

file  
72-4

Distributed 2-4-72

PRELIMINARY

STUDY OF  
UTILITY FACILITY RELOCATION  
IN STREET WIDENING PROJECTS

Office of the Legislative Auditor  
State of Hawaii

February 1972

## TABLE OF CONTENTS

		Page
PART I	INTRODUCTION AND SUMMARY OF FINDINGS	
Chapter 1	Introduction .....	1
	Objectives of the Audit .....	1
	Scope of the Audit .....	1
	Some Background .....	2
	“Utility Company” and “Utility Companies” Defined .....	2
2	Summary of Findings .....	3
	Findings Generally .....	3
PART II	SPECIFIC FINDINGS AND RECOMMENDATIONS	
3	HRA Projects .....	5
	Current Status .....	6
	Design Phase .....	7
	Construction Phase .....	8
	Proposals to Insure Property Owner Compliance .....	23
4	State Highway Projects .....	27
	Design Phase .....	28
	Construction Phase .....	32
5	Improvement District Projects .....	36
	Design Phase .....	37
	Construction Phase .....	39

PART I  
INTRODUCTION AND SUMMARY OF FINDINGS

Chapter 1

INTRODUCTION

House Resolution No. 194, Sixth Legislature, 1971, expressed concern over the danger, inconvenience, and additional cost to the general public resulting from delays in the removal and relocation of utility poles and overhead lines in street widening projects. It requested the legislative auditor to study this problem in depth. This report is in response to that resolution.

Objectives of the Audit

The objectives of the audit were:

1. To determine the specific nature and causes of the delays in the relocation of utility transmission facilities in street widening projects; and
2. To recommend specific actions as appropriate to eliminate or reduce the delays in relocating utility transmission facilities.

Scope of the Audit

As the next section indicates, House Resolution No. 194 was adopted primarily as a result of long delays experienced in the removal of utility poles in the Honolulu Redevelopment Agency's Kapahulu project. However, street widening projects, entailing the relocation of utility poles, are also undertaken by the public works department of the city and county of Honolulu under improvement district ordinances. Further, the State carries on highway improvement projects which call for the removal or relocation of utility poles and other utility facilities. Thus, although our audit was concerned primarily with the activities of the Honolulu Redevelopment Agency, the endeavors of both the State department of transportation and the department of public works, city and county of Honolulu were also examined.

## Some Background

Legislative concern regarding the timely removal and relocation of utility transmission facilities in street widening projects was first expressed during the 1970 session. At that session, the House of Representatives adopted House Resolution No. 313. That resolution requested the public utilities commission and the joint pole committee to use the full powers of their offices to remove, as soon as possible, the unsightly and hazardous telephone poles left on the streets after completion of street widening in improvement district projects. The resolution was adopted primarily because of complaints voiced during 1969 by people living in the Paki and Hinano renewal areas of the Honolulu Redevelopment Agency's Kapahulu project where telephone poles remained in the streets for months after street widening and improvement had apparently been completed. The concerns of the residents were directed at the hazardous conditions and inconveniences resulting from the pole remaining within the improved streets.

In September 1970, a meeting of members of the House of Representatives, Honolulu city council, State department of regulatory agencies, public utilities commission, Kapahulu Community Association-Planning Committee, Honolulu Redevelopment Agency, Hawaiian Telephone Company, and Hawaiian Electric Company was held at the State Capitol to explore possible solutions to the persisting problem of removing utility poles from improved streets in the Hinano project area.

These earlier attempts made little progress in resolving the problem. Hence, the adoption of House Resolution No. 194.

## "Utility Company" and "Utility Companies" Defined

Throughout this audit, the terms, "utility company" and "utility companies" are used. They refer to the Hawaiian Electric Company and the Hawaiian Telephone Company. Although street improvement work often involves other utility companies, such as the Honolulu Gas Company and the Board of Water Supply, and affects facilities owned by government, such as traffic signal lights and sewer systems, they were excluded from the purview of this study since the study was concerned primarily with the delays in removal of utility poles and the electric and telephone companies are the primary, if not the exclusive, users of the poles.

## Chapter 2

### SUMMARY OF FINDINGS

The failure to remove or relocate utility poles and utility transmission facilities in a timely fashion has important consequences. The most obvious consequence is, of course, the potential hazard and unsightly condition created by poles within an otherwise widened and improved street. The less obvious, but equally important, consequence is that it often delays completion of the street widening or highway improvement project and adds to the cost of the project.

For example, in HRA's Paki project, the general contractor was prevented for ten months from completing his work because an existing utility pole was in the way of the site at which a new drainbox was supposed to be installed. In the Hinano project, the general contractor was paid \$500 a month for a period of a year (January to December 1971) to continue to stay on the job, the completion of which was delayed due to non-removal of utility poles in a timely fashion.<sup>1</sup> In the State department of transportation's Kalaniana'ole highway (Aina Koa Avenue to Aina Haina) widening project, the general contractor was granted 57 days extension because of delays caused by late completion of utility transmission facility relocation. In still another State department of transportation's project—interstate Route H-1, Wai'au to Waimalu, F.A.I.P.—the State incurred an added cost of \$10,790 to provide temporary facilities to avoid what would have been a greater cost to the State by a delay of 9 months to accomplish a permanent relocation of utility facilities.

Every street-widening or improvement project requiring the removal or relocation of existing utility transmission facilities involves performance of different kinds of work by several distinct entities. They are: (1) the governmental agency sponsoring the project; (2) the general contractor who is responsible for widening or improving the street; (3) the utility companies which are responsible for removing or relocating existing utility facilities; and (4) in the case of HRA and improvement district projects, the property owners who must perform certain work on their respective parcels of land.

The timely removal or relocation of existing utility facilities depends on the prompt performance by each party of its tasks.

#### Findings Generally

In general, we find that all parties, including the responsible governmental agencies, must share a portion of the blame for the delays in the timely removal or relocation of utility facilities in past HRA, State highway and city and county improvement district projects. More specifically, we find that:

---

<sup>1</sup>The \$500 per month compensation was to defray the contractor's (a) increased labor costs during the extended period, (b) cost of keeping the contractor's equipment and men mobilized and (c) cost of extending the contractor's bonding period.

1. Prompt performance of tasks by the general contractor and the utility companies has been hampered by poor coordination of work between the two. Coordination has been lacking in both the design and construction phases of a project. Plans and specifications for site improvement and plans and specifications for utility relocation have not been integrated and the work schedules of the general contractor and those of the utility companies have often been at odds with one another.

2. Sufficient leadership has not been provided by the governmental agencies concerned (i.e., HRA, State department of transportation, and the city and county department of public works) to insure that plans and work schedules of the general contractor and the utility companies are harmonized.

3. In improvement district and HRA projects, the inability or refusal of property owners to perform their work has contributed to delays in the removal or relocation of utility poles and other facilities. Neither HRA nor the city and county public works department has exerted sufficient effort to educate and encourage private property owners in preparing their parcels for conversion to underground utility systems.

In the next part, we discuss in some detail the nature of the difficulties encountered in the HRA's Kapahulu renewal program. We then briefly explore the problems in the State's highway projects and the city and county of Honolulu's improvement district projects.

PART II  
SPECIFIC FINDINGS AND RECOMMENDATIONS

Chapter 3

HRA PROJECTS

The Honolulu Redevelopment Agency (hereafter referred to as HRA) was created by action of the city and county of Honolulu in 1949 pursuant to the Urban Renewal Law (HRS chapter 53). It has the authority to conduct redevelopment and renewal projects within the city and county of Honolulu.

The objective of urban renewal, in general, is to restore deteriorating neighborhoods to a sound, attractive, sanitary, and safe condition by rehabilitating and improving existing buildings and public facilities. HRA is authorized to issue bonds and other obligations and to borrow and accept grants from the federal government and other sources in the accomplishment of this objective. Included within the scope of any renewal project is not only the improvement of public rights-of-way, but also the improvement of private property.

The costs of site improvements within the public rights-of-way and the costs of administration are borne two-thirds by the federal government<sup>1</sup> and one-third by the city and county. The costs of renovation and improvement of private property are the responsibility of the property owners. The cost of relocating private utility facilities within public rights-of-way is borne entirely by the private utility company owning the facility, if the relocation is from overhead to overhead; but, if the relocation is from overhead to underground or from overhead to modified underground, the amount in excess of the overhead to overhead cost is borne by the city and county. The city and county's share is included in the costs of improvements of public rights-of-way and is thus subject to federal participation.

We are concerned in this chapter with HRA's Kapahulu General Neighborhood Renewal Plan, particularly the Paki and Hinano projects included in the plan. Besides Paki and Hinano, the plan includes two other projects—Hoolulu and Olu-Kikeke—the site improvement work for which has not yet begun. This rehabilitation program involves site improvements within public rights-of-way (street widening, etc.) and

---

<sup>1</sup>Federal financial assistance is available to local governments in urban renewal projects under the Housing Act of 1949, Title I, chapter 338 (Public Law 171) and the Housing Act of 1954, section 311 (Public Law 560).

improvement of private properties located within the renewal plan area. It calls for the relocation of existing overhead utility facilities to a modified underground system. A modified underground system places all utility lines underground, except a single electric wire strung from the top of one light standard to another.

## Current Status

The Paki project was planned initially as the pilot project of the Kapahulu General Neighborhood Renewal Plan. However, both the Paki and Hinano project applications for federal financial assistance were simultaneously processed. Final approval of plans for both projects was received from the regional office of the department of housing and urban development (DHUD) in San Francisco in July 1966.

1. **Paki project.** The original close-out date<sup>2</sup> for the Paki project was January 1970, but it has since been extended to January 1972, and a further extension is being contemplated. Construction contract was let on March 22, 1968, and actual site improvement (street widening, etc.) began on May 28, 1968. The site improvement work was due to be completed on November 19, 1969, but the actual date of completion was October 7, 1970.

All utility poles within the project were removed by August 1970, except five on Kaina Street. Kaina Street is a privately owned road, and it was not included in the contract for site improvement because of uncertainty on the part of HRA to accomplish the work necessary in this congested area consisting of numerous sub-standard lots. In May 1971, installation of underground facilities within Kaina Street was initiated under a service fee agreement with the Hawaiian Electric Company. The installation of necessary ducts, cables, and equipment was completed in July 1971. Preparation for underground conversion has been accomplished by all homeowners, except one. Thus, the five poles on Kaina Street will remain standing until conversion by this one remaining owner is effected.

2. **Hinano project.** The Hinano project is presently slated to close-out in July 1972. Construction contract was let on May 13, 1968, and site improvement began on August 1, 1968. It was due for completion on July 21, 1970; however, it was actually completed on December 3, 1971.

3. **Hoolulu project.** Hoolulu is the next project slated to begin. The present status of the project is uncertain due to funding problems (cuts in the federal budget). The project is divided into two units. Both

---

<sup>2</sup>“Close-out” means that 95% of all rehabilitation work both in the public rights-of-way and on private property has been completed.

units were initially scheduled to begin in the first quarter of 1972, but due to funding problems, it appears that only one unit will be let.

To expedite such execution activities as land acquisition and site improvements, the HRA on September 23, 1969, requested a "Letter of Consent"<sup>3</sup> from DHUD to begin certain activities, such as establishment of road grades and existing grades of property lines, topographical survey of right-of-way, preparation of parcel maps, title searches, etc. The letter of consent from DHUD was received by HRA on January 21, 1970.

Pursuant to the letter of consent, certain activities were undertaken by HRA. Due to these actions, the site improvement work for Hoolulu will begin in less than six months after project execution becomes official. The official project execution date is currently estimated to be in April 1972.

### Design Phase

Site work design for both Paki and Hinano was contracted to a consulting engineering firm. The firm was instructed to coordinate the site work design with the design for utility relocation prepared by private utility companies. Thus, a draft of the site work design, upon completion, was routed to the private firms for review and comment. Thereafter, the final design work was again routed to the utility companies for their approval before submission to DHUD. This coordination of site work design with utility relocation design was required by HRA for two reasons.

*First*, both the Paki and Hinano projects entailed relocation of utility facilities from overhead to modified underground. Since the city and county pays a portion of the cost of relocating from overhead to underground, HRA was interested in the utility plans and specifications as well as in the construction plans and specifications.

*Second*, both the Paki and Hinano projects were funded heavily by the federal government. Under federal requirements, the plans and specifications for both construction and utility relocation had to be completed prior to approval of the projects by DHUD. This was particularly so since a portion of the city and county's share of the cost of relocating utility facilities was to be reimbursed by the federal government.

There were, however, serious shortcomings in this effort to integrate site improvement and utility relocation designs. These shortcomings became apparent during the construction phase of the projects.

---

<sup>3</sup>A "letter of consent" is a means of receiving permission from DHUD to expend money on certain execution activities prior to final approval of the project. The activities are financed initially by the city and county of Honolulu, subject to reimbursement from the federal government upon approval of the project by DHUD.

Basically, HRA overlooked the need for a fairly tight scheduling of work by both the general contractor and the utility companies and left the responsibility to coordinate the work of the contractor and the utility companies to the general contractor even though there was no real way in which the general contractor could do this, since the utility companies are in fact independent contractors. More specific findings in this regard are noted in the section following.

### Construction Phase

The delay in the removal of utility poles in the Paki and Hinano projects has generally been attributed to the failure of private property owners to complete preparation of their property for underground conversion in a timely fashion. However, our study revealed that while certain property owners were indeed slow in performing the necessary work on their property, the other parties were not entirely faultless and must bear a portion of the blame for the delay.

Timely removal of existing utility poles requires expeditious completion of individual tasks by the general contractor, utility companies and private property owners. Table 3.1 lists these tasks. The tasks are listed generally in the sequence in which each must be accomplished. A delay in completing any of these tasks will cause a delay in the ultimate removal of utility poles.

Table 3.1  
Tasks Required for Utility Facility Relocation  
and Utility Pole Removal

Tasks Required	Person/Agency Primarily Responsible for Task Completion
1. Duct work . . . . .	General contractor
2. Cable splicing . . . . .	Utility companies
3. Activation . . . . .	Utility companies
4. Notice to homeowners to complete work necessary on private property . . . . .	HRA
5. Preparation of private property for underground conversion . . . . .	Private property owners
6. Conversion . . . . .	Private property owners; utility companies
7. Pole removal . . . . .	Utility companies

In both the Paki and Hinano projects, difficulties were encountered at nearly every step. A primary cause of these difficulties was the absence of sufficient HRA involvement to insure proper scheduling of work by all parties concerned. No definitive schedule, outlining the work to be done from the beginning to the end of the project, other than generalized target dates, was ever developed or caused to be developed by

HRA, nor was there sufficient, continuous monitoring activity performed by HRA to insure completion of each task in a timely fashion. Our detailed analysis follows.

**I. Duct work to activation.** In both the Paki and Hinano projects, the general contractor was required as part of his site improvement work to excavate trenches in public rights-of-way for the laying of electric and telephone lines and to erect new light standards. In addition, the general contractor was responsible for installing in the trenches ducts with pull wires enclosed. Thereafter, the Hawaiian Electric Company was responsible for laying electrical lines in the trenches, stringing overhead distribution lines from one new light standard to another, running the overhead lines through the new light standards to the underground wire, and connecting the overhead lines with the underground electrical lines; and the Hawaiian Telephone Company was responsible for pulling and splicing the underground telephone cables. Both utility companies were then responsible for activating the underground lines.

Although precise data were not available for analysis, from fragmented information collected by the audit team, it appears that in the Paki project, the general contractor (through his electrical subcontractor) completed all necessary trench, light standard and duct work in all streets with sufficient dispatch. However, from completion of trench, light standard, and duct work by the general contractor, the utility companies took an average of four and one-half months to complete their tasks of laying and stringing electrical lines, splicing telephone cables and activating the lines. In some streets, five to seven months elapsed between duct work and activation.

Data for the Hinano project were even sparser than those for the Paki project. However, available information revealed that the utility companies took as long as eight months in some streets to complete their tasks of laying and stringing electrical lines, splicing telephone cables and activating the lines.

From a reading of the original plans of HRA, it appears that not more than three months were contemplated for the utility companies to finish their tasks necessary for activation in every street. The fact that five, seven and eight months were required for activation in some streets is attributable in the main to inadequate scheduling and coordination of work between (a) the general contractor and the utility companies and (b) the general contractors of the Paki and Hinano projects.

*a. General contractor-utility company coordination.* Scheduling and coordination difficulties between the general contractor and the utility companies arose even though efforts were expended to keep such difficulties to a minimum. These efforts included the following:

- (1) In both projects, a project engineer was assigned full time to work with the general contractors, their sub-contractors and the public and private agencies involved. In addition, two inspectors were also assigned to assist in coordinating the work of HRA, the city and county and all agencies and private firms involved in the projects.

- (2) As required by federal guidelines, a pre-construction meeting was held in each project at which federal requirements, work schedules, and names of contact personnel of each affected public and private agencies were disclosed and discussed by a federal representative, HRA, the general contractor, subcontractors, private utility companies, and other agencies involved. In addition, on the first day of construction, another meeting was held in the field attended by the same parties who were present at the pre-construction meeting and all assigned inspectors from public and private agencies involved in the project. The purpose of this second meeting ostensibly was to enable the general contractor and others to determine the best means of expediting the project and removing utility poles. Thus, the schedules of the various parties and priorities were discussed, and the utility companies furnished the general contractor with maps indicating the power source and feederlines of Hawaiian Electric Company and the main and connecting lines of Hawaiian Telephone Company.

Scheduling and coordinating problems nevertheless emerged when the general contractor and the utility companies could not agree on the exact street sequence to follow in accomplishing site improvement. From the point of view of the utility companies, underground cables must first be placed in those streets which are the major utility feeder routes. If streets which carry connecting lines are improved first, poles on these streets (notwithstanding completion of all improvements, including connecting lines) would continue to stand until the street carrying the major feeder route is completed. The general contractor, however, is influenced by factors other than utility routes in determining the locus at which work should begin. He is concerned with such factors as the slope of the terrain and the location of existing control devices which affect flow of water (e.g., sewer and storm drains).

The following example from the Hinano project illustrates the differing approaches of the general contractor and the utility companies. To activate the telephone underground cables in Hinano, Makini and Kaunaoa Streets required that the underground cables in Wela and Trousseau Streets be activated first since the major telephone feeder route lay in Alohea Avenue (see figure 3.1). However, the general contractor performed necessary underground duct work in Hinano, Makini and Kaunaoa Streets, in that order, before proceeding to lay ducts in Wela and Trousseau Streets (see table 3.2). As a consequence, none of the cables in Hinano, Makini and Kaunaoa Streets could be activated until five to eight months after duct work in these streets were completed. Had duct work on Wela and Trousseau Streets been completed first, Hinano, Makini and Kaunaoa Streets could have been activated as work on each street was completed.

Figure 3.1  
Illustration of Major Utility Feeder Line and Connecting Lines  
(Portion of Hinano Project)

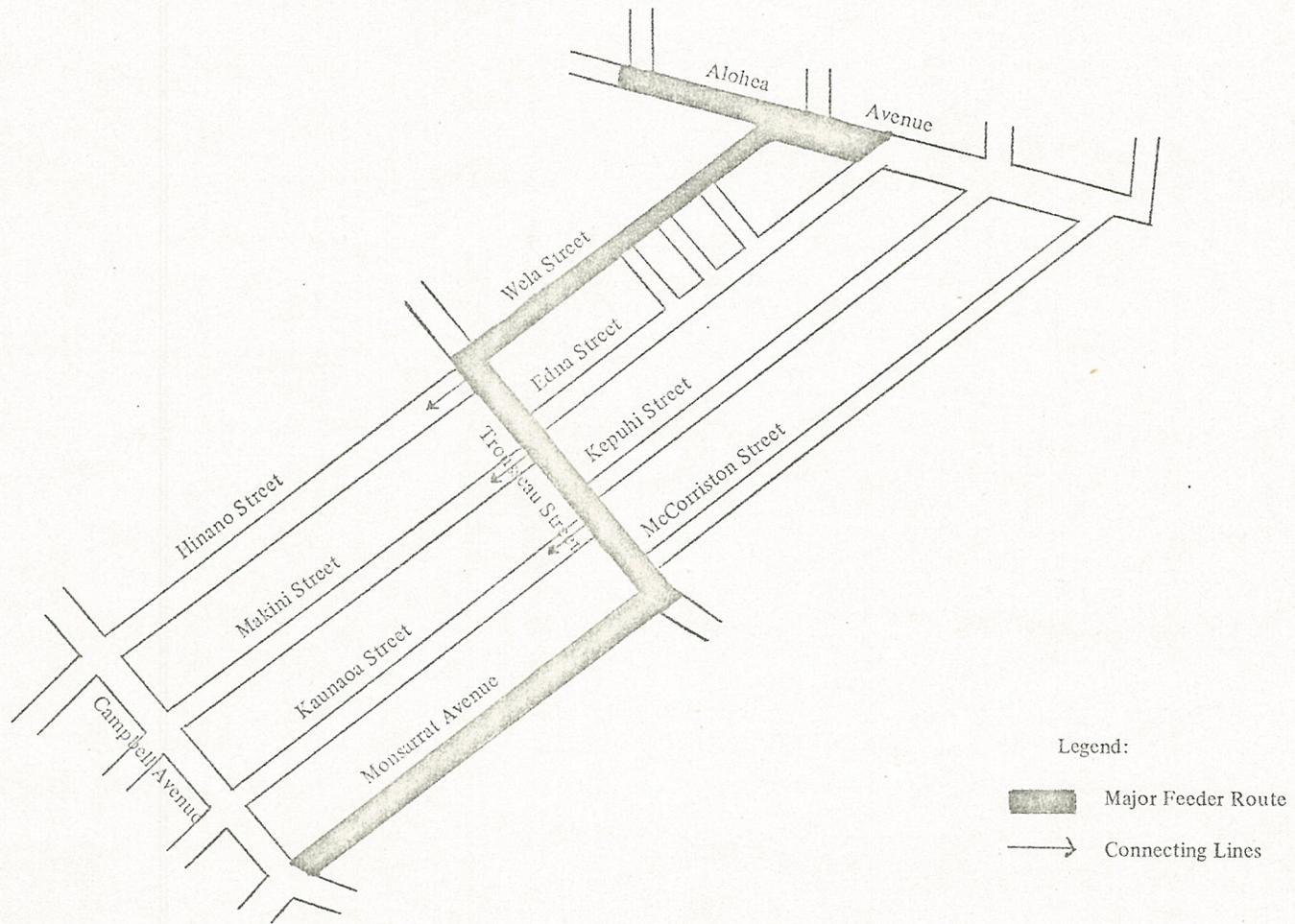


Table 3.2  
Underground Duct Work and  
Underground Cable Activation Dates  
(Actual)

Street	Underground Duct Work	Activation of Underground Cable	Duct Work to Activation (Months)
Hinano	Jan. 1970	Sept. 1970	8
Makini	Mar. 1970	Sept. 1970	6
Kaunaoa	Apr. 1970	Sept. 1970	5
Wela	June 1970	Sept. 1970	3
Trousseau	July 1970	Sept. 1970	2

The general contractor followed his own work phasing even though the specifications on the Hinano project specifically provided that:

“... first priority shall be given to the improvement of the following streets in the order listed below:

- a. Francis Street and Campbell Avenue
- b. Alohea Avenue
- c. Wela Street
- d. Trousseau Street.

“No deviation from the above schedule will be allowed without the approval of the utility companies and the Project Engineer.”

Unfortunately, other than this brief reference in the specifications, HRA did not see to it that a proper street-by-street schedule was developed acceptable to both the general contractor and the utility companies.

*b. Inter-project coordination.* In the Paki project also, the specifications listed the streets required to be given priority by the general contractor. The listing was as follows:

- (1) Francis Street
- (2) Campbell Avenue
- (3) Kanaina Avenue.

It appears that in this project, although no street-by-street schedule was developed, the general contractor attempted to follow the street sequence enumerated in the specifications, since the records indicate that Francis Street was one of the first streets in which duct work was completed. Here, however, a different kind of scheduling and coordination problem arose.

Although listed in the specifications, Campbell Avenue was not one of the streets for which the Paki project general contractor was responsible for site improvement and only that portion of Francis Street

between Campbell Avenue and Kanaina Street was the responsibility of the Paki general contractor. Campbell Avenue and that portion of Francis Street leading to Alohea Avenue and the major utility feeder lines were the responsibility of the Hinano project general contractor. Thus, although the Paki general contractor completed duct work on Francis Street (for example) as early as March-May 1969, the cables in that street could not be activated for the purposes of Paki residents until December 10, 1969, when the cables in the remainder of Francis Street within the Hinano project were activated. What all this means is that activation of lines in the Paki project depended heavily upon timely completion of certain work by the general contractor in the Hinano project.

This inter-project coordination was not at its optimum in the Paki-Hinano projects, even though in the specifications for both projects, the following provision was included:

“The Contractor’s attention is hereby directed to the Local Public Agency’s adjoining Hinano [Paki] Project which will be concurrently constructed under a separate contract. Mutual cooperation shall be exercised by all contractors to avoid conflicts during construction. Any disputes shall be immediately reported to the Project Engineer who will resolve the problems to the best interest of all parties involved.”

Under this provision, the general contractor of each project was required to coordinate his work with the general contractor of the adjoining project. However, since each general contractor (and for that matter, each utility company) is independent and autonomous, not subject to the control of the other, it could not reasonably be expected that either general contractor would be able to effectively coordinate his schedule with that of the other. It would appear that the responsibility of coordinating the work of both contractors should have been discharged by HRA itself, but such coordination by HRA was minimal.

*c. Future prospects.* We are informed that HRA intends to assume greater responsibility for coordinating the work schedules of the general contractor and the utility companies and for coordinating the schedules of mutually dependent projects. It intends, for example, to pay greater attention to street-by-street progress in the Hoolulu project. Thus, as of this date, a tentative street-by-street schedule for site improvement work to be included in the specifications has been prepared and copies of the schedule sent to public agencies and the utility companies for comments and suggestions. Further, HRA expects to include in the specifications a provision limiting the general contractor from working on more than four streets at a time.

We believe that these steps will materially assist in minimizing scheduling difficulties. We note, however, that despite these precautions, some amount of scheduling difficulties in the implementation phase must be expected; they are not entirely avoidable. Factors pertinent to the general contractor, as they unfold during construction, must be accorded consideration. This means that positive, continuing coordination responsibility must be exercised by HRA throughout the project life. It also means that

probably some provision need to be made for temporary relocation of utility poles and facilities when necessary. Both the Paki and Hinano project specifications expressly provided that “[t]emporary relocation of existing poles and lines to facilitate roadway construction will not be made unless authorized by the respective utility company and the Project Engineer. The cost of such relocation work shall be borne by the Contractor at his expense.” The inclusion of such restrictive provision needs to be reconsidered by HRA.

*Recommendations. We recommend that:*

*1. HRA assume full responsibility for coordinating the work of the general contractor and utility companies and, as appropriate, the work schedules of adjoining HRA projects. This responsibility should be discharged throughout the life of the project.*

*2. HRA, in accordance with its intention, include in the specifications for all future HRA projects a street-by-street schedule for site improvement and that such schedule be developed upon consultation with the utility companies. Upon the letting of a construction contract, the schedule should be reviewed in consultation with the general contractor selected and the utility companies to insure that the schedule takes into account the requirements of both the general contractor and the utility companies.*

*3. HRA provide in the specifications for temporary relocation of utility poles and facilities as necessary at HRA’s expense.*

**2. Activation to homeowner preparation.** Mere activation of underground utility cables in public rights-of-way is not enough to cause the removal of existing overhead lines servicing individual dwellings and the poles from which such overhead lines are strung. Private property owners must convert to the underground facilities. To do so, each property owner must perform certain work on his property. The work includes excavating a trench from the owner’s dwelling to the street, laying electrical and telephone conduits in the trench, and installing junction boxes. Generally, a property owner must engage an electrical contractor to perform these tasks. The full cost of such excavation and conduit and junction box installation must be borne by the property owner himself.

*a. Notice to property owners.* A property owner may begin preparation of his parcel for underground conversion either before or upon receipt of a notice from HRA directing him to proceed with such preparation. Although not so specifically stated in the notice, HRA generally allowed 120 days or four months for preparation. In the case of Paki, the 120 days were measured from the date of actual activation of the underground cables, but in the case of Hinano, they were measured from the date of the notice. The practice in Hinano was based in part on the experience of Paki (which preceded Hinano in terms of completion of site improvements).

In Paki, HRA sent notices to property owners on all streets<sup>4</sup> on the same day--August 12, 1969. This date was in advance of both the HRA anticipated activation dates and the actual date of activation of underground cables in the various streets (see table 3.3). The selection of August 12, 1969, was arbitrary and bore no relationship to the progress then being made in site improvements in the differing streets. As a consequence, some property owners on some streets, noticing little progress in site improvement on their streets in relation to the progress then being made in other streets, refused to take the notices seriously, ultimately leading to confusion as to the time within which property owners were expected to complete preparation of their parcels. Thus, in the Hinano project, HRA chose to send notices on or within a few days of the date of actual activation of underground cables.

Table 3.3  
Scheduled and Actual Activation Dates  
Paki Project

Street	Target Activation Date	Actual Activation Date
Esther	July 31, 1969	September 4, 1969
Francis	July 31, 1969	November 4, 1969
George	October 1, 1969	November 4, 1969
Kanaina	October 1, 1969	December 10, 1969
Hollinger	October 15, 1969	September 4, 1969
Leahi	October 15, 1969	December 10, 1969
Hayden	October 15, 1969	December 10, 1969
Makini (W)	November 1, 1969	November 4, 1969
Makini (E)	November 1, 1969	December 10, 1969
Lakimau	November 1, 1969	December 10, 1969
Hinano (W)	November 1, 1969	December 10, 1969
Hinano (E)	November 1, 1969	December 10, 1969
Campbell		December 10, 1969

Conceptually, it would appear that the approach taken in the Paki project was more nearly correct than the approach used in the Hinano project. Presumably, advance notices were sent out in the Paki project to enable preparation by property owners to coincide as nearly as possible with activation of underground cables, and thus shorten the time between activation and private property conversion. But, the problem in the Paki case was that every owner was notified at the same time without regard to actual progress in site improvement work. For this approach of sending notices in advance of activation date to accomplish its purpose, the progress in site improvement work must be constantly monitored, so that the date of actual activation may reasonably be estimated and the mailing of notices properly timed. Such monitoring, however, was not adequately performed by HRA in either the Paki or Hinano project.

In Hinano, the practice of sending notices on or within a few days of the date of actual activation of underground cables was followed by HRA with respect to property owners on all streets, except those on Francis, George, Edna and Kepuhi Streets. Those on Francis and George Streets were not notified until eight months after the underground cables were activated, and those on Edna and Kepuhi Streets were not notified until five months after activation. It appears that failure on the part of HRA to give timely notices

<sup>4</sup>Except perhaps Francis and Esther Streets. The record is not clear as to when notices to property owners on these two streets were actually sent.

in these streets was simply an oversight. Nevertheless, a portion of the total time required for the ultimate removal of utility poles in these streets must be attributed to this delay in notifying property owners.

*b. Property owner preparation.* A substantial majority of the property owners in both the Paki and Hinano projects completed preparatory work on their premises within the allowable 120 days. Only a small minority of owners did not perform the necessary work on time. However, this small minority has been able to hold up the early removal of utility poles in several streets. It should be noted that for existing utility poles to be removed from any street, all property owners on that street must connect to the underground cables. So long as a single owner on a street remains unconnected, the poles on that street cannot be removed, since that single homeowner must continue to rely on the overhead lines for electricity and telephone service.

The delay on the part of certain property owners ranged from one to three months in the Paki project, and from one to twelve months in the Hinano project, beyond the 120 days allowed by HRA. As between the two projects, Hinano had the greater number of problems. Only in about six (out of 19) streets did all property owners prepare their lots within the prescribed period of time as compared to seven (out of 11) streets in the Paki project.

The reasons for the delay were varied and numerous. For convenience, they may be categorized as follows:

- (1) Misunderstanding of what was required
- (2) Financial
- (3) Procrastination
- (4) Refusal
- (5) Others.

*(1) Misunderstanding.* Varied methods were used by HRA to inform property owners of their responsibility and to encourage their cooperation. Public meetings were held, newsletters were sent quarterly, property owners were organized along district lines and rehabilitation specialists were used to spread the message. Despite these efforts, however, misunderstanding on the part of certain property owners as to their general responsibility nevertheless arose.

In addition to a general lack of understanding by some property owners as to what was required of them, there were also misunderstandings in some specific areas. For example, one owner of a flag lot (a lot not facing a public right-of-way) did not understand that it was not the utility companies' responsibility to lay underground lines from the public right-of-way to his property in the back. This owner subsequently tried to subdivide his lot, but his subdivision plans were not approved because underground lines had not been installed. He finally prepared his lot for conversion some three months after the 120 allowable days.

Another example involved an owner of a business property. He originally thought that the cost of constructing a pad mount for a transformer (a transformer is necessary under the city's building code for business property) would be paid for by the Hawaiian Electric Company. He thought that all that was required of him was to grant an easement to the Hawaiian Electric Company. He refused the low bid offered to construct the mount (about \$3000). He finally converted in November 1971, nine months after HRA's notice to convert and five months after the allowable 120 days.

The misunderstandings which arose are traceable to a number of causes. A part of these misunderstandings may be attributed to HRA's change in plans for Paki and Hinano. The project plans originally approved by the residents of Paki and Hinano and the federal government (DHUD) called for overhead to overhead utility facilities. DHUD's approval of these original plans was received on July 15, 1966. A year and a half later, HRA decided to alter the original plans by substituting the overhead to overhead utility system with a modified underground system. Prior to this change, however, some property owners had begun and in some cases completed rehabilitation on their parcels. The change to a modified underground utility system meant additional expenses to the homeowner and thus necessitated these owners to apply for new loans and grants and to take other actions necessary to comply with the new requirements.

Another source of confusion was the adoption by the city of the Comprehensive Zoning Code in January 1969. The code came mid-way during execution of the rehabilitation projects. It imposed new zoning and building requirements on owners who had not yet started rehabilitating their property. Property owners within the same project area were thus required to meet differing standards, depending on when each of them started work on his property.

Finally, misunderstanding stemmed in part from the administrative difficulties experienced by HRA. We noted earlier that in the Paki project, notices directing property owners to prepare for conversion to the underground system were sent by HRA without regard to the progress then being made by the general contractor in making site improvements. All homeowners in this project were notified on the same date—August 12, 1969—even though site improvement in some of the streets had not progressed sufficiently to necessitate immediate preparation of the parcels bordering on these streets. One result was that some owners dug trenches and began preparation of their lots far in advance of activation of underground cables only to find that they could make no connection. In these instances, the dug trenches remained open for substantial periods of time. Still other homeowners, seeing little progress in site improvement on their streets, simply ignored HRA's notice.

Contributing to HRA's administrative difficulties was the manner in which HRA initially utilized its rehabilitation specialists. These specialists at first worked only with property owners who called for assistance. The approach that was necessary was to have the specialist seek out the property owners on a schedule comparable to the progress being made in site improvements.

It should be noted that much of HRA's administrative difficulties was caused by the newness of the rehabilitation concepts brought to bear in the Paki and Hinano projects. Paki and Hinano were the first projects of their kind ever executed by HRA.

(2) *Financial.* Some property owners found it financially difficult to pay for the cost of preparing their lots for conversion to the underground utility system as well as to pay for the cost of rehabilitating their dwellings. For a residential property, the cost of conversion ranged from \$250 to \$450. For a business property, the cost ranged from \$3000 to \$5000. The additional cost for a business property is attributable to the necessity of constructing a pad mount for a transformer.

For rehabilitation projects, federal loans<sup>5</sup> and grants<sup>6</sup> are available to property owners. *Loans* are for a maximum amount of \$17,400<sup>7</sup> at 3 percent annual rate of interest. *Grants* up to \$3,500<sup>8</sup> are available to low income homeowners (those with less than \$3,000 annual income) whose credit ratings are "good" and who are able to finance the remaining cost to which the grant is to be applied. Grants and loans may both be used to pay for the cost of converting private property to the underground utility system. As of August 1971, 102 of 261 parcel owners in the Paki project and 263 of 660 parcel owners in the Hinano project applied for and received these federal loans and grants to pay for underground conversion.

A number of property owners did not apply for and were not assisted in applying for these federal loans and grants until sometime after the 120 days allowed for preparation of their property for conversion. Further, there were those owners who could not qualify for these loans and grants because of their "welfare" status or poor credit ratings. To assist these latter individuals, the Honolulu city council established the "Honolulu Redevelopment Agency Rehabilitation Loan Fund." Loans from this fund bear interest at the rate of 3 percent per annum. This fund, however, was created in November 1970 when utility pole removal was already long overdue.<sup>9</sup> Further, the rules and regulations to govern the administration of this fund, although drafted, have not yet been approved and the mechanics of handling loan billings and collections have not yet been ironed out. Thus, no application has yet been processed for loans under this HRA Loan Fund.

As of the writing of this report, there is as yet one property owner who cannot prepare his lot for conversion because of inability to secure financial assistance.

---

<sup>5</sup>Section 312, Housing Act of 1964.

<sup>6</sup>Section 115, Housing and Urban Development Act of 1965 (amending Title I of the Housing Act of 1949).

<sup>7</sup>The limit was raised from \$14,500 to \$17,400 on January 2, 1970.

<sup>8</sup>The limit was raised from \$1500 to \$3000 on August 12, 1968, and to \$3500 on January 2, 1970.

<sup>9</sup>Cf. original site improvement completion dates of November 1969 for Paki and July 1970 for Hinano.

(3) *Procrastination.* Some property owners simply procrastinated in getting the job done on their property. In some cases, procrastination took the form of failing to "push" the electrical contractor to dig the trenches and lay the conduits. In other cases, the property owner could not decide whether to rehabilitate his premises or permit the city to acquire his property and demolish the existing dwelling. Homeowners who procrastinated generally got the job done after sufficient prodding by HRA.

(4) *Refusal.* A small minority of property owners refused altogether to prepare their lots for conversion. A single property owner on several streets in the Hinano project failed to prepare his property for more than a year after HRA's notice and caused temporary poles to be erected in order that the existing poles might be removed.

In both the Paki and Hinano projects, the urban renewal plans contained a provision reserving to HRA the power to enforce compliance by property owners with the requirements of the plan through mandatory injunction or eminent domain, or "negative easements." In February 1971, HRA started preparations for legal action against resisting property owners in the Paki and Hinano projects. However, after five months of pursuing the possibility of utilizing legal means to deal with recalcitrants, the city's corporation counsel's office rendered an oral opinion that the enforcement provision in the urban renewal plans were not enforceable because of HRA's failure to comply with the provisions of the Administrative Procedures Act (HRS chapter 91). There is currently, no legal means to compel property owners to comply with the requirements of the urban renewal plans.

(5) *Other causes.* Among other causes for delays on the part of property owners to prepare their parcels were: (a) unsettled status of an estate; and (b) cloud on the title to a parcel, preventing the owner from securing a mortgage loan. Time was required in these cases to settle the estate and to remove the cloud on title. The delays here were hardly avoidable.

*Recommendations.* What can and should be done to compel recalcitrant property owners to comply with the requirements of preparing their parcels for underground conversion and what can and should be done to spur procrastinating property owners are explored in the next section. As to other matters covered in this section, we recommend that:

1. *HRA strengthen its program of information and education of property owners in designated rehabilitation project areas to minimize misunderstandings on the part of property owners as to their responsibilities.*

2. *HRA adopt rules and regulations with dispatch concerning administration of HRA's Rehabilitation Loan Fund so that the loan fund can become operational with minimum delay. We think early action is advisable in light of the impending Hoolulu project.*

3. *To minimize the time necessary for homeowner preparation of their parcels, HRA schedule its notices directing preparation in light of the progress being made by the general contractor in site improvement and by the utility companies in activation of the underground cables.*

3. **Homeowner preparation to pole removal.** *a. Conversion.* After preparation of their lots by homeowners comes conversion. Conversion involves the cooperation of the homeowner's electrical contractor and the utility companies. The tasks in conversion include laying of electrical lines in the trench by the Hawaiian Electric Company and a hook-up of the electrical and telephone lines to the underground cable. The hook-up of electrical lines requires the presence of both the property owner's electrical contractor and Hawaiian Electric Company's electrician to insure continuous electrical service. In case of difficulty for both to be present at the same time, the electrical contractor may use "jumper wires" for temporary connection in the splice can; the Hawaiian Electric Company can then make the final splicing without the presence of the contractor.

This task of conversion does not ordinarily take much time to accomplish. In both Paki and Hinano projects, in some cases conversion was accomplished within a matter of days or a couple of weeks. However, in both projects, there were instances where conversion did not take place for two or more months after the property owner had prepared his parcel for conversion. There was one case in the Hinano project (Hayden Street), where conversion did not occur until fifteen months after the last parcel had completed the necessary preparatory work.

The causes of the delays in conversion are not entirely clear from the records. However, it appears that among the reasons were: (1) misunderstanding between the property owner and Hawaiian Electric Company regarding scope of the company's services; (2) scheduling difficulties between the property owner's electrical contractor and Hawaiian Electric Company; (3) procrastination by the property owner or his electrical contractor; and (4) improper preparation of trenches and installation of duct work by the homeowner. These difficulties attest to the need for continuous monitoring and coordination by HRA.

*b. Pole removal.* Once the underground cables in a street are activated and all lots on the street are converted, the existing utility poles may be removed. Removal of existing utility poles is the responsibility of the utility companies, principally the Hawaiian Electric Company.

In the Paki project, poles on several streets were removed within a month of the conversion of the last parcel on the respective streets. However, poles on most of the streets were not removed until two or more months after conversion of the last parcel. On Hollinger Street, for example, poles were not removed until June 1970, five months after the last parcel had been converted on January 4, 1970. It is true that on Hollinger Street, a tenant occupied a dwelling which had been acquired by HRA for demolition and the

poles on the street could not be removed until the tenant vacated the premises. However, even when measured from the date the tenant left the premises (March 16, 1970), it was three months before the poles on Hollinger Street were removed.

While the specific reasons for time lags of as long as three months before poles were removed are not clearly discernible, some generalized conclusions may be reached by reviewing the pattern of pole removal. Except for the poles on the west end of Makini Street (which were removed in February 1970) and the poles of Leahy Street (which were removed in August 1970), poles on all other streets in the Paki project were removed in June or July 1970. It would appear from this that the utility companies sought to remove as many of the poles as possible all at the same time and thus waited until nearly all streets were ready for pole removal, even though poles on some streets could have been removed earlier. This conclusion is supported when one notes that the poles on the west end of Hinano Street were also removed in July 1970, even though there was still one property owner who had not converted. The poles were removed by installing a temporary connection to accommodate this one remaining property owner. The cost of the temporary connection was borne by the Hawaiian Electric Company.

In the Hinano project, the utility companies took a different approach. In eleven out of the 19 streets in the project, poles were removed even before all parcels were converted; in some instances, poles were removed even before the last parcel had finished underground preparatory work. Table 3.4 notes these streets. Pole removal in these streets was accomplished by installing temporary connections, at Hawaiian Electric Company's cost, to service those parcels not yet converted.

**Table 3.4**  
Streets from Which Poles Removed Before  
Last Parcel Converted  
Hinano Project

Streets	Last Parcel Converted	Pole Removed
George . . . . .	May 6, 1971	March 4, 1971
Hayden . . . . .	*	April 12, 1971
James . . . . .	*	April 12, 1971
Winam . . . . .	April 12, 1971	December 15, 1970
Upper . . . . .	May 6, 1971	February 1, 1971
Kaunaoa (Campbell to Trouseau) . . . . .	*	June 14, 1971
Wela . . . . .	November 1, 1971	June 21, 1971
Edna . . . . .	July 13, 1971	June 21, 1971
Kepuhi . . . . .	July 13, 1971	June 4, 1971
McCorriston . . . . .	December 7, 1971	June 14, 1971
Trouseau . . . . .	December 7, 1971	September 9, 1971

\*One property owner still being serviced by temporary connections.

Poles on all of the other nine streets in the Hinano project, except two streets and a portion of another, were removed within less than a month of conversion of the last parcel. In some cases, conversion of the last parcel and pole removal occurred on the same day. Only one street, Campbell Avenue, took as long as four months from the date of conversion of the last parcel to pole removal. The delay here occurred because the overhead lines on Campbell Avenue serviced Monsarrat Avenue and thus could not be removed until the last parcel on Monsarrat Avenue converted to the underground system. The last parcel on Monsarrat Avenue converted on November 11, 1971, and the poles on both Campbell Avenue and Monsarrat Avenue were removed on November 16, 1971.

The reason for the dispatch with which poles were removed in the Hinano project probably lies in the interest which had been generated for early removal of the poles. Except for those on two streets (which were removed in November and December of 1970), the poles on all streets were removed during March to November 1971, with major pole removal effort being concentrated in June 1971. By that time, the legislature had already expressed concern over the delay in pole removal through House Resolution No. 313, 1970, and adopted House Resolution No. 194, 1971, directing this office to conduct this study.

What the experience in Hinano points out is that slowness or recalcitrance on the part of a few property owners need not necessarily hold up the task of pole removal, provided that provisions are made in the urban renewal plans for the installing of temporary connections to service these few slow and recalcitrant owners. The plans for both Paki and Hinano did not provide for such temporary connections. In fact, the general contractor's contract specifically prohibited the practice of constructing temporary relocation of existing poles and lines and required the general contractor to pay for any such relocations as may be erected.

There is disagreement within HRA as to the wisdom of including provisions for temporary poles in rehabilitation projects. The conservation (rehabilitation) division believes that such provisions should be included; the engineering division opposes their inclusion. The engineering division gives as its reason for opposing provisions for temporary connections the belief that temporary lines would cause greater delays in property owners' conversion to underground utility system. It believes that once temporary lines are installed, the owners would be under no pressure to convert and these lines would become in effect permanent ones.

We think the engineering division confuses temporary connections with enforcement. Temporary connections are not enforcement measures. What should be sought by temporary connections is the removal of existing poles within a reasonable time for the protection of the public—both in terms of safety and aesthetics. Of course, temporary lines should not be put up unless a major effort has been expended to cause property owners to comply with the requirements of the urban renewal plan within a prescribed period of time. What efforts should be expended and what can be done to force property owners to comply is the subject of the next section. The point here is that there comes a point in time beyond which poles should not be allowed to continue standing contrary to the public interest. Were it not for the temporary

connections in the Hinano project, there would be poles standing in the streets as of the writing of this report, since as yet, not all parcels have been converted to the underground utility system.

*Recommendations. We recommend that:*

- 1. HRA provide greater coordination services to minimize difficulties that arise between the property owners, their subcontractors, and the utility companies during conversion.*
- 2. HRA include in the urban renewal plans provisions for temporary connections, at HRA's expense, to insure removal of existing utility poles within a reasonable time.*
- 3. The utility companies move with greater dispatch in removing utility poles from streets where all property owners have converted to the underground utility system.*

### **Proposals to Insure Property Owner Compliance**

The question of how privately owned parcels of land may be caused to be prepared for underground conversion has been widely discussed within HRA, the city, and the utility companies in recent months. Various options have been proposed and debated. Among them are the following:

- (1) Enact statute or ordinance requiring property owners to connect to relocated underground utility facilities whenever utility facilities are required to be relocated underground by governmental action.
- (2) Enact an all-inclusive ordinance requiring utility facilities to be placed underground whenever any city and county street is improved which necessitates utility relocation.
- (3) Amend the utility company's franchise by legislative action or amend the rules and regulations of the public utility commission to empower the utility company to terminate services to property owners who fail to connect to the underground utility system.
- (4) Amend the utility company's franchise by legislative action or amend the rules and regulations of the public utility commission to empower or allow the utility company to install underground utility facilities on private property and to recover the costs thereof from the private property owner.
- (5) Enact statute or ordinance authorizing the city and county to perform the work required on private property and to bill the owner for the cost thereof.

The first two options are concerned with mandating underground connections by a general statute or ordinance. While such a general statute or ordinance may be desirable, these options do not address themselves to the question of how to enforce compliance with the requirement for underground connections. Indeed, it was not the absence of a requirement for underground utility conversion that plagued the Paki and Hinano projects. The plans for both of these projects contained provisions requiring conversion to an underground utility system. The problem was one of how to enforce this requirement.

Alternatives 3, 4, and 5 deal directly with the question of how to get private property converted to an underground utility system. We discuss each of them and present a summary of our findings.

**1. Terminate services.** This alternative would permit the utility company to terminate services to property owners who fail to connect to the underground utility system. It is assumed, of course, that such a step would not be taken unless the property owner has been afforded a reasonable opportunity to comply with the requirement and every possible assistance to comply has been rendered. Nevertheless, this option is the most drastic of all alternatives proposed. It should therefore be reserved for those extreme cases of out-and-out refusal to comply and not for those cases where conversion is not possible for financial or other valid reasons. For the latter, financial aid and other assistance, including temporary connections until the problem is resolved, are required.

**2. Have work performed by utility company.** This alternative would empower the utility company to perform the necessary work on private parcels. Again, it is assumed that such work by the utility company would ensue only after the property owner has been afforded a reasonable opportunity and has been rendered necessary assistance to accomplish the work himself. This option provides for recovery by the utility company of the costs incurred by it in performing the work. Two differing proposals have been advanced for such recovery. One proposal suggests that the utility company be authorized to change its rate structure to cover the cost of undergrounding utility facilities. The other proposal recommends that the utility company bill the property owner concerned for the cost of performing work on his premises on a monthly basis. To enable the utility company to do the work on private premises requires an amendment either to the utility company's franchise or the rules and regulations of the public utility commission.

The Hawaiian Electric Company is opposed to this alternative. It questions whether a privately owned utility company, not an agency of either the State or the city and county, can be validly authorized to enter upon and install underground facilities on private property belonging to another. It contends that if it can be validly authorized to enter upon private property to perform work, the utility company should be able to recover the full cost of the work from the property owner concerned and not have to depend upon a "rate structure." It maintains that it would be impossible to develop a "uniform rate" to cover the cost of such work, since the cost would vary from lot to lot depending upon soil and other conditions. However, the Hawaiian Electric Company complains that requiring the utility company to look to the property owner concerned for reimbursement of cost would cause it to face the risk of financial loss, since the right of payment would be unsecured.

We think that if the legal question relating to the validity of authorizing a privately owned utility company to enter upon and install underground facilities on private property can be overcome, this option of empowering the utility company to perform the necessary work on private property is a viable option. With regard to reimbursement of costs incurred in performing this work, we believe that the utility company should recover the full cost from the property owner concerned on a monthly basis. While this right of recovery may be unsecured, we think that the right of the utility company to terminate services for nonpayment of bills constitutes a sufficient deterrent to property owners from refusing to pay the cost, provided the property owners are permitted to make payments on a monthly basis over a reasonable period of time.

3. **Performance of work by city and county.** This option provides for the city and county, rather than the utility company to enter upon and install underground facilities on private property. The affected property owner would then be billed by the city and county for the cost of the work performed. The full cost of the work would be a lien on the property and thus secured. Payment would be required on a monthly or other reasonable installment basis. Here, too, work by the city and county would be performed only after the property owner has had an opportunity and assistance to have the work done himself. We think that this is indeed a very real option. There are precedents for the city and county performing work on private property and billing the owner. This practice is followed, for example, in keeping sidewalks clear of weeds and obstructions.

4. **Conclusion.** In our opinion, there is considerable merit in the options of having the utility company or the city and county perform the work of preparing private property for underground utility conversion where the property owner refuses to have it done within a reasonable time. We think, however, that such practice should be accompanied by a viable financial assistance program to encourage property owners to do the work themselves within the prescribed period. We further believe that pending passage of any statute or ordinance of a general nature authorizing the utility company or the city and county to perform work on private property, HRA should proceed to adopt such rules and regulations relating to enforcement of requirements of renewal plans in accordance with the Administrative Procedures Act.

*Recommendations. We recommend that:*

1. *A general statute or ordinance or a statute amending the franchise of utility companies, as appropriate, be enacted to authorize utility companies or the city and county and HRA (a) to perform work necessary to prepare a private property for underground conversion where the owner thereof refuses to make such preparation on his own within a reasonable period of time; (b) to bill the property owner for the cost of such work to be paid on a monthly or other periodic basis; and (c) where the city and county and HRA are authorized to perform such work, to place a lien on the property as security for payment of the cost by the property owner.*

2. Utility companies be authorized, by general statute or amendments to franchise agreements, to terminate services to homeowners who refuse without a valid reason to convert their parcels to an underground utility system when required by governmental authority. Financial inability should be considered a valid reason for failing to convert.

3. HRA take such steps as necessary to place the HRA Loan Fund on an operational basis as rapidly as possible to assist those unable for financial reasons to convert to an underground utility system.

4. HRA adopt rules and regulations, in conformance with the State's Administrative Procedures Act, relating to enforcement of those provisions of urban renewal plans which require performance of work by private property owners. In formulating and adopting such rules and regulations, pending enactment of a general statute or ordinance or an amendatory franchise statute as recommended above, HRA include in the rules and regulations a provision authorizing HRA to perform underground utility conversion work on private property and to bill the property owner for the full cost of such work and to collect such cost on a monthly or other periodic basis.

## Chapter 4

### STATE HIGHWAY PROJECTS

State highway projects which involve the removal or relocation of utility facilities include federal-aid interstate, federal-aid primary, and federal-aid secondary projects. In general, federal-aid interstate highway projects receive 90 percent funding and federal-aid primary and secondary highway projects receive 50 percent assistance from the federal government.

By statute, the cost of removing or relocating utility facilities owned by a public utility (e.g., water and sewer) is paid for wholly by the State. The cost of removing or relocating utility facilities owned by a private utility company (e.g., telephone, electric, and gas) is shared by the State and the private utility company as follows: the first \$3,000 is borne by the private utility company; all costs beyond \$3,000 is borne one-half by the State and one-half by the private utility company.<sup>1</sup> The State, however, is reimbursed for its share of the cost by the federal government in the same proportion as it receives federal funds for the highway project.

In State highway projects, invariably the utility companies elect to do all utility facility removal or relocation work themselves. HRS section 264–33 provides that the State may contract out the work of removing or relocating utility facilities through the regular public works bidding procedure set forth in HRS section 103–22 to section 103–25. Alternatively, “after first calling for bids under such sections,” the State may contract with the public utility owning the utility facility “to have the work performed by it, with the use of its own employees and equipment,” at a price not exceeding actual cost or equal to the amount of the lowest responsible bid, if bids are submitted, whichever is lower. In practice, however, except for utility duct work and the laying of lead wires, the State does not call for bids on the removal or relocation of existing utility facilities, and the utility companies perform the work themselves with their own employees or subcontracts the work, or portions thereof, to contractors of their own choosing.

This practice of the utility companies fully controlling the utility phase of State highway projects presents a potential for conflict between the utility companies and the general contractor, both of whom are independent of one another, unless a high degree of coordination of work exists between them. Such coordination, however, is not sufficiently promoted in the design phase and is lacking in the construction phase of State highway projects.

---

<sup>1</sup>HRS section 264–33.

## Design Phase

For each project, the plans and specifications for roadway construction and the plans and specifications for utility removal or relocation are prepared separately. The former are prepared by the engineering staff within the design section of the highway division's design branch or by consulting engineering firms engaged by the design section. The utility plans and specifications are prepared by the utility companies. Coordination of work between the general contractor and the utility companies during the construction phase would be considerably enhanced if both the construction and utility designs, although prepared separately, were prepared and completed conjointly to insure conformity between the two. But such is not always the case.

The utility companies do have an opportunity to review the preliminary construction designs prepared by the design section or by the consulting engineering firms, and the design section does look over the utility designs prepared by the utility companies. However, in both such reviews, inadequate attention is paid to insure compatibility between the two designs. Responsibility to insure compatibility rests with the State, but the State is not now properly discharging that responsibility. This is evident from the following practice of the State. The State sometimes calls for bids and contracts with a general contractor for roadway construction even before the design work for the removal or relocation of utility facilities has been completed by the utility companies. Utility agreements, which are supposed to outline the scope and timing of utility work, are executed by the State and the utility companies after the general contractor has begun construction. Of course, under such circumstances, the general contractor bids, enters into construction contract, and begins construction without knowledge of the requirements of the utility companies. He must resort to guesses, and when the guesses turn out to be wrong, his work and schedule are either delayed or altered. Two examples of this situation are noted here.

*Kalaniana'ole Highway Widening: Aina Koa Avenue to Aina Haina (Laukahi Street to West Hind Drive) (Project No. 72-B-03-68)*

Construction contract was awarded on December 17, 1968. The general contractor began construction on January 13, 1969. Utility designs were completed and utility agreements were signed sometime after construction began, as follows:

Hawaiian Electric Co.:	May 1969
City and County Traffic:	June 1969
Hawaiian Telephone Co.:	August 1969.

The delay in completion of utility designs and execution of utility agreements necessitated an extension of 57 working days to the general contractor to complete his portion of the project. Further, because of the late completion of utility designs, the utility companies were not ready to perform their tasks at the time initially contemplated, and the project, which should have been completed by December 1969, was not finished until late April 1970.

*Farrington Highway Widening: Mailiilii Stream to Nanakuli (Palenaki Street to Mili Point)  
(Project No. 900B-02-68, Unit II)*

Construction by the general contractor began on December 18, 1969. Subsequently, however, certain items of work related to preparations for utility relocation were deleted from the construction contract because the Hawaiian Telephone Company decided that the utility relocation contemplated in the contract would be too costly to the company. The State department of transportation permitted this deletion because the utility agreement with the Hawaiian Telephone Company had not been executed when the construction contract was awarded. Although the deletion of these items from the construction contract reduced the bid price by \$26,400, this case illustrates the extent to which utility companies are able to alter construction contracts on the basis of cost after the contracts are let.

It does not appear that the State currently is either procedurally or organizationally set up to insure that proper integration of the construction design and the utility design will occur.

1. **No standard.** There is currently no consistent definition of utility design factors against which utility plans and specifications submitted by the utility companies may be measured for completeness. In the absence of such definition, each supervisory design engineer passes on the adequacy of utility plans and specifications on the basis of his individual judgment and level of understanding regarding "completeness" of utility design details.

The highways division's published *State Procedural Manual*, "Subject: Utility Procedure," No. 07-05-06, dated January 12, 1971, generally discusses the subject of "development of utility plans, specifications and estimates"; however, it does not adequately define utility relocation design considerations. In 1966, the highways division issued a document entitled, "Interim Utility Relocation Manual." This document appears to contain the kind of standards necessary to judge the adequacy of the utility plans and specifications prepared by the utility companies. However, at present, the document has no "official" sanction; it is essentially in draft form.<sup>2</sup> Further, the document requires updating to meet federal requirements. Minimal effort has been expended since 1966 on the document, and we are informed that additional manpower is being sought by the department of transportation to complete the document.

2. **Utility agreements.** In the absence of proper standards, not only are the utility plans and specifications of varying quality, but also the utility agreements executed by the State and the utility companies after completion of the utility plans and specifications. Generally, the utility agreements, even if prepared before construction contract is let, contain insufficient information to allow the general contractor to accommodate the work requirements of the utility companies in the contractor's schedule of work. While they generally indicate the time within which all utility work must be completed, the utility agreements do not contain information regarding the sequence in which various items or phases of utility

---

<sup>2</sup>There is some confusion in the field regarding the official or nonofficial status of the document. On April 2, 1971, the construction engineer of the Oahu district "reminded" all project engineers and area engineers in the Oahu district to comply with certain requirements contained in the "Interim Utility Relocation Manual," notably those relating to notice of commencement and completion of utility work, inspection reports and final inspection. See memorandum from construction engineer to all project engineers and area engineers, subject: "Hawaii Department of Transportation-Staff Manual Covering Utility Relocation Procedures," dated April 2, 1971.

work must be performed and the time (both lead and actual work time) required for each sequence. The agreements contain no enforcement provisions to insure that work is accomplished by the utility companies according to some prescribed schedule.

The insufficiency of the utility agreements as work control documents stems from the fact that they are generally considered as utility relocation cost control, and not performance control, documents. HRS section 264-33 provides for the method by which the amount to be paid by the State for utility removal or relocation is to be computed. Among other things, it provides that there shall be deducted from the total cost of such removal or relocation, the depreciation and salvage value of any salvagable materials or parts retained by the utility and the amount of any betterment to the utility facility resulting from the removal or relocation. The utility agreements are intended to identify these elements. Further, the utility agreements are prepared in compliance with federal requirements governing reimbursements to the State of the State's share of the cost of removing or relocating utility facilities.

In this connection, the general contractors sometimes contend that utility facilities should be removed or relocated before construction bids are called for or before construction begins, and that if this is not possible, the facilities should at least be *temporarily* relocated before construction begins. The State notes that removal or relocation before construction is not always possible because of terrain, etc., and that temporary relocations add to the cost of the project. We think, however, that the general contractors' recommendation is sound. In light of the delays currently being experienced, we think that the costs associated with any temporary relocation are more than offset by the benefits to be derived.

**3. Organizational deficiencies.** Although in practice the design section passes on the utility designs and plans, officially, it is the rights-of-way branch within the highways division which has overall responsibility for utility relocation and adjustment. Neither the rights-of-way branch nor the design section has personnel versed in utility engineering. Within the rights-of-way branch, the principal rights-of-way agent in charge of negotiations is nominally assigned the responsibility (in addition to his other duties) of coordinating all utility relocation work. In practice, he simply routes all utility plans and specifications and utility data to the highway design section. Within the highway design section, each supervisory design engineer reviews the utility plans and specifications related to the design of highway projects assigned to him. When necessary to contact any utility company, he does so through the rights-of-way agent in charge of negotiations in the rights-of-way branch.

This arrangement terminates when the utility agreement is executed. Thereafter, neither the rights-of-way branch nor the design section exercises any further responsibility over utility relocation. The administration of the utility agreements is assumed by the construction project engineer within the construction branch. He maintains contacts with the utility companies for the life of the highway construction contract.

The deficiencies in this system are obvious. The requisite skills to adequately review utility plans and specifications and to provide effective coordination and liaison between construction and utility relocation do not exist. There is no single person within the highways division wholly responsible for utility coordination and control. With each project engineer exercising independent judgment on utility plans and specifications that come before him in connection with the project assigned to him, there is no uniformity in the quality and content of utility plans and specifications and utility agreements.

4. **Federal inspection.** The foregoing weaknesses were identified and brought to the attention of the department of transportation earlier by a team of federal inspectors from the U. S. department of transportation, bureau of public roads, who examined the State's utility relocation procedure in depth during the period November 1970 to May 1971. The team recommended that the "Interim Utility Relocation Manual" be updated and officially adopted and that a separate utility relocation branch be established for State coordination and control of all utility relocation and adjustment work necessitated by highway construction. It further recommended that formal on-the-job training of State personnel concerned with utility relocation work be developed to assure uniform application of procedures relative to utilities and that utility agreements specify the number of working days or a completion date to assure timely completion of all utility adjustment work.

The State department of transportation, highways division, responded favorably to the federal report. In its response of June 3, 1971, the State promised to begin a formal training program, to update the "Interim Utility Relocation Manual," and to initiate steps towards establishing a separate utilities relocation section or a utilities coordinator position. With respect to the last of these, the State noted that "current staffing difficulties" prevent immediate full implementation.

Since that response of June 3, 1971, there has been no discernible progress. No formal training program has as yet been instituted, the "Interim Utility Relocation Manual" remains in its draft stage, and no steps have been taken to pin-point responsibility for review of utility plans and specifications and coordination of utility relocation with construction. We have been informed that the absence of progress is due in a large measure to the pressure to meet the June 30, 1976 deadline for completion of the State's interstate system. On June 30, 1976, federal assistance terminates.

*Recommendations. We believe that much of the delay being experienced in the removal or relocation of utility facilities by utility companies and the completion of highway construction by general contractors can be obviated if prior to the letting of the construction contract, proper and adequate provisions are made for the timely removal or relocation of utility facilities. We thus recommend:*

1. *That wherever possible, utility removal or relocation be completed before calling for construction bids; and where this is not possible that provisions be made for the temporary relocation of utility facilities prior to commencement of construction work.*

2. That where prior removal or relocation of utility facilities is not possible, utility plans and specifications be completed at least conjointly with the construction plans and specifications and that utility agreements be executed prior to calling for construction bids. The utility plans and specifications or utility agreements should clearly specify the requirements of the utility companies, including a description of the preparatory work, if any, which must be completed by the general contractor before utility work can commence, the amount of lead time required by the utility companies prior to commencement of each phase or item of utility work, and the time within which each phase or item of utility work is to be completed. The utility plans and specifications and utility agreements should be available to the general contractors at the time of bid and the construction plans and specifications and the construction schedule prepared after the construction contract is let should accommodate the needs of the utility companies.

3. That, in accordance with the recommendations of the federal team, the "Interim Utility Relocation Manual" be updated and officially adopted to provide a uniform basis by which the adequacy and completeness of utility plans and specifications and utility agreements may be reviewed by the highways division of the State department of transportation.

4. That responsibility for coordinating construction and utility designs and coordinating construction and utility work be clarified and the personnel assigned such responsibility be properly trained.

#### Construction Phase

Timely completion of highway construction requires coordination of roadway construction and utility removal or relocation. That is, utility facility removal or relocation must take place as soon as the general contractor finishes a certain piece or phase of work, and other construction work must commence immediately upon completion of utility relocation by the utility companies. These sequential steps can occur with minimum delay only if roadwork scheduling and utility work scheduling are harmonized. Such coordination, however, does not always exist. Often the general contractor is held up on the job because the utility companies are not ready to proceed as soon as the general contractor reaches that point in his work when utility removal or relocation should take place. The utility companies are unable to proceed immediately when the general contractor reaches that point because either the utility companies are not informed sufficiently in advance that the general contractor is arriving at that point or, knowing in advance that the general contractor is arriving at that point, the utility companies fail to prepare themselves or the general contractor schedules his work without knowledge of the lead time required by the utility companies to perform utility removal or relocation work. Two examples illustrate the consequences of failure to develop a coordinated and integrated work schedule.

*Interstate Highway (Lunalilo Freeway) Koko Head Avenue to 17th Avenue, F.A.I.P. No. I-H1-1(6), Unit 1.*

Construction contract was awarded on August 12, 1965. The general contractor began construction on September 13, 1965. It was initially estimated that the entire project would be completed by August 26, 1966. The actual completion date was April 26, 1967.

48 days of the total number of days the project was delayed were attributed by the State to the following:

- .. The Hawaiian Telephone Company was late in starting its cable splicing work at 17th Avenue—Harding Avenue area, even though it had sufficient notice of the date on which the general contractor would be ready for the Hawaiian Telephone Company.
- .. 33 extra days were required by the Hawaiian Telephone Company to complete the splicing work. During the course of this cable splicing work, the Hawaiian Telephone Company had deployed its manpower elsewhere.
- .. The Hawaiian Telephone Company and the electrical subcontractor were late in removing a transpacific cable lying in the path of the general contractor. General contractor was required to halt work until the cable removal was completed.

It appears that in this case, the Hawaiian Telephone Company was simply not ready to perform its work at the time contemplated by the general contractor in his schedule, although the schedule was known by the company.

*Interstate Route H-1, Waiiau to Waimalu, F.A.I.P. Nos. I-H1-1(65):10 and I-H1-1(40):11.*

In this case, the timely relocation of a power line tower belonging to the Hawaiian Electric Company was vital to the successful implementation of the project. At the pre-construction meeting, the Hawaiian Electric Company disclosed for the first time that an eight-month lead time to get the new tower was needed and that it would take one month to remove the existing tower and place the new tower in position. This fact had not previously been made known to the State or the general contractor, and the general contractor's contract with the State made no mention of the need for this lead time. The Hawaiian Electric Company sent an order in for the new tower shortly after the pre-construction meeting. The general contractor in the meantime proceeded with site improvement as required by his contract. When the site improvement work progressed to that point requiring the Hawaiian Electric Company's performance of its job, the tower, obviously, was not yet available. To avoid delay in construction, the utility facility was temporarily relocated at a cost to the State of \$10,790.

The utility companies give the following reasons for delays in completing utility work:

- (1) Lead time needed to order necessary materials.
- (2) Shortage of manpower at the time needed to do the required utility work.
- (3) Emergencies elsewhere (windstorm, etc.).
- (4) Inability to acquire the necessary right-of-way in time.

Of these, only the last appears legitimate. The remainder simply indicates the lack of proper scheduling and coordination of construction and utility relocation work.

The lack of coordinated scheduling of work occurs for at least three reasons.

*First*, utility designs are not completed prior to the letting of the construction contract. The general contractor thus can only guess as to when the utility companies will be able to perform their phases of work and how long they will take to complete those phases. In the absence of coordinated plans and specifications, the utility companies are able to schedule their work as they please, regardless of the schedule of the general contractor.

*Second*, the general contractor has no control over the work of the utility companies, despite the fact that construction contracts invariably provide that the general contractor "shall coordinate utility relocation works within the scope of the highway project." There is no binding relationship between the general contractor and the utility companies to insure development of an integrated working schedule to enhance timely accomplishment of utility relocation work according to schedule.

*Third*, and most important, the State provides very little coordination and liaison between the general contractor and the utility companies. As noted earlier, once the utility agreement is executed, the administration of that agreement becomes the responsibility of the construction project engineer within the construction branch. He is responsible for insuring that the project is completed according to schedule. Any difficulties that arise from utility relocation work is supposed to be resolved by him. However, his major focus is on construction, rather than on utility removal, and the bulk of his time is spent inspecting construction procedures followed and quality of work accomplished by the general contractor. Coordinating utility work with construction work is normally considered incidental to the inspection of construction work. Almost no effort is expended to insure that a definitive and meaningful schedule of work is prepared for their construction or utility work and that the construction and utility schedules, if prepared, are compatible. The schedule that the general contractor is required to prepare by the construction contract<sup>3</sup> normally contains only rough estimates of when work is to be done in the field and

---

<sup>3</sup>The construction contract usually contains a provision that the general contractor shall submit progress schedule on a form supplied by the department of transportation showing the "equipment, labor, and time he proposes to utilize in prosecuting the various major divisions of the work and his proposed sequence of operations."

is of questionable utility; and, other than the utility agreement (which simply indicates at most the total number of days required to accomplish utility work in toto), the utility companies are not required to develop definitive work schedules.

After the construction contract has been awarded and prior to actual commencement of construction, the construction branch does call a pre-construction meeting which the general contractor and representatives of all utility companies involved attend. This meeting is intended to minimize the conflicts which may arise among the parties in the field. However, pre-construction meetings of the past have not been productive in the development of meaningful and integrated construction work schedules. Scheduling is discussed, but in most instances, the general contractor does not have a documented, detailed schedule prepared and the private utility companies usually do not come to the meeting with a prepared schedule of their work. The discussion is usually contentious, each party asserting that his plan depends on the plan of the other. The result of this situation is the initiation of project construction without a complete work schedule integrating utility relocation activities with highway improvement work.

The State apparently has no specific instructions to field personnel regarding project control of utility work. Although the 1966 "Interim Utility Relocation Manual" is assumed to provide procedures necessary to administer utility agreement work performed, its unofficial status has resulted in non-uniform application of procedures among the various construction projects.

*Recommendations. We recommend:*

- 1. That the State highways division require both the general contractor and the utility companies to prepare, before actual construction starts, a detailed schedule of work which clearly specifies the sequence in which work items are to be performed.*
- 2. That the State highways division coordinate the integration of the work schedules thus prepared by the general contractor and the utility companies into a common schedule understood by and acceptable to all parties concerned. The pre-construction meetings should be utilized to iron out any differences and conflicts that may exist in the development of an integrated schedule.*
- 3. That the State highways division provide adequate supervision over the work performed by both the general contractor and the utility companies to insure that the integrated schedule is adhered to and quality of work is maintained.*

## Chapter 5

### IMPROVEMENT DISTRICT PROJECTS

Improvement districts are areas designated by the city council for the construction or improvement of public facilities, such as public highways, sidewalks, and storm drainage systems. Their creation may be initiated by property owners or by the city and county itself. The costs of construction or improvement are shared by the city and county of Honolulu and the owners of property benefiting from such construction or improvement. Property owners pay their share through assessments by the city and county.

The authority to create improvement districts is derived from Ordinance 1719, adopted August 7, 1959 (chapter 24, Revised Ordinance of Honolulu, 1961). The adoption of this ordinance was mandated by section 10-101, Charter of the City and County of Honolulu. The ordinance authorizes the city to issue and sell bonds to provide the funds necessary for construction or improvement. The bonds are repaid in part through assessments of property owners.

Improvement district projects frequently involve the removal, relocation or replacement of utility facilities owned by private utility companies. Under HRS section 46-76, the city council is empowered to determine whether such utility facilities shall be located underground or overhead. If underground, the city council is further authorized to determine what portion of the cost of removal, relocation or replacement will be borne by the city and county, the owners of properties specifically benefited, and the private utility companies.

Under current law, where a utility is to be located *overhead*, the utility company is responsible for the entire cost of the removal, relocation or replacement. But, if the utility is to be located *underground*, then, pursuant to Resolution 431 (1969) of the city council, the cost is generally prorated equally among the city and county, the property owners, and the utility company.<sup>1</sup>

As in the case of the State, invariably the private utility companies do all removal or relocation work of utility facilities owned by them. With respect to underground location of utilities, HRS section 46-77 specifically provides that "the utility engineering, placing of cables and splicing work shall be performed by the public utility concerned."

As in HRA and State projects, since both the general contractor and the utility companies are independent of each other, the work of each must be coordinated with the work of the other if delays are

---

<sup>1</sup>Some exceptions where utility company itself also benefits from underground relocation.

to be minimized. In addition, since property owners are responsible for preparing their parcels for conversion to an underground utility system, in all improvement projects providing for such underground systems, property owners are a potential source of delays in utility facility relocation.

Our examination noted that proper coordination of work of the contractor and the utility companies does not exist in improvement district projects, both in the design and construction phases, and property owners do indeed, from time to time, contribute to the overall delays in removing utility facilities.

### Design Phase

The extent to which construction designs and utility relocation designs are coordinated depends on whether the relocation of existing utility facilities is from overhead to overhead or overhead to underground.

1. **Overhead to overhead.** Where existing utility facilities are to be relocated from overhead to overhead, very little, if any, attempt is made by the city and county to coordinate the construction and utility facility removal plans and specifications. Utility companies are not required (although requested) to submit their plans and specifications to the city and county's department of public works (which is in charge of all improvement district projects) prior to calling for construction bids and the letting of a construction contract. Even if available, until a few months ago, the utility removal plans and specifications were not provided the general contractor. The result is that the general contractor bids and begins construction without knowledge of the requirements of the utility companies.

An example of this situation is the project known as Manoa Acres Subdivision, Unit 3, Improvement District No. 215. In this case, the general contractor bid and commenced work only to discover later that the Hawaiian Electric Company intended to relocate its pole in an area where an existing sewer line ran. The general contractor's contract called for the construction of a new sewer line and the abandonment of the existing one. Consequently, pole relocation was necessarily deferred by the Hawaiian Electric Company until the new line was put on an operational basis.

2. **Overhead to underground.** Where existing utility facilities are to be relocated from overhead to underground, the situation is somewhat different. The department of public works in these instances mandates (rather than simply requests) the utility companies to submit their plans and specifications. An effort is made to resolve obvious conflicts among the different utility plans and specifications and the construction plans and specifications. All this is done before construction bids are called for. The reasons for this closer scrutiny of utility plans and specifications in cases of relocation from overhead to underground appear to be as follows.

*First*, the city and county pays a portion of the cost of relocating from overhead to underground and thus has a direct interest in how much such relocation costs. In the case of overhead to overhead, since the utility companies pay the entire cost of relocation, this same interest does not exist.

*Second*, in overhead to underground, not only the city and county of Honolulu, but the property owners also share in the cost of relocation. Their share of the relocation cost is added to their share of the construction cost and included in the assessments made by the city and county of Honolulu. The assessment against each affected property owner must be approved by the city council through an assessment ordinance before the construction contract is let. This means that the cost to be borne by property owners must be known and thus the utility plans and specifications must necessarily be completed prior to the letting of the construction contract.

Despite this closer scrutiny, integration of construction and utility plans and specifications does not occur at an optimum level. As in the case of the State, review of the utility plans and specifications by the city suffers from the lack of utility engineering capabilities within the city's department of public works. Further, the city and county has no official standards by which to judge the adequacy and completeness of the plans and specifications prepared by the utility companies. As a result, there is unevenness in the review of utility plans and specifications and the desired degree of integration of construction and utility designs is difficult to achieve.

Improvement district projects, more than State highway projects, involve improvement of existing roads. Thus, improvement district projects very frequently involve or affect existing utility lines. It would be of material assistance if both the construction and utility plans and specifications clearly and completely identify these existing facilities. The city and county department of public works does ask the utility companies to so identify any and all such existing lines and facilities on the construction plans. Occasionally, however, certain existing lines or facilities are overlooked at the design stage and are uncovered by the general contractor during the course of construction. When this happens, the general contractor must either stop work until the obstructing facilities are removed or relocated or expend extra time to circumvent the obstruction. Just such a situation occurred in the Alakea improvement district project (Project ID No. 200). The contractor in that case was delayed about 30 days when an electric ductline was uncovered by the contractor during grading. The Hawaiian Electric Company had to relocate the ductline before the contractor could proceed with the construction of a box culvert.

A similar problem arose in the Pensacola improvement district (Project ID No. 221). An 11-day extension was granted the general contractor when he unexpectedly came across a concrete encased utility duct during construction. This additional time was needed for the contractor to bypass this obstruction which was not shown on the drawings.

These situations can occur for one of two reasons: (1) oversight on the part of the utility company involved or (2) incomplete record of utility facilities installed many years ago. In the case of the latter, not

much can be done. But when records are available, much greater care is needed in the design phase to disclose all utility lines affected by the construction of site improvements.

*Recommendations. Our recommendations here are similar to those made with respect to the design phase of State highway construction projects. Specifically, we recommend:*

*1. That wherever possible, utility removal or relocation be completed before calling for construction bids; and where this is not possible that provisions be made for the temporary relocation of utility facilities as needed prior to commencement of construction work.*

*2. That where prior removal or relocation of utility facilities is not possible, completion of utility plans and specifications for overhead to overhead relocation, as well as for overhead to underground relocation, be required of the utility companies and that the city and county public works department review all utility plans and specifications and the construction plans and specifications for completeness and compatibility. All utility plans and specifications should be available to the general contractor at the time of bid.*

*3. That standards be established by which the adequacy and completeness of utility plans and specifications may be reviewed by the public works department.*

*4. That all personnel responsible for reviewing utility plans and specifications be properly trained to insure proper review.*

### Construction Phase

In the construction phase of improvement districts, the delays in removal or relocation of utility facilities may be classified into two categories: (1) those caused by the absence of an integrated schedule of construction and utility work and (2) those caused by the failure of property owners to complete work on their respective properties. This classification recognizes that not every case of delays in the removal of utility facilities is caused solely by the property owners. As in HRA projects, all parties, including the city and county of Honolulu, must bear a portion of the blame for delays.

**1. Integrated schedule.** The experience here is similar to that observed in State highway projects. Coordination of roadway construction and utility relocation is minimal. Both the general contractor and the utility companies experience delays in the performance of their respective work because their work schedules are not integrated. Examples of where one party was delayed in the performance of its work because of the other's differing work schedule are as follows:

*Alakea Improvement District (Project No. 200)*

In this project, when the general contractor uncovered the hidden electrical ductline, the city notified the Hawaiian Electric Company regarding the need to relocate the ductline. The electric company promised on March 3, 1969, to undertake the task and estimated that it would take about two weeks or by mid-March to relocate the ductline. The task of constructing the new ductlines was contracted by the Hawaiian Electric Company to the general contractor on the Alakea job. The general contractor completed the task on March 27. But it was not until mid-April that the Hawaiian Electric Company could re-route all existing cables to the new ductline.

*Magellan Avenue—Miller Street Improvement District (Project No. 59-69)*

In this project, the general contractor commenced work on March 2, 1970, and the scheduled date of completion was April 30, 1970. The general contractor, however, requested of the city and the city approved a suspension of work commencing March 13, 1970, inasmuch as certain utility poles could not be removed until sometime in May 1970. Work resumed on May 11, 1970, and the project was actually completed in June 1970. The delay in the removal of the poles is attributed to the Hawaiian Telephone Company which gave "backlog of work" as the reason for the delay.

*Ward Avenue Improvement District (I.D. Project No. 189)*

In this project, the general contractor completed all work under his contract on February 20, 1969, except for those portions where the utility poles were in the way of improvements yet to be installed. The general contractor was allowed additional time to complete his work, pending completion of work by the Hawaiian Telephone Company leading to the removal of the utility poles. The records indicate that the poles were not removed until sometime in May 1969.

The circumstances leading to the absence of an integrated work schedule are the same as those in State highway projects, namely:

- (a) In the design stage, either utility plans and specifications are not completed before roadway construction begins (overhead to overhead relocation cases) or the utility plans and specifications are incomplete in revealing the presence or location of existing utility facilities. This necessitates stop-work on the part of the general contractor pending removal or relocation of these hidden facilities which he uncovers during the course of construction.
- (b) Although under the construction contract, the general contractor is nominally responsible for coordinating his work with that of the utility companies, the utility companies are not subject to

the control of the general contractor. There are occasions when the utility companies utilize the general contractor to perform some portions of utility work, but in these instances, it is a matter of contract between the general contractor and the utility companies.

- (c) The city and county does very little in terms of coordinating the work of the general contractor and the utility companies. The amount of effort exerted here by the city and county is less than that expended by the State in State highway projects. Definitive work schedules are not mandated either of the general contractor or the utility companies. Until approximately one year ago, the city and county never called a pre-construction meeting of the general contractor and the utility companies. Pre-construction meetings are now called at which an attempt is made to iron out whatever problems which can be anticipated. However, subsequent to a pre-construction meeting, the city and county does not provide follow-up coordination. The city and county public works department holds monthly meetings with the utility companies' administrative and management personnel for the purpose of project scheduling and resolving utility related problems. However, it does not appear that these meetings have led to any integrated work between the general contractor and the utility companies.

To improve scheduling practices, the city and county in late 1970 increased the amount of liquidated damages assessable for delays by the general contractor. It has been increased from approximately \$50 a day to as much as \$200 a day, depending on the contract price. It is doubtful that simply increasing the amount of the liquidated damages chargeable the general contractor will materially improve the scheduling situation particularly if delays are caused because the utility companies are unable or unprepared to proceed with utility relocation work when the contractor is.

*Recommendations. As in the case of State highway projects, we recommend:*

- 1. That the city and county department of public works require both the general contractor and the utility companies to prepare, before actual construction starts, a detailed schedule of work which clearly specifies the sequence of work.*
- 2. That the city and county department of public works coordinate the integration of the work schedules thus prepared by the general contractor and the utility companies into a common schedule understood and acceptable to all parties concerned.*
- 3. That the city and county department of public works provide adequate supervision over the work performed by both the general contractor and the utility companies to insure that the integrated schedule is adhered to and quality of work is maintained.*

2. **Property owners.** The problem with respect to property owners in improvement district projects is substantially the same as those encountered in rehabilitation projects of the Honolulu Redevelopment Agency. Improvement district projects involving overhead to underground relocation of utility facilities require preparation by property owners of their parcels for conversion to the underground system at their own costs. At times, improvement district projects are delayed in completion because property owners are either uninformed of their responsibility, unable financially, or unwilling to perform the tasks required of them.

Pensacola Improvement District No. 221 is an example of the delay occasioned by the failure of private property owners to perform the work necessary on their parcels. This improvement district was the first to require overhead to underground relocation of utility facilities. Sixteen separate assessment lots were involved. The lot owners were expected to complete necessary work on their properties in time for completion of the project on December 1, 1971.<sup>2</sup> However, two owners failed to meet the deadline. As a consequence, it is now expected to take until March 1, 1972, for the utility companies to remove existing utility poles.

The difficulty here arose because the city maintained that its responsibility was limited to construction within the public rights-of-way. The utility companies, on the other hand, contended that the improvement district and the requirement of overhead to underground conversion were the direct results of the city's actions and thus the city should be responsible for insuring that property owners took the necessary steps for conversion. Thus, in the Pensacola improvement district, neither the city nor the utilities took steps to fully inform affected property owners of details regarding required conversion work. About the only communication ever sent to each property owner consisted of letters from the utility companies, asking the owner to convert to the underground system by October 1971.

Since the Pensacola incident, the city and county and the utility companies have agreed that in all future projects, the city and county would be responsible for conducting an educational program to inform property owners of their responsibilities to convert to underground utility placement and that the utilities will be responsible for informing the property owners of the technicalities involved in such conversions.

The problem of what to do with property owners who simply refuse to prepare their parcels for conversion to an underground utility system is the same as the problem of recalcitrant property owners in HRA projects. In chapter 3, we discussed several options that have been proposed to handle this question. For improvement districts, one additional option has been suggested. This additional option is to include the property owner's cost of preparing his land into the assessment ordinance enacted for each improvement district project—that is, include the cost of preparing private property for conversion in the assessments made of benefiting property owners within the improvement district.

---

<sup>2</sup>The project commenced on January 4, 1971, and was initially scheduled for completion on October 30, 1971. The deadline was extended first to November 23, 1971 and then to December 4, 1971, due to unforeseen circumstances encountered by the general contractor.

This option has been ruled out by the office of the corporation counsel on advice of the city's bond counsel. It appears that inclusion of such costs in the assessment ordinance would probably jeopardize the salability of improvement district bonds. The reasoning followed is that improvement district bonds are sold on the premise that the moneys received will be used for public purposes. Preparing private property for conversion to underground utility system is considered an activity which benefits private individuals and not the general public. It is quite a different story if the moneys are used to install an underground system in a public right-of-way, for there, the beneficiary is the public and not private citizens. Whether this reasoning is sound or not, until some court of competent jurisdiction rules that it is permissible to include the cost of preparing private property for conversion to an underground utility system in an assessment ordinance, there is always the possibility that some assessee may challenge the use of the bond funds for this purpose. So long as this possibility exists, the salability of improvement district bonds would be affected.

*Recommendations. The recommendations made with respect to HRA projects are equally applicable to improvement district projects. We thus refer the reader to those recommendations contained in chapter 3.*