CITY COUNCIL AGENDA REPORT

MEETING DATE: NOVEMBER 1, 2004 **ITEM NUMBER:** _____

SUBJECT: CITYWIDE UNDERGROUNDING OF OVERHEAD UTILITIES

DATE: OCTOBER 21, 2004

FROM: PUBLIC SERVICES DEPARTMENT/ENGINEERING DIVISION

PRESENTATION BY: WILLIAM J. MORRIS, DIRECTOR OF PUBLIC SERVICES

FOR FURTHER INFORMATION CONTACT: ERNESTO MUNOZ, CITY ENGINEER, 714-754-5343

RECOMMENDATION:

Provide direction to staff on future actions.

BACKGROUND:

At the Study Session of July 12, 2004, staff provided a report for Citywide undergrounding of overhead utility facilities (Attachment 1). At the meeting, Council requested staff to provide additional information and clarification on manpower costs involved to set a goal for Citywide undergrounding of utility lines.

Historically, City-sponsored underground utility projects have been completed on major thoroughfares, or near areas of public interest. These undergrounding projects are funded by allocations from Southern California Edison Company (SCE), Rule 20A. To date, the City has completed 20 separate Underground Utility Districts, which were funded by Rule 20A. In addition, the City completed a Utility Underground District on Sunflower Avenue, from Harbor Boulevard to Fairview Road, which was funded by affected property owners.

At the Study Session of July 12, 2004, Council requested staff to research the following items with regard to undergrounding the remaining overhead utilities in the City:

I. Formation of One Overall Assessment District Citywide

II. Formation of “Regional” Assessment Districts

III. Formation of an Arterial Streets Underground District

IV. Formation of a Residential Streets Assessment District

V. Installation of Conduits with Pavement Rehabilitation Projects

VI. Assessment of a “Fee Per Square Foot” of Property to Fund Utility Undergrounding

VII. Next Logical Area for Undergrounding with Rule 20A Funds

VIII. Miscellaneous Information – Newport Beach and Montecito Programs

Generally, SCE owns and maintains most of the power poles in the City. SCE operates two different types of major overhead facilities: namely, transmission and distribution lines. The transmission line system provides high voltage service to a large regional area. The distribution line system receives power from the transmission system and makes electricity available at a usable voltage to smaller regional areas. SBC Pacific Bell Company (SBC) telecommunications service lines are also found on SCE distribution poles, and service the same parcels as SCE.

It is estimated there are approximately 829,180 lineal feet of existing SCE overhead distribution lines within the City's public right-of-way that could be undergrounded. The cost to underground these overhead facilities has been preliminarily estimated by staff at $439,465,400. This estimate does not include the costs associated with undergrounding of overhead facilities that run within private properties through utility easements.

It is estimated that an additional 66,500 lineal feet of overhead SCE transmission lines still exist in the City. Undergrounding of these lines is estimated to cost an additional $86,450,000.

SBC telecommunications lines normally take the same overhead route as the electrical distribution lines. It is estimated that $157,544,200 would be needed to underground the SBC facilities in the City.

The City has 20,662 residential, commercial, and industrial parcels. All services from the parkway to the private properties and to the structures would be required to convert to the new underground system. The cost for on-site conversion work is estimated at $82,648,000.

It should be noted that cable companies such as Comcast and Adelphia have overhead wires within the City that would also need to be undergrounded. The City's Franchise Agreement with the cable companies requires them to underground their facilities at their own cost.

If the undergrounding work were to be accomplished by means of an Assessment District, there would be additional costs associated with the formation and oversight of such a district.

The table below summarizes the above stated figures:

Citywide Undergrounding Preliminary Cost Estimates

Description of Work	Length (Feet)	Cost/Foot	Total Cost ($)
SCE Distribution Poles	829,180	530	$439,465,400
SCE Transmission Poles	66,500	1300	$86,450,000
SBC Service Line	829,180	190	$157,544,200
Estimated On-site Work			$82,648,000
Subtotal Construction Cost			$766,107,600
Assessment Engineering and Design Fees (11% of Construction)			$84,271,836
Total Citywide Undergrounding Estimated Cost			**$850,379,436**

ANALYSIS:

The City's street system consists of Arterial Streets and Residential Streets. Arterial Streets are separated into four roadway designations: Major Highways, Primary Highways, Secondary Highways and Collector Highways. There are approximately 109 miles of Arterial Streets and 126 miles of Residential Streets within the City. The vast majority of overhead utility lines in the City are located along this street system.

Generally, to initiate a Rule 20B undergrounding project, through an Assessment District, engineering and design fees need to be advanced. These fees cover the costs to retain the services of an Assessment Engineer, a Bond Council, and provide a cash advance to SCE and SBC to begin the underground utility design. The up-front design funds can be raised by either the imposition of a one-time tax from the property owners, which requires a 2/3 majority vote, or the City choosing to advance the required funds. If an Assessment District is approved, the City's advanced funds may be incorporated into the assessment amount to be paid by the property owners. Once the District is designed, formal construction bids are obtained and the necessary bonding level determined. The City then notifies all parcel owners within the District of the method of assessment, the amount to be assessed to their parcel(s), the date of the scheduled Public Hearing, and provides a ballot for voting. Votes may be cast by the voters up to the time the Public Hearing is closed. If 2/3 or more of the parcel owners approve the formation of the District, the District is then formed and bonds are sold to fund the construction phase. Based on the size of the project, the time from start to finish may average three to four years.

To further consider the possibility of undergrounding the remaining overhead utilities in the City, staff has investigated the following alternatives as requested by City Council:

I. FORMATION OF ONE OVERALL ASSESSMENT DISTRICT

In order to create one Assessment District for the entire City, the design work and Assessment Engineer's Report would need to be completed to determine the exact costs to each property owner. To underground all existing overhead utilities in the City, it is estimated that approximately $84,271,836 is required to pay for the SCE and SBC undergrounding design work and for the assessment engineers to prepare the required Engineer's Report.

It is estimated that the design phase and preparation of the Engineer's Report to underground overhead utilities and communication lines for the entire City will take at least eight years. The magnitude of work to prepare the construction documents, Assessment Engineer's Report, and construction work for the entire City is extensive. Therefore, the undergrounding would need to be phased over a minimum of 20 years.

The advantage to this alternative is that if more than 2/3 of the property owners' vote in favor of the Assessment District, all overhead utilities in the City will eventually be undergrounded.

The disadvantages to this alternative are:

- If the City chooses to advance the initial engineering and design fees, and the Assessment District is not passed by a 2/3 majority vote, the City will not recover the invested funds.
- Imposing assessments on some property owners who may not be able to afford them.
- Anytime new areas are annexed to the City, the Assessment District must be amended to include the annexed area.

In order to prepare a more in-depth study of this alternative, it is estimated approximately eight hundred hours of staff time will be required over a period of one year. Based on current and estimated future capital improvement workloads, staff would not be able to assume this extra work without additional manpower. In addition, a consultant specializing in the formation of underground districts and assessment engineering will have to be retained. It is estimated that approximately $550,000 will be required to obtain these services.

II. FORMATION OF "REGIONAL" ASSESSMENT DISTRICTS

City Council may choose to divide the City into Regional Assessment Districts. As an example, the City could be split into 15 areas, each encompassing a maximum of one square mile. Only the property owners in that region would vote on the establishment of an Assessment District.

Depending on the size of the region and its associated costs, the Assessment Districts may be established one at a time over the next 15 to 25 years. The costs for the design and assessment Engineer's Report for each region is estimated to be from $4,000,000 to $7,000,000 for each region depending on the size of the area and extensiveness of the overhead facilities.

The advantages to this alternative are:

- The cost for the design and assessment Engineer's Report for each region can be spread out over time to match the City's financial resources.

- The City can continue using Rule 20A allocations simultaneously.

The disadvantages to this alternative are:

- In the event the Assessment District is not passed by a 2/3 majority votes in the "Region," the City will lose the funds invested for the initial engineering and design fees.

- Imposing assessments on some property owners who may not be able to afford them.

- Some regions might not be undergrounded if 2/3 of the property owners within the region do not support the Assessment District. This may result in having some properties paying an assessment, with other properties in the same general area not having an assessment.

- The overall cost to underground overhead utilities Citywide may be much higher with this alternative due to the "piece meal" approach and loss of economy of scale associated with Citywide districts.

In order to explore this alternative in-depth, it is estimated at least eight hundred hours of staff time will be required over a period of one year. Based on current and estimated future capital improvement workloads, staff would not be able to assume this extra work without additional manpower. In addition, assistance of a consultant specializing in the formation of underground districts and assessment engineering will be required. The cost for these services is estimated at approximately $550,000.

III. FORMATION OF ARTERIAL STREETS UNDERGROUND DISTRICTS

Cost to Underground Overhead Distribution Facilities

It is estimated there are approximately 374,880 lineal feet of arterial streets with existing SCE overhead distribution lines. Based on the 19th Street and Placentia Avenue underground project, the cost to underground SCE's distribution facilities is $530 per lineal foot, and $190 per lineal foot for SBC's facilities, assuming a minimum project length of one mile. The cost to underground all existing overhead distribution lines on Arterial Streets (SCE and SBC) has been preliminarily estimated by staff at $269,913,600. The assessment engineering and design cost is estimated to cost $29,690,496.

Cost to Underground Overhead Transmission Facilities

It is estimated that there are approximately 55,940 lineal feet of transmission lines within the City's Arterial Streets. Based on the 19th Street and Placentia Avenue underground project, the cost to underground the existing transmission lines on Arterial Streets is estimated at $72,722,000, with design costs of approximately $7,999,420.

The cost for on site work and conversion of all services from the parkway to the private properties along Arterial Streets varies depending on the number of meters that are being used. Staff is unable to estimate these conversion costs along Arterial Streets.

Council may choose to use Rule 20A allocations in combination with the City's general fund for undergrounding of utilities on Arterial Streets. SCE allows cities to "mortgage" their Rule 20A allocations five years into the future; therefore, every five years the City can use approximately $2.4M of Rule 20A towards undergrounding. At current costs, approximately 4,225 lineal feet of Arterial Streets could be undergrounded every five years with these funds. Since Rule 20A allocations for 19th Street and Placentia Avenue were mortgaged six years into the future (year 2010), the next undergrounding project using Rule 20A allocations can start in the year 2011 (see Fiscal Review). In the absence of additional outside funding and/or Assessment Districts for undergrounding, it will take approximately 10 years from the year 2011 to underground four miles of Arterial Streets.

In order to set a goal for undergrounding of utilities on Arterial Streets, a Council Policy may need to establish the most cost effective and beneficial projects on a priority basis.

Staff estimates a minimum of 32 hours over a two-month period would be required to develop a draft Council Policy on the prioritizing of Arterial Street segments for undergrounding of utility lines in the City. This document would not prioritize specific areas, but would provide general parameters to be used by City Council in determining the most appropriate areas to underground as sufficient funds become available.

Council may choose to fund the undergrounding of overhead facilities on Arterial Streets through the formation of an Assessment District. To underground all existing overhead utilities within Arterial Streets in the City, staff estimates that approximately $37,689,916 is required to pay for the SCE and SBC undergrounding design work and the assessment engineering to prepare the required Engineer's Report.

It is estimated that it will take at least five years to complete the Engineer's Report and the design phase and a minimum of fifteen years to complete the construction.

IV. FORMATION OF RESIDENTIAL STREET ASSESSMENT DISTRICTS

It is estimated there are approximately 454,300 lineal feet of Residential Streets with existing SCE overhead distribution lines. The current estimated cost to underground electrical distribution facilities is $530 per lineal feet, and $190 per lineal foot for SBC's facilities, assuming a minimum project length of one mile. The cost to underground these overhead facilities has been preliminarily estimated by staff at $327,096,000. The assessment engineering and design cost is estimated at approximately $35,980,560. In addition, it is estimated there are approximately 10,560 lineal feet of transmission lines within the Residential Streets. Currently, the cost to underground these transmission lines is estimated at $13,728,000, with design costs of approximately $1,510,080. The cost for on site work and conversion of all services from the parkway to the private properties along Residential Streets varies depending on the number of meters that are being used. Staff is unable to estimate these conversion costs along Residential Streets.

In order to be responsive to residents who want to be assessed for utility undergrounding, as well as to respect those who do not wish to pay for utility undergrounding, City Council may consider adopting a Resolution which details a policy regarding utility undergrounding in Residential Streets. The policy would require at least 2/3 of property owners benefiting from the Assessment District to be in support of utility undergrounding. If 2/3 of the affected property owners are in favor of the project, the City Council may consider funding the initial engineering studies to determine the cost of the project. The funds provided by the City may be added to the final assessment, once the project is "officially" approved by a 2/3 vote of the affected parcel owners. However, if the Assessment District fails to pass a 2/3-majority vote, the City would not recover the funds invested to engineer and design the underground project. Another option for raising the initial engineering fees is by the imposition of a one-time tax to affected property owners.

It is difficult to set a goal for undergrounding overhead utilities by Assessment District since it depends on the outcome of the residents' votes to establish the District. Assuming that residents

are eager to have the neighborhood's overhead utilities undergrounded, it is estimated that approximately ten miles of Residential Streets could be undergrounded within a ten-year time period.

Staff estimates a minimum of 80 hours over a four-month period would be required to develop a draft Council Policy to help guide residents, as well as staff, through the Assessment District development process.

The City seldom receives requests from residents regarding formation of Assessment Districts. If a Council Policy is established, and many requests are received from the public regarding the formation of Assessment Districts, staff time will increase significantly in order to accommodate these requests.

V. INSTALLATION OF CONDUITS WITH PAVEMENT REHABILITATION PROJECTS

City Council requested that staff explore the possibility of installing underground conduits in conjunction with the City's pavement rehabilitation projects for future undergrounding.

Installation of conduits within the limits of a rehabilitation project without SCE and/or SBC design oversight, in anticipation that in the future SCE and/or SBC will use those conduits, is not recommended. Undergrounding of overhead utilities are impacted by many factors such as the need for underground vaults, number of conduits and conductors, sources of connections to side streets, businesses, residents, etc. If the City installs conduits in conjunction with rehabilitation projects without any consideration to the factors mentioned above, it will result in a loss of investments made by the City. It is estimated that approximately 60 percent of the total cost of an undergrounding project is for installation of underground conduits, 30 percent of the total cost is for the electrical work, and 10 percent of the total cost is for removal of overhead poles.

Since SCE and/or SBC own and maintain most of the power poles in the City, the design for sizing the conduit on each street would need to be performed by SCE and SBC. The City is required to advance funds for the design work. Generally, the design fee is approximately 10 percent of the construction cost. It will take SCE at least one year to complete the engineering. Upon the completion of the design work by SCE, construction drawings are submitted to SBC and cable companies. This will allow SBC and cable companies to attempt to utilize SCE's trench as much as possible in order to reduce construction costs. It will take SBC and cable companies an additional nine to twelve months to complete their design work. Once all effected utility companies have completed the design work, the installation of conduits may begin.

Since SCE, SBC, and cable companies will maintain the conduits, a contractor approved by each affected utility company must perform the work under their contracting provisions. It should be noted that their contracting provisions vary substantially from the procedure established for the cities by state law. In addition, these contractors specialize in undergrounding utilities, as opposed to pavement reconstruction. Including rehabilitation work with underground conduit installation will result in a substantial mark-up in construction cost. Due to time scheduling, contractual provisions, and cost effectiveness as mentioned above, conduit work should be separated from pavement rehabilitation projects.

VI. ASSESSMENT OF FEE PER SQUARE FOOT OF PROPERTY TO FUND UTILITY UNDERGROUNDING

Based on the 19th street and Placentia Avenue undergrounding project, it is estimated that the cost to underground overhead utilities, excluding transmission poles, is currently $3.95 per square foot of property.

The City of Costa Mesa Zoning Code requires a minimum 6,000 square foot lot size for a single-family residential lot and a 6,000 to 12,000 square foot lot size for a commercial lot. Therefore, a typical residential property's share for undergrounding overhead facilities is estimated at $23,700.

This cost includes an engineering assessment, SCE and SBC engineering and construction costs, on site construction costs, and conversion of all services from the parkway to the private properties.

VII. NEXT LOGICAL AREA FOR UNDERGROUNDING WITH RULE 20A FUNDS

Historically, City-sponsored undergrounding projects funded with Rule 20A funds have concentrated on major thoroughfares or near areas of public interest. A good candidate for utility undergrounding is a street that will be enhanced for both safety and aesthetics. This includes streets that have an unusually high concentration of overhead utility wires and poles, and are scheduled for pavement rehabilitation immediately following the undergrounding. The benefits of this type of project are twofold: the area is aesthetically enhanced by the removal of the utility wires and poles, and the street is improved by resurfacing of the pavement. Conversely, the completion of an undergrounding project without subsequent street rehabilitation will leave the roadway in a less than desirable driving condition.

In order to plan for the next logical area for undergrounding with Rule 20A funds, coordination with SCE and SBC is required to identify a cost effective and beneficial area. Staff estimates a minimum of two hundred (200) hours over a four-month period would be required to identify a good candidate for next undergrounding project with Rule 20A funds.

VIII. MISCELLANEOUS INFORMATION – NEWPORT BEACH AND MONTECITO PROGRAM

At the Study Session of July 12, 2004, an SCE representative mentioned that the City of Newport Beach is currently working on several Assessment Districts for utility undergrounding projects, and Montecito is looking into one Assessment District for undergrounding overhead utilities in the entire community.

In the City of Newport Beach, at least 60 percent of the property owners within the proposed underground district limits are required to sign petitions supporting an Assessment District for the proposed undergrounding of overhead utilities. Once the required petitions have been submitted, the City of Newport Beach will advance funds to the district to retain an Assessment Engineer, a Bond Council, and to provide a cash advance to SCE and SBC to begin the underground utility design. Once the plans and Engineer's Report have been completed, the District is submitted to the City Council to present the Engineer's Report, approve the Resolution of Intention, and to schedule the two required public hearings. Ballots are sent to each property owner with the meeting notices. If the City fails to obtain a 2/3 majority, the City is not able to recover the funds fronted to engineer and design the underground project.

Montecito is a community within an unincorporated area of Santa Barbara County. The residents of Montecito initiated and created a private committee to administer the proposed utility undergrounding. Montecito proposes to raise funds for engineering fees and the Assessment Engineer's Report by a one-time special tax to the affected property owners. Once the engineering and Assessment Engineer's Report are completed, the property owners are again assessed a tax for the construction costs. The cost to underground the overhead utilities for the entire community of Montecito is preliminary estimated at $80,000,000. Presently, the residents of Montecito have not voted on the one-time tax for engineering fees or a tax to fund construction costs.

ALTERNATIVES CONSIDERED:

One alternative is to collect community input on the creation of an Assessment District for undergrounding the remaining overhead utilities in the City. City Council may assign the Planning Commission to conduct public hearings on the matter or may choose to direct staff to conduct a statistically valid survey of the community. The services of a specialized consulting firm are required to develop and conduct a Citywide telephone survey of registered voters. The survey will help achieve the following objectives:

- Estimate public support for utility undergrounding in residential areas of the City of Costa Mesa.

- Estimate an assessment threshold at which a majority of respondents in specific neighborhoods in the City are supportive of a utility undergrounding proposal.

- Examine whether certain informational items influence support for a utility undergrounding proposal.

- Assess how the results vary across neighborhoods for each of the above objectives.

It is estimated that approximately $80,000 is required to conduct a Citywide telephone survey. Currently there are no funds allocated towards this task.

Another alternative is for the City to establish a policy of undergrounding overhead utilities on Arterial Streets with Rule 20A funds and Residential Streets with the creation of Assessment Districts.

FISCAL REVIEW:

There are several methods and funding sources commonly used by local agencies to underground overhead facilities. First, and in order for the utility companies to participate in a project to underground their facilities, an "Underground Utility District" must be formally approved and adopted by the City Council. In accordance with the California Public Utilities Commission (CPUC) rules, there are two ways to fund these projects as follows:

- Utilize funds set aside by the utility companies, as required by the CPUC, for undergrounding of utility lines (Rule 20-A); or

- Utilize local funds (public and/or private) to pay the utility companies for design and construction of the undergrounding project (Rule 20-B).

To qualify a project for Rule 20-A funds, a city is required to: 1) determine that undergrounding of overhead facilities will be in the public's general interest; 2) receive concurrence from the utility companies that they have set aside sufficient funds for the proposed undergrounding; and 3) create an underground district by City Ordinance. The annual allocation for each city in the SCE service area is calculated on the number of electrical meters in that city. The City of Costa Mesa is currently allocated approximately $475,853 per year for undergrounding of electrical services. SBC also allocates funds (Rule 32A) for undergrounding of their facilities in conjunction with any approved SCE/City undergrounding project.

Underground District 21 (UD21), which encompasses 19th Street (from Monrovia Avenue to Anaheim Avenue) and Placentia Avenue (from 18th Street to 20th Street), was just completed. Rule 20A allocations were utilized to fund UD21. Originally, SCE estimated the cost of UD21 at $3,310,000 (Attachment 2); however, the City was just informed that the actual cost to complete this project is $5,701,000 (Attachment 3). Due to expenditures associated with the UD21 Rule 20A, the City of Costa Mesa has a current mortgage balance of -$2.862M. It will be approximately seven years from now (year 2011) before the City begins to accumulate Rule 20A allocations again.

Rule 20-B of the CPUC Code allows for public agencies to pay for the establishment, design, and construction of Underground Utility Districts with local funds. In this case, the utility companies perform the design and construction work. The local agency funds the cost and pays the utility companies for all work involved. There are several ways that a local agency can fund Rule 20-B undergrounding projects.

- Use of general funds.

- Establishment of an Assessment District (or Community Facility District, Attachment 4). In this type of funding, a majority of the population proposed to be assessed must approve of the assessment through a vote. A typical Assessment District will provide for repayment of the undergrounding design and construction through annual property tax billings. A typical assessment may last from 10 to 15 years. Establishment of an Assessment District may add from three percent to five percent to the total cost of the project. Attachment 4 lists the steps required in the establishment of an Assessment District.

Staff is not aware of any grant funds that may be available for funding of Rule 20-B projects.

LEGAL REVIEW:

Legal services are normally not required for the establishment, design, and/or construction of an Underground Utility District using rule 20A funds. However, extensive legal and bond counsel services are needed when an Assessment District or Community Facilities District is established. These services may cost anywhere from $100,000 to over $300,000, depending on the size of the Assessment District and the number of parcels involved.

CONCLUSION:

As requested by Council, staff provided information on different options, manpower, and costs related to the Citywide undergrounding of overhead utilities. Staff requests Council's direction on future actions.

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ATTACHMENTS:
1 – City Council Study Session Report, Dated July 12, 2004
2 – SCE Initial Cost Estimate, Dated April 30, 2003
3 – SCE Letter, Dated September 13, 2004
4 – Steps Required For Establishment of an Assessment District

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