

ALABAMA LEGISLATIVE COMMISSION FILES 1903-1904 06/2

3189 ST SB 91 - SB 163 318



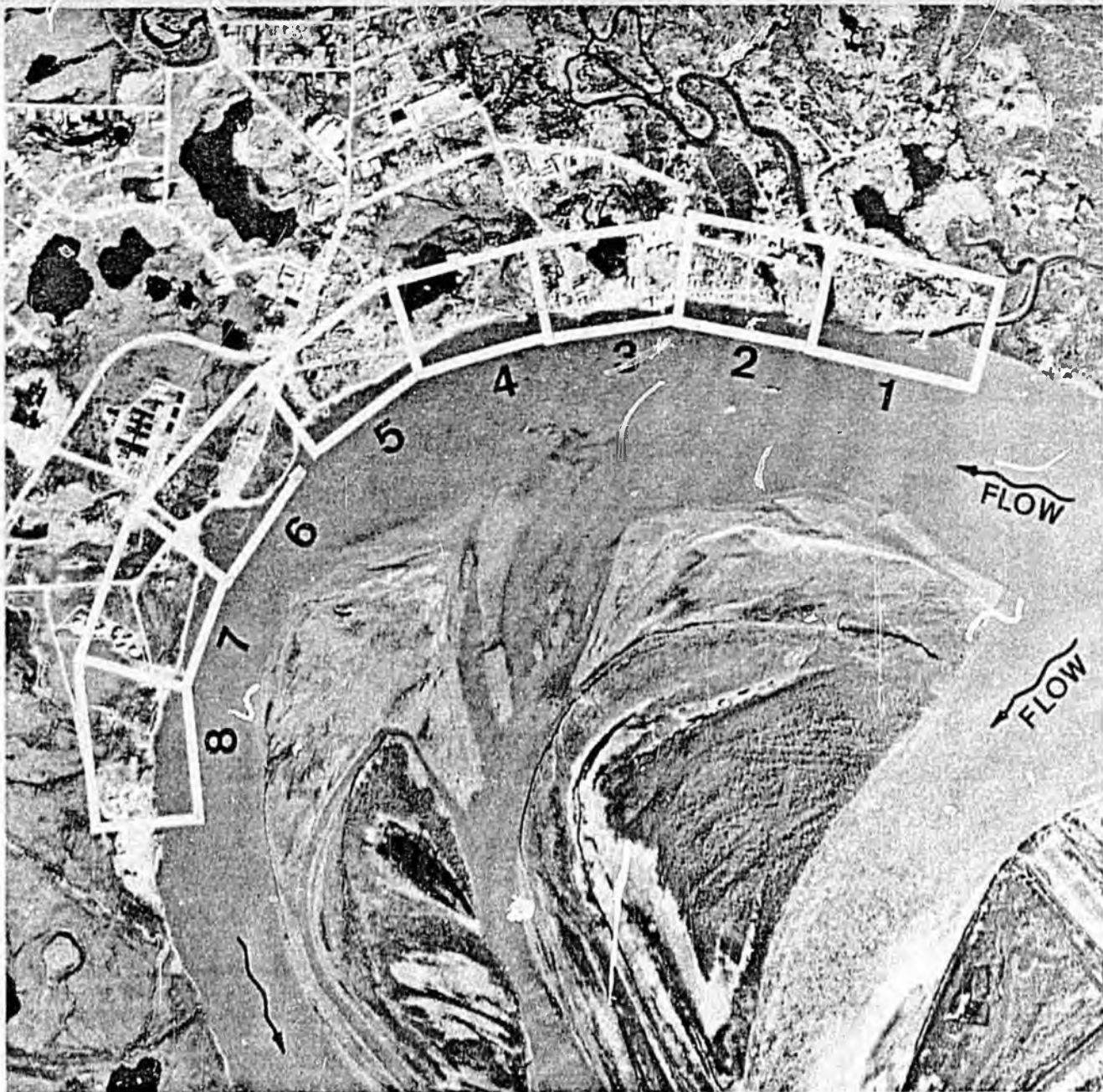
Mission Road area looking downstream. The road is now gone and buildings are at edge of riverbank. Note attempts to arrest loss of bank by using junked vehicles and other debris in same manner as at business section of the city.



Mission Road area, looking downstream. Road has disappeared and houses are now at edge of riverbank.



Mission Road area, looking upstream.



EROSION PLATES ARE NUMBERED 3.1 THROUGH 3.8 BEGINNING UPSTREAM.

BETHEL, ALASKA  
BETHEL BANK STABILIZATION

HISTORIC  
EROSION RATE

ALASKA DISTRICT, CORPS OF ENGINEERS

PREPARED BY \_\_\_\_\_ DATE \_\_\_\_\_

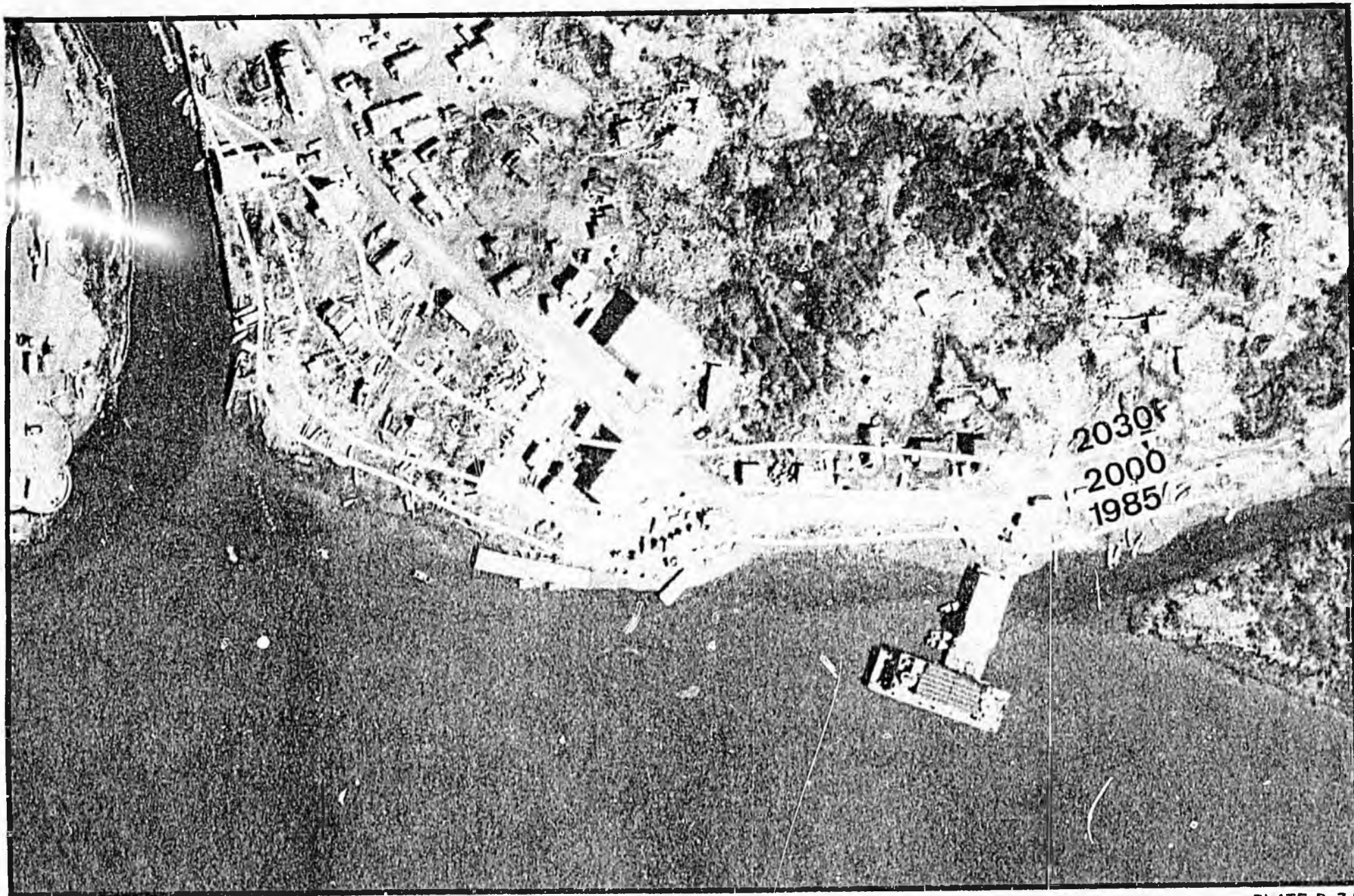


PLATE D-3.1

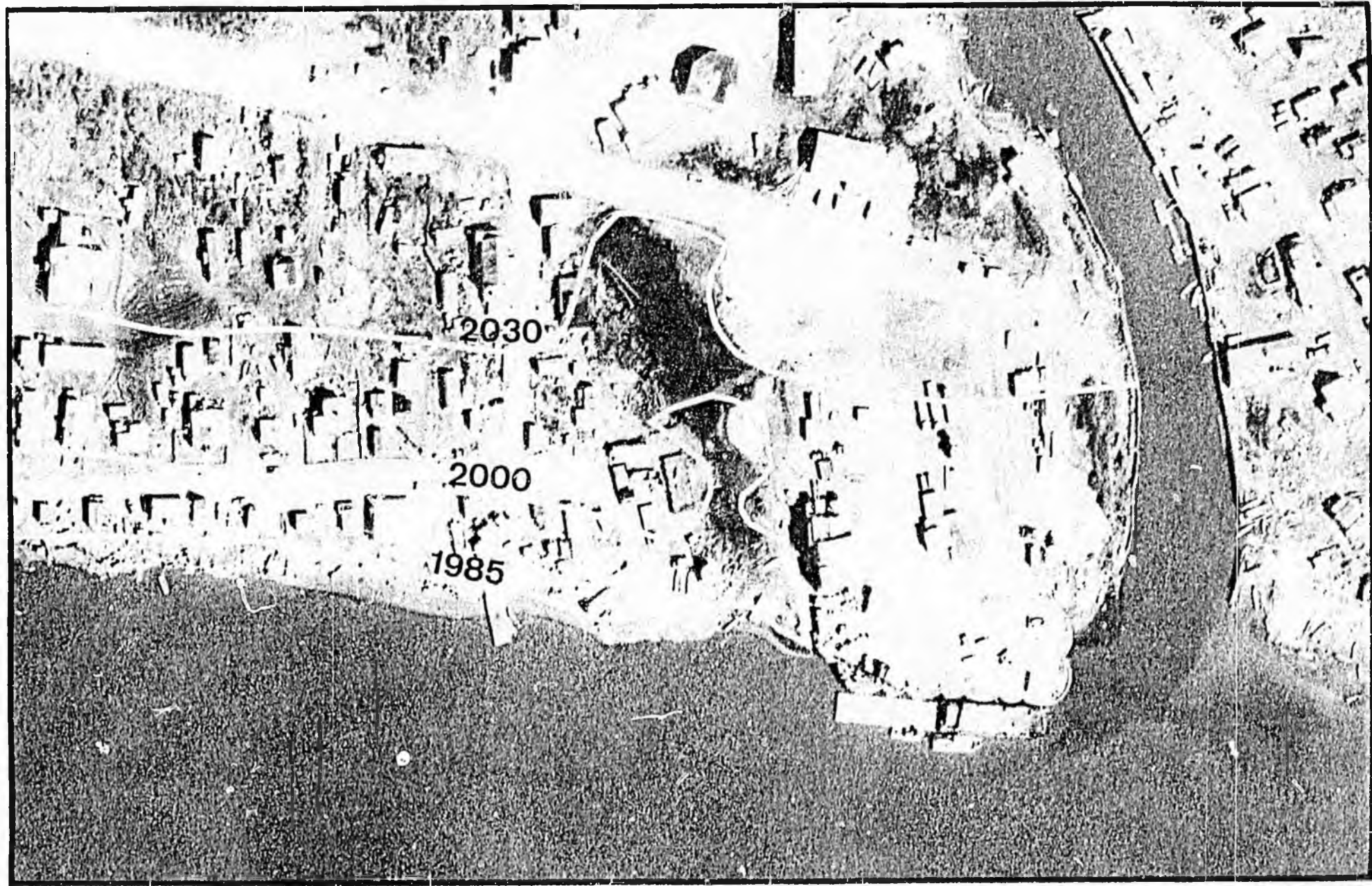
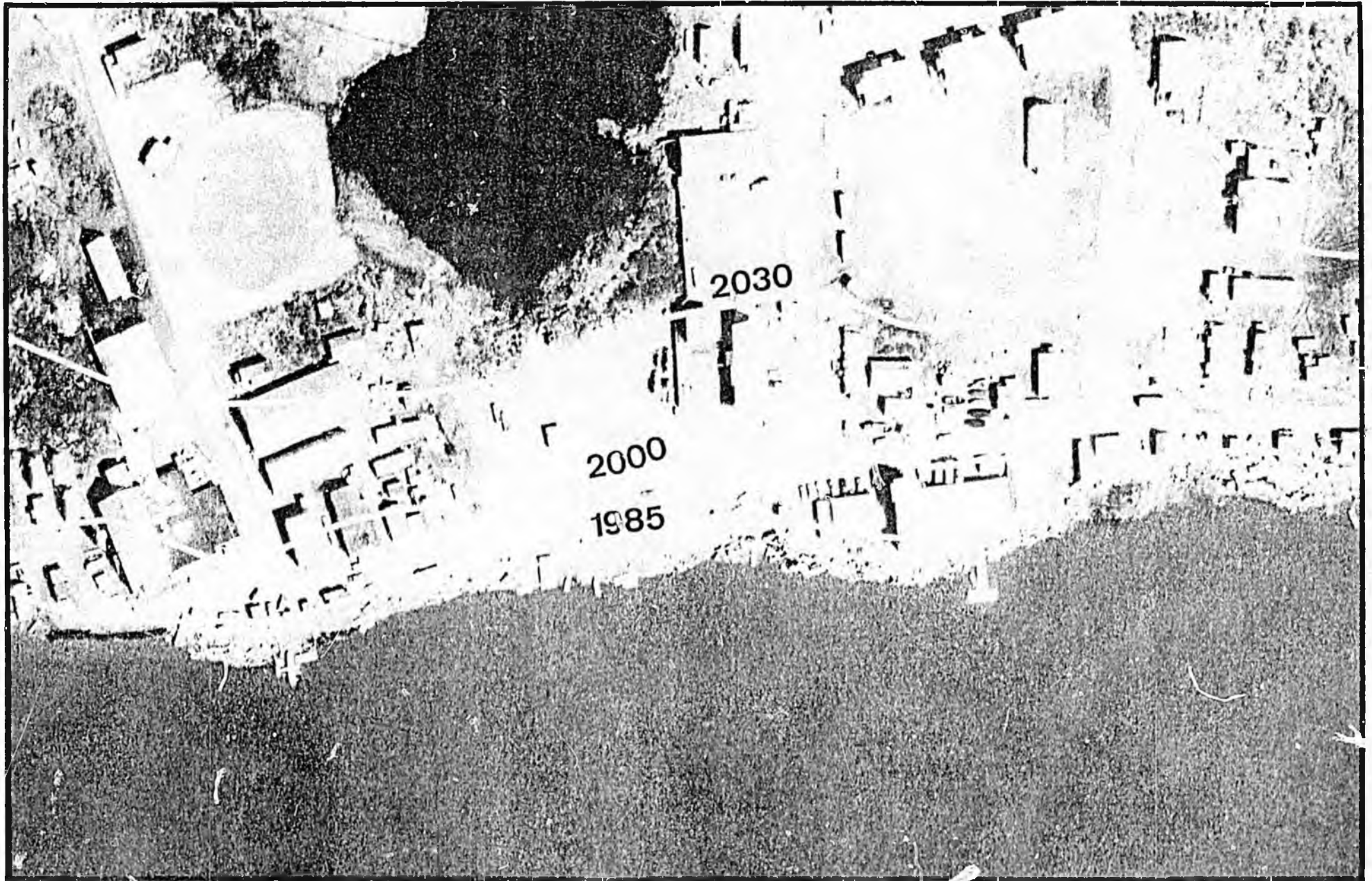
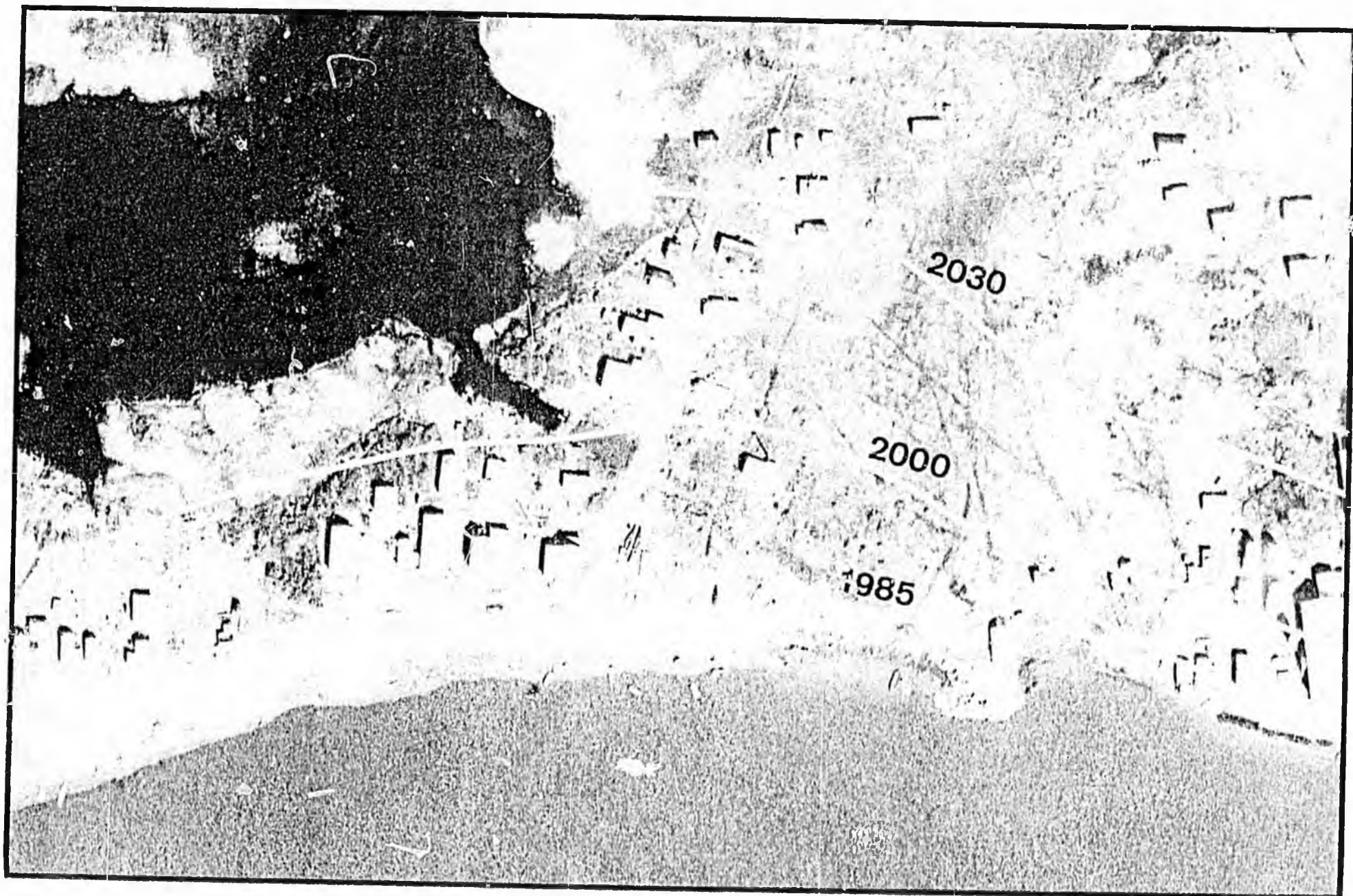


PLATE D-3.2





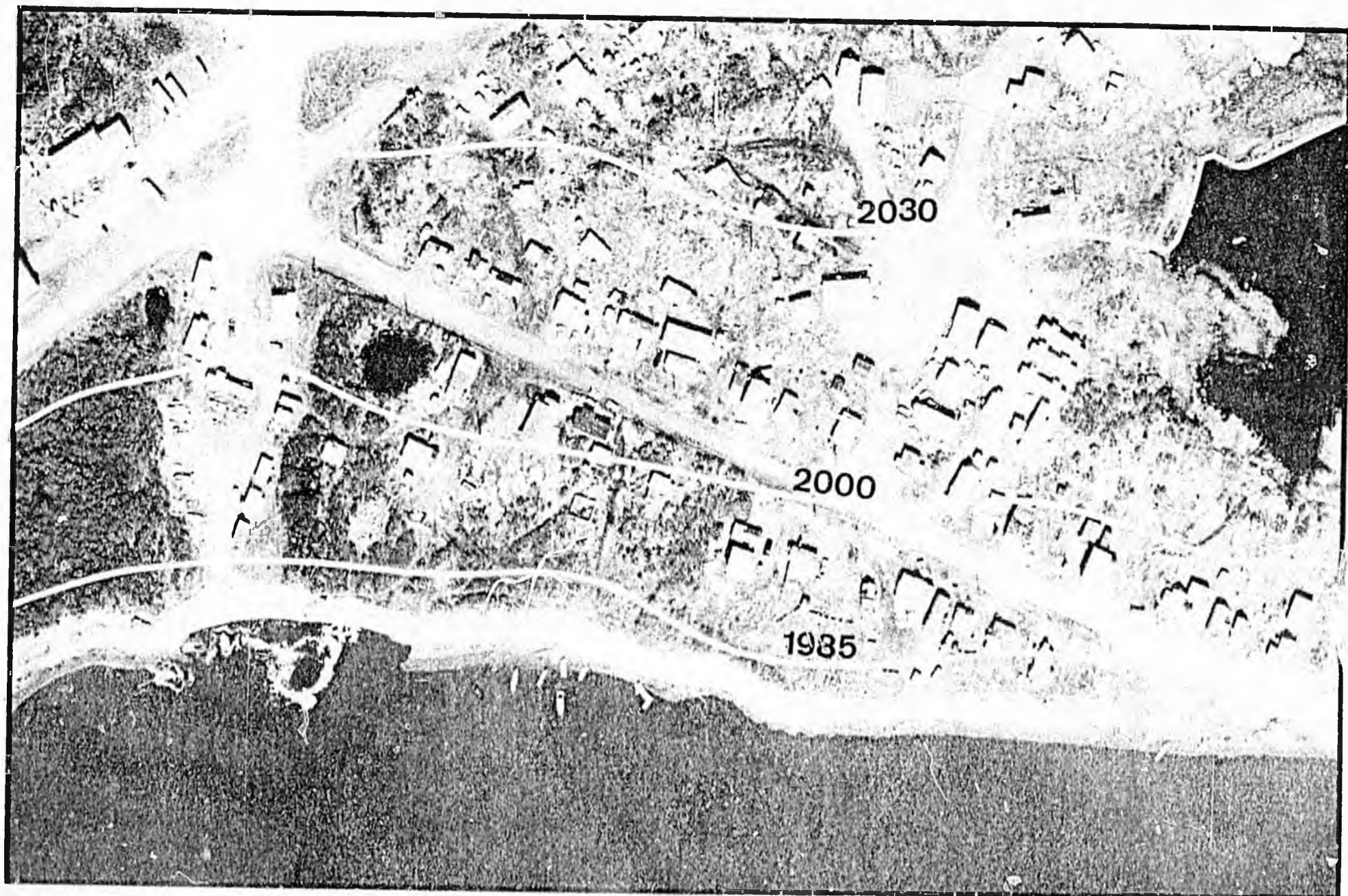


PLATE D-3.5

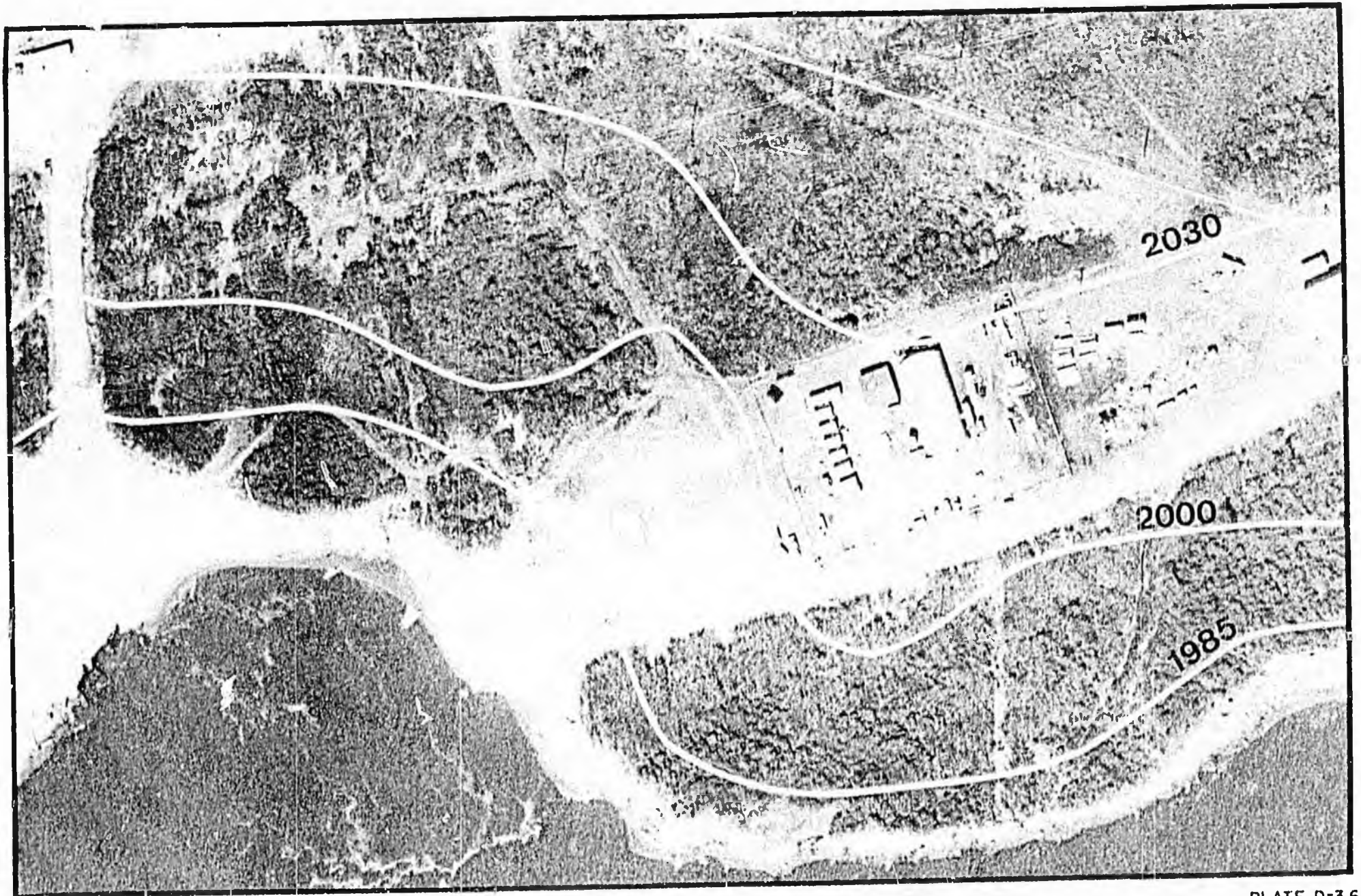


PLATE D-3.6

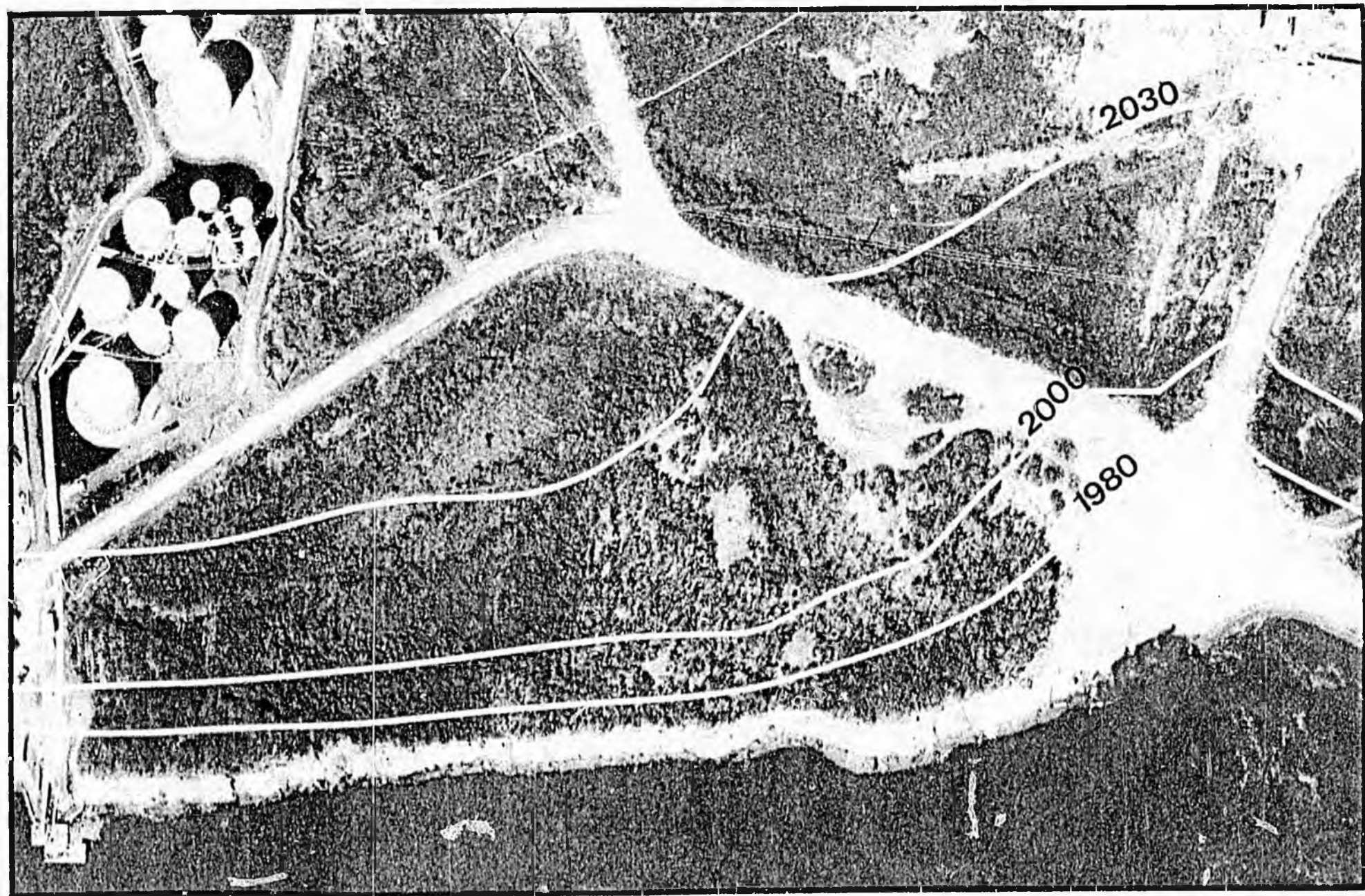
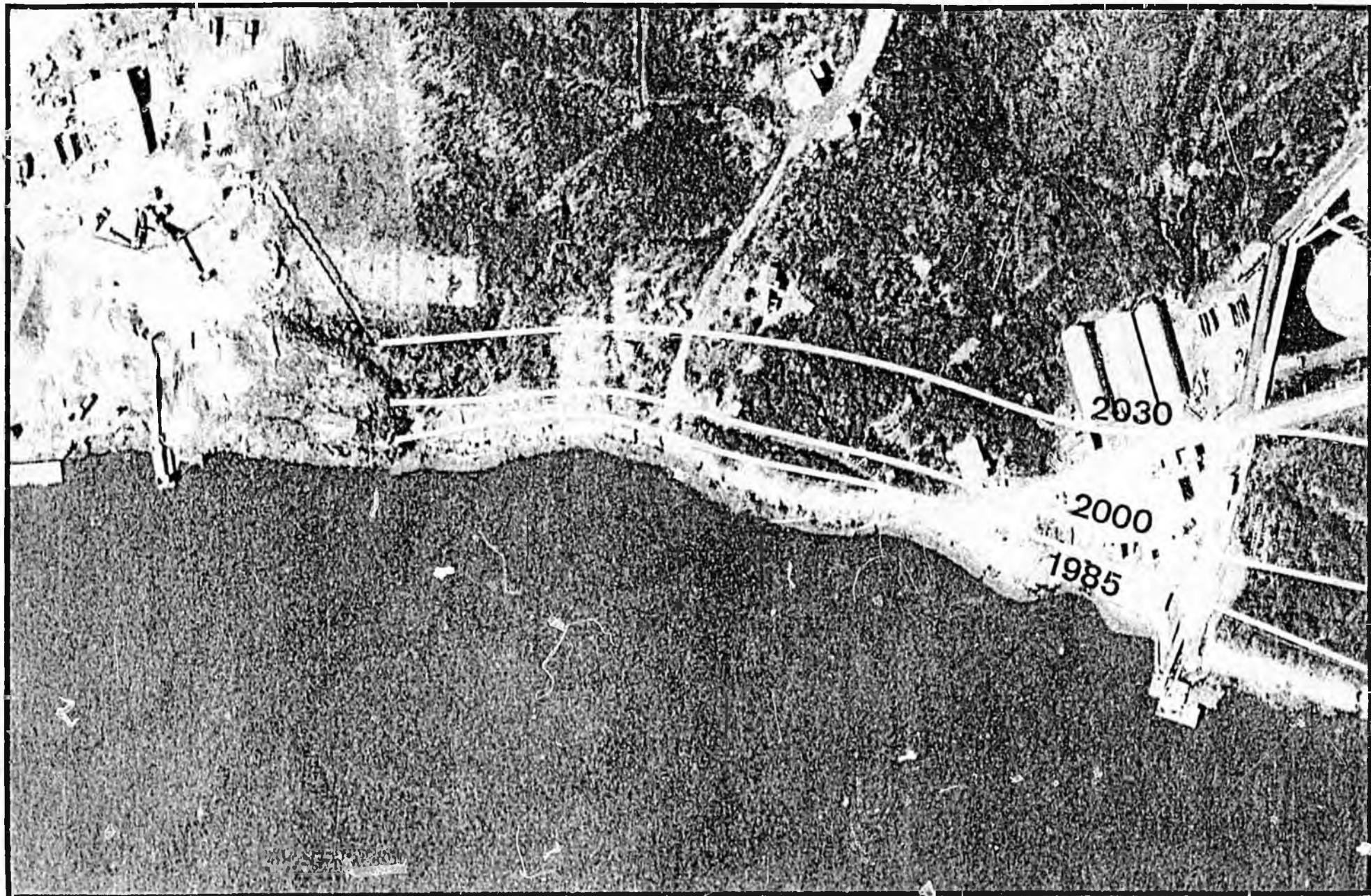


PLATE D-3.7



CITY OF BETHEL  
BETHEL, ALASKA

"DEEP SEA PORT AND TRANSPORTATION CENTER OF THE KUSKOKWIM"



JOHN P. GUINN  
MAYOR

ASSISTED BY  
**STATE OF ALASKA**

LYMAN F. HOFFMAN  
CITY MANAGER

# PORT OF BETHEL DEVELOPMENT

CONSISTING OF

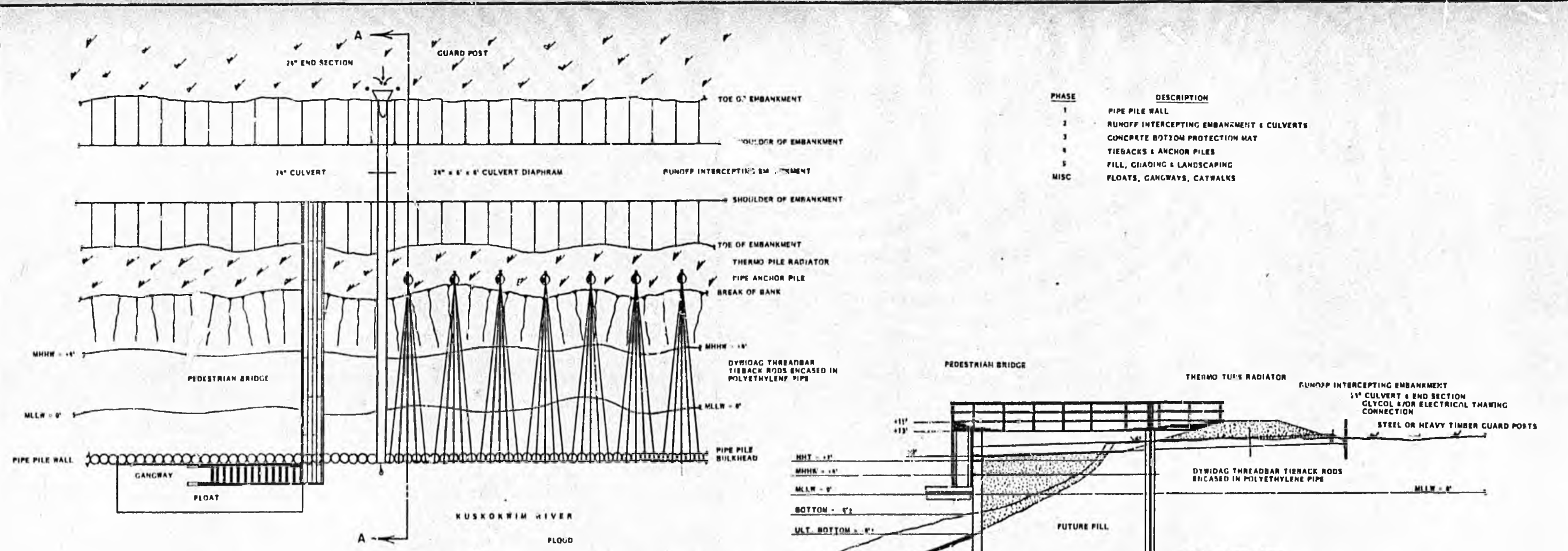
GENERAL CARGO DOCKS AND STAGING AREAS, PETROLEUM DOCK AND BULK FUEL STORAGE  
PROTECTION WAREHOUSE AND INDUSTRIAL AREA DEVELOPMENT, RIVERBANK STABILIZATION  
AND PROTECTION CONSTRUCTION PHASING, LAND USE ZONING, PROPERTY ACQUISITION

PREPARED BY

GEORGE C. SILIDES  
REGISTERED CIVIL ENGINEER  
FAIRBANKS, ALASKA

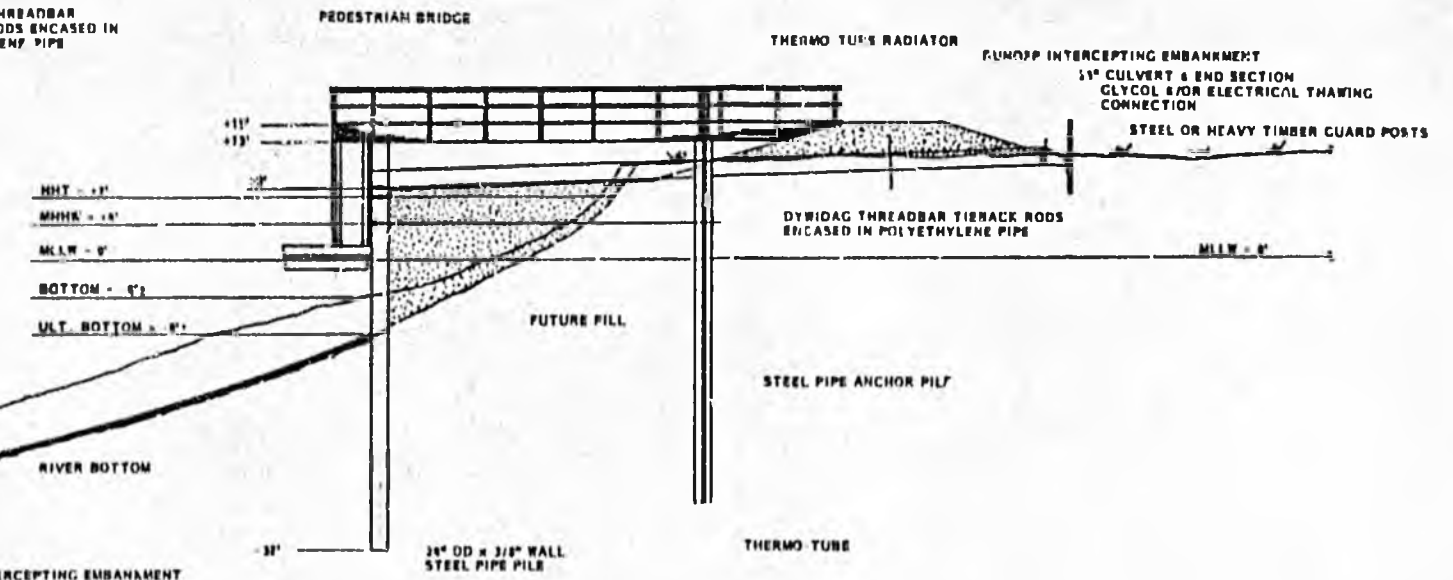
HAROLD H. GALLIETT, JR.  
REGISTERED CIVIL ENGINEER  
ANCHORAGE, ALASKA

A JOINT VENTURE

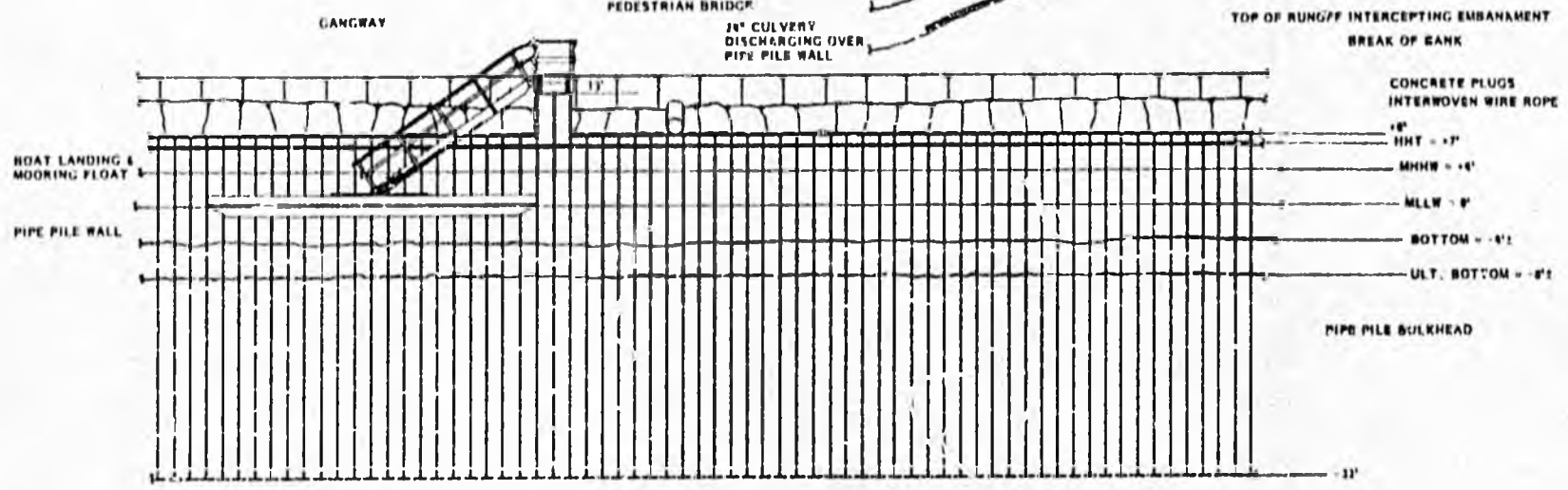


**COMPOSITE PLAN**  
SCALE 1" = 10'

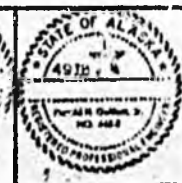
PHASE	DESCRIPTION
1	PIPE PILE WALL
2	RUNOFF INTERCEPTING EMBANKMENT & CULVERTS
3	CONCRETE BOTTOM PROTECTION MAT
4	TIEBACKS & ANCHOR PILES
5	FILL, GRADING & LANDSCAPING
MISC	FLOATS, GANGWAYS, CATWALKS



**SECTION A-A**  
SCALE 1" = 10'



**ELEVATION**  
SCALE 1" = 10'



NO.	DATE	CHANGE	MARK

CITY OF BETHEL  
BETHEL, ALASKA

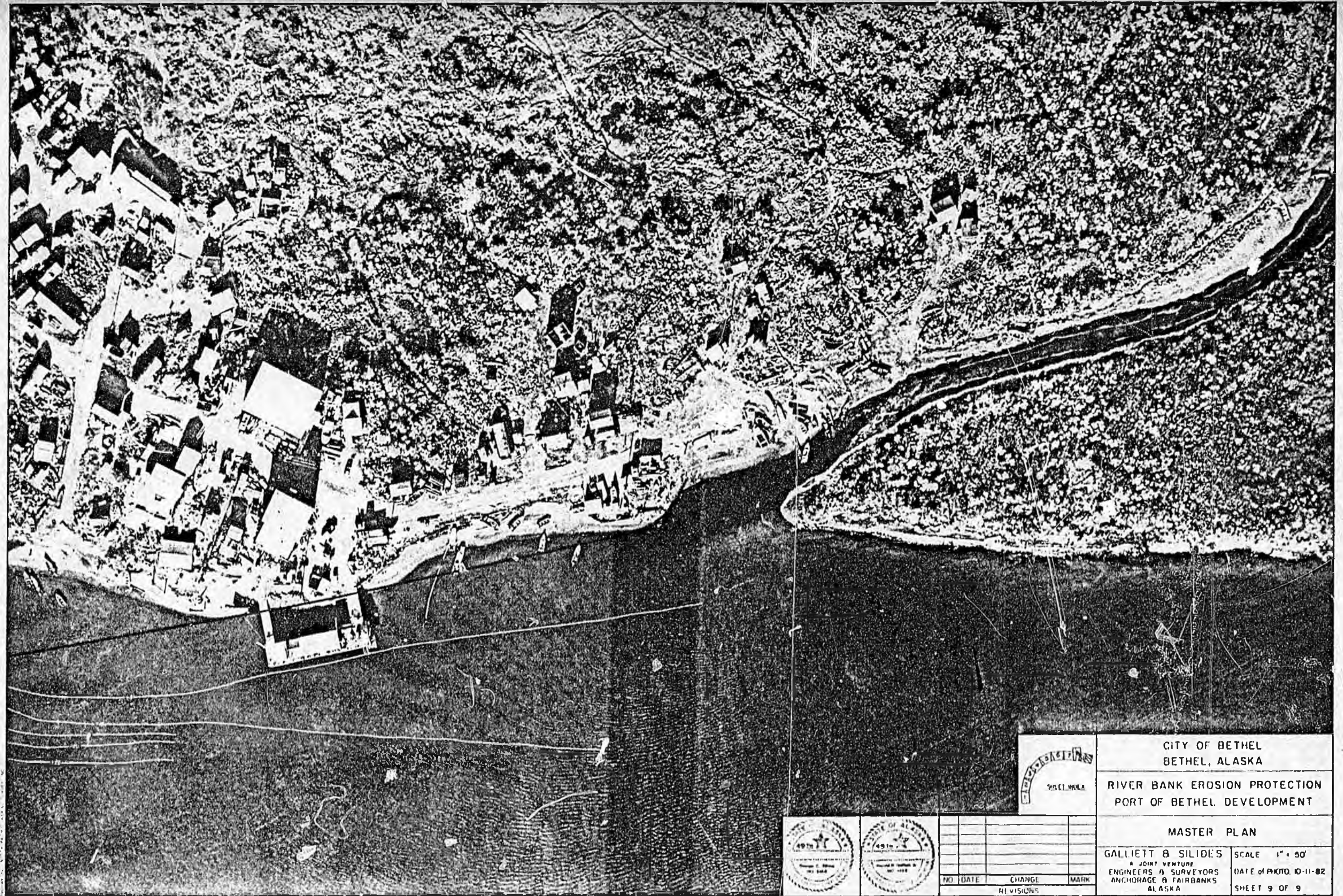
RIVER BANK EROSION PROTECTION  
PORT OF BETHEL DEVELOPMENT

CONCEPTUAL PLAN

GALLIETT & SILIDES  
A JOINT VENTURE  
ENGINEERS & SURVEYORS  
ANCHORAGE & FAIRBANKS  
ALASKA

SCALE 1" = 10'  
DATE 8 JULY 1982  
SHEET 1 OF 1





CITY OF BETHEL  
BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
PORT OF BETHEL DEVELOPMENT

MASTER PLAN

GALLIETT & SILIDE'S  
A JOINT VENTURE  
ENGINEERS & SURVEYORS  
ANCHORAGE & FAIRBANKS  
ALASKA

SCALE 1" = 50'  
DATE OF PHOTO 10-11-82  
SHEET 9 OF 9



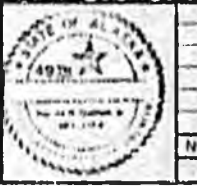
NO	DATE	CHANGE	MARK

REVISIONS



CITY OF BETHEL  
 BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
 PORT OF BETHEL DEVELOPMENT

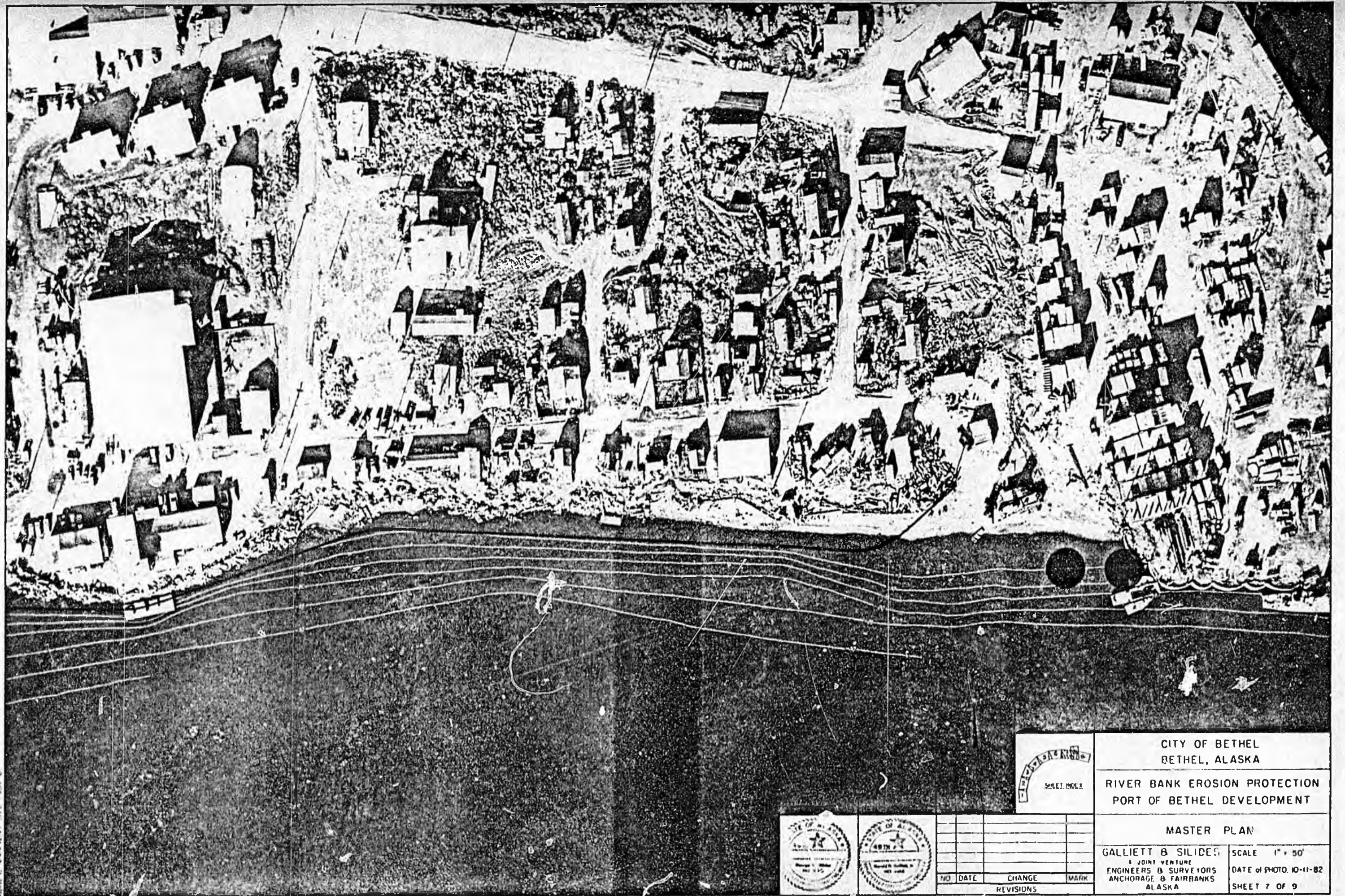


NO.	DATE	CHANGE	MARK

MASTER PLAN

GALLIETT & SILIDES  
 A JOINT VENTURE  
 ENGINEERS & SURVEYORS  
 ANCHORAGE & FAIRBANKS  
 ALASKA

SCALE 1" = 50'  
 DATE OF PHOTO 10-11-82  
 SHEET 8 OF 9



CITY OF BETHEL  
 BETHEL, ALASKA  
 RIVER BANK EROSION PROTECTION  
 PORT OF BETHEL DEVELOPMENT

MASTER PLAN  
 GALLIETT & SILIDES,  
 A JOINT VENTURE  
 ENGINEERS & SURVEYORS  
 ANCHORAGE & FAIRBANKS  
 ALASKA



NO	DATE	CHANGE	MARK

REVISIONS

SCALE 1" = 50'  
 DATE of PHOTO 10-11-82  
 SHEET 7 OF 9



CITY OF BETHEL  
BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
PORT OF BETHEL DEVELOPMENT

MASTER PLAN

GALLIETT & SILIDES  
A JOINT VENTURE  
ENGINEERS & SURVEYORS  
ANCHORAGE & FAIRBANKS  
ALASKA

SCALE 1" = 50'  
DATE OF PHOTO 10-11-82  
SHEET 6 OF 9



NO	DATE	CHANGE	BY



CITY OF BETHEL  
BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
PORT OF BETHEL DEVELOPMENT

MASTER PLAN

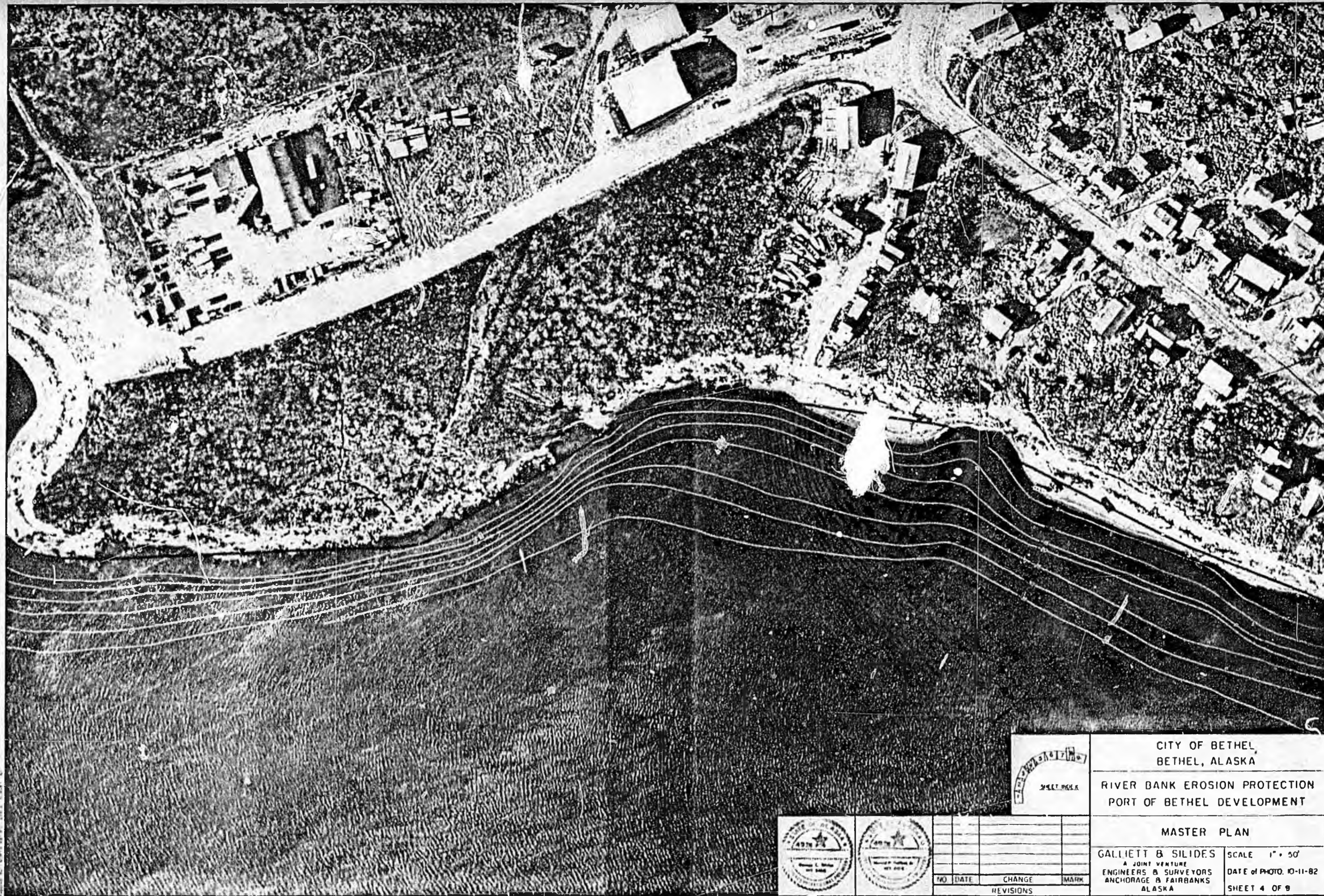
GALLIETT & SILIDES  
A JOINT VENTURE  
ENGINEERS & SURVEYORS  
ANCHORAGE & FAIRBANKS  
ALASKA

SCALE 1" = 50'  
DATE OF PHOTO 10-11-62  
SHEET 5 OF 9



NO.	DATE	CHANGE	MADE

REVISIONS



CITY OF BETHEL,  
BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
PORT OF BETHEL DEVELOPMENT

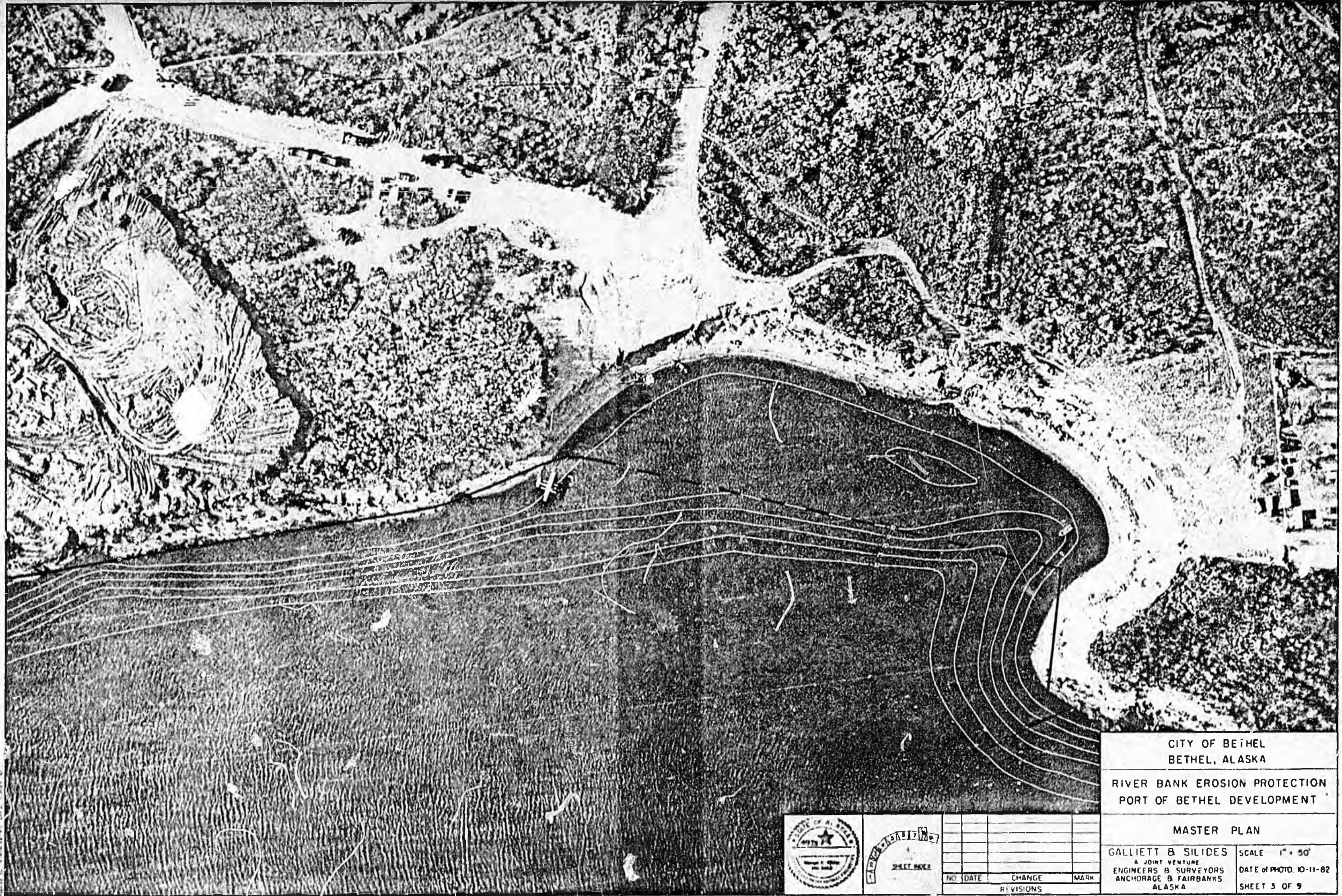
MASTER PLAN

GALLIETT & SILIDES  
A JOINT VENTURE  
ENGINEERS & SURVEYORS  
ANCHORAGE & FAIRBANKS  
ALASKA

SCALE 1" = 50'  
DATE of PHOTO. 10-11-82  
SHEET 4 OF 9



NO	DATE	CHANGE	MARK



CITY OF BETHEL  
 BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
 PORT OF BETHEL DEVELOPMENT

MASTER PLAN

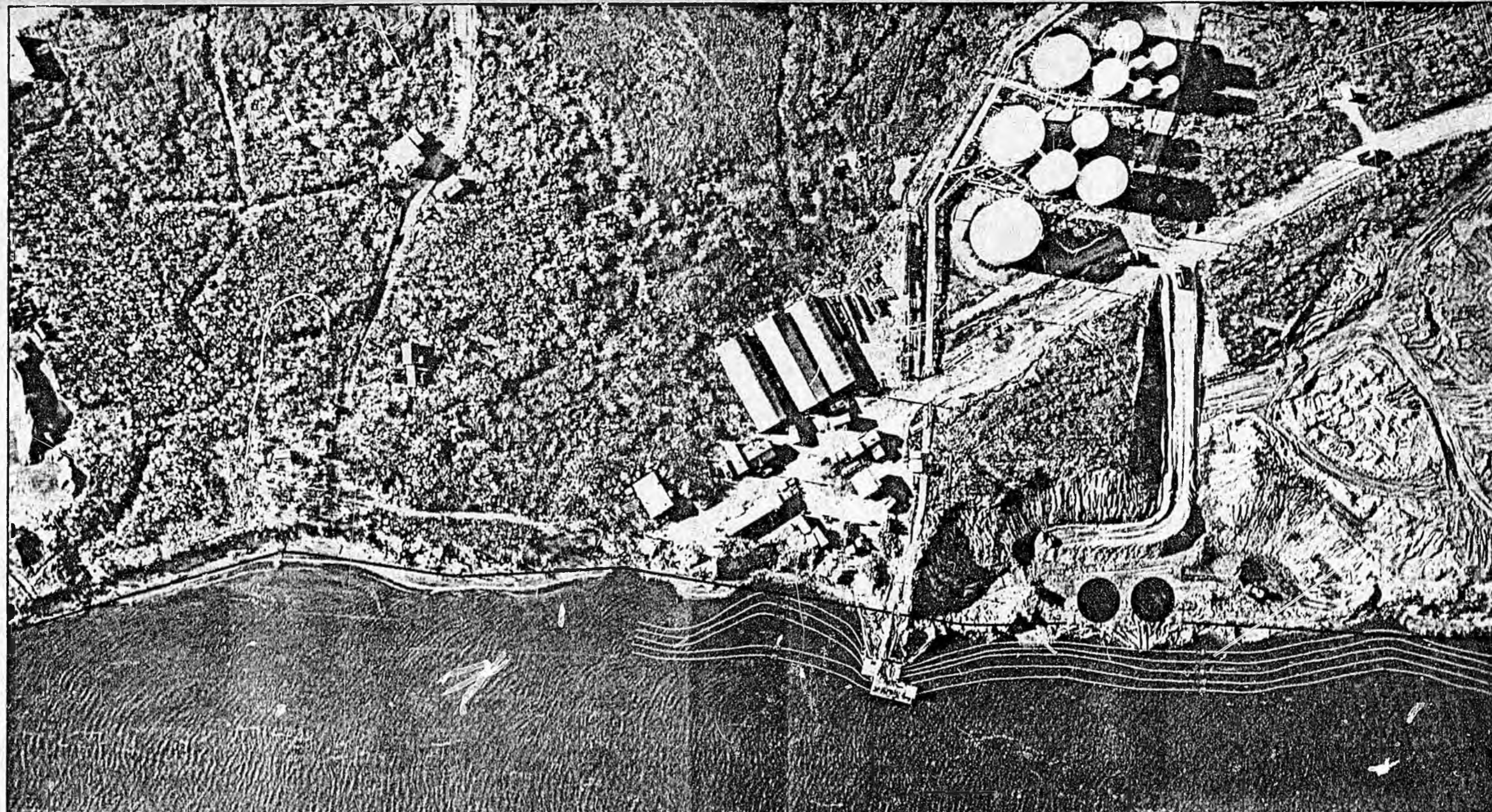
GALLIETT & SILIDES  
 A JOINT VENTURE  
 ENGINEERS & SURVEYORS  
 ANCHORAGE & FAIRBANKS  
 ALASKA

SCALE 1" = 50'  
 DATE OF PHOTO. 10-11-82  
 SHEET 3 OF 9



NO.	DATE	CHANGE	MARK

REVISIONS



CITY OF BETHEL  
BETHEL, ALASKA

RIVER BANK EROSION PROTECTION  
PORT OF BETHEL DEVELOPMENT

MASTER PLAN



NO.	DATE	CHANGE	MADE

GALLIETT & SILIDES  
A JOINT VENTURE  
ENGINEERS & SURVEYORS  
ANCHORAGE & FAIRBANKS  
ALASKA

SCALE 1" = 50'  
DATE OF PHOTO 10-11-82  
SHEET 2 OF 9

REVISIONS

*Galena*

SOLUTION TO YUKON RIVER  
BANK EROSION PROBLEM  
GALENA, ALASKA

PREPARED  
BY

ARCTIC FOUNDATIONS  
&  
SHANNON & WILSON, INC.  
ANCHORAGE, ALASKA

SOLUTION TO YUKON RIVER  
BANK EROSION PROBLEM  
GALENA, ALASKA

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2. Schematic Diagram of Groyne System
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SOLUTION TO YUKON RIVER  
BANK EROSION PROBLEM  
GALENA, ALASKA

1. STATEMENT OF PROBLEM

The erosion conditions at Galena have been studied thoroughly by the Corps of Engineers since about 1952. From these studies, a number of remedial measures have been carried out to slow the erosion process, particularly along the bank in front of the airfield. The results of this work and the causes of erosion are summarized and well documented in a recent study conducted by Ott Water Engineers (Ott Water Engineers 1981). In summary, the unprotected river bank upstream of the existing shore protection is eroding inland at an average estimated rate of about 10 to 30 feet per year. At these rates, it is only a matter of time before the erosion process starts damaging adjacent nearby facilities including the air strip, the new town site, the road separating the two and the existing shore protection system. Immediate remedial treatment is needed, as erosion has reached the point where further delays will jeopardize the stability of the existing protective system and greatly increase the costs of any further corrective measures.

2. MECHANISM OF EROSION

Knowledge of three basic characteristics unique to the site is required before the erosion mechanism and the various methods of treatment can be understood and assessed. These include the following:

- 1) the river configuration relative to the existing facilities
- 2) the soil type and climatic conditions
- 3) the seasonal river flow characteristics

As shown in Fig. 1, the airfield and new town site are situated on the outside banks of the natural river bend where erosion is encouraged. Conversely materials are being deposited on the inside edge of the bend creating a sand bar and island in this area. Left to nature this river would continue to erode and the main channel would shift to the north displacing or eroding away the land currently covered by the air strip and new town site. The installation of sheet piles, riprap and the coffer

dam structures adjacent to the air strip has stopped erosion in this area. However, upstream of the protective structures, erosion continues and the bank is slowly developing a much more critical local curvature generally encouraging higher water velocities and accelerated erosion in this area.

Based on surface exposures along the bank, the eroding soils are largely silts and fine sands. Outside of the bank area the soil at depth is frozen, has visible ice lenses, and is therefore classified as permafrost. Regional maps show it to be continuous permafrost. These materials in a frozen state are highly resistant to erosion, however, thawed they are generally considered to be highly erosive. In the Galena area, the freezing index is roughly twice the thawing index and the mean annual temperature is about 25 degrees. This indicates a generally cold frozen environment during most of the year.

Finally, the Yukon River is characteristically at a low elevation during the winter or cold months of the year and rises during breakup to a higher summer level.

During the winter period, the river freezes over and so do the bank soils above the low water line. As breakup begins in late May, the river level rises above the low winter water level and causes, through increased flow, much of the annual bank erosion. The unfrozen bank soils below the low water line are particularly susceptible to rapid erosion during this short time period. The bank soils above the low water line are beginning to thaw during breakup so erosion is somewhat limited in this zone.

During the summer months, the river level and flow stabilize but the water warms. This warming leads to deeper thawing and slow regression of bank slopes, melting of ice lenses within underlying permafrost and additional slope deterioration. This mechanism occurs mainly in the water fluctuation zone. Local undercutting and steepening of the slopes in this area are readily apparent during this period. Historically, it is thought that erosion below the low water line is much less during this summer period than during breakup.

During fall, wind from storms create waves which also encourage some localized slope undercutting near the high water line. Finally as the river recedes, the oversteepened thawed banks are subjected to sudden drawdown conditions. This further

encourages some slope raveling. Fortunately, with a dropping water level, the water velocities are reduced, and some suspended solids deposited gradually on the eroded slope to replace some of the eroded materials.

Ice movement has been determined to not be a major erosional mechanism.

### 3. APPROACH TO THE PROBLEM

A number of conventional erosion control measures installed along the airstrip have included sheet piles, riprap, soil filled fuel barrels and large coffer dams filled with soil and kept frozen with thermopiles. While all methods have worked with varying degrees of success, they have been very expensive to install or construct and equally as expensive to maintain or repair. These costs are well documented in Ott water Engineers (1981) and Corps of Engineers (1959 - 1969).

Since bank erosion is fast approaching critical structures in this area, decisions must be made and corrective measures implemented immediately. Otherwise, future changes may make repairs prohibitive from a cost standpoint. Erosion control measures should focus on protecting the initial soil slopes from erosion while at the same time forcing the main river channel and high flows to shift to the south or farther away from the new town site. One innovative way of doing this is by installing a series of widely spaced long steel rib elements (or groynes) along the eroding bank face as shown schematically in Fig. 2. The groynes, acting as a ribshaped system, are designed to control erosion in 3 ways:

- the groynes act as passive thermoprobes maintaining hard frozen strips of ground and colder water or extra ice along the shoreline. The frozen ground by its hardness resists erosion while the colder water reduces thawing and bank deterioration.
- the groynes reduce local water velocities along the bank encouraging deposition rather than erosion. The groynes are designed with a porous metal screen. Applying principals of snow fence design, this screen encourages sand sediment accumulation at and between the groynes.
- the groynes encourage sediment accumulation near the bottom of the river channel (thalweg) encouraging shifting of the main channel away from the eroding bank. If the main channel flow is forced away, water velocities along the eroding bank and erosion tendencies are reduced.

A schematic diagram illustrating the principal features of the groynes is presented in Fig. 3.

#### 4. PRINCIPALS OF THE SYSTEM

The main function of the groyne system, shown in Figs 2 and 3, is to form a series of hard erosion resistant steel strips along the bank which stop the erosion process. As mentioned previously, high water velocities and bank thawing during and following breakup are believed to be the major factors leading to bank erosion. As the bank soils are thawed, they become softened, wet and highly erosive and are carried away under the normal high river flows that occur during this time period. If erosion can be stopped during these times, the problem, in our opinion, can be solved. This system is designed to do this and focus directly on resisting the cause that is maintained by freezing an erosion resistant bank structure while also slowing water velocities and encouraging deposition.

The insulation pad in Fig. 3 is present only below the low water level. During breakup, it keeps the soil mass around the lower thermoprobes frozen providing a larger frozen soil/groyne structure for anchorage to the river bottom. The anticipated freezing front in this area during breakup is shown schematically on Fig. 4.

As the river level rises and the water warms, thawing increases and the freeze bonding of the groyne and frozen soil mass is reduced, however, erosion and anchorage requirements under these conditions are much less. At this time and when the river level is dropping, the metal screens on the groyne encourage solids to drop out of suspension covering the bank slopes generally as shown in Fig. 4. As sediment accumulates, groyne anchorage is improved.

Below the low waterline, deposition of sediments is a continual process during the first year until an equilibrium condition is reached (see Fig. 4B). This covering of the lower slope with sediment, anchors the lower end of the groynes, insulates the ground and encourages the permafrost front to rise. This rise in the freezing front generally increases the overall stability of the lower slope.

It also leads to a flatter overall slope which will also cause reduced erosion above the low water line. Further, it forces the main channel bottom (or Thalweg) away from the eroding bank

The thermoprobes freeze or supercool the surrounding sediment locally and help to hold or anchor the groyne in place most of the year. They also encourage accumulation of a larger ice and/or frozen hard ground mass in which to resist and reduce thawing.

Freezing in the ground and accumulating sediments between the high and low water line (Fig. 4A) also helps protect the probes, insulate the underlying frozen ground and reduces the depth of thawing. As the river recedes, the accumulated sediments help protect the slopes while the thermoprobes speed up the freeze back.

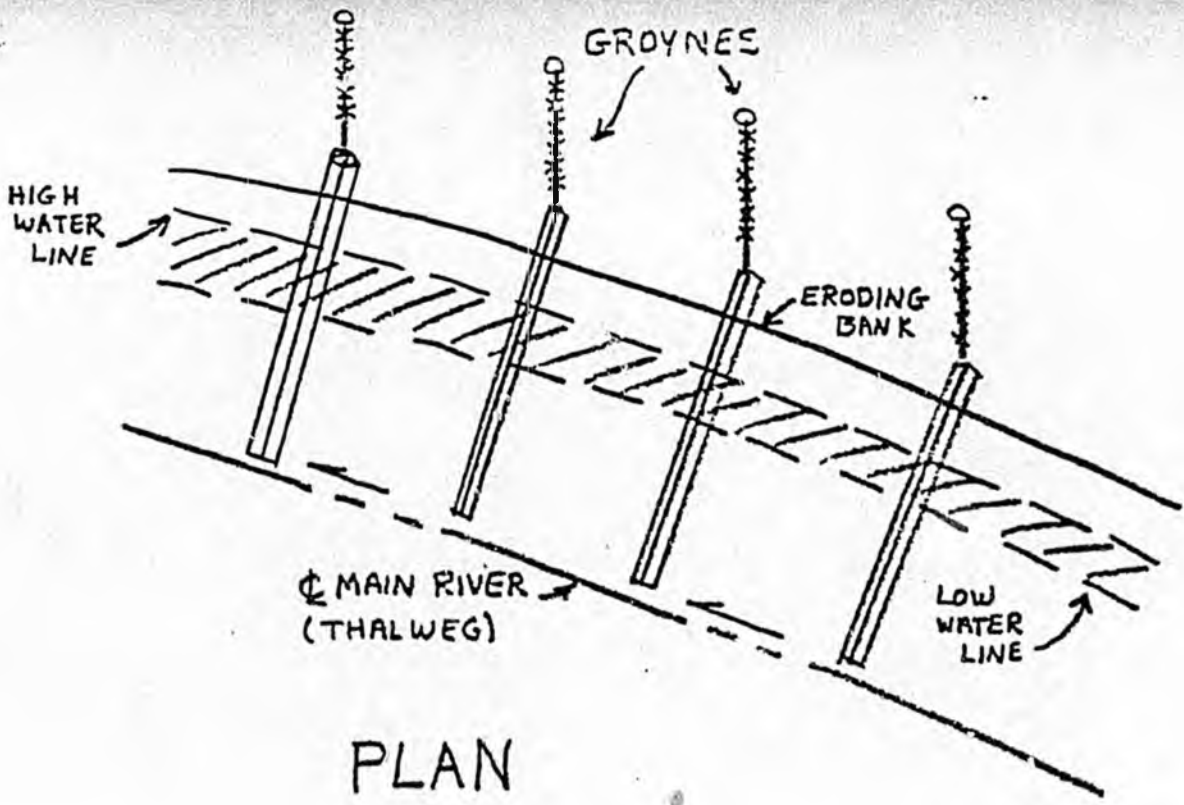
#### 5. RECOMMENDED TEST SECTION

Because remedial treatment must be undertaken soon, the above system could be designed based on present theory and partially installed this winter. However, as indicated in Ott Water Engineers (1981), many design parameters are not well defined and therefore, an oversized, more costly system would likely result. As an intermediate step, we recommend that a test section consisting of one or two full scale groynes, be designed and installed in a critical erosion area early this winter. The benefits of the test section would be realized before the next critical period of major erosion (breakup next May or June). We would also recommend that the test section be instrumented and monitored prior to, during and after breakup next year. This would allow us time to evaluate the test section and optimize the groyne dimensions and spacings for the larger scale slope treatment.

It is apparent that in normal slope treatment, a single groyne is not as effective by itself because a single groyne focuses on treating a given local area and only slightly improves erosion conditions further downslope. As succeeding groynes are placed, the area downslope is gradually improved such that it may be possible to increase the spacing between groynes in these areas. Such information

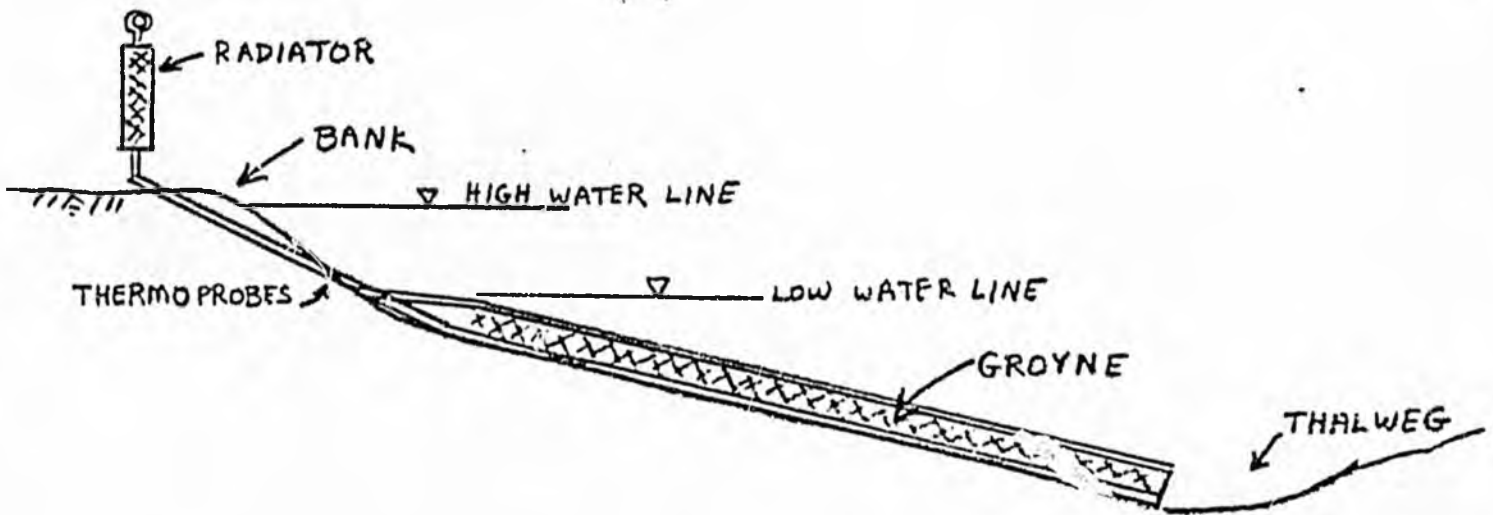
would not be obtained by testing a single groyne. A single groyne, however, would allow assessment of times of freezing and thawing relative to breakup conditions, sediment deposition and drifting characteristics and general system effectiveness. Two groynes in a test section with different triangular dimensions would allow us to evaluate the above characteristics as well as look at groyne size and spacing dimensions more closely, group deposition effects and different type fencing screens.

We are in a position to design, install and monitor such a test section and would be pleased to discuss or present to you detailed procedures and our estimated costs for such a program. Shannon & Wilson, Inc. would consult with and assist Arctic Foundations in the design of the individual groynes and instrumentation program as well as help interpret the data obtained from the instrumentation. Arctic Foundations would work with Shannon & Wilson on the design, as well as fabricate, install and with local assistance, monitor the system.



PLAN

NOT TO SCALE



PROFILE

NOT TO SCALE

BANK EROSION  
 GALENA, ALASKA  
 SCHEMATIC DIAGRAM  
 OF  
 GROUYNE SYSTEM  
 FIG. 2

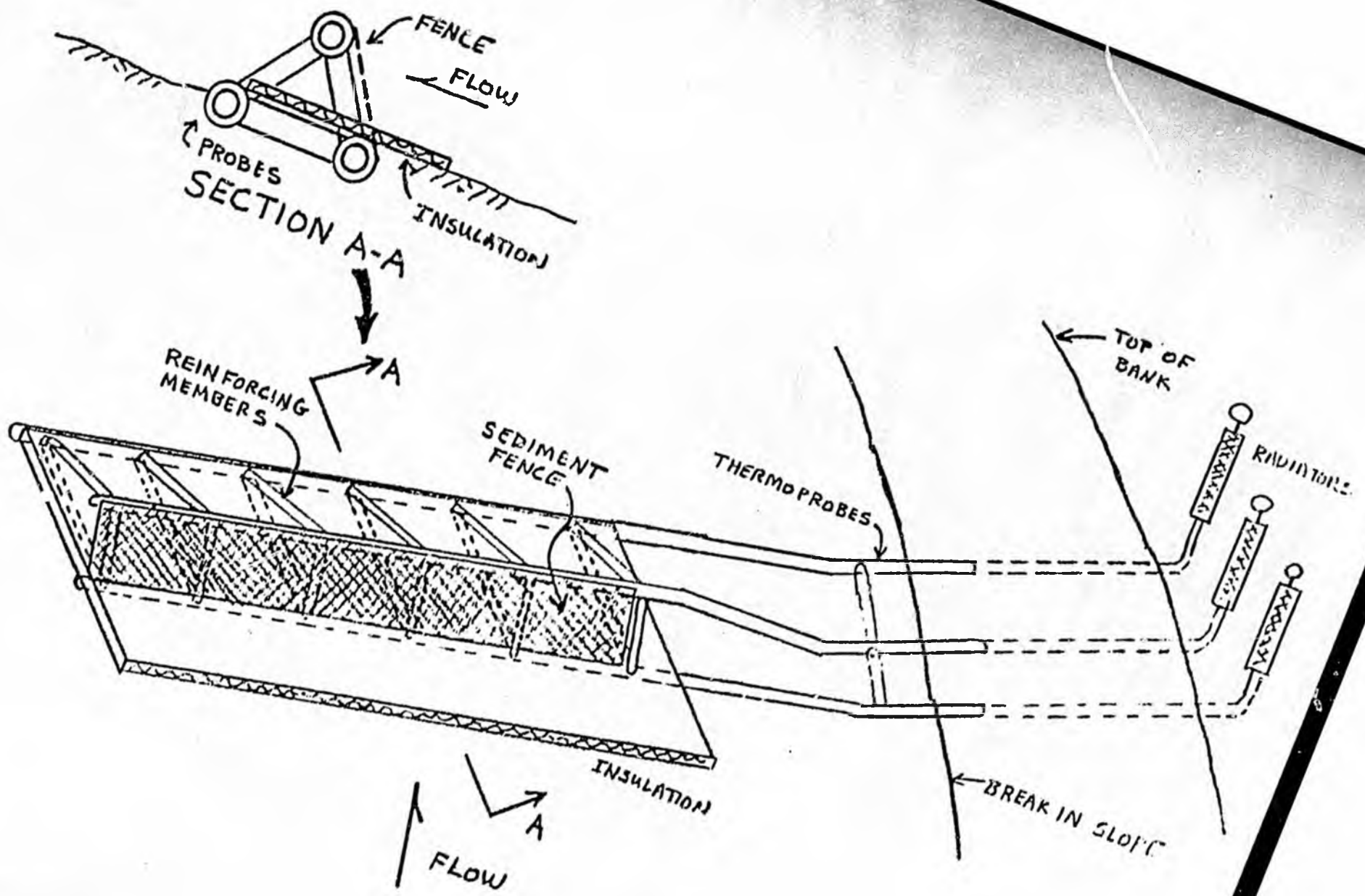
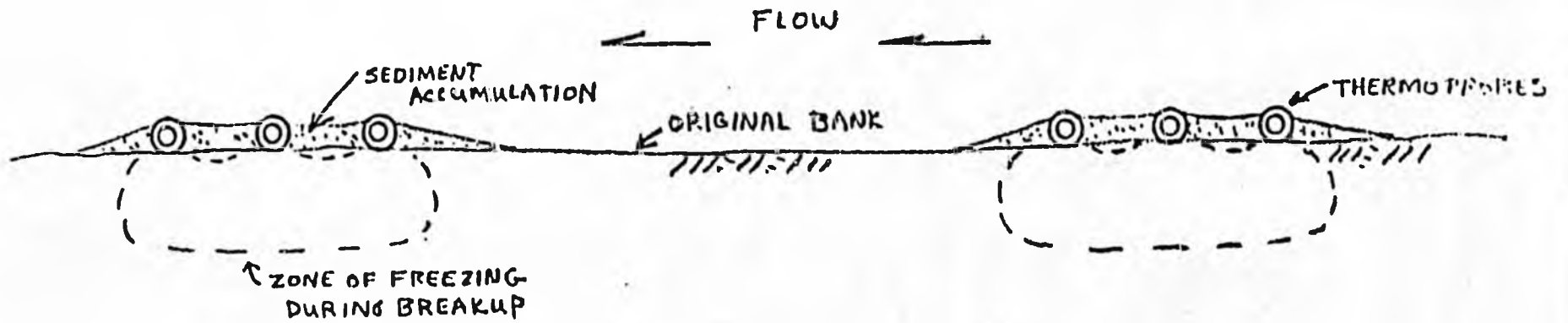


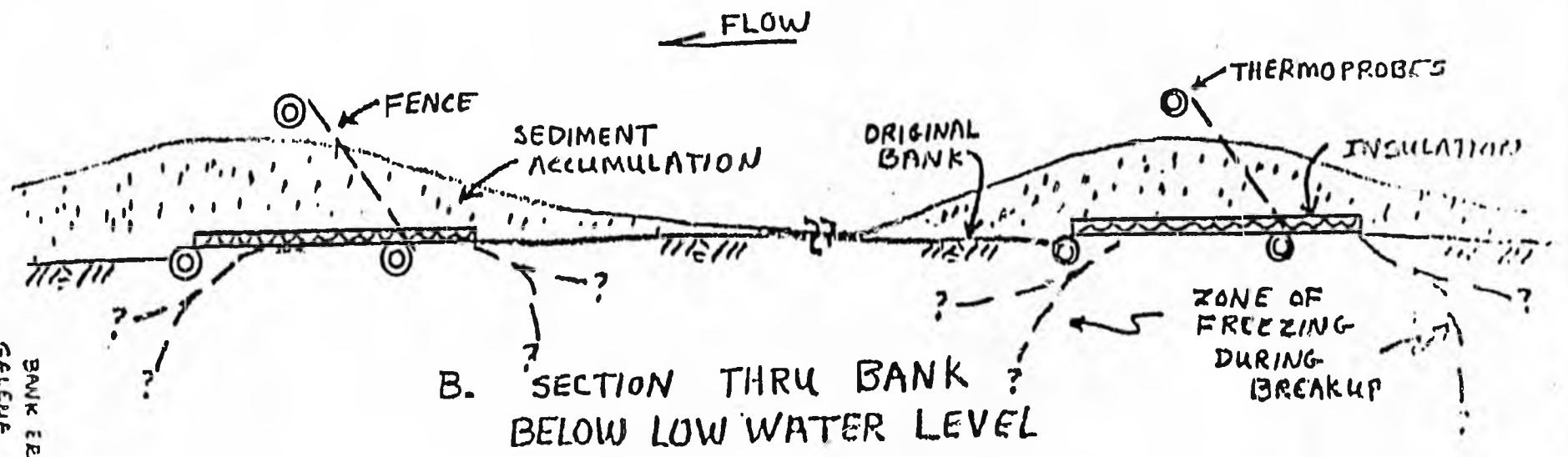
FIG 3

BANK EROSION  
 GALENA, ALASKA  
 TYPICAL GROYN

FIG 2



A. SECTION THRU BANK  
WITHIN WATER FLUCTUATION ZONE



B. SECTION THRU BANK ?  
BELOW LOW WATER LEVEL

BANK EROSION  
GALENA, ALASKA  
SCHEMATIC DIAGRAM  
SHOWING EFFECTS  
OF G. ROYNE

**NEW  
TOWN  
SITE**

**EXISTING  
BANK  
PROTECTION**

**AREA  
CONCE**

**GALENA AIRPORT**

**VABM**  
**Old Galena**

**MIL RES BAY**

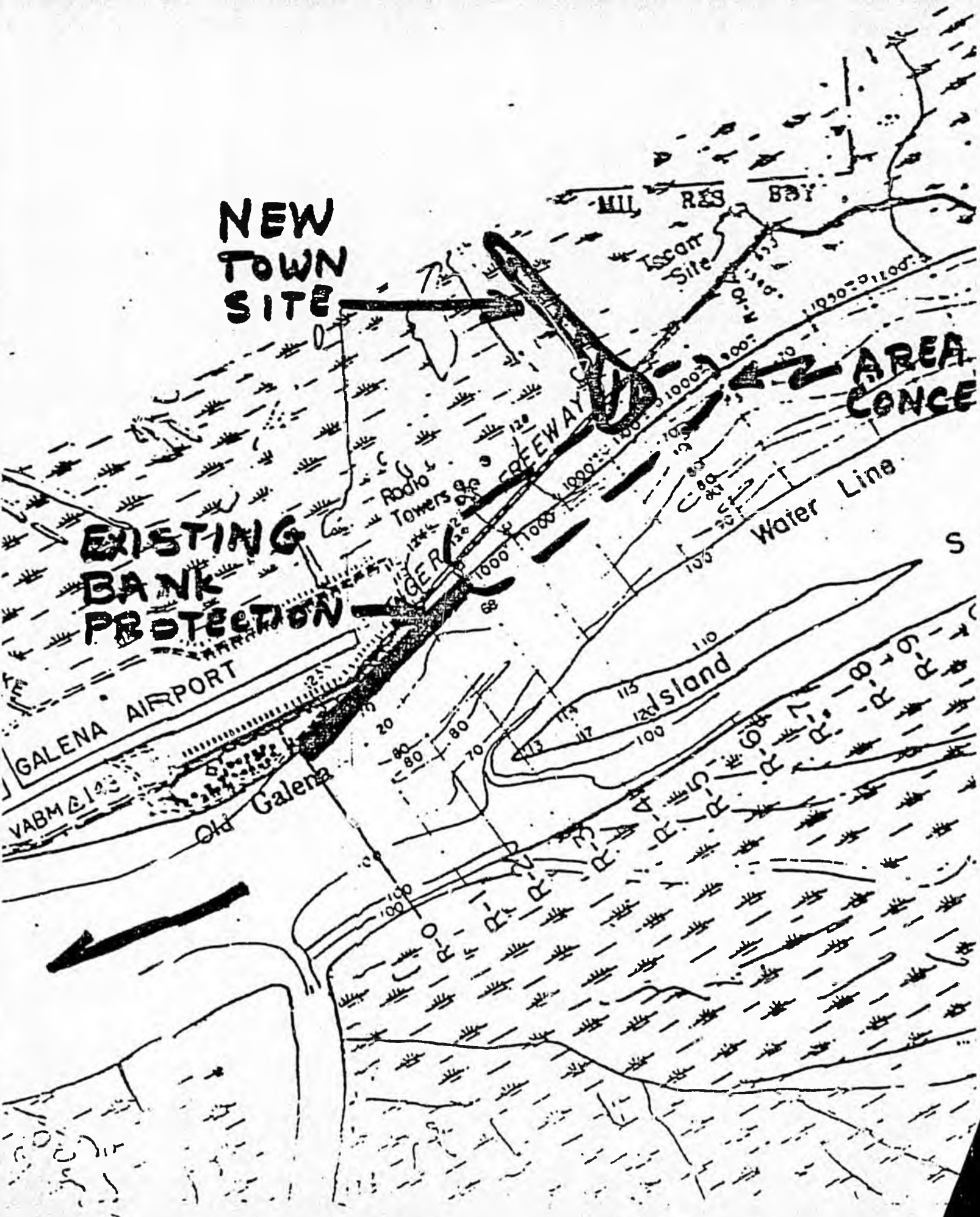
**Iscom Site**

**Radio Towers**

**FREEWAY**

**Water Line**

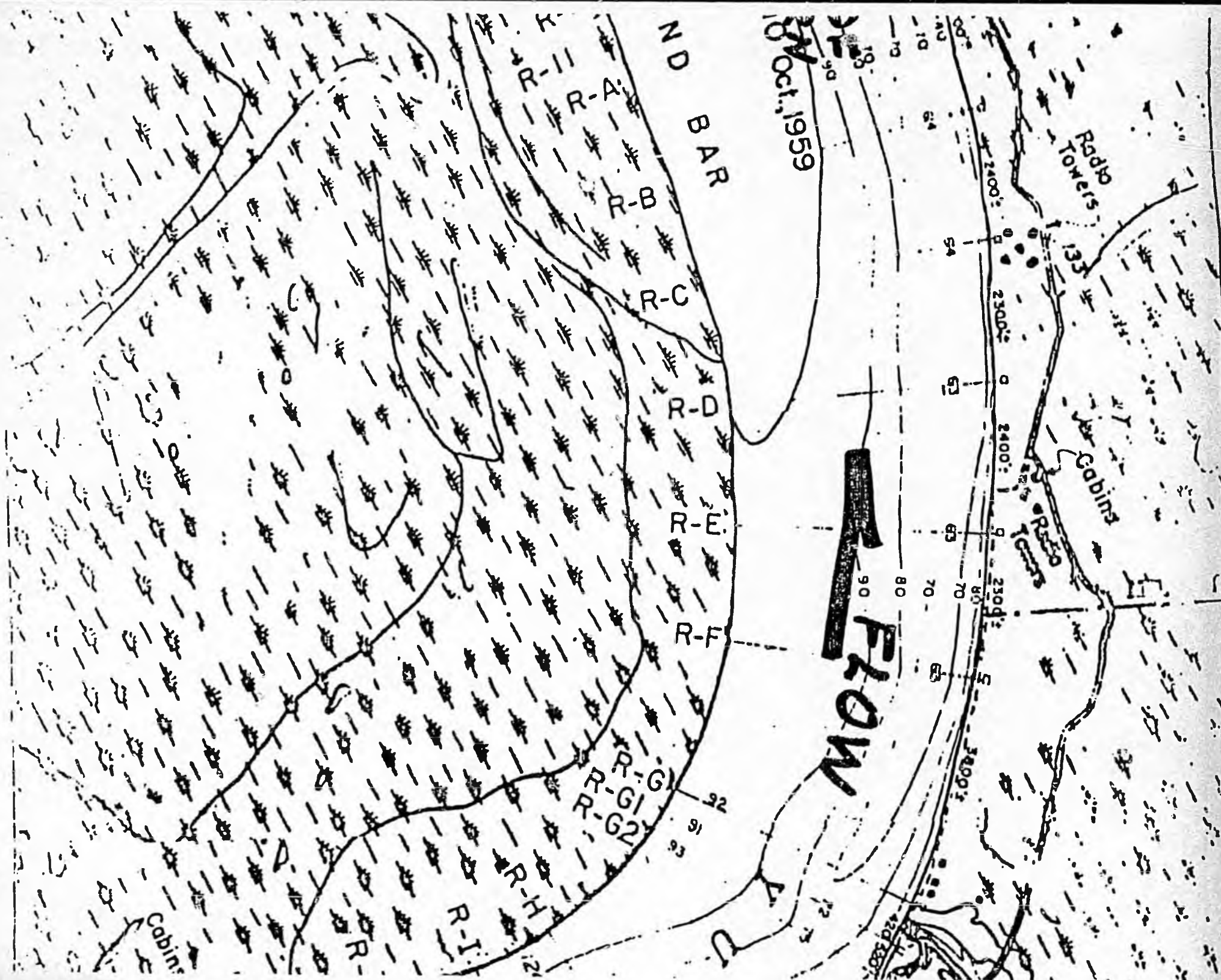
**12d Island**



Oct. 1959

ND BAR

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S

B

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# **The Effect of Curfew Laws on Motor Vehicle Crashes**

**David F. Preusser<sup>1</sup>, Allan F. Williams<sup>2</sup>,  
Paul L. Zador<sup>2</sup> and Richard D. Blomberg<sup>1</sup>**

<sup>1</sup>Dunlap and Associates East, Inc.

<sup>2</sup>Insurance Institute for Highway Safety,  
600 Watergate, Suite 300,  
Washington, D.C. 20037

September 1982

## Abstract

Twelve states in the U.S. have curfew laws, which prohibit young drivers from operating motor vehicles during late evening and/or early morning hours. The effect of such laws on motor vehicle crashes was studied in four of these states. In each state studied, the laws were found to substantially reduce the crashes of 16 year olds. Sixteen year old driver crash involvements during curfew hours were reduced by an estimated 69 percent in Pennsylvania (3.7 fewer drivers in crashes per 1,000 16 year old population per year), 62 percent in New York (5.0), 40 percent in Maryland (2.0), and 25 percent in Louisiana (2.0). Except in Maryland, the percentage of the 16 year old population licensed was lower in curfew than comparison states. New York, which has the strongest curfew law, has the lowest 16 year old licensure rate in the U.S., and Pennsylvania is second lowest. It is possible that curfew laws reduce early licensure, in which case reductions in crash involvements resulting from curfews are greater than shown above.

# The Effect of Curfew Laws on Motor Vehicle Crashes

Twelve states in the U.S. have laws limiting the hours during which young licensed drivers may operate motor vehicles. These laws prohibit driving during late evening and/or early morning hours and are referred to as "curfew laws". The purpose of the present study was to examine the effect of such laws on motor vehicle crashes. Their effect is not known to have been studied previously.

Curfew laws vary in terms of the ages of drivers covered, hours restricted, and exceptions allowed. Four states (Louisiana, Maryland, New York, and Pennsylvania) whose laws are among the strongest in terms of these factors were selected for study. The laws in these four states are described in Table 1. In most of the other states with curfew laws, the restrictions apply only to 15 year olds and/or prohibit driving only after midnight.

## Methods

To determine the effect of the laws, the crash involvement of young drivers affected by the curfews in each state studied was compared with the crash involvement of drivers of the same age in a state not having a curfew, but otherwise having the same or very similar laws pertaining to young drivers. New York (minus New York City and Nassau County) was matched with Ohio, Pennsylvania was also matched with Ohio, and Louisiana was paired with Mississippi. Maryland's curfew law was implemented in 1979, as part of a probationary licensing system applying to newly licensed 16 and 17 year old drivers. Maryland data prior to 1979 were used as the comparison for Maryland following adoption of its curfew law.

Preliminary analyses were conducted to provide estimates of the number of years of crash data needed from each curfew and comparison state to ensure adequate sample sizes. These analyses indicated that three years of data would be adequate in the larger states (New York, Pennsylvania, Ohio) and five years would be required for Louisiana and Mississippi. Accordingly, computer tapes containing records of all police reported crashes were obtained from New York, Pennsylvania, and Ohio for the years 1978-1980, and from Louisiana and Mississippi for 1976-1980. Examination of Maryland's curfew was based on crash data for the five years prior to the curfew (1974-1978) and the two years following its implementation (1979-1980).

The data presented on curfew affected drivers are limited to 16 year olds. The crash data obtained from New York and Pennsylvania did not allow identification of 17 year olds who had completed driver education and thus were not subject to the curfew laws. In Maryland, many 17 year olds (and some 16 year olds) are not subject to the law because they can apply for a license that frees them from curfew regulations after 6 months of driving without a crash or violation. Very few 15 year olds in Louisiana are licensed, and the crash data available did not allow them to be distinguished from younger, unlicensed drivers.

Crash involvement of curfew affected drivers during curfew and noncurfew hours was compared with the crash involvement at these times for drivers of the same age not affected by a curfew law. The hours just before and just after the curfews were examined separately, because of the possibility that curfews might affect these noncurfew hours as well. For example, curfew affected drivers might do most or much of their evening driving during the hours just prior to the curfew. If this in turn leads to increased numbers of crashes in these hours, it could reduce any positive effects that curfew laws might have on crash involvement. It was also considered possible that a reduction in the amount of driving by curfew affected drivers during curfew hours might produce an effect extending past the end of the curfew period.

To control for possible differences in the time of day crashes occurred in study and comparison states, unrelated to curfew laws, comparisons of crash involvement during curfew and noncurfew hours were also made between older drivers not covered by curfews. The crash experience of age groups unaffected by curfews in study and comparison states was used to develop linear regressions to estimate the crash involvement by time of day for 16 year olds that would have been expected without curfews. These expected values were then compared with the actual crash counts. Three separate estimates of 16 year old crash involvement were made in each curfew state, based on the crash experience of 18-20 year olds, 21-24 year olds, and 25-34 year olds. In each pair of states, numbers of driver crash involvements by time of day for these unaffected age groups were highly correlated. For example,

driver crash involvements by hour of day for New York 18-20 year olds correlated +0.88 with involvements of Ohio 18-20 year olds. For 21-24 year olds the correlation was +0.89; for 25-34 year olds it was +0.92. The three resulting regression equations were then used to generate expected numbers of crashes for 16 year olds in curfew states as derived from the actual numbers of involvements for 16 year olds in the comparison states.

For example, in New York-Ohio, the regression equation based on 21-24 year olds was:

$$NY_t = (.3008) Ohio_t + 423.1$$

In other words, the expected number of crashes for 21-24 year old drivers in New York at hour "t" was equal to the actual number in Ohio at hour "t" x .3008 + 423.1. Estimates for New York 16 year olds were generated using the actual Ohio 16 year old distribution in the above equation.

Data on crash injuries sustained by 16 year olds in curfew states as motor vehicle passengers, pedestrians, and pedalcyclists were also analyzed due to the possibility that these might be higher than expected during curfew hours because travel as nondrivers may be higher. Such an effect would tend to offset positive curfew effects that may exist for drivers.

## Results

The extent to which motor vehicle crash and injury involvements of 16 year olds occurred during curfew hours in the curfew and noncurfew states studied is shown in Table 2. Sixteen year old drivers in New York and Pennsylvania were less likely to be involved in crashes during curfew hours than were 16 year old drivers in the comparison states without curfews. For example, 14 percent of New York's crashes involving 16 year old drivers occurred during curfew hours, whereas 28 percent of the crashes of 16 year old drivers in Ohio took place during these hours. Based only on driver involvements in crashes with fatal or nonfatal injuries, the comparable figures were 16 percent in New York and 31 percent in Ohio. Sixteen year olds in New York and Pennsylvania were also substantially less likely than Ohio 16 year olds to sustain motor vehicle related injuries during curfew hours.

In Louisiana, although the percentages of 16 year old drivers in all types of crashes during curfew hours were about the same as in Mississippi, there were relatively fewer 16 year old driver involvements in injury producing crashes. The data obtained from Louisiana and Mississippi did not allow a comparison on 16 year olds injured to be made.

The percentages of crash and injury involvements of Maryland 16 year olds during curfew hours were about the same subsequent to the curfew law as before the law went into effect.

The data in Table 2 cannot be fully interpreted, however, without reference to comparisons of crash and injury involvements during curfew and noncurfew hours between age groups not covered by curfews in both study and comparison states. In the New York-Ohio, Pennsylvania-Ohio, and Louisiana-Mississippi comparisons, the percentages of crashes and injuries of unaffected age groups that occurred during curfew hours were generally quite similar and indicated that the effect found for 16 year olds in the curfew states was not also present in these other age groups. However, in Maryland, older persons unaffected by the curfew had a larger percentage of their crashes during curfew hours after the law went into effect than before. Some of this change may be attributable to a trend in Maryland over this time period to reporting only more serious crashes, which more often occur late at night. This result suggests that the Maryland curfew law may be having an effect on 16 year olds even though the initial comparisons in Table 2 do not show any.

The expected numbers of crash involvements by hour of day for curfew-affected 16 year olds, whether based on the crash experience of 18-20, 21-24 or 25-34 year olds in curfew and comparison states, were quite similar. Figures 1-4 show expected versus actual numbers of 16 year old drivers in crashes in curfew states by hour of day, based on the age 21-24 regression equations. In each curfew state, actual numbers of driver crash involvements were lower than the predicted numbers at each hour of the day, with the exception of six hours in Pennsylvania. Reductions during the curfew hours were much greater than the reductions during the noncurfew hours, as indicated at the tops of Figures 1-4. Compared with earlier, noncurfew hours, the figures also show evidence of relatively small increases in numbers of curfew affected drivers in crashes in Pennsylvania for the three hours just prior to the curfew, and in Maryland for the two hours preceding the curfew. There was a slight increase in New York during the

hour preceding the curfew. There was also decreased involvement similar to that occurring during curfew hours for one or two hours after the curfew in each curfew state.

Analyses based on drivers in injury producing crashes yielded in each state the same pattern of results as the analyses based on all crashes. When the data were separated by driver sex, male and female drivers were found to be about equally affected by curfew laws.

Table 3 presents estimated reductions in driver crash involvements during curfew hours, based on the extent to which curfew hour reductions exceeded reductions at noncurfew hours. For example, based on the regression equations, the actual number of crashes for New York 16 year old drivers during noncurfew hours was 47 percent lower than the expected number. Therefore, for curfew hours, the number of driver crash involvements estimated by the regression equation was reduced by 47 percent. Similarly, the expected numbers in Pennsylvania, Louisiana, and Maryland were reduced by 17 percent, 20 percent, and 15 percent, respectively.

The data in Table 3 show that there were estimated reductions in 16 year old driver crash involvements during curfew hours in all four curfew states studied. These are probably conservative estimates since some of the crashes of 16 year old drivers that are reduced during curfew hours would otherwise have also involved older drivers. Reductions in the crashes of older drivers that occur in this way are an additional positive effect of curfew laws. However, the estimation method on which the data in Table 3 are based would have predicted greater reductions for 16 year olds without this effect.

The estimated reductions of drivers in crashes during curfew hours were greatest in Pennsylvania (69 percent) and New York (62 percent). Estimated crash reductions per 16 year old population were greater in New York than in Pennsylvania because the New York curfew applies to more hours of the day.

Additional analyses extending curfew hours plus or minus one, or plus or minus two hours, indicated that the estimated crash reductions per 16 year old population either remained about the same as when only curfew hours were included, or increased. The one exception was in Maryland, where the estimated reduction in 16 year old driver crash involvements in curfew hours plus or minus two hours decreased from 2.0 to 1.3 per thousand 16 year old population.

A major reason why the actual numbers of 16 year old driver crash involvements in curfew states were generally lower than the predicted numbers at all hours of the day, not only curfew hours, was that, except in Maryland, the percentage of the 16 year old population licensed was lower in curfew than comparison states (Table 4). Licensing data available from the Federal Highway Administration and New York State covering 44 of the 49 states that license 16 year olds indicated that in 1980, New York (excluding New York City and Nassau County) had the lowest 16 year old licensure rate per population, and Pennsylvania had the second lowest rate of any of the 44 states. Louisiana's 16 year old licensing rate was the sixth lowest, lower than Mississippi's, and lower than rates in Arkansas and Texas, which also border Louisiana. It is possible that curfew laws reduce early licensure, perhaps because licenses that are not valid during nighttime hours are less attractive than licenses without such restrictions. Maryland experienced no change in 16 year old licensure rate subsequent to the curfew law. However, Maryland 16 year olds have to wait only 6 months from the date of licensing to be free of the curfew law, which may provide motivation to be licensed as early as possible, rather than to delay licensure.

If curfew laws do reduce licensure rates of young drivers, the reductions in driver crash involvements resulting from curfews would be substantially greater than estimated in Table 3. Differences in driver crash involvements across all hours of the day were -57 percent in New York (-29.3 fewer drivers in crashes per 1,000 16 year old population per year), -27 percent in Pennsylvania (-10.4), -22 percent in Louisiana (-23.8), and -18 percent in Maryland (-13.5).

Estimates of curfew effects on injuries, rather than driver involvements, were also made based on the extent to which curfew hour reductions exceeded reductions during noncurfew hours. These analyses indicated that motor vehicle related injuries to 16 year olds were reduced during curfew hours by 31 percent in New York (-3.1 per 1,000 16 year olds per year), 51 percent in Pennsylvania (-2.2), and by 1 percent in Maryland (-0.03). (Analyses based on crash injuries could not be done for Louisiana.) Sixteen year old motor vehicle passengers, pedalcyclists, and pedestrians are not subject to the curfew laws, and the estimated reductions based on 16 year olds injured were not as large as those shown in Table 3 based on numbers of drivers in crashes. In Maryland, there was virtually no effect on injuries to 16 year olds.

It is apparently not the case, however, that curfew-related reductions for 16 year old drivers are offset by increases in injuries to 16 year olds as nondrivers during curfew hours. In fact, the New York and Pennsylvania curfew laws pertaining to 16 year old drivers reduced the extent to which 16 year olds were injured as motor vehicle passengers during curfew hours. For example, 34 percent of the 16 year old passenger injuries in New York occurred during curfew hours, compared with 42 percent in Ohio. In Pennsylvania, 12 percent were injured during curfew hours, compared with 19 percent in Ohio.

## Discussion

In the four curfew states studied, the laws were found to substantially reduce 16 year old driver crash involvements during curfew hours. New York's curfew had the largest effect, in part because it has the longest curfew, beginning at 9 p.m., which is earlier than curfews in the other states. It appears also that in states with curfews that do not start until midnight or later, there is increased crash involvement among curfew-affected 16 year old drivers during the two or three prior hours. This is offset, however, by the continuations in crash reductions one or two hours after curfews end.

The curfew laws in New York and Pennsylvania are more effective in reducing highway losses than those in Louisiana and Maryland. Telephone interviews conducted with small numbers of teenagers, police officers, high school principals, and driver education instructors in the four states studied suggested that awareness, compliance, and enforcement of the curfew was less in Louisiana than in the other states. In Maryland, an unknown percentage of 16 year old drivers is not subject to the curfew law because they can obtain an unrestricted license after six months of crash and violation-free driving, and this probably reduces the curfew effect somewhat.

The effects of the curfews in the eight states not studied is unknown, but these curfews are generally weaker with respect to the ages covered and hours restricted than those studied. However, it is clear from the present study that curfew laws are effective in reducing the high crash rates of teenage drivers which result in large numbers of injuries to themselves and others [Karpf and Williams, 1982; Williams and Karpf, 1982, 1982a]. If curfew laws also reduce early licensure, their effect in reducing crashes is greater than reported in this paper. The possibility that curfew laws delay licensure is currently being investigated by the Insurance Institute for Highway Safety.

## References

1. KARPF, R.S. and WILLIAMS, A.F. (1982) "Teenage drivers and motor vehicle deaths." *Accident Analysis and Prevention*, in press.
2. WILLIAMS, A.F. and KARPF, R.S. (1982) "Deaths of teenagers as passengers in motor vehicles." *Accident Analysis and Prevention*, in press.
3. WILLIAMS, A.F. and KARPF, R.S. (1982a) "Teenaged drivers and fatal crash responsibility." Insurance Institute for Highway Safety, Washington, D.C., August 1982.

Table 1

## Curfew Laws Studied

State	Ages Covered	Curfew Hours	Primary Exceptions
Louisiana	15, 16	11 pm - 5 am	none
Maryland	16, 17	1 am - 6 am	- accompanied by licensed driver at least 21 years old - school and work waivers granted upon request
New York <sup>a</sup>	16; 17 without driver education	9 pm - 5 am	- accompanied by parent - driving to and from work or school
Pennsylvania	16; 17 without driver education	Midnight - 5 am	- accompanied by parent, or spouse 18 years of age or older - driving to and from work

<sup>a</sup> Excluding New York City and Nassau County, where driving by 16 year olds and those 17 year olds who have not completed driver education is prohibited at all times of the day.

Table 2

Crash and Injury Involvement of 16 Year Olds During Curfew Hours  
In Curfew and Noncurfew States

	<u>Drivers in All Crashes</u>		<u>Drivers in Injury Producing Crashes</u>		<u>Sixteen Year Olds Injured*</u>	
	Total No.	% During Curfew Hours	Total No.	% During Curfew Hours	Total No.	% During Curfew Hours
Louisiana (11pm - 5am curfew)	36,402	7%	11,046	9%	not available	
Mississippi (no curfew)	8,504	8%	1,894	12%		
Maryland 1979-80 (1am - 6am curfew)	10,071	5%	3,976	6%	5,020	9%
Maryland 1974-78 (no curfew)	33,611	4%	9,935	6%	12,028	9%
New York (9pm - 5am curfew)	12,261	14%	7,790	16%	13,002	28%
Ohio (no curfew)	59,078	28%	17,097	31%	18,310	37%
Pennsylvania (midnight - 5am curfew)	18,538	6%	10,970	6%	13,963	10%
Ohio (no curfew)	59,078	11%	17,097	13%	18,310	17%

\* Includes all motor vehicle related injuries, e.g., as drivers, passengers, pedalcyclists, pedestrians.

Table 3

Estimated Reductions in 16 Year Old Driver Crash  
Involvements During Curfew Hours

Curfew State	Number of Driver Crash Involvements		Estimated Crash Reductions		
	Actual	Expected*	No.	Per 1,000 16 Yr. Olds Per Year	Percent (Actual vs. Expected)
Louisiana	2,509	3,340	- 831	-2.0	-25%
Maryland	517	855	- 338	-2.0	-40%
New York	1,694	4,419	-2,725	-5.0	-62%
Pennsylvania	1,063	3,432	-2,369	-3.7	-69%

\* Based on the extent to which curfew hour reductions exceeded reductions at noncurfew hours. See text for estimation procedure.

Table 4

1980 Licensure Rates For 16 Year Old Drivers in  
Curfew and Noncurfew States

	% of 16 Year Olds Licensed	U.S. Rank*
Louisiana (11pm - 5am curfew)	38	6
Mississippi (no curfew)	49	21
Maryland 1979-80 (1am - 6am curfew)	42	12
Maryland 1974-78 (no curfew)	41**	--
New York (9pm - 5am curfew)	21	1
Ohio (no curfew)	48	18
Pennsylvania (midnight - 5am curfew)	28	2
Ohio (no curfew)	48	18

\* Lowest to highest, based on the 44 states for which licensure data were available.

\*\* Based on 1974-1978 licensure data.

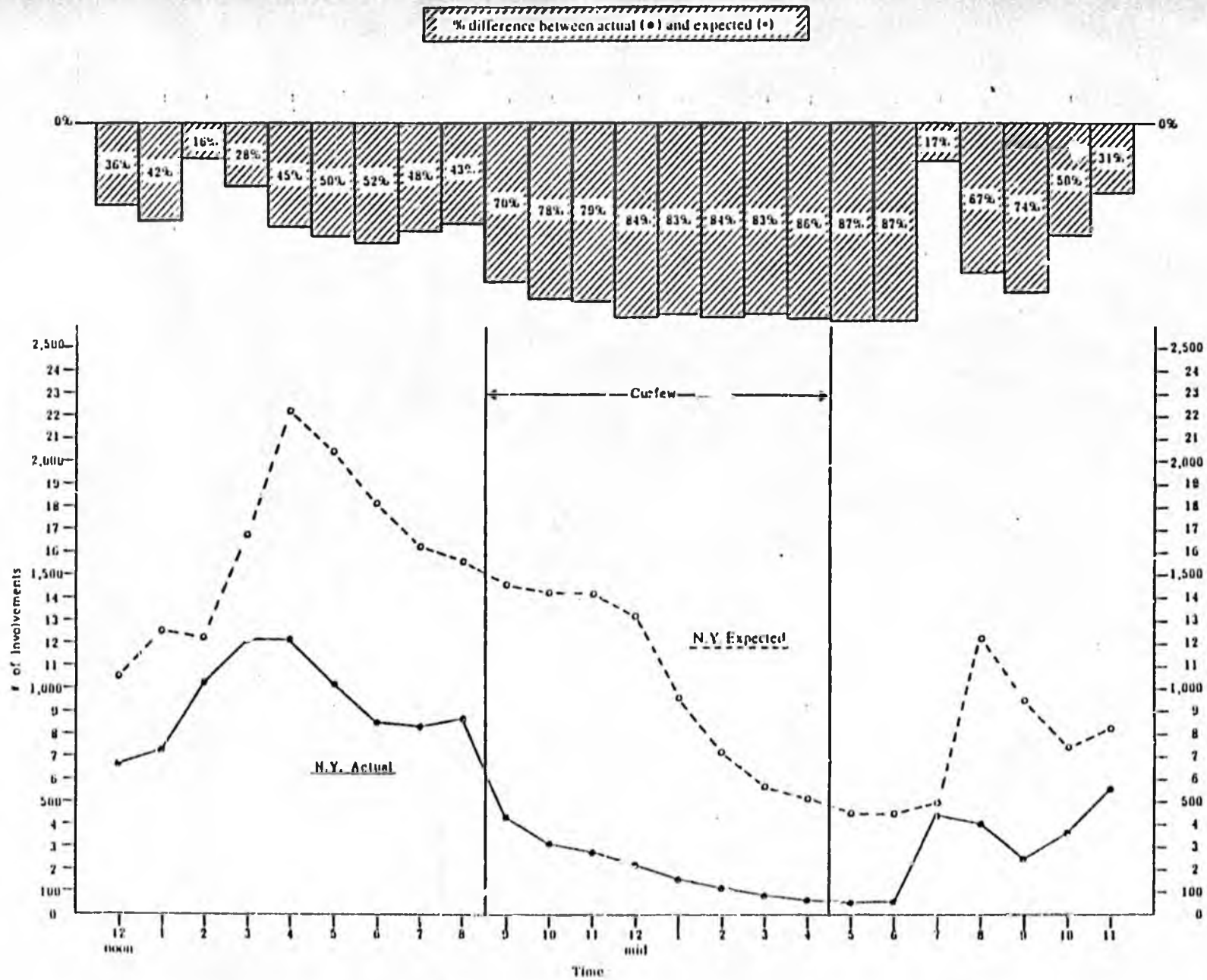


Figure 1. Actual numbers of crash involvements by hour of day for New York 16 year old drivers, versus expected numbers based on relationship between New York-Ohio 21-24 year olds and numbers of crash involved 16 year old Ohio drivers (1978-1980).

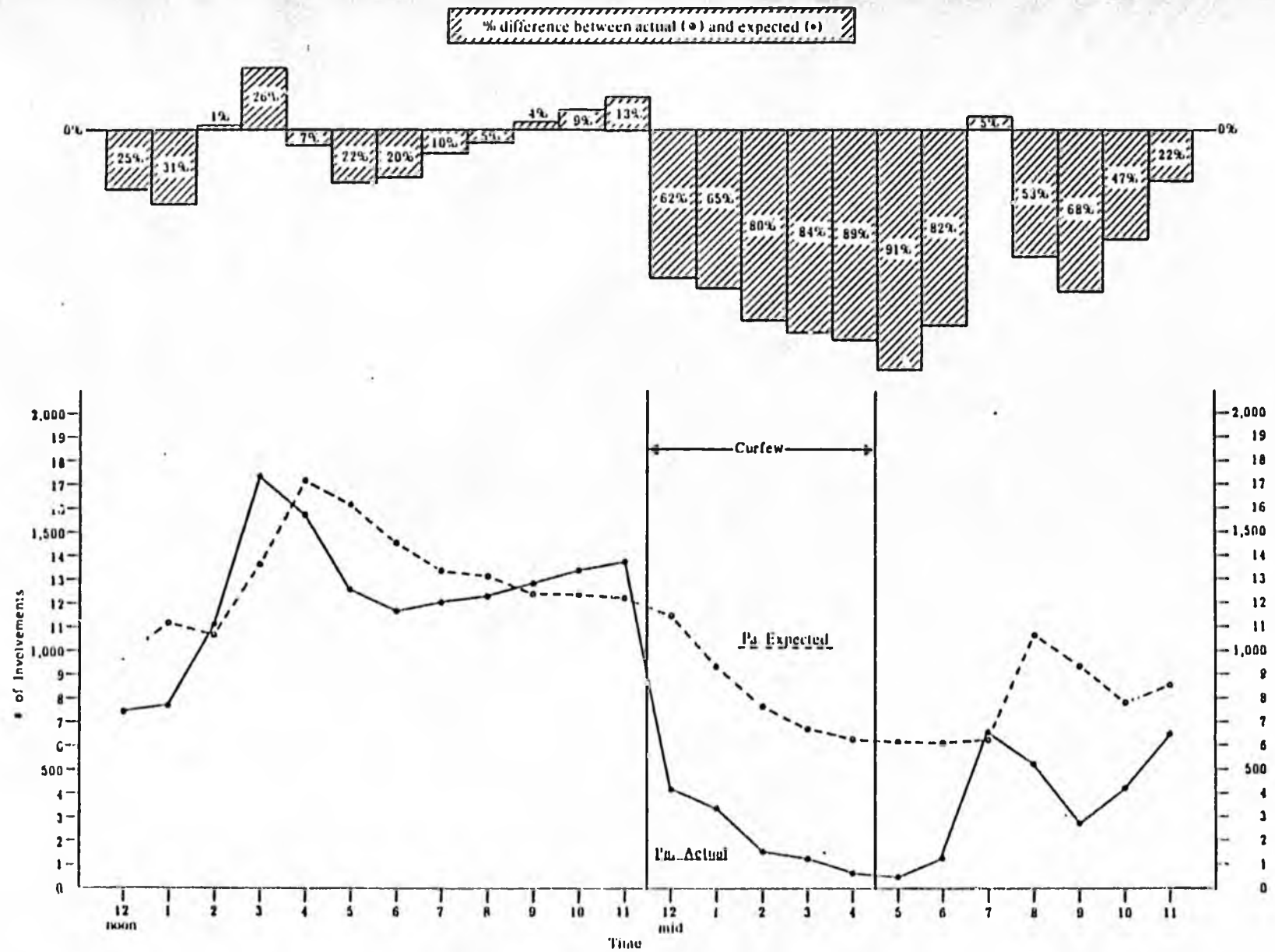


Figure 2. Actual numbers of crash involvements by hour of day for Pennsylvania 16 year old drivers, versus expected numbers based on relationship between Pennsylvania-Ohio 21-24 year olds and numbers of crash involved 16 year old Ohio drivers (1978-1980).

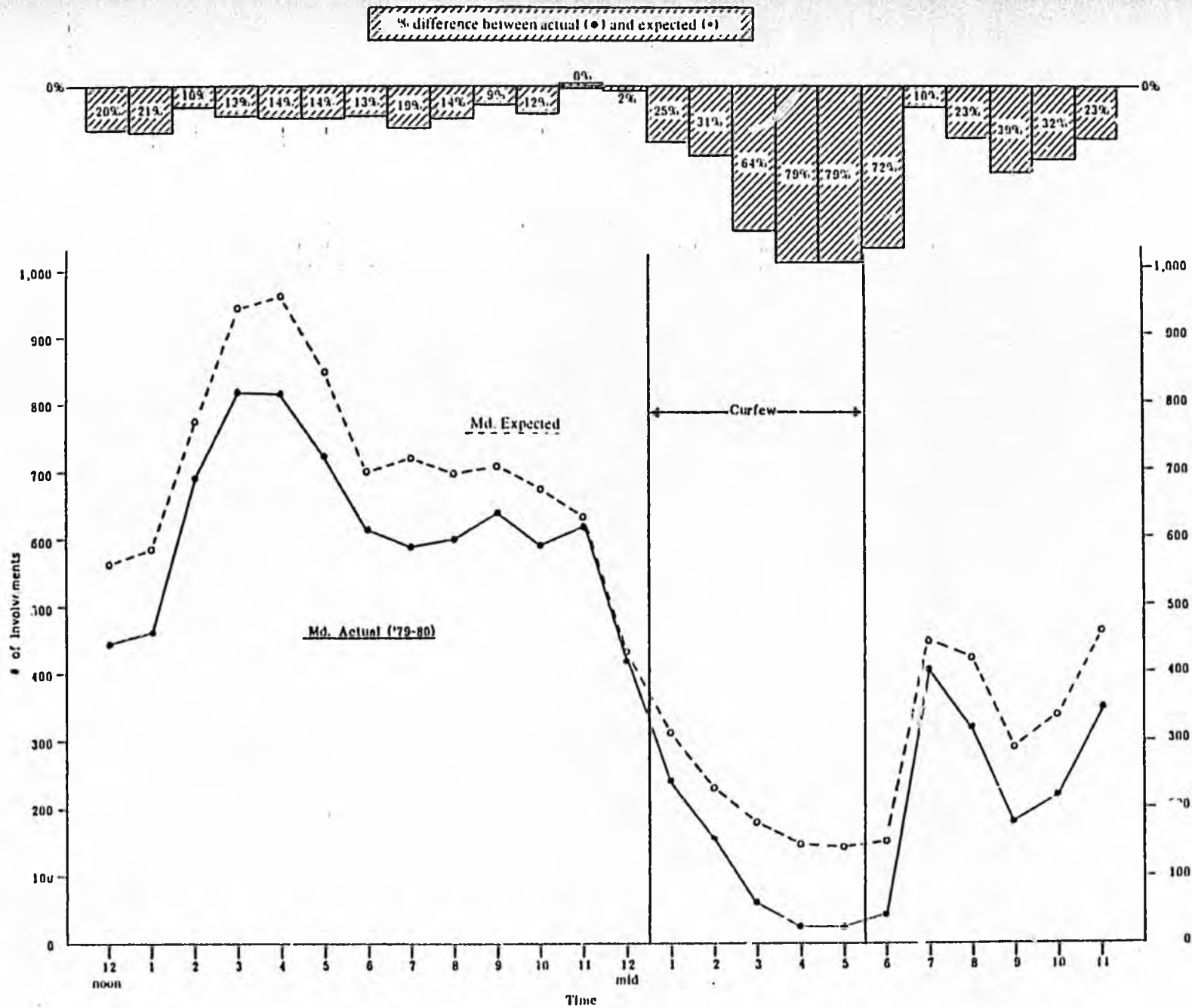


Figure 3. Actual numbers of crash involvements by hour of day for Maryland 16 year old drivers ('79-80) versus expected numbers based on relationship between Maryland ('79-80) - Maryland ('74-78) 21-24 year olds and numbers of crash involved 16 year old Maryland ('74-78) drivers.

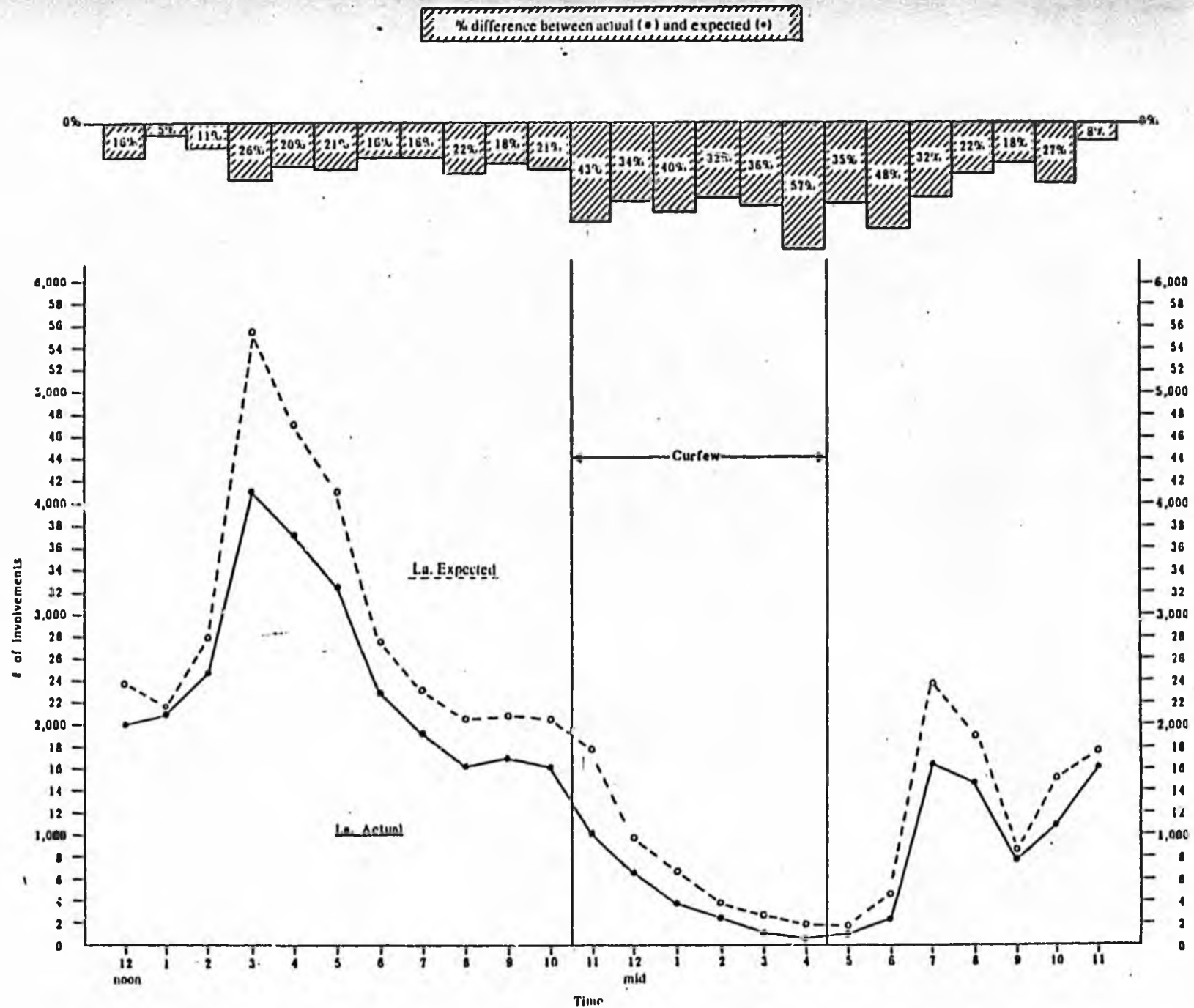


Figure 4. Actual numbers of crash involvements by hour of day for Louisiana 16 year old drivers, versus expected numbers based on relationship between Louisiana-Mississippi 21-24 year olds and numbers of crash involved 16 year old Mississippi drivers (1976-1980).

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STATE OF ALASKA  
FISCAL NOTE

Revision Date                     , 1983

I. REQUEST

Bill/Resolution No.: SB 157  
 Title: Spec. Appro. to DOT&PF for Rds. Upgrd @ Brookside Srv Area, F.N.S.B.  
 Sponsor: St. J. Moss  
 Requestor: Trans. Committee

II. FISCAL DETAIL

Agency Affected: DOT&PF  
 Program Category Affected: Hwys. D&C  
 BRU, Program or Subprogram(s) Affected: Interior Region

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL OPERATING		-0-				
CAPITAL		1,017.0				
REVENUE		-0-				

FUNDING: (Thousands of Dollars)

GENERAL FUND		1,017.0				
FEDERAL FUNDS						
OTHER (Specify Source)						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						
		-0-				

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

Offsetting funds not identified in bill.

IV. ANALYSIS: Attach a separate page for any Analysis

Prepared By: Dave Truax Phone: 479-4281  
 Division: Planning & Programming Date: 3/14/83  
 Approved by Commissioner: [Signature] Date: 3/15/83  
 Department: Standards and Statewide Programs, DOT&PF

Distribution:

- Original to Legislative Finance
- Copy to Office of Management and Budget (for Legislature introduced bills)
- Copy to Department (for Governor introduced bills)
- Copy to Sponsor
- Copy to Requestor (if different from Sponsor)

ATTACHMENT TO FISCAL NOTE FOR SB 157

IV ANALYSIS

Funding would provide for widening a total of 3.08 miles of roads in the Brookside service area to 18' wide gravel surfaces. Work would also include multi-plate pipe at Badger Slough, additional drainage as required, and some realignment work to place existing sections of road within platted right-of-way.

It is assumed that maintenance of these roads would continue to be borne by the service area.

# Alaska State Legislature

SENATOR  
H. PAPPY MOSS  
P.O. BOX 182  
DELTA JUNCTION, ALASKA 99737  
(907) 895-4384



WHILE IN JUNEAU  
POUCH V  
JUNEAU, ALASKA  
99811  
(907) 465-4921

## State Senate

### MEMORANDUM

Date: March 14, 1983

Subject: Attached Back-up for SB 157

To: All Committee Members  
Senate Transportation Committee

From: H. Pappy Moss, Chairman  
Senate Transportation Committee *HPM*

This appropriation request is for the Brookside Service Area which is made up of two subdivisions; the Brookside Subdivision and the East Beaver Subdivision.

The Brookside Subdivision is a relatively new subdivision, requested by the North Star Borough when it sought service area status to incorporate with an older subdivision, the East Beaver Subdivision. The East Beaver Subdivision was developed from an old homestead but divided from the remaining original subdivision by the new Richardson Highway. This money appropriation will be used to bring the roads of the East Beaver Subdivision up to safety standards. At the time East Beaver was developed, the roads were not designed for the traffic they are now experiencing. As an example, the roads go around natural obstructions, such as trees. In addition, when the new Richardson came through, the normal access to many of the streets in East Beaver was cut off. With increased density, these roads have become a hazard since emergency vehicles, such as large modern fire trucks, can not negotiate the narrow twisting roads.

The Brookside Service Area seeks a direct appropriation because they have difficulty receiving a priority position with the North Star Borough since they are located well outside of the city of Fairbanks. In addition, directly across the new Richardson Highway the City of North Pole competes with the Brookside Service Area for funding requests from the North Star Borough. Consequently, because the City of North Pole represents a distinct political subdivision, the Brookside Service Area generally goes unnoticed. This hold true for both general appropriation money and money allocated to the North Star Borough through the Local Service Roads and Trails program.

The money in this appropriation request would be used to survey, repair, widen and gravel roads in the East Beaver Subdivision to meet minimum standards for fire protection and general safety. This is not a request for paving of highways; it is a request to bring an existing 2.2 miles of roads up to minimum safety standards. Future maintenance of the improved roads would be paid by households in the service area.

BROOKSIDE SERVICE AREA  
P. O. Box 55622  
North Pole, Alaska 99705

December 14, 1982

Senator "Pappy" Moss  
Representative Mike Miller

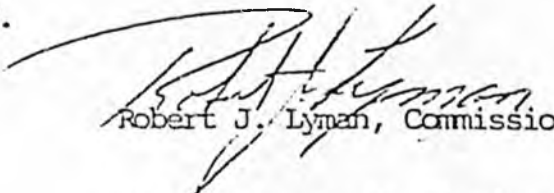
Gentlemen

On behalf of the Brookside Service Area, we are requesting grant money in the amount of \$250,000.00 to repair, upgrade and maintain the roads in our service area. We also need an access road from Homestead Way to the Richardson Four-Lane Highway, either directly or via a frontage road.

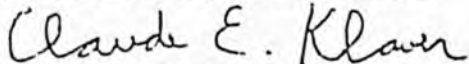
Brookside Service Area now includes Brookside Subdivision, a portion of Beaver Subdivision, and East Beaver Subdivision. When the Richardson Four Lane was constructed it bisected Beaver Subdivision. The platted road system became impractical after this division and there has been no road maintenance in Beaver Subdivision, and very little on Outside Boulevard which runs through East Beaver and Beaver on into Brookside.

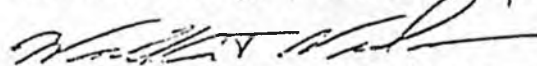
The roads in Beaver Subdivision are in dire need of surveying, repairing, widening and graveling to meet minimum standards for fire protection and general safety. These roads must be properly maintained in order for school bus service to be continued. Surveying is essential as existing roads do not conform to platted roads.

Your assistance in obtaining a grant to make these improvements in our road system will be greatly appreciated.

  
Robert J. Lyman, Commissioner

Claude Klaver, Commissioner

  
Louis D. Gazay, Commissioner

  
Walter T. Nielsen, Commissioner

  
Evelyn Melville, Commissioner

Copy of Brookside Service  
area plat enclosed



BROOKSIDE SERVICE AREA  
P. O. Box 55622  
North Pole, Alaska 99705

SIC Box 80630-C  
Fair 99701

December 14, 1982

Senator "Pappy" Moss  
Representative Mike Miller

*Sub-division Roads  
Low priority - Mayor of North Pole*

Gentlemen

On behalf of the Brookside Service Area, we are requesting grant money in the amount of \$250,000.00 to repair, upgrade and maintain the roads in our service area. We also need an access road from Homestead Way to the Richardson Four-Lane Highway, either directly or via a frontage road.

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488-6076

*Robert J. Lyman*  
Robert J. Lyman, Commissioner

488-6391

Claude Klaver, Commissioner

488-2593

*Claude E. Klaver*  
Louis D. Gazay, Commissioner

Copy of Brookside Service  
area plat enclosed

488-6952

*Walter T. Nielsen*  
Walter T. Nielsen, Commissioner

488-2679

*Evolyn Melville*  
Evolyn Melville, Commissioner



## Brookside

\* Is this a service area

- if so what mill rate

bet

\* Frontage Road Study, Laurance Rd  
and Badger Rd.  
Fairbanks University Study.

Write letter to each person listed  
that we are investigating / LSKT  
filing which may be used for this  
type of problem.

\* Bill so + so + we will work  
on it. perhaps we can  
divert some of it to them.

Bob Lyman - 488-2271

Denis Holthe - Borough engineer gave  
figures to Bob Lyman  
after

\* Beaver subdivision was split

\* outside North pole boundaries.

\* need to get emergency vehicle in

1949-50 subdivision which had roads  
around trees. Then Highways came through

\* no pavement only surveyed & gravel

2 mills

100,000 per mile  
2.2 miles

\* — raise telephone lines

Very old sub

Beaver is incorporated into  
Brookside at the ~~the~~ request  
of borough with its old roads

S B

163

SB 163 TITLE & SPONSOR SUMMARY . 10:58 6/27/83 PAGE 1 OF

AMENDED TITLE:

AN ACT RELATING TO THE USE OF CHILD SAFETY DEVICES IN MOTOR  
VEHICLES;  
AND PROVIDING FOR AN EFFECTIVE DATE

PRIME SPONSOR: FISCHER, V.

CO-SPONSORS: MOSS, JOSEPHSON, STURGULEWSKI, RODEY.

CURRENT STATUS: 5/03/83 IN (S) RULES

SB 163 SENATE ACTION

10:58 6/27/83 PAGE 2 OF

DATE SEQ PAGE

LEGISLATIVE ACTION

03/02/83 01 0339

FIRST READING -- COMMITTEE REPORTS

04/22/82 02 0732

TRAN -- CS01, NR03

05/03/83 03 0977

JUD -- TRAN CS01, NR03

RULES

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"An Act relating to the use of child safety devices in motor vehicles; and providing for an effective date."

Background:

More Alaskan children are killed or injured in car accidents than any other single disease or type of accident. The Alaskan accidental mortality rate is 105% higher than the rest of the United States; and 40% of these deaths are due to car accidents. National statistics have shown that the majority of deaths and injuries to children resulting from car accidents could be prevented if parents would "buckle up" their children.

Position:

The Department believes that the protection afforded children under this bill is weakened by excluding taxicabs and commercial vehicles. Taxicabs are used primarily for short city driving. Most injuries to children in cars occur in short stop-and-go driving.

Since the focus of this law is to encourage utilization of approved child restraints, the Department recommends that there be a designated minimum fine; and that the fine be sufficiently high enough to encourage violators to purchase a car seat rather than pay the fine.

In addition, the Department believes that this Bill will be enhanced if support is provided for community education programs and car seat loaner programs. Community education programs are important to insure that citizens understand the benefit of child passenger restraints. This support could be ensured by designating a State agency such as the Office of Highway Safety of the Division of Public Health to be responsible for the preparation and dissemination of information regarding child passenger restraints.

Assisting communities in starting car seat loaner programs could be accomplished by providing seed money to those communities without existing loaner programs. Since most of the larger communities (Anchorage, Fairbanks, Juneau, Sitka) currently have loaner programs, seed money would only need to be available for smaller communities that have extensive street systems or that are on the highway system.

Recommended By:

E. S. Rabeau  
E. S. Rabeau, M.D., Director  
Division of Public Health

Date:

May 1, 1983

Approved By:

for John R. Smith  
Robert London Smith, Ph.D.,  
Commissioner, Department of  
Health & Social Services

Date:

May 6, 1983

STATE OF ALASKA  
FISCAL NOTE

Revision Date \_\_\_\_\_, 1983

I. REQUEST

Bill/Resolution No.: CSSB 163 (Transportation)  
 Title: Child safety devices in motor vehicles  
 Sponsor: Sen. Fischer, et al  
 Requestor: Senate Transportation Comm.

II. FISCAL DETAIL

Agency Affected: Health & Social Services  
 Program Category Affected: Health  
 BRU, Program of Subprogram(s) Affected: \_\_\_\_\_

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING	0	0	0	0	0	0
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LANDS & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER (Specify Source)	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

IV. ANALYSIS: Attach a separate page for <sup>any Analysis</sup> ~~any Analysis~~

Prepared By: Vernellia Randall  
 Division: Public Health

Phone: 465-3100  
 Date: 5-2-83

Approved by Commissioner: John R. G...  
 Department: Health and Social Service

Date: 5/6/83

Distribution:

- Original to Legislative Finance
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- Copy to Department (for Governor introduced bills)
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3/8/83

STATE OF ALASKA  
FISCAL NOTE

Revision Date \_\_\_\_\_, 1983

I. REQUEST

Bill/Resolution No.: SB 163  
 Title: Use of Child Restraints  
 Sponsor: Sen. V. Fischer  
 Requestor: Sen. Transportation

II. FISCAL DETAIL

Agency Affected: Public Safety  
 Program Category Affected: Life & Prop Prote  
 BRU, Program of Subprogram(s) Affected: Highway Safety Planning Agency

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
<b>OPERATING</b>						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
<b>TOTAL OPERATING</b>		-0-	-0-	-0-	-0-	-0-
<b>CAPITAL</b>						
<b>REVENUE</b>						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER (Specify Source)						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

IV. ANALYSIS: Attach a separate page for any Analysis No Fiscal Impact Anticipated

Prepared By: Paul Conger Phone: 465-4338  
 Division: Administrative Services Date: 3/16/83  
 Approved by Commissioner: [Signature] Date: 3/23/83  
 Department: Public Safety

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3/2/83

# Alaska State Legislature

SENATOR  
H. PAPPY MOSS  
PO BOX 182  
DELTA JUNCTION, ALASKA 99737  
(907) 895-1384



WHILE IN JUNEAU  
POUCH V  
JUNEAU, ALASKA  
99811  
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## State Senate

### MEMORANDUM

Date: April 20, 1983

Subject: Back-up for April 21, 1983 Committee Meeting

To: All Committee Members  
Senate Transportation Committee

From: Senator H. Pappy Moss, Chairman  
Senate Transportation Committee. *APM*

As you know, SB 10, "An Act relating to the Alaska Railroad; and providing for an effective date", is scheduled for our Thursday, April 21, meeting. The purpose for this meeting is to provide a forum for a discussion on the status of the transfer. In this regard, Mr. Mark Hickey, DOT/PF, will be on hand to brief the committee on the current status.

In addition, CSSB 163, "An act relating to the use of child safety devices in motor vehicles; and providing for an effective date", will be reconsidered. A committee substitute has been drafted and a copy of that draft is attached for your consideration.



## Senator Vic Fischer

Alaska State Legislature  
Pouch V • Juneau, Alaska 99811 • (907) 465-4954

March 31, 1983

To: Russ Josephson  
LAA Legal Services

From: Ginger Baim, Aide to  
Senator Vic Fischer

Re: Senate Transportation committee substitute (SB 163)  
drafting request

After hearing testimony on SB 163 before the Senate Transportation committee last week, it was decided that I should work out a committee substitute with the transportation committee aide, and staff members from Senator Faiks and Representative Clocksin's office to address problems and issues raised during the hearing.

Changes that should be incorporated in the committee substitute include:

1. Line 12, after vehicle, strike "other than an emergency vehicle or a bus".
2. Add a section that says (1) and (2) do not apply if:
  - the motor vehicle being driven is a mass transit vehicle, school bus, taxi cab or other commercial vehicle.
  - motor vehicle is designed for off highway use.
  - all passenger seats equipped with seatbelts are occupied by passengers required to be restrained under this act.\*
3. Add a section in the appropriate place with the following language: "The commissioner of public safety may exempt a child or class of children from the requirements of this section if the Commissioner of Public Safety determines that the use of the child restraint system required under (a) of this section is impractical because of physical unfitness or medical problem. The commissioner of Public Safety may specify alternate means of protection for children exempted under this subsection.

4. Change (b) to read "A person convicted of a violation of (a) of this section is guilty of an infraction". (provide option for forfeiture of bail - see traffic forfeiture bail sections.)

5. (c) should be changed so that the infraction is treated in the same manner as an equipment violation. This section should require that dismissal of the citation, under equipment violation provisions, can only be applied to the first infraction. In addition, the section should provide for proof of purchase or acquisition and installation of the device.

6. CSSB 163 should contain language that prevents or penalizes persons who have removed passenger seats or restraining devices for the purposes of avoiding the provisions of this act. The committee recognizes that some Alaskans remove passenger seats in their vehicles to prepare them for "multiple use". (i.e. removing seats in a van so that it can double as a pick-up truck). It is not the intention of the committee to prevent or penalize citizens for doing this. It is, however, their intention that vehicle operators should be prevented from removing seatbelts from passengers seats to avoid prosecution under this act. I leave it to your discretion in developing language to deal with this problem.

Please call me at 4554, should you have any questions in preparing this draft.

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\* We have been unable to locate federal laws or regulations that require seat belts for each passenger seat. The federal regulations we do have appear to require seat belts for only the driver and the front passenger seat. It was the decision of the committee that SB 163 should not require installation of seat belts in addition to those required for passenger cars under existing state and federal law.

Therefore, SB 163 should require that all available seatbelts or restraining devices (other than the drivers seat) must be occupied by children before they are occupied by adults.

cc: Jan Rice, Rep. Clocksin's office  
Sandy Stone, Sen. Faiks' office  
Clyde Stoltzfus, Senate Transportation Committee  
David Hawes, DOTPF

# American Academy of Pediatrics



In support of Senate Bill 163  
and House Bill 262

## WHY DOES ALASKA NEED TOUGH

### CHILD PASSENGER SAFETY LEGISLATION?

#### Alaska Chapter

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1. THE GREATEST KILLER of KIDS is the CAR/TRUCK
  - a. More children are killed by motor vehicles than by the next two greatest killers combined--more than birth defects, congenital heart lesions, brain malformations, leukemia, cancer, etc. together.
  - b. Children under age 6 are PHYSICALLY more susceptible to HEAD INJURY. Twenty-five percent of children's weight is in their head (compared to 9 percent for adult). When the vehicle slows suddenly, the child is thrown HEADFIRST into the dashboard like an arrow. The child's SKULL is more FRAGILE, and BRAIN DAMAGE occurs more easily.
2. WOULD INTENSE EDUCATION ACHIEVE GOOD RESULTS?
  - a. No. Several other states have spent hundreds of thousands of dollars on TV, newspaper, pediatric office teaching, etc. with NO MEASURABLE DIFFERENCE IN USAGE or death rate, because young people (parents) naively believe accidents always happen only to other people.

### 3. WOULD A TOUGH LAW INCREASE USAGE and SAVE LIVES?

	<u>Pre-Law</u>	<u>With Law</u>
<u>Yes.</u> Massachusetts Usage:	14%	70%

	<u>Pre-Law</u>	<u>With Law</u>
<u>Yes.</u> Tennessee:	12 deaths/year	1 death/year

Yes. Washington: Death rate over 10 years and 39,600 accidents is 13 times greater for children riding loose than restrained.

*Clinton B Lillibridge MD*