CHAPTER ONE - ISSUES AND EXISTING CONDITIONS

The following information is added to Chapter One of the original Master Plan.

Historical Background

In December of 1992, the Town of Kearny completed the first phase construction to the airport. The first phase involved the widening of the runway to 60 feet and paving of the existing runway length of 3,000 feet. During the design phase, it was determined that a 404 permit would be required to extend it to 3,400 feet in length. A concern of scheduling for specific improvements was raised by ADOT due to the minimal length and existing obstructions. The Town of Kearny developed a phasing plan for continued airport development and obstruction removal which satisfied the concerns of ADOT and funding was continued. The phasing of construction was proposed as follows:

Phase II 1992-1993

Preapplication/application 404 permit.
Relocate two hangers and mobile home.
Install and relocate necessary utilities.
Construct paved apron for 10 tie-downs.
Relocate effluent holding pond.
Relocate/pave access road to north boundary.
Minor fencing.

Phase III 1993-1994

Extend, pave and stripe runway to 3,400 feet.
Relocate runup areas beyond primary surface area on north side of the runway.
Install blast fence for west runup area.
Relocate lake access road.
Runway MIRL and security lighting.
Segmented circle, signal beacon and wind cone.
Minor fencing.

Phase IV 1994-1995

Modify hanger for administration office.
Install utilities and fire protection.
Expand apron with 6 additional tetanies.

In January, 1993 flooding destroyed 1,500-1,800 feet of the newly upgraded runway. Additionally, extensive damage occurred to the shoulders of the remaining runway, and both runup areas were virtually destroyed.

Including the damage to the airport, damage was sustained to the existing flood protection dike, the dikes of the sewage treatment and holding ponds, recreation lake and campground in the floods of 1993. The Federal Emergency Management Agency (FEMA) and the Arizona Department of Emergency Management Services (ADEM) had reviewed the damage sustained by these floods and determined that $1.02 million dollars would be required to restore all facilities, except the flood dike, to their pre-flood condition. A breakdown of the damage survey reports is shown in Table 1.

Shortly after the flood water had receded, the Town contracted with the Soils Conservation Service to restore the existing flood protection dike which relocated the dike at the east end of the runway. The dike at its current height and location restricts the usable runway length and will require the threshold to be displaced 200 feet to meet FAA safety requirements. Therefore, only 2,800 feet of usable length would be available for landing from either direction on the runway. The takeoff length of 3,000 feet would not change. This encroachment provides a substandard length for a Basic Utility - Stage I Airport.

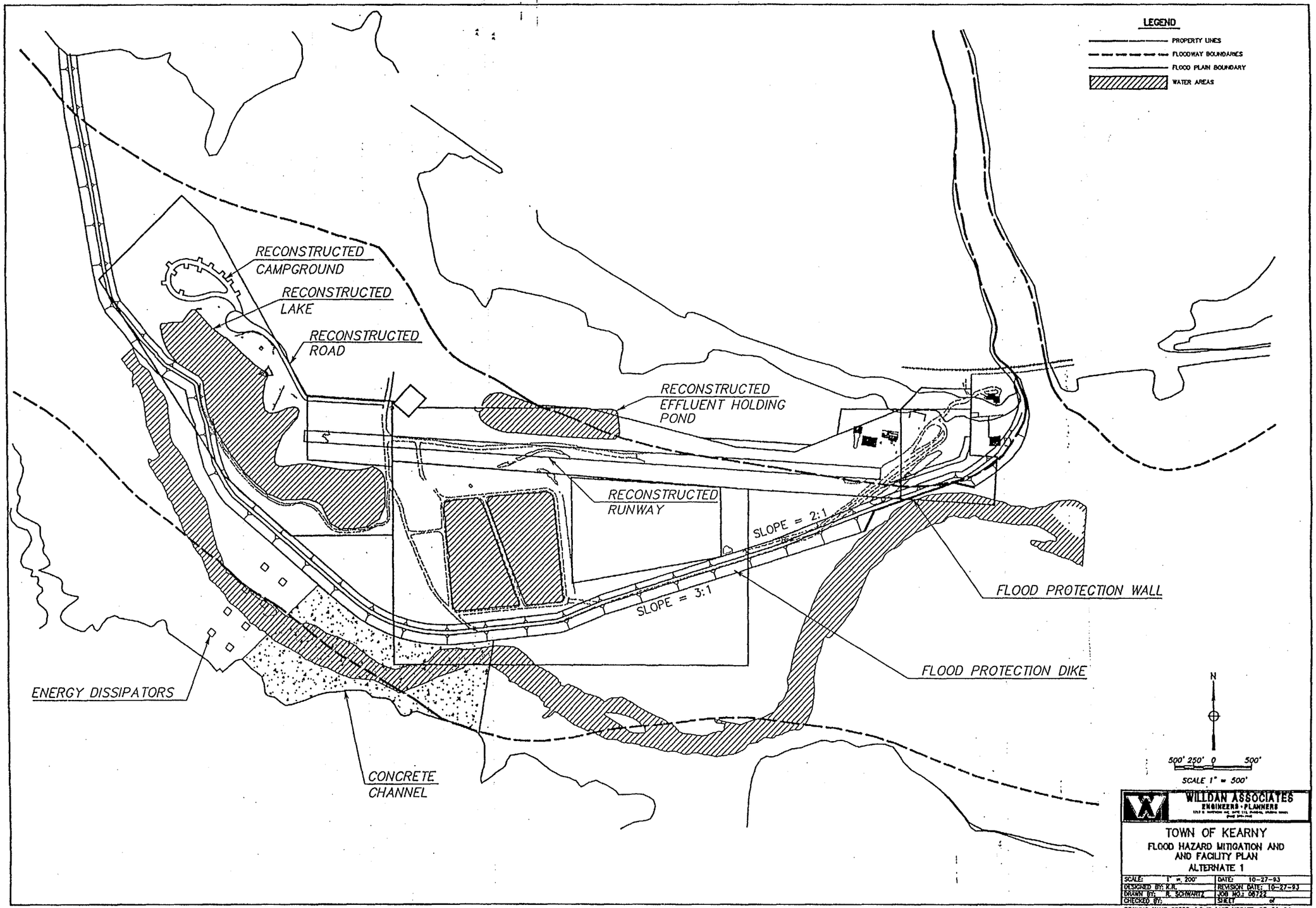
With the encroachment of the dike into the runway clear zone and proposed extension area, concern was expressed by the Town, ADOT and FEMA as to the process of reconstruction of the Town facilities. FEMA, in conjunction with the Arizona Department of Transportation, agreed to jointly fund a report which would analyze the existing facilities and propose the methods for restoration which would meet pre-flood conditions and current regulation requirements. Additionally, the report was required to provide flood protection alternatives for the site.

The Flood Hazard Mitigation and Facility Plan was prepared by Willdan Associates in March of 1994 and outlined three alternatives for reconstruction. These alternatives and preliminary cost estimates are attached. Due to the extensive nature of construction within the facility site, it was determined that an environmental assessment was necessary to clear the site of environmental concerns. The Environmental Assessment was prepared by the Federal Emergency Management. Both documents recommended Alternative Three as the preferred alternative. Design has begun on this alternative, and the revision to the Master Plan is considered as a part of the reconstruction.

TABLE 1

KEARNY FEMA FUNDS
DAMAGE SURVEY REPORT BREAKDOWN

DEBRIS REMOVAL FROM CAMPGROUND				
ABC	CY	311	$14.40	$4,478.40
DEBRIS	CY	36111	$2.65	$95,694.15
			TOTAL	$100,172.55
REPAIR WATER TREATMENT POND #1 AND 2				
PUMP HOUSE	SF	140	8	$1,120.00
ELECTRICAL	LS	1	450	$450.00
SPECIAL 6' CHAIN LINK	LF	3520	8	$28,160.00
10' CHAIN LINK GATES	EA	2	370	$740.00
PVC WATER LINE	LF	650	3	$1,950.00
SEWER PIPE	LF	660	21	$13,860.00
MATERIALS	LS	1	3976	$3,976.00
SUPPLIES	LS	1	4828	$4,828.00
DEBRIS	CY	740	1.75	$1,295.00
			TOTAL	$56,379.00
REPAIR WATER TREATMENT POND #3				
DEBRIS	CY	33333	1.75	$58,332.75
FILL	CY	893	15.75	$14,064.75
			TOTAL	$72,397.50
REPAIR ACCESS ROAD				
AC 2" DEPTH	TON	425	44	$18,700.00
ABC	CY	442	14.4	$6,364.80
DEBRIS	CY	6637	1.75	$11,614.75
			TOTAL	$36,679.55
REPAIR AND CLEANOUT LAKE				
DEBRIS	CY	232320	1.75	$406,560.00
FILL	CY	4100	3.95	$16,195.00
AERATOR	LS	1	3527	$3,527.00
SPECIAL FISH	LS	1	1579	$1,579.00
LAKE LINER	CY	3327	20	$66,540.00
BRIDGE REPAIR	LS	1	500	$500.00
PVC. DRAIN	LF	200	3	$600.00
LANDSCAPING REPAIR	LS	1	0	$0.00
		TOTAL		$495,501.00
RUNWAY RECONSTRUCTION				
AC 2"	TON	2512	44	$110,528.00
PRIME COAT	TON	39	228	$8,892.00
6" ABC	CY	2630	14.4	$37,872.00
4 STRAND BARB FENCE	LF	5412	3	$16,236.00
24' DOUBLE CHAIN LINK FENCE	EA	1	1100	$1,100.00
HERBICIDE	LS	1	1000	$1,000.00
PAINTING	LS	1	2500	$2,500.00
DEBRIS	CY	32410	1.75	$56,717.50
ENGINEERING AND INSPECTION	LS	1	19300	$19,300.00
		TOTAL		$254,145.50
		DAMAGE SURVEY REPORT TOTAL		$1,015,275.10



WILLDAN ASSOCIATES
ENGINEERS • PLANNERS

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND AND FACILITY PLAN
ALTERNATE 1

SCALE: 1" = 200'	DATE: 10-27-93
DESIGNED BY: K.R.	REVISION DATE: 10-27-93
DRAWN BY: R. SCHWARTZ	JOB NO.: 08722
CHECKED BY:	SHEET of

DRAWING NAME 8722C-1.DWG LAST UPDATE 03-01-94

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 1 - RECONSTRUCTION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
WASTEWATER TREATMENT PLANT				
1. RECONSTRUCTION OF EFFLUENT HOLDING POND				
Debris Removal	CY	12,000	$1.75	$21,000
Dike repair	CY	1,000	$5.00	$5,000
Item Total Construction Costs				**$26,000**
2. ENGINEERING FEES				
Design				$5,000
Construction Administration				$2,600
Item Total Engineering Fees				**$7,600**
3. CONTINGENCY (15%)				**$5,040**
Item Total Costs				**$38,640**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 1 - RECONSTRUCTION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
LAKE, CAMPGROUND, SITE GRADING				
1.a. DEBRIS REMOVAL FROM CAMPGROUND				
ABC	CY	311	$16.00	$4,976
Debris	CY	36,111	$1.75	$63,194
Construction Costs:				*$68,000*
1.b. REPAIR ACCESS ROAD				
AC 2" Depth	TON	425	$50.00	$21,250
ABC	CY	442	$16.00	$7,072
Debris	CY	6,637	$1.75	$11,615
Construction Costs:				*$40,000*
1.c. REPAIR AND CLEANOUT LAKE				
Excavation	CY	0	$1.75	$0
Debris	CY	73,000	$1.75	$127,750
Fill	CY	1,700	$3.95	$6,715
Aerator	LS	1	$3,527.00	$3,527
Special Fish	LS	1	$1,579.00	$1,579
Lake Liner	CY	3,327	$20.00	$66,540
Bridge Repair	LS	1	$500.00	$500
PVC Drain	LF	200	$3.00	$600
Landscaping Repair	LS	1	$0.00	$0
Abandon Well	LS	0	$5,000.00	$0
New Well	LF	0	$200.00	$0
Construction Costs:				*$207,000*
Item Total Construction Costs				**$315,000**
2. ENGINEERING				
Design				$25,000
Construction Management				$32,000
Item Total Engineering Fees				**$57,000**
3. CONTINGENCY (15%)				**$56,000**
Item Total Costs				**$428,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 1 - RECONSTRUCTION
Cost Estimate

		Units	Quantity	Cost/Unit	Total
AIRPORT					
1.	RUNWAY RECONSTRUCTION				
	Excavation and Embankment	CY	41,000	$4.00	$164,000
	AC 2"	TON	1,670	$45.00	$75,150
	Prime Coat	TON	26	$250.00	$6,500
	6" ABC	CY	3,000	$16.00	$48,000
	Chain Link Fence	LF	5,450	$10.50	$57,225
	24' Double Chain Link Fence	EA	1	$1,250.00	$1,250
	Herbicide	LS	1	$1,200.00	$1,200
	Painting	LS	1	$2,700.00	$2,700
	Access Road	CY	800	$8.00	$6,400
	Item Total Construction Costs				**$362,000**
2.	ENGINEERING FEES				
	Design				$29,000
	Construction Administration				$36,000
	Item Total Engineering Fees				**$65,000**
3.	CONTINGENCY (15%)				**$64,000**
	Item Total Cost				**$491,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 1 - RECONSTRUCTION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
FLOOD PROTECTION				
1. REMOVE FLOOD PROTECTION DIKE				
Construction Flood Protection	LS	1	$50,000.00	$50,000
River Channel Work	SY	220,000	$1.50	$330,000
Concrete River Channel	CY	66,000	$300.00	$19,800,000
Embankment From Off-site	CY	190,000	$5.00	$950,000
Embankment On-site	CY	100,000	$2.00	$200,000
Remove Existing Dike	CY	0	$1.75	$0
Rip Rap	CY	19,500	$25.00	$487,500
Dike Undertoe	CY	13,000	$8.00	$104,000
Retaining Wall	CY	1,500	$300.00	$450,000
Revegetation (Riparian Mix)	AC	10	$2,200.00	$22,000
Item Total Construction Costs				**$22,394,000**
2. ENGINEERING FEES				
Design				$896,000
LOMR Documents				$30,000
404 Permit				$80,000
Construction Administration				$2,239,000
Item Total Engineering Fees				**$3,245,000**
4.c CONTINGENCY (15%)				**$3,846,000**
Item Total Cost				**$29,485,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 1 - RECONSTRUCTION
Cost Estimate

	Units	Quantity	Cost/Unit	Total

TOTAL PROJECT COSTS

Construction Costs

1	Wastewater Treatment Plant	$26,000
2	Lake, Campground	$315,000
3	Airport	$362,000
4	Flood Protection	$22,394,000
	Total Construction Costs	**$23,097,000**

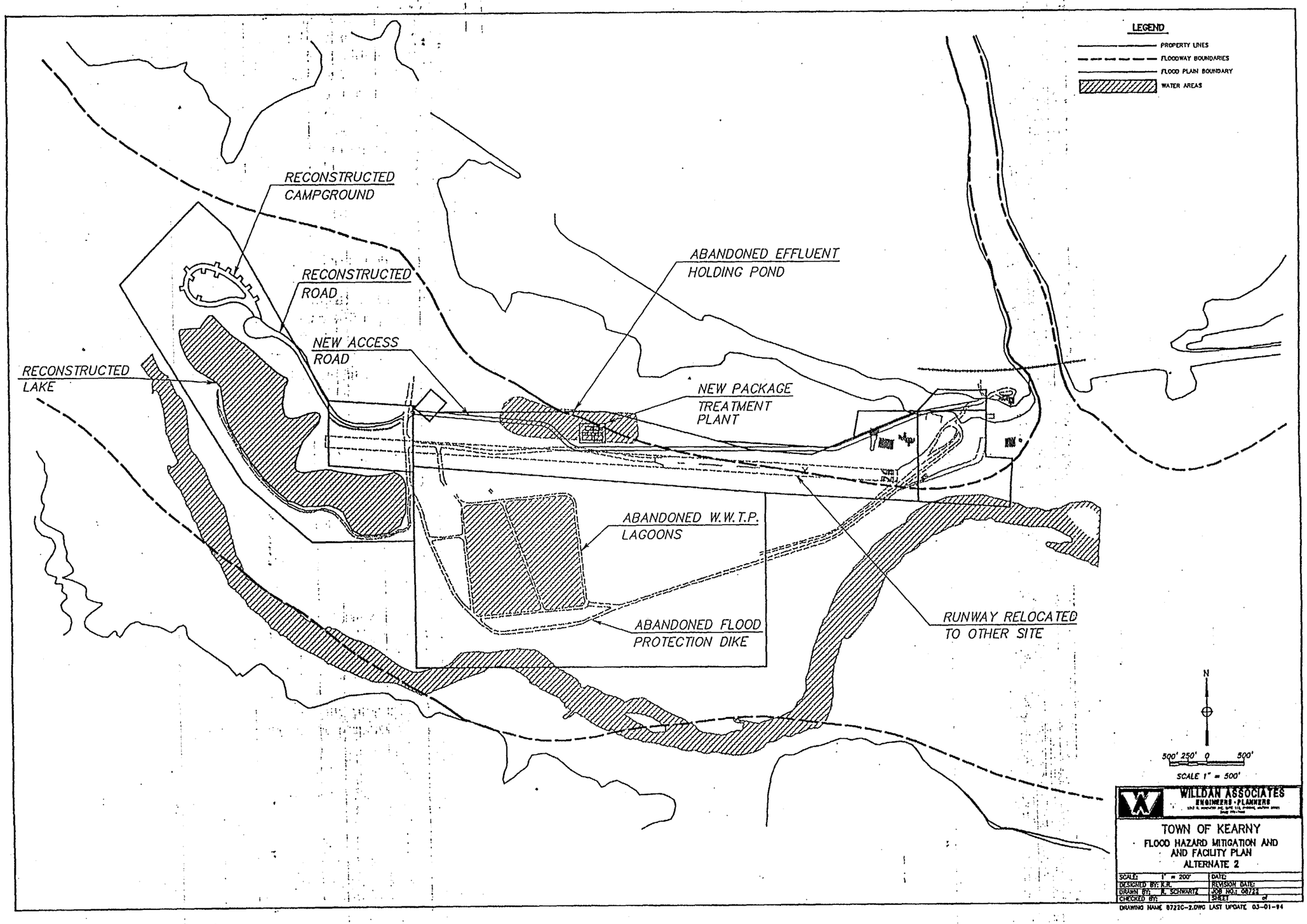
Miscellaneous Costs

Permits	$0
Total Miscellaneous Costs	***$0***

Engineering Fees

Permit Fees	$80,000
LOMR Documents	$30,000
Design Fees	$955,000
Construction Administration Fees	$2,309,600
Total Engineering Fees	**$3,374,600**

Contingency (15%)	**$3,971,040**
Project Total Costs:	**$30,442,640**


LEGEND
PROPERTY LINES
FLOODWAY BOUNDARIES
FLOOD PLAIN BOUNDARY
WATER AREAS
RECONSTRUCTED CAMPGROUND
RECONSTRUCTED ROAD
NEW ACCESS ROAD
RECONSTRUCTED LAKE
ABANDONED EFFLUENT HOLDING POND
NEW PACKAGE TREATMENT PLANT
ABANDONED W.W.T.P. LAGOONS
ABANDONED FLOOD PROTECTION DIKE
RUNWAY RELOCATED TO OTHER SITE
N
500' 250' 0 500'
SCALE 1" = 500'
WILLDAN ASSOCIATES
ENGINEERS · PLANNERS
TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND AND FACILITY PLAN
ALTERNATE 2
SCALE: 1" = 200'
DESIGNED BY: K.R.
DRAWN BY: R. SCHWARTZ
CHECKED BY:
DATE:
REVISION DATE:
JOB NO.: 08722
SHEET of
DRAWING NAME 8722C-2.DWG LAST UPDATE 03-01-94

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 2 - RELOCATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
WASTEWATER TREATMENT PLANT				
1.a AeroMod Extended Aeration Wastewater Treatment Plant				
Primary Treatment				
Fine Screens (1)	EA	3	$14,000	$42,000
Concrete	CY	4	$350	$1,400
Secondary Treatment				
Pkg. Equipment Lump Sum (2)	LS	1	$450,000	$450,000
Concrete Basin Complex	CY	420	$400	$168,040
Tertiary Treatment				
Alum Feed System (1)	LS	1	$13,000	$13,000
Concrete - Pads	CY	2	$350	$648
Disinfection				
Ultraviolet Light (1)	LS	1	$17,000	$17,000
Solids Handling				
Draimad Sludge System (1)	LS	1	$40,000	$40,000
Power, Controls, Instrumentation (10%)	LS	1	$74,000	$74,000
200 KW Emergency Generator Set (1)	LS	1	$41,000	$41,000
Office/Lab Structure	SF	600	$35	$21,000
Odor Control System(s)	LS	1	$40,000	$40,000
Interconnecting Piping (1)	LS	1	$20,000	$20,000
Earthwork/Site Work	CY	2,300	$3.50	$8,050
Plant Construction Costs:				*$936,000*

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 2 - RELOCATION
Cost Estimate

		Units	Quantity	Cost/Unit	Total
1.b.	CLOSURE OF WASTEWATER PONDS 1, 2 & 3				
	Sludge drying and removal	CY	4,000	$3.00	$12,000
	Dike removal	CY	39,000	$1.75	$68,250
	Closure Costs:				*$80,000*
	Item Total Construction Costs				**$1,016,000**
2.	PERMITS				
	NPDES Permit				$4,000
	APP Permit				$7,500
	Construction Permit				$1,000
	Item Total Permit Fees				**$12,500**
3.	ENGINEERING FEES				
	Permit Acquisition				
	NPDES				$4,500
	Aquifer Protection Permit				$10,300
	Item Total Permit Engineering Fees				*$14,800*
	Design				$125,000
	Construction Administration				$95,000
	Item Total Engineering Fees				**$234,800**
1.e	CONTINGENCY (15%)				**$189,000**
	Item Total Costs				**$1,452,300**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 2 - RELOCATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
LAKE, CAMPGROUND, SITE GRADING				
1.a. DEBRIS REMOVAL FROM CAMPGROUND				
ABC	CY	311	$16.00	$4,976
Debris	CY	36,111	$1.75	$63,194
Construction Costs:				*$68,000*
1.b. REPAIR ACCESS ROAD				
AC 2" Depth	TON	425	$50.00	$21,250
ABC	CY	442	$16.00	$7,072
Debris	CY	6,637	$1.75	$11,615
Construction Costs:				*$40,000*
1.c. REPAIR AND CLEANOUT LAKE				
Excavation	CY	0	$1.75	$0
Debris	CY	73,000	$1.75	$127,750
Fill	CY	1,700	$3.95	$6,715
Aerator	LS	1	$3,527.00	$3,527
Special Fish	LS	1	$1,579.00	$1,579
Lake Liner	CY	3,327	$20.00	$66,540
Bridge Repair	LS	1	$500.00	$500
PVC Drain	LF	200	$3.00	$600
Landscaping Repair	LS	1	$0.00	$0
Abandon Well	LS	0	$5,000.00	$0
New Well	LF	0	$200.00	$0
Construction Costs:				*$207,000*
Item Total Construction Costs				**$315,000**
2. ENGINEERING FEES				
Design				$25,000
Construction Management				$31,500
Item Total Engineering Fees				**$56,500**
3. CONTINGENCY (15%)				**$56,000**
Item Total Cost				**$428,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 2 - RELOCATION
Cost Estimate

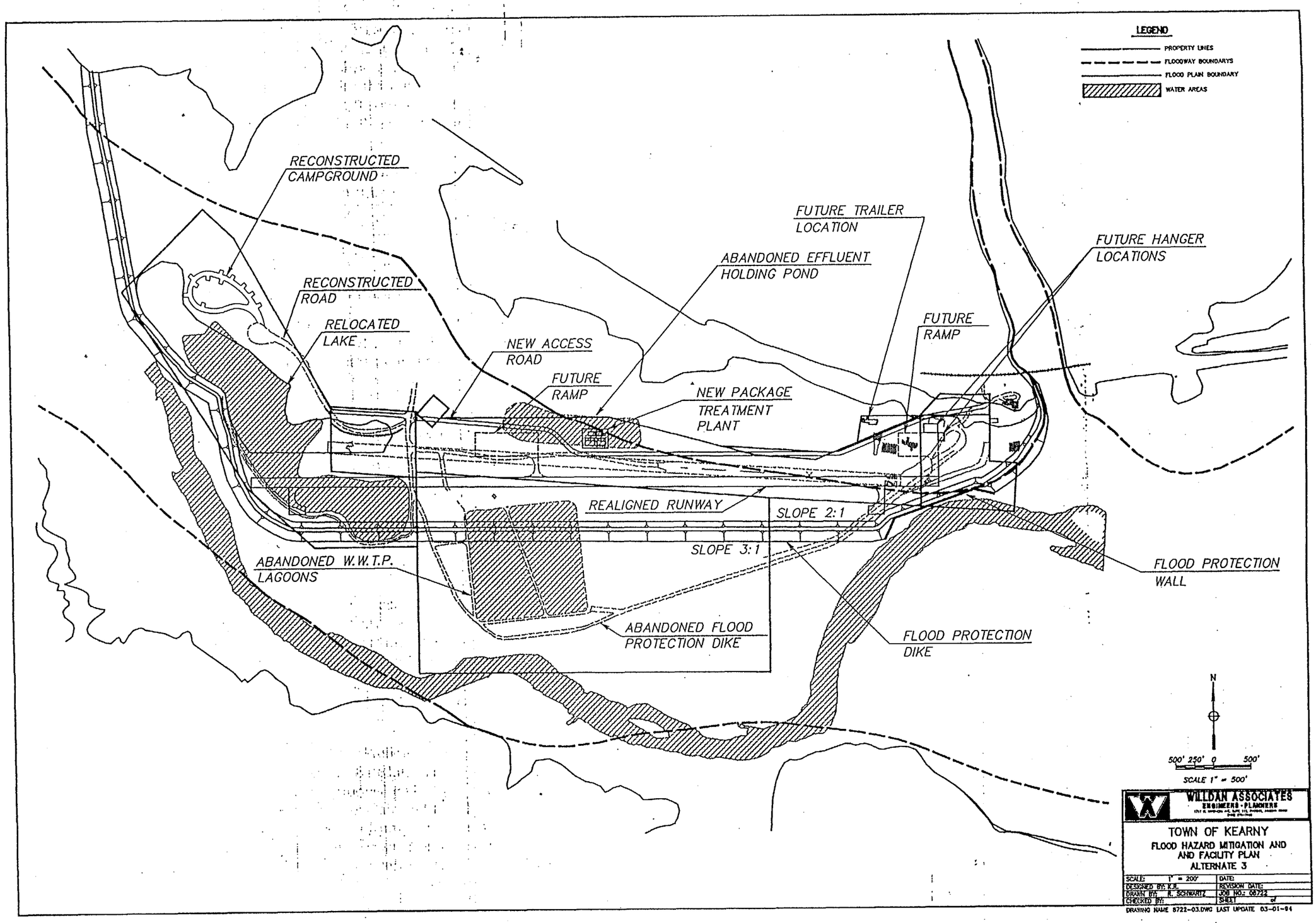
		Units	Quantity	Cost/Unit	Total
AIRPORT					
1.	RUNWAY RECONSTRUCTION				
	Excavation and Embankment	CY	1,500,000	$3.00	$4,500,000
	Culverts	LS	1	$650,000.00	$650,000
	AC 2"	TON	2,512	$45.00	$113,040
	Prime Coat	TON	39	$250.00	$9,750
	6" ABC	CY	3,968	$16.00	$63,488
	Chain Link Fence	LF	5,412	$10.50	$56,826
	24' Double Chain Link Fence	EA	1	$1,250.00	$1,250
	Herbicide	LS	1	$1,200.00	$1,200
	Painting	LS	1	$2,700.00	$2,700
	Access Road	CY	1,200	$8.00	$9,600
	Item Total Construction Costs:				**$5,408,000**
2.	PROPERTY ACQUISITION	AC	40	$10,000.00	**$400,000**
3.	ENGINEERING FEES				
	Environmental Clearance				$20,000
	Revise Airport Master Plan				$10,000
	Design				$433,000
	Construction Administration				$541,000
	Item Total Engineering Fees				**$1,004,000**
4.	CONTINGENCY (15%)				**$1,022,000**
	Item Total Cost:				**$7,834,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 2 - RELOCATION
Cost Estimate

		Units	Quantity	Cost/Unit	Total
FLOOD PROTECTION					
1.	REMOVE FLOOD PROTECTION DIKE				
	Embankment From Off-site	CY	0	$5.00	$0
	Embankment On-site	CY	2,000	$2.00	$4,000
	Remove Existing Dike	CY	40,000	$1.75	$70,000
	Revegetation (Riparian Mix)	AC	10	$2,200.00	$22,000
	Item Total Construction Costs				**$96,000**
4.b	ENGINEERING FEES				
	Design				$8,000
	Construction Administration				$10,000
	Item Total Engineering Fees				**$18,000**
4.c	CONTINGENCY (15%)				**$17,000**
	Item Total Cost				**$131,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 2 - RELOCATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
TOTAL PROJECT COSTS				
Construction Costs				
Wastewater Treatment Plant				$1,016,000
Lake, Campground				$315,000
Airport				$5,408,000
Flood Protection				$96,000
Total Construction Costs				**$6,835,000**
Miscellaneous Costs				
Permits				$12,500
Property Acquisition				$400,000
Total Miscellaneous Costs				**$412,500**
Engineering Fees				
Permit Fees				$14,800
Environmental Clearance				$20,000
Master Plan Fees				$10,000
Design Fees				$591,000
Construction Administration Fees				$677,500
Total Engineering Fees				**$1,313,300**
Contingency (15%)				**$1,284,000**
Project Total Costs:				**$9,844,800**


LEGEND
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FLOOD PLAIN BOUNDARY
WATER AREAS
RECONSTRUCTED CAMPGROUND
RECONSTRUCTED ROAD
RELOCATED LAKE
NEW ACCESS ROAD
FUTURE RAMP
NEW PACKAGE TREATMENT PLANT
FUTURE TRAILER LOCATION
ABANDONED EFFLUENT HOLDING POND
FUTURE RAMP
FUTURE HANGER LOCATIONS
REALIGNED RUNWAY
SLOPE 2:1
SLOPE 3:1
ABANDONED W.W.T.P. LAGOONS
ABANDONED FLOOD PROTECTION DIKE
FLOOD PROTECTION WALL
FLOOD PROTECTION DIKE
N
500' 250' 0 500'
SCALE 1" = 500'
WILLDAN ASSOCIATES
ENGINEERS · PLANNERS
TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND AND FACILITY PLAN
ALTERNATE 3
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DESIGNED BY: K.R.
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TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 3 - RECONFIGURATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
WASTEWATER TREATMENT PLANT				
1.a AeroMod Extended Aeration Wastewater Treatment Plant				
Primary Treatment				
Fine Screens (1)	EA	3	$14,000	$42,000
Concrete	CY	4	$350	$1,400
Secondary Treatment				
Pkg. Equipment Lump Sum (2)	LS	1	$450,000	$450,000
Concrete Basin Complex	CY	420	$400	$168,040
Tertiary Treatment				
Alum Feed System (1)	LS	1	$13,000	$13,000
Concrete - Pads	CY	2	$350	$648
Disinfection				
Ultraviolet Light (1)	LS	1	$17,000	$17,000
Solids Handling				
Draimad Sludge System (1)	LS	1	$40,000	$40,000
Power, Controls, Instrumentation (10%)	LS	1	$74,000	$74,000
200 KW Emergency Generator Set (1)	LS	1	$41,000	$41,000
Office/Lab Structure	SF	600	$35	$21,000
Odor Control System(s)	LS	1	$40,000	$40,000
Interconnecting Piping (1)	LS	1	$20,000	$20,000
Earthwork/Site Work	CY	2,300	$3.50	$8,050
Plant Construction Costs:				*$936,000*

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 3 - RECONFIGURATION
Cost Estimate

		Units	Quantity	Cost/Unit	Total
1.b.	CLOSURE OF WASTEWATER PONDS 1, 2 & 3				
	Sludge drying and removal	CY	4,000	$3.00	$12,000
	Dike removal	CY	39,000	$1.75	$68,250
	Closure Costs:				*$80,000*
	Item Total Construction Costs:				**$1,016,000**
2.	PERMITS				
	NPDES Permit				$4,000
	APP Permit				$7,500
	Reuse Permit				$2,000
	Construction Permit				$1,000
	Item Total Permit Costs				**$14,500**
3.	ENGINEERING FEES				
	Permit Acquisition				
	NPDES				$4,500
	Aquifer Protection Permit				$10,300
	Reuse Permit				$8,000
	Item Total Permit Engineering Fees				*$22,800*
	Design				$165,000
	Construction Administration				$95,000
	Item Total Engineering Fees				**$282,800**
4.	CONTINGENCY (15%)				**$197,000**
	Item Total Costs:				**$1,510,300**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 3 - RECONFIGURATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
LAKE, CAMPGROUND, SITE GRADING				
1.a. DEBRIS REMOVAL FROM CAMPGROUND				
ABC	CY	311	$16.00	$4,976
Debris	CY	36,111	$1.75	$63,194
Construction Costs:				*$68,000*
1.b. REPAIR ACCESS ROAD				
AC 2" Depth	TON	425	$50.00	$21,250
ABC	CY	442	$16.00	$7,072
Debris	CY	6,637	$1.75	$11,615
Construction Costs:				*$40,000*
1.c. REPAIR AND CLEANOUT LAKE				
Excavation	CY	48,000	$1.75	$84,000
Debris	CY	19,200	$1.75	$33,600
Fill	CY	4,100	$4.00	$16,400
Aerator	LS	1	$3,550.00	$3,550
Special Fish	LS	1	$1,600.00	$1,600
Lake Liner	CY	3,327	$20.00	$66,540
Bridge Repair	LS	1	$500.00	$500
PVC Drain	LF	200	$3.00	$600
Landscaping Repair	LS	1	$0.00	$0
Abandon Well	LS	1	$5,000.00	$5,000
New Well	LF	90	$200.00	$18,000
Construction Costs:				*$230,000*
Item Total Construction Costs				**$338,000**
2. ENGINEERING FEES				
Design				$25,000
Construction Management				$34,000
Item Total Engineering Fees				**$59,000**
3. CONTINGENCY (15%)				**$60,000**
Item Total Cost				**$457,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 3 - RECONFIGURATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
AIRPORT				
1. RUNWAY RECONSTRUCTION				
Excavation and Embankment	CY	41,000	$4.00	$164,000
AC 2"	TON	2,550	$45.00	$114,750
Prime Coat	TON	39	$250.00	$9,750
6" ABC	CY	4,000	$16.00	$64,000
Chain Link Fence	LF	5,400	$10.50	$56,700
24' Double Chain Link Fence	EA	1	$1,250.00	$1,250
Herbicide	LS	1	$1,200.00	$1,200
Painting	LS	1	$2,700.00	$2,700
Access Road	CY	3,225	$8.00	$25,800
Item Total Construction Costs				**$440,000**
2. ENGINEERING FEES				
Environmental Clearance				$0
Revise Airport Master Plan				$5,000
Design				$35,000
Construction Administration				$44,000
Item Total Engineering Fees				**$84,000**
3. CONTINGENCY (15%)				**$79,000**
Item Total Cost				**$603,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 3 - RECONFIGURATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
FLOOD PROTECTION				
1. REMOVE FLOOD PROTECTION DIKE				
Embankment From Off-site	CY	240,000	$5.00	$1,200,000
Embankment On-site	CY	100,000	$2.00	$200,000
Remove Existing Dike	CY	40,000	$1.75	$70,000
Rip Rap	CY	19,500	$40.00	$780,000
Dike Undertoe	CY	13,000	$8.00	$104,000
Retaining Wall	CY	1,400	$350.00	$490,000
Revegetation (Riparian Mix)	AC	10	$2,200.00	$22,000
Item Total Construction Costs				**$2,866,000**
2. ENGINEERING FEES				
Design				$60,000
LOMR Documents				$30,000
Construction Administration				$287,000
Item Total Engineering Fees				**$377,000**
3. CONTINGENCY (15%)				**$486,000**
Item Total Cost:				**$3,729,000**

TOWN OF KEARNY
FLOOD HAZARD MITIGATION AND FACILITY PLAN
ALTERNATIVE 3 - RECONFIGURATION
Cost Estimate

	Units	Quantity	Cost/Unit	Total
TOTAL PROJECT COSTS				
Construction Costs				
Wastewater Treatment Plant				$1,016,000
Lake, Campground				$338,000
Airport				$440,000
Flood Protection				$2,866,000
Total Construction Costs				**$4,660,000**
Miscellaneous Costs				
Permits				$14,500
Property Acquisition				$0
Total Miscellaneous Costs				**$14,500**
Engineering Fees				
Permit Fees				$22,800
Environmental Clearance				$0
Master Plan Fees				$5,000
LOMR Documents				$30,000
Design Fees				$285,000
Construction Administration Fees				$460,000
Total Engineering Fees				**$802,800**
Contingency (15%)				**$822,000**
Project Total Costs:				**$6,299,300**