sampling technician conducting lead hazard evaluation shall not conduct abatement on the same structure.
(2) Be conducted in a manner in which paint, dust, and soil is tested in accordance with the procedures described in Chapter 5: *Risk Assessment*, section II (A)(B)(C)(D), "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995 and Chapter 7: *Lead-Based Paint Inspection*, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, 1997 Revision, and which provides quantitative results.
(3) Be conducted in a manner in which paint, dust, and soil samples taken for laboratory analysis are analyzed by a laboratory that is recognized by the U.S. Environmental Protection Agency pursuant to United States Code, Title 15, Section 2685(b).
(4) Be documented in a lead hazard evaluation report which shall include a completed California Department of Public Health (CDPH) Form 8552 (6/07) and the following attachments:
(A) A foundation diagram, site map, or sketch of the structure, indicating the specific locations of each lead hazard or presence of lead-based paint, and results of the visual inspection, if applicable;
(B) A summary of each testing method, device, and sampling procedure used;
(C) A description of testing and sampling locations; and
(D) The results of laboratory analysis on collected samples, if applicable, including the name, address, and telephone number of each laboratory.
(b) The certified lead inspector/assessor conducting the lead hazard evaluation for a public or residential building shall retain the original completed copy of CDPH Form 8552 (6/07) and attachments for a minimum of three years and distribute copies as follows;
(1) A copy of the completed CDPH Form 8552 (6/07) and attachments to the person who ordered the lead hazard evaluation;
(2) A copy of the completed CDPH Form 8552 (6/07) to the Department within thirty days of completion; and
(3) A copy of the attachments to the Department upon request.
(c) In addition to the requirements specified in subsections (a) and (b):
(1) A lead inspection shall be conducted in accordance with procedures described in Chapter 7: Lead-Based Paint Inspection, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, 1997 Revision.
(2) A risk assessment shall be conducted in accordance with procedures described in Chapter 5: Risk Assessment, section II(A), (B), (C), and (D), "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995 and shall include a written description of abatement options for each identified lead hazard, a suggested prioritization for addressing each lead hazard, and recommendations for a maintenance and monitoring schedule.
(3) A clearance inspection shall be conducted:
(A) By a certified lead inspector/assessor or a certified lead project monitor.
(B) In accordance with procedures such as described in Chapter 15: Clearance, sections II-VI, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.
(d) A sampling technician shall only conduct visual inspections and sample or test soil, dust, and paint provided an inspector/assessor identifies the specific locations where soil, dust, and paint is sampled or tested, interprets the results, and complies with the record keeping and reporting requirements in section 36000(b). A sampling technician is prohibited from conducting visual inspections, or sampling or testing paint, dust, and soil, if those activities are:
(1) conducted as an "appropriate case management" activity, as defined in Health and Safety Code section 105280(a); or
(2) conducted in a structure that is inhabited by an individual with a blood lead level equal to or greater than 10 micrograms per deciliter.
(e) Individuals operating an X-ray Fluorescence (XRF) analyzer to conduct lead hazard evaluation shall comply with regulatory requirements specified in Title 17, California Code of Regulations, division 1, chapter 5, subchapter 4, such as obtaining a license and completing an additional eight hours of training.

Credits

Note: Authority cited: Sections 105250(a), 105250(b), 124160(b), 124165 and 131200, Health and Safety Code. Reference: Sections 100170, 105250(a), 105250(b), 124160(b), 124165 and 131051, Health and Safety Code; Sections 17200, 17203 and 17205, Business and Professions Code; and Sections 11180 and 11181, Government Code.
History
1. New article 16 (sections 36000-36100) and section filed 3-30-98 as an emergency; operative 3-30-98 (Register 98, No. 14). A Certificate of Compliance must be transmitted to OAL by 7-28-98 or emergency language will be repealed by operation of law on the following day.
2. Editorial correction of History 1 (Register 98, No. 30).
3. New article 16 (sections 36000-36100) and section refiled 7-20-98 as an emergency; operative 7-29-98 pursuant to Government Code section 11346.1(d) (Register 98, No. 30). A Certificate of Compliance must be transmitted to OAL by 11-27-98 or emergency language will be repealed by operation of law on the following day.
4. Certificate of Compliance as to 7-20-98 order, including amendment of section heading and section, transmitted to OAL 11-23-98 and filed 1-8-99 (Register 99, No. 2).
5. Amendment of subsections (a)(1), (a)(4) and (b)-(b)(2), new subsections (d)-(e) and amendment of Note filed 4-30-2008; operative 5-30-2008 (Register 2008, No. 18).
This database is current through 2/9/24 Register 2024, No. 6.
Cal. Admin. Code tit. 17, § 36000, 17 CA ADC § 36000

End of Document

§ 36050. Lead-Safe Work Practices.

17 CA ADC § 36050Barclays Official California Code of Regulations

Barclays California Code of Regulations
Title 17. Public Health
Division 1. State Department of Health Services (Refs & Annos)
Chapter 8. Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards
Article 16. Work Practice Standards
17 CCR § 36050
§ 36050. Lead-Safe Work Practices.
Currentness
(a) Any individual conducting lead activities, excluding lead hazard evaluation, shall:
(1) Use containment;
(2) Ensure that the work area has no visible dust or debris following the completion of a project;
(3) Demonstrate compliance with (a)(1) and (a)(2) to the Department or local enforcement agency, as defined in section 105251 of the Health and Safety Code, upon request.

Credits

Note: Authority cited: Sections 105250, 105255, 105256, 124160, 124165 and 131200, Health and Safety Code. Reference: Sections 105250, 105251, 105255, 105256, 124160, 124165 and 131051, Health and Safety Code.
History
1. New section filed 4-30-2008; operative 5-30-2008 (Register 2008, No. 18).
This database is current through 2/9/24 Register 2024, No. 6.
Cal. Admin. Code tit. 17, § 36050, 17 CA ADC § 36050

End of Document

§ 36100. Requirements for Abatement for Public and Residential Buildings.

17 CA ADC § 36100Barclays Official California Code of Regulations

Barclays California Code of Regulations
Title 17. Public Health
Division 1. State Department of Health Services (Refs & Annos)
Chapter 8. Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards
Article 16. Work Practice Standards
17 CCR § 36100
§ 36100. Requirements for Abatement for Public and Residential Buildings.
Currentness
(a) Abatement for public and residential buildings which is designed to reduce lead paint or lead hazards for a minimum of twenty years shall be conducted:
(1) Only by a certified lead supervisor or a certified lead worker. A certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours.
(2) According to the procedures specified in Chapter 12: Abatement, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.
(3) Using containment and in a manner which does not result in contaimination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.
(4) In accordance with an abatement plan prepared by a certified lead supervisor, certified lead project monitor, or certified lead project designer which shall:
(A) Include the following information:
1. A detailed written description of the measures and management procedures, including containment, that will be utilized during abatement to prevent exposure to lead hazards;
2. A detailed written description of abatement, including methods of abatement and locations of rooms and components where abatement is planned;
3. A recommended schedule for re-inspection, based upon the type of abatement; and
4. Instructions on how to maintain potential lead hazards in safe condition.
(B) Be retained and made available to the Department upon request for a period of at least three years by the preparer.
(5) After notification is posted and delivered pursuant to subsection (c), the certified lead supervisor conducting abatement shall retain records of notification for at least three years.
(6) In a manner in which after abatement is completed, a clearance inspection is conducted in accordance with Section 36000(a) and Section 36000(c)(3) of this Chapter.
(b) Abatement for public and residential buildings which is designed to reduce lead paint or lead hazards for less than twenty years shall be conducted:
(A) According to procedures specified in Chapter 11: Interim Controls, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.
(2) Using containment and in a manner which does not result in contamination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.
(3) In a manner to ensure that the work area has no lead contaminated dust following the completion of abatement.
(4) In a manner to ensure that a clearance inspection is conducted following the completion of abatement, if abatement was conducted in response to an identified case of lead poisoning as defined in Section 105280(b) of the California Health and Safety Code.
(5) After notification is posted and delivered pursuant to subsection (c).
(c) Prior to conducting abatement, the individual conducting abatement shall provide notification by completing an Abatement of Lead Hazards Notification, CDPH 8551 (6/07), form and:
(1) Posting at all entrances to the work area a copy of the completed form which shall not be removed until abatement has been completed and, for abatement conducted pursuant to subsection (a), a clearance inspection has been completed; and
(2) Delivering a copy of the completed form to the Department. Except for abatement conducted in response to an identified case of lead poisoning as defined in Section 105280(b) of the Health and Safety Code, the completed form shall be delivered to the Department at least five days prior to conducting abatement.
(d) Any individual conducting abatement or disturbing lead-based paint without containment shall permit the Department, or enforcement agencies, as specified in the California Health and Safety Code Sections 17960, 17961, and 17965, to access work areas to determine compliance with the requirements of this section.

Credits

Note: Authority cited: Sections 105250(a), 105250(b), 124160(b), 124165 and 131200, Health and Safety Code. Reference: Sections 17960, 17961, 17964, 17970, 17972, 17980, 100170, 100175, 105250(a), 105250(b), 105280(a), 124160(b), 124165 and 131050, Health and Safety Code; Section 3494, Civil Code; Section 17200, Business and Professions Code; Section 17274(b), Revenue and Taxation Code; and Sections 11180 and 11181, Government Code.
History
1. New section filed 3-30-98 as an emergency; operative 3-30-98 (Register 98, No. 14). A Certificate of Compliance must be transmitted to OAL by 7-28-98 or emergency language will be repealed by operation of law on the following day.
2. New section refiled 7-20-98 as an emergency; operative 7-29-98 pursuant to Government Code section 11346.1(d) (Register 98, No. 30). A Certificate of Compliance must be transmitted to OAL by 11-27-98 or emergency language will be repealed by operation of law on the following day.
3. Certificate of Compliance as to 7-20-98 order, including amendment of section heading and section, transmitted to OAL 11-23-98 and filed 1-8-99 (Register 99, No. 2).
4. Amendment of subsection (c) and Note filed 4-30-2008; operative 5-30-2008 (Register 2008, No. 18).
This database is current through 2/9/24 Register 2024, No. 6.
Cal. Admin. Code tit. 17, § 36100, 17 CA ADC § 36100
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APPENDIX D

PROBABLE COST

CJ ROBERTS INC

City of San Diego
Kennsington Circuit 3 Empire Street Lights
Restoration Costs Per Light

Task Description	Labor (person hours)	Equipment	Materials	Cost
	$150	$100	$1	
1. Salvage Light				
Remove Light From Base - 2 laborers, 1 operator, fork truck, wrap for lead containment.	6	2	$ 100	$ 1,200
Transport and unload at paint shop	2	2		$ 500
2. Restore Standard and Base				
Heat and dissassemble standard from base collar (break lead solder connection and cut internal rods)	8			$ 1,200
Sandblast components and patch defects	8		$ 300	$ 1,500
Welding - add hand hold cover latch plates and repair minor defects, add foundation mounting plate to lower base component. Tack weld light standard seam.	6		$ 200	$ 1,100
Reassemble standard to base with new connecting rods to mounting plates (3 - 3/4" threaded high grade steel rods @ 10' each, 3 - 3/4" high grade steel threaded rod @ 2' each with 12 steel nuts and washers. Install internal conduit and junction box.	8		$ 700	$ 1,900
Powdercoat assembled base and standard	4		$ 500	$ 1,100
3. Restore Fixture				
Fixture dissassembly - drill out screws and fastners and remove glass panels	4			$ 600
Sandblast components and patch defects	8		$ 200	$ 1,400
Modify for LED bulb with manufacture bulb adapter	4		$ 500	$ 1,100
Powdercoat components	4		$ 500	$ 1,100
Cut and replace glass panels and final reassembly	6		$ 200	$ 1,100
4. Reinstall Light				
Construct PCC foundation with pull box and counduit	12	8	$ 1,000	$ 3,600
Transport components from shop to site	2	2		$ 500
Install on new foundation	6	2		$ 1,100
Pull wire and install fixture and bulb	6	2	$ 500	$ 1,600
Total				**$ 20,600**