EXECUTIVE SUMMARY

PURPOSE

To report the findings of the Feasibility Study for an Underground Utility District along Segment C of the proposed Park to Playa Trail.

BACKGROUND

The City of Los Angeles Department of Public Works (LADPW), has studied the feasibility of creating an Underground Utility District (District) along Segment C of the Park to Playa Trail. The study was prepared in response to a request by the City of Los Angeles to determine the feasibility of the project. The District boundaries will be 300 feet north and 300 feet south from the control point along La Cienega Boulevard, per Exhibit 1. The Underground Utility District is required so that the County of Los Angeles may construct trail improvements and a pedestrian bridge that traverses over La Cienega Boulevard.

As part of this project under applicable Southern California Edison (SCE) Rule No. 20A, an underground utility district is to be formed to remove power poles and overhead utility lines on both sides of La Cienega Boulevard along this segment for a minimum of 600 linear feet. This requires installing an equivalent underground system in a process commonly called "conversion". The work straddles parts of the City of Culver City, the City of Los Angeles, and the County of Los Angeles.

FINDINGS

Process

In accordance with Ordinance No. 145,148 (Approved on October 5, 1973), declaring a District is a four-step procedure that is controlled by the Los Angeles City Council (City Council). Preparation of this study is the first step; notifying affected parties, holding hearings, and resolving to adopt a resolution to form the District are the final three steps.

Establishing the District requires all utility companies and affected parties to convert their facilities at their expense. This work will require the cooperation of various City of Los Angeles Bureaus, affected utilities, and the customers connected to the existing pole lines.

The County of Los Angeles and LADPW will cooperate on their mutual obligations and expectations.

Cost

If the District is declared, the total cost of this segment will be approximately $2.3 million, as reported to the County of Los Angeles in a preliminary cost estimate prepared by Southern California Edison (SCE). The entire cost of the project will be provided by Rule 20A funding from the County of Los Angeles. Southern California Edison will bear the costs for the design and construction of the undergrounding and will use funding set aside for the County of Los Angeles that will be reallocated to the City of Los Angeles for the purpose of completing this project.

Schedule

Based on the City of Los Angeles, the District should be formed by April 2016 to allow the design and construction to be complete by 2019.

CONCLUSION

This study has determined that forming a District is a feasible method to expediently achieve the removal of poles and overhead utility lines along Segment C of the Park to Playa Trail at a cost of $2.3 million with no cost to the City of Los Angeles.

Feasibility Study of an Underground Utility District

Along Segment C of the Park to Playa Trail

Table of Contents **Page**

PURPOSE

To report the findings of a study determining the feasibility for establishing an Underground Utility District (District) along La Cienega Boulevard known as the Project. The study was prepared in response to a request by the Los Angeles City Council (City Council).

BACKGROUND

The City Council has directed the City of Los Angeles Department of Public Works to prepare a feasibility study for creating a District along Segment C of the Park to Playa Trail. Per Ordinance No. 145,148, formation of the District requires replacement of existing overhead facilities with underground in a process commonly known as "conversion". The cost of these conversions is to be borne by the affected utilities and users of the existing pole lines (see Attachments Exhibit A and Exhibit B).

This ordinance also requires that all existing impacted customers provide facility changes on their property to accommodate new underground service connections. Failure to provide such changes can lead to assessments against the property if the City of Los Angeles (City) elects to construct the changes itself.

The Project plan will provide public improvements that support mobility and access options to residents. A key component of this plan is the removal of overhead utilities, replacing them with new underground to clear the street improvements, and provide a modern, aesthetically pleasing infrastructure.

SIX KEY FACTORS ASSESSED IN THE STUDY

While a District can be declared by City Council by reason of public necessity, a pragmatic assessment of its viability within the context of City planning and resource allocation will be made. The feasibility study will examine a number of parameters for successfully providing the utility changes within the context of the Project plan and its effect on SCE. While a rigorous cost benefit analysis is beyond the scope of this study and proved inconclusive, it is discussed and generally supports the objectives of the Project plan. The economic risk of investing in this area as a result of the District formation will not be examined, but assumed to be low in light of the Project plan, especially given that the burden of funding will not be assumed by the City of Los Angeles.

Technology and System Feasibility

Technological factors preclude projects that are not feasible because the technology is simply not there to achieve the stated goal. SCE's power system engineering staff can and do convert existing overhead facilities to underground to clear construction or to improve aesthetics on a shared-cost basis or applicant paid basis.

Ordinance No. 145,148 outlines a clear system by which the City Council can determine if public necessity, health, safety, and welfare require conversions within a designated area. The City Council has the power to request cost estimates from LADPW, notify affected parties through the Office of the City Clerk, call public hearings, and resolve to declare a District thereby ordering such work to be done.

SCE has the systemic resources to successfully coordinate and conduct a project of this scope in conjunction with the County of Los Angeles, LADPW, and affected parties.

Economic Feasibility
A cost benefit analysis evaluates the effectiveness of the new District in solving the problems being addressed.

Costs

An SCE study determined that the cost of converting overhead power facilities would require $2.3 million, exclusive of telecom, streetlights, and private property work. Private property work is expected to be minimal since no private SCE service connections are anticipated at this time. This rough order of magnitude estimate for the east side of La Cienega has been summarized below:

1.	Transmission	$1,400,000
2.	Distribution	$ 650,000
3.	Telecom	$ 250,000
	Total Estimate	**$2,300,000.**

Funding will be secured by the County of Los Angeles for work outside the power facility conversion. These costs will be budgeted into the Project costs for the park to Playa Blair Hills segment.

Other tenants sharing utility pole real estate including Verizon, AT&T Mobility, Crown Castle, Sprint, and XO Communications will all pay for relocation out of their own pockets.

1. SCE conduit, and electrical construction $2.30 million

Benefits

From a utility standpoint, the benefit of undergrounding the overhead lines along the Project would include improved power reliability and safety. As reliability improves, maintenance and repair cost go down because new underground lines and components replace fatigued poles and equipment.

A 2006 LADPW study determined that its underground service is generally more reliable than overhead but also three times more expensive to install. Underground facilities have fewer power outages, but when they occur, they typically last longer. The study examined advantages of an all underground distribution system and outlined key differences in overhead versus underground systems:

- Installation – Overhead electric facilities are less expensive averaging about 30 percent the cost of an equivalent underground system. This cost difference increases when underground construction is done along congested streets or when new circuit conductors can simply be added to existing poles

- Cost to Maintain Overhead versus Underground – 2006 data indicate that overhead and underground distribution typically cost $5,858/mile/year and $5,137/mile/year to maintain, respectively. It could be concluded that for every mile of underground distribution installed saves LADPW approximately $721 annually or 12 percent

- Outages – Overhead fails at a rate 1.9 times more than underground but underground outages take longer to repair making the average yearly outage minutes only about six percent less than for overhead

Because the underground facilities along this segment of La Cienega Boulevard will be new, reliability is expected to be measurably better.

Because undergrounding the utilities is a key component of the Project plan, it cannot be discounted if the plan is to be considered successful. Certainly, the Project would benefit beyond a more reliable, nearly invisible, utility infrastructure. To be sure, additional savings will be seen as the new infrastructure defrays costs associated with street services and safety.

Some key benefits of a fully implemented electrical undergrounding portion of the Project plan include the following:

1. Improved viewsheds to preserved parklands.
2. Lower maintenance costs
3. Longer useful life
4. Less susceptible to the impacts of severe weather
5. Reduces chance of fire hazards, accidents, and safety risks from power outages due to downed lines
6. Reduced range of electromagnetic fields (EMF) emission
7. Improves road safety by removing or reducing the chance of motorists striking poles

While no numbers were applied to these benefits, they mirror the strategic plans of the County of Los Angeles and the City of Los Angeles.

Legal Feasibility
Legal feasibility determines if the District conforms to existing legislation and regulations.

Ordinance No. 145,148 allows the City Council to declare a District if public necessity, health, safety, and welfare require conversions within a designated area. This ordinance gives the City Council the power to request scheduling and cost reports, notify affected parties, call public hearings, and declare a District, thereby ordering such work to be done.

SCE's Rule No. 20 of its *Rules Governing Water and Electric Service* contains three sets of conditions and financing arrangements under which a conversion can be granted:

- Rule No.20A, Utility & Customer Cost: When the City Council designates a District by resolution, all utilities and property owners are required to underground at their own expense given SCE has budgeted funds for the work

- Rule No. 20B, Shared Cost. This option allows conversion of streets over 600 feet or one City block on a shared-cost basis. Customers pay for the private property work, engineering, and the underground infrastructure within the street. SCE, at its cost, installs the new wiring, equipment, and services, then removes the overhead facilities

- Rule No. 20C, 100% Customer Expense: This option is for conversion jobs of less than 600 feet that do not conform to Rule No. 20A criteria. Applicants pay for all expenses related to conversion

Declaration of a new District by the City Council obligates SCE by ordinance and Rule No. 20A to absorb the roughly $2.3 million cost of the conversion of power facilities only if the funds can be budgeted.

If a District is not declared, the objectives of the Project plan can still be met, but at greater cost to the Project budget.

The formation of a District is legally feasible and can meet the project objectives expediently at a cost of $2.3 million to SCE.

Operational Feasibility
This phase examines how well forming the District solves the problems of operations and maintenance of the utility systems. Operational feasibility also examines how well it capitalizes on opportunities identified during project scope definition and satisfies those requirements.

Existing conditions and challenges identified by the Project team include:

- Vehicular oriented streets
- Shifting demographics
- Safety
- Lack of trees, open space, maintenance, and identity

Overall objectives for the Project include:

- Street beautification with an inviting landscape
- Safety improvements by new pedestrian crossings over La Cienega Boulevard
- Increased pedestrian traffic

Opportunities include:

- Create pedestrian-oriented streets.
- Increased safety through increased activity.
- Develop renewed sense of identity.
- Maximize opportunities for new open spaces.
- Improved sustainability.

In addressing the challenges of the Project, ordering the conversion would permit the planting of street trees free of poles and energized lines. Removal of poles in parkways will economize design and construction of landscape and irrigation. Investing in new infrastructure will help reverse decades of deferred maintenance. A streetscape made more attractive by a finely finished design complete and new, without vestiges of the old, would create the identity needed to draw people to the Project Area for housing, jobs, and recreational opportunities.

A conversion might capitalize on safety opportunities by improving streetlight, traffic signal and power reliability. A sustainable and easily maintained street tree canopy that creates shady sidewalks can mitigate the effects of heat islanding, attenuating air-conditioning use in those areas. Maximized open space allocations in the street design will create an inviting pedestrian destination. Leaving power poles in place however does not preclude the practice of planting trees, only that they be chosen for their inviting appearance, size and ease of maintenance

A District therefore need not be formed to achieve any of these ends. A Rule No. 20A arrangement or no power line conversion at all could still achieve all the objectives of the Streetscape plan subject to the opinions of the proponents and architects of the plan.

Schedule Feasibility
The project schedule has been determined to be feasible. According to SCE, the preliminary schedule to begin construction is 18 months; completing construction 18 months later.

Construction documents for the conversion of power lines will require 18 months to prepare and permit and 18 months to construct.

How quickly SCE can begin design depends on when the District is established. If a District is declared within the next month, design could begin in April 2016. Construction will complete no later than June 2019.

This study is the first step of the procedure to form the District. Notifying affected parties through the Office of the City Clerk, holding public hearings, and resolving to form the District are the last three steps. This ordinance requires only a 15-day notice to affected parties, so it is safe to say that the City Council could declare a District by April 2016.

Resource Feasibility
A critical factor is resource assessment which determines when a project can be built and how it might interfere with normal business activity. The type and quantity of resources are also reviewed and contingency plans made prior to moving forward with a project.

The schedule feasibility indicates that the District can be established by April 2016. Time, therefore, is available to complete the conversion within the Project schedule.

Activity associated with the conversion will complicate construction of the Project and introduces major infrastructure work into the scope of the plan. Installation of the new utility infrastructure will also require vehicular traffic planning.

IMPLEMENTATION

The following is required to form the District and convert the Project on schedule and on budget:

1. **Procedural**
   - The City Council can issue this report and notify affected parties and constituents of hearings to determine if the public necessity requires declaration of a new District
   - The City Council adopts a resolution to form the District, ordering such work with a fixed and reasonable time (48 months) within which to complete the conversion
   - Lead time to issue construction documents is expected to take 18 months. LADPW will provide permitting and support services as needed to help meet design goals
   - Construction will take 18 months provided restrictions are loosened to address traffic flow and operating hours

2. **Project Funding**
   - SCE will comply with the Districting order by shifting or allocating additional budget resources to meet expected outlays.
   - Various LADPW bureaus may require funding allocations for plan review and permitting obtained through the proponents of the Districting plan
   - Other utilities must pay for their portion of the work

3. **Resources**
   - SCE will need to secure contractors to construct the conversion
   - Other utility and LADPW agencies will provide feedback and design documentation as required to keep the project on schedule
   - The County of Los Angeles will manage the conversion and provide appropriate project management resources
   - The County of Los Angeles will also be the lead agency for the Park to Playa Blair Hills Segment Trail and Pedestrian Bridge project associated with this conversion project
   - The County of Los Angeles and LADPW will cooperate on their mutual obligations and expectations. For example, plan review fees, permitting fees, and restrictions outside the standard

will be addressed in a separate Memorandum of Understanding between the City of LA and the County of LA

4. Inter-Departmental, Inter-Utility Coordination

A typical conversion has a two- to three-year lead time. The segment C conversion of 600 linear feet will require three to four years lead time to complete. Excellent communication and cooperation from all affected utilities and City departments in meeting critical path goals is needed if the conversion is to be delivered on time and on budget.

The County of Los Angeles will be the lead agency in all matters related to the Project, including power conversion and for coordinating resources for the removal of poles.

CONCLUSION

This study has determined that establishing a District is a viable plan to affect the removal of poles and appurtenances for the Project.

The factors studied in this report establish that a District is not the only way to meet the objectives of the plan. It is, however, an expedient way to secure funding for one of the most expensive components of the Project plan.