

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND
 PUBLIC FACILITIES
 SOUTHEAST REGION
 DESIGN AND CONSTRUCTION DIVISION

KAKE, ALASKA

KAKE AIRPORT

PROJECT NO. 72049

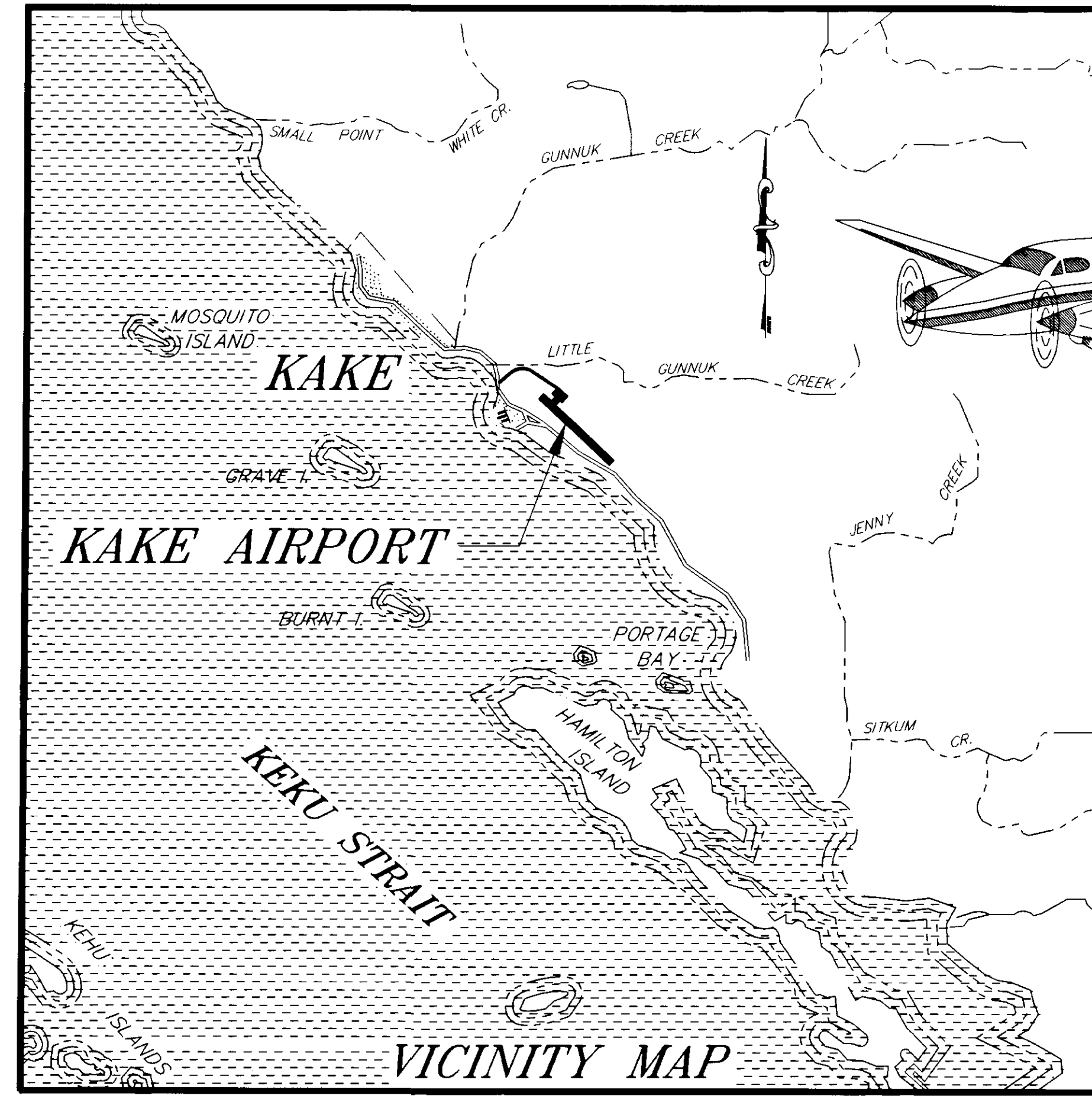
A.I.P. No. 3-02-0398-0597

OBSTRUCTION REMOVAL AND PAPI INSTALLATION

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	ROCK EXCAVATION AREAS & ESTIMATE OF QUANTITIES
4	TIMBER CLEARING AREAS
5	CUTTING LINE LAYOUT TABLES/ FENCE SKIRTING BAR DETAIL
6/E-1	PAPI LAYOUT PLAN
7/E-2	PAPI LAYOUT PLAN

AS BUILT PLANS
 CONTRACTOR: SOUTHCOST INC.
 PROJECT ENGINEER: JIM MAYER
 NOTICE TO PROCEED DATE: 7-23-97
 CONTRACT COMPLETION DATE: 12-15-97
 ACTUAL COMPLETION DATE: 12-2-97

Jim Mayer
 12/1/97

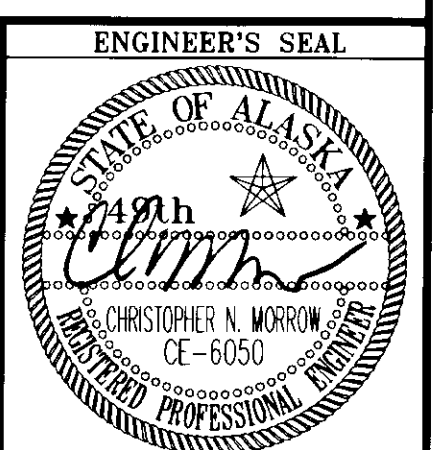


STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND
 PUBLIC FACILITIES
 SOUTHEAST REGION DESIGN SECTION

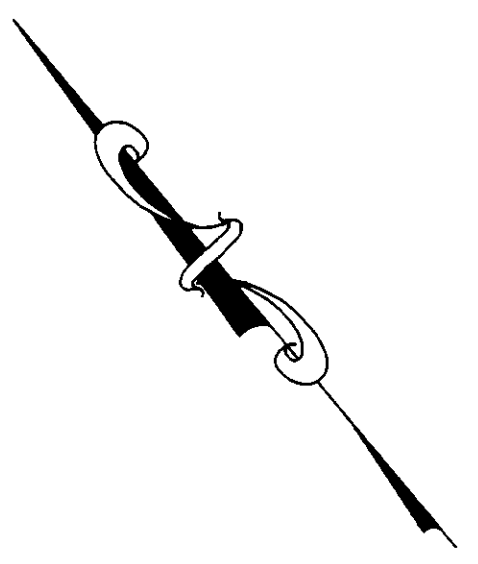
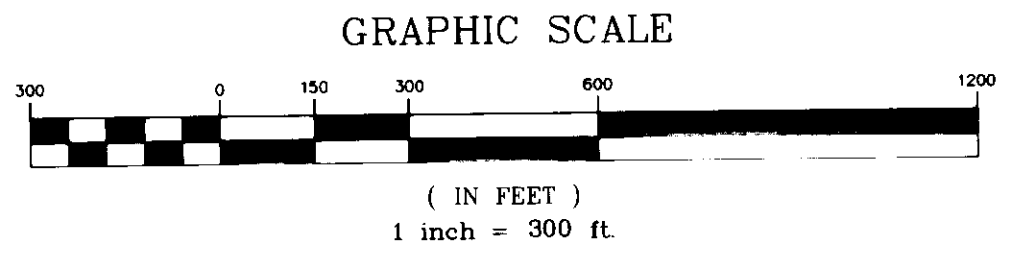
APPROVED *Paul G.* Date 5/23/97
 Regional Preconstruction Engineer

APPROVED *Paul G.* Date 5/23/97
 Director, S.E. Region Design & Construction

PROJECT NUMBER: 72049
DATE: MARCH 1997
SHEET 1 OF 7



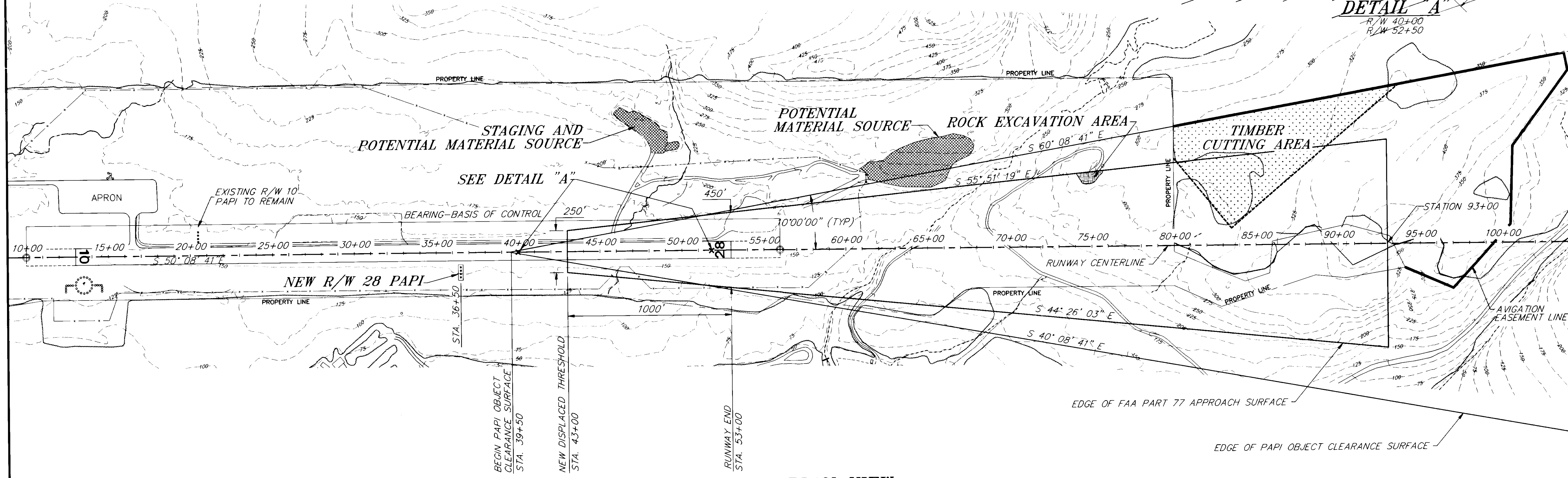
P:\KAKE\72049\DR\7SHEET 1-1



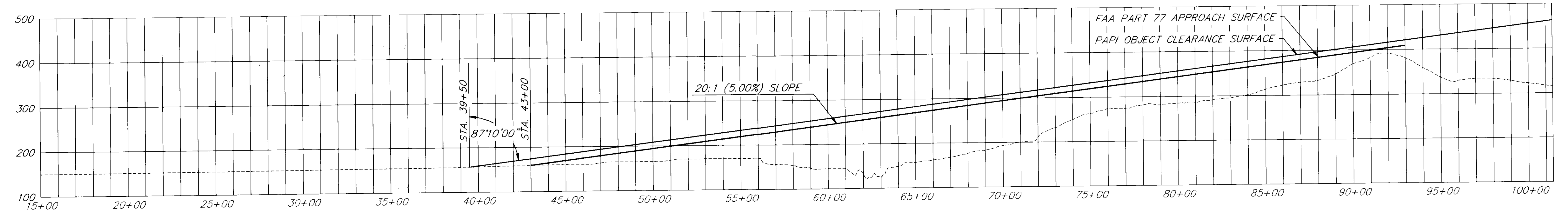
NOT USED

1. TEMPORARY "X" MARKINGS MAY BE CLOTH, WOOD OR PLASTIC SECURELY ANCHORED IN PLACE WITH YELLOW COLORED SAND BAGS "X" MARKINGS SHALL BE YELLOW

DETAIL "A"
R/W 40+00
R/W 52+50



PLAN VIEW



PROFILE VIEW

HORIZONTAL & VERTICAL CONTROL

HORIZONTAL & VERTICAL CONTROL IS BASED ON THE EXISTING CENTERLINE MONUMENT STATION 56+00 ELEV. 171.50 AT THE END OF RUNWAY 28 AND THE EXISTING CENTERLINE MONUMENT STATION 10+00 ELEV. 150.00 AT END OF RUNWAY 10. THE RUNWAY CENTERLINE BEARING IS S 50° 08' 41" E.

PATH:	DATE:	DESCRIPTION OF CHANGE:
P:\KAE\2049\DR\SIIPLN2		

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

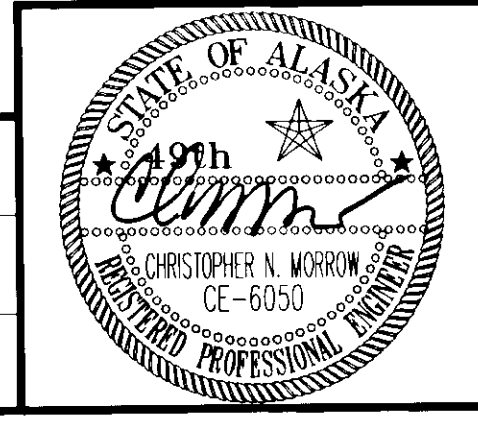
KAKE KAKE AIRPORT OBSTRUCTION REMOVAL
3-02-0398-0597 ~ 72049

SITE PLAN

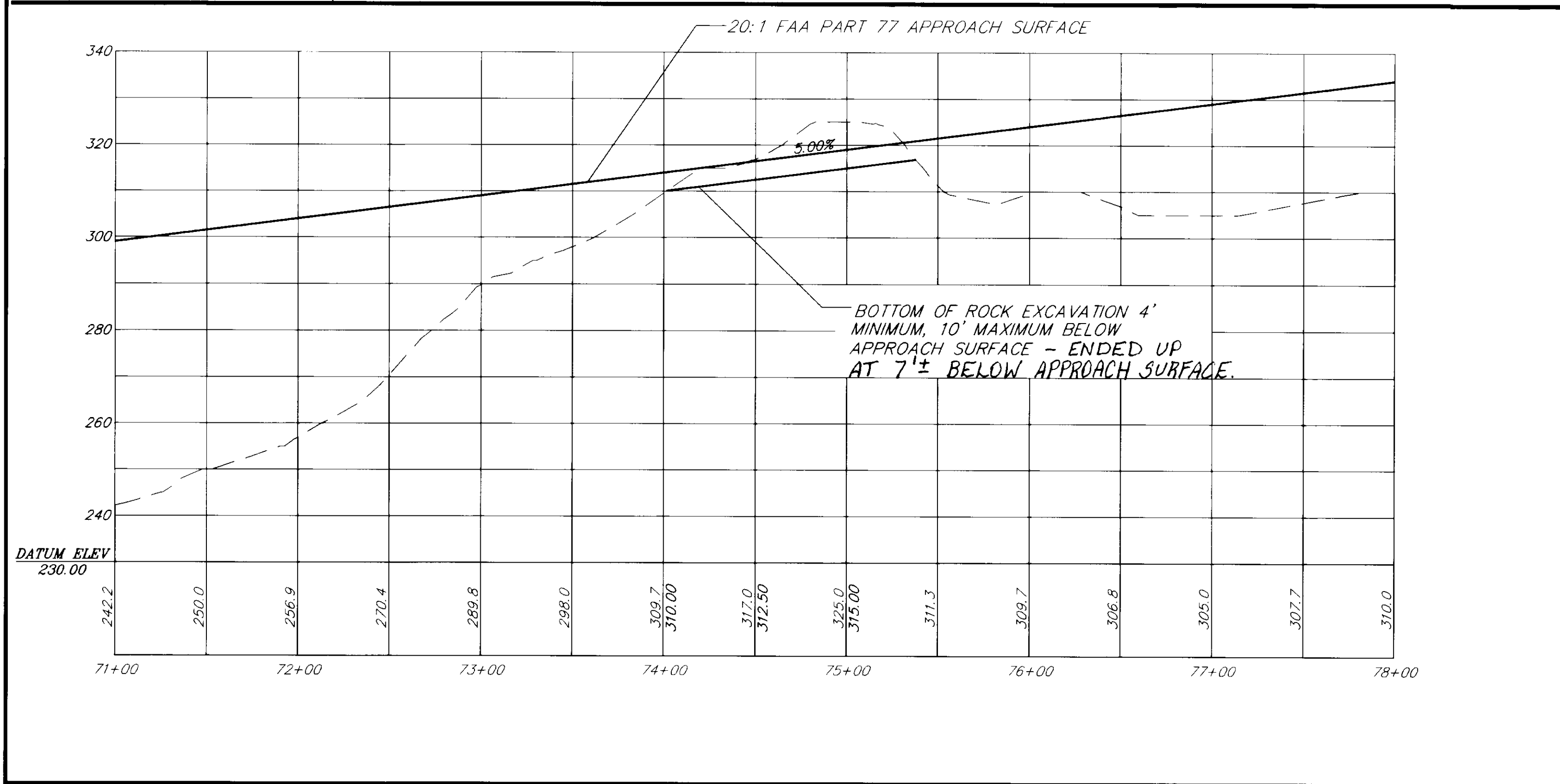
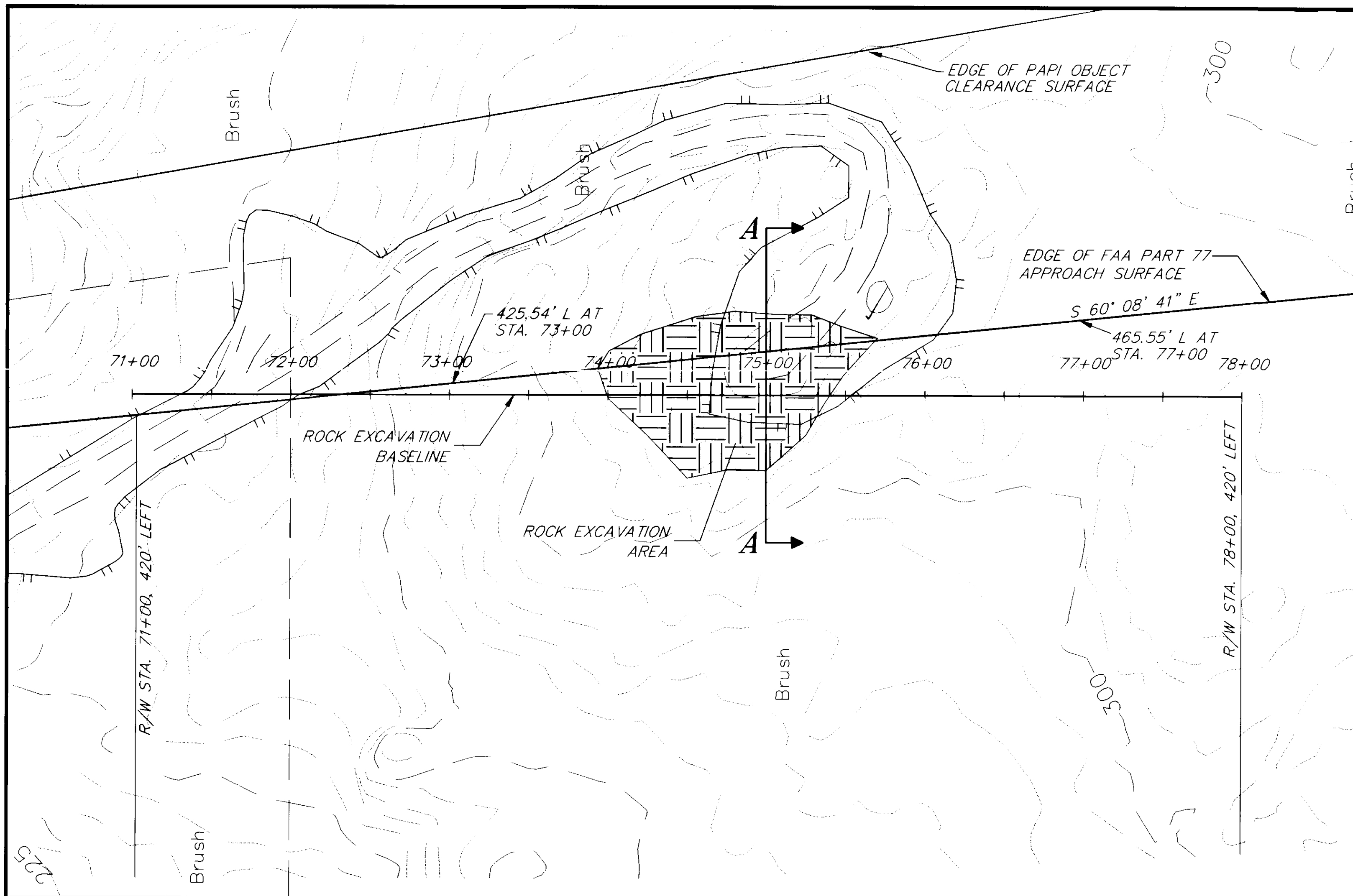
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DRAWN BY: LPC
CHECKED BY: LPC

PROJECT NO. 72049
DATE: MARCH 1997
SHEET 2 OF 7

EH 12/1/97

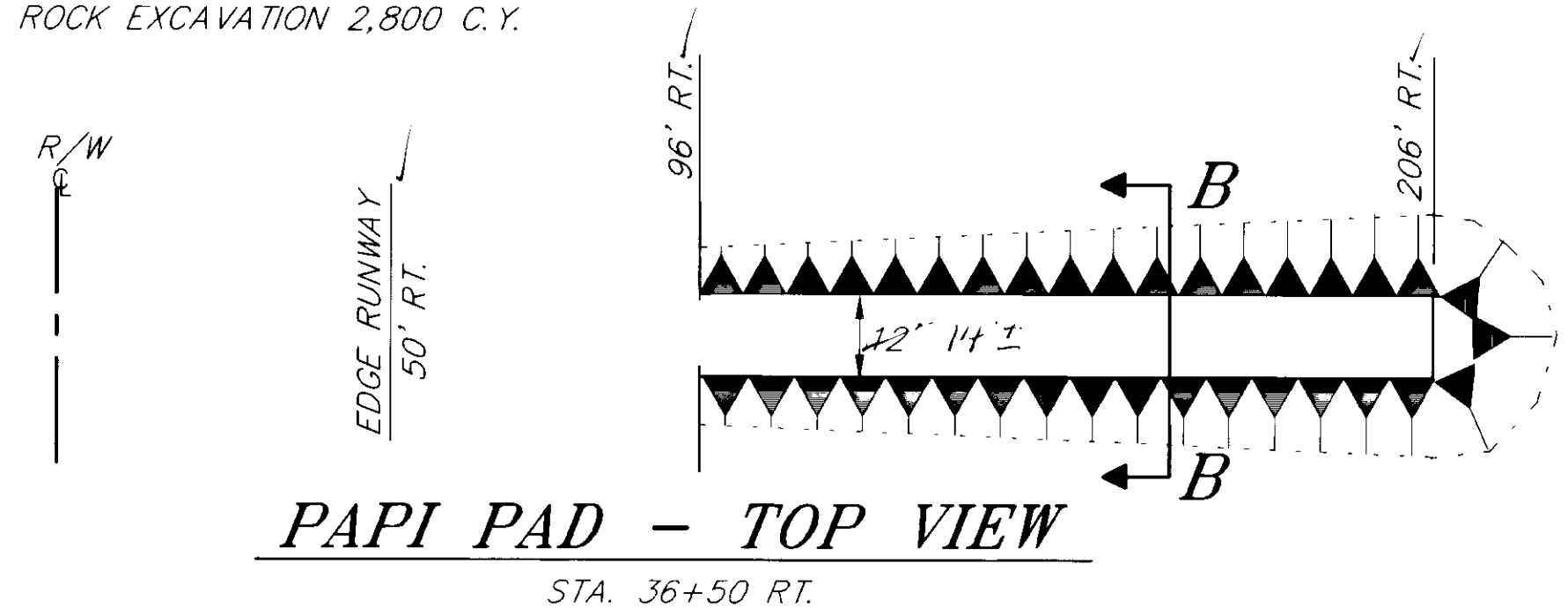


RECORD OF REVISIONS



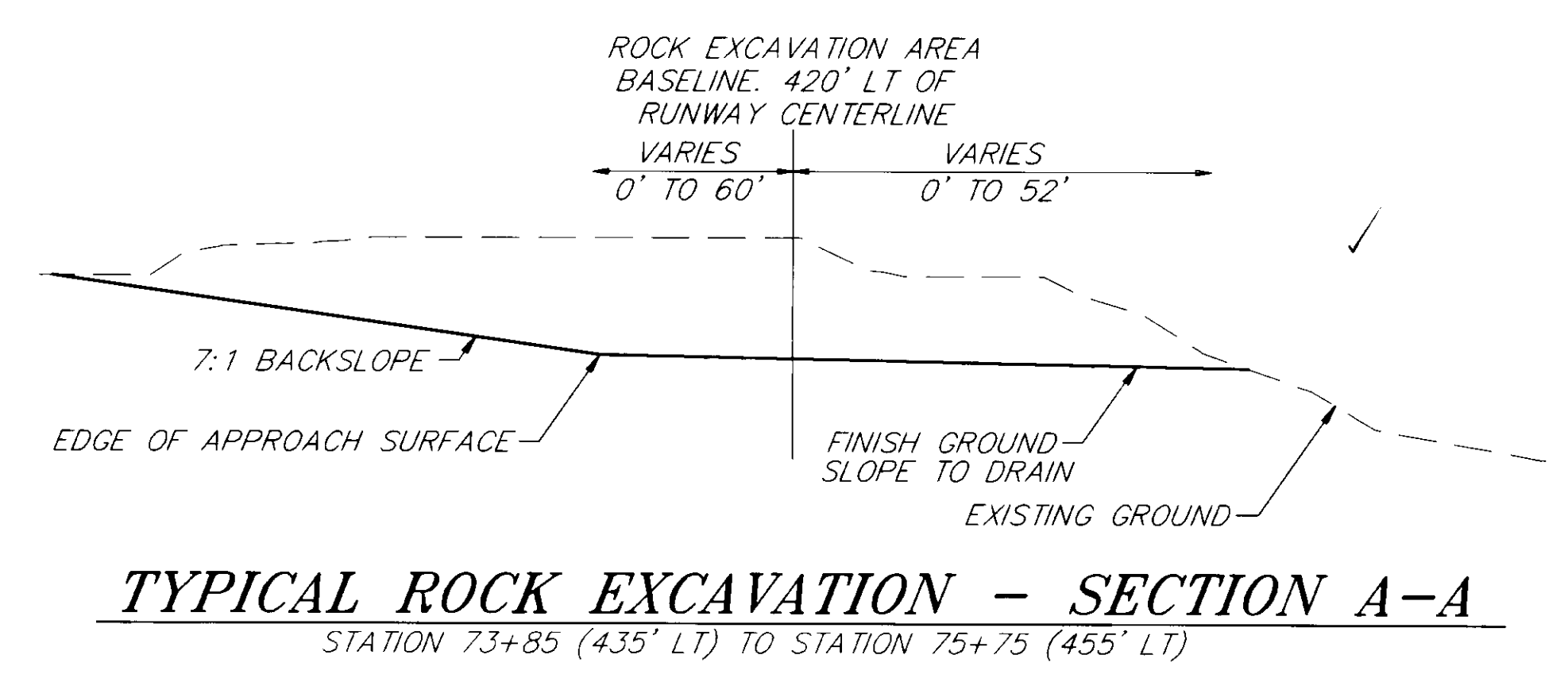
ITEM NO.	ITEM	UNIT	QUANTITY
100	MOBILIZATION AND DEMOBILIZATION	L.S.	ALL REQ'D ✓
111	EROSION AND POLLUTION CONTROL	C.S.	ALL REQ'D ✓
120	DBE ADJUSTMENT	C.S.	ALL REQ'D ✓
121	CONSTRUCTION SURVEYING BY THE CONTRACTOR	L.S.	ALL REQ'D ✓
125	ENGINEERING TRANSPORTATION	L.S.	ALL REQ'D ✓
200b	CLEARING	L.S.	ALL REQ'D ✓
330b	ROCK EXCAVATION	L.S.	ALL REQ'D ✓
440d	FENCE SKIRTING BAR	EACH	450
1000a	NEW PAPI SYSTEM, L-880	L.S.	ALL REQ'D ✓

ENGINEER'S ESTIMATED QUANTITIES
ITEM 330b ROCK EXCAVATION 2,800 C.Y.



PAPI PAD - TOP VIEW
STA. 36+50 RT.

PAPI PAD - SECTION B-B
STA. 36+50 RT.



TYPICAL ROCK EXCAVATION - SECTION A-A
STATION 73+85 (435' LT) TO STATION 75+75 (455' LT)

EM 12/1/97

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

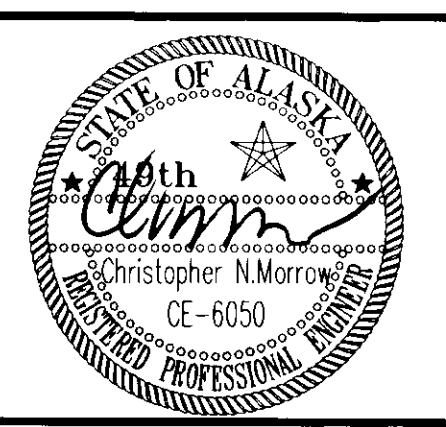
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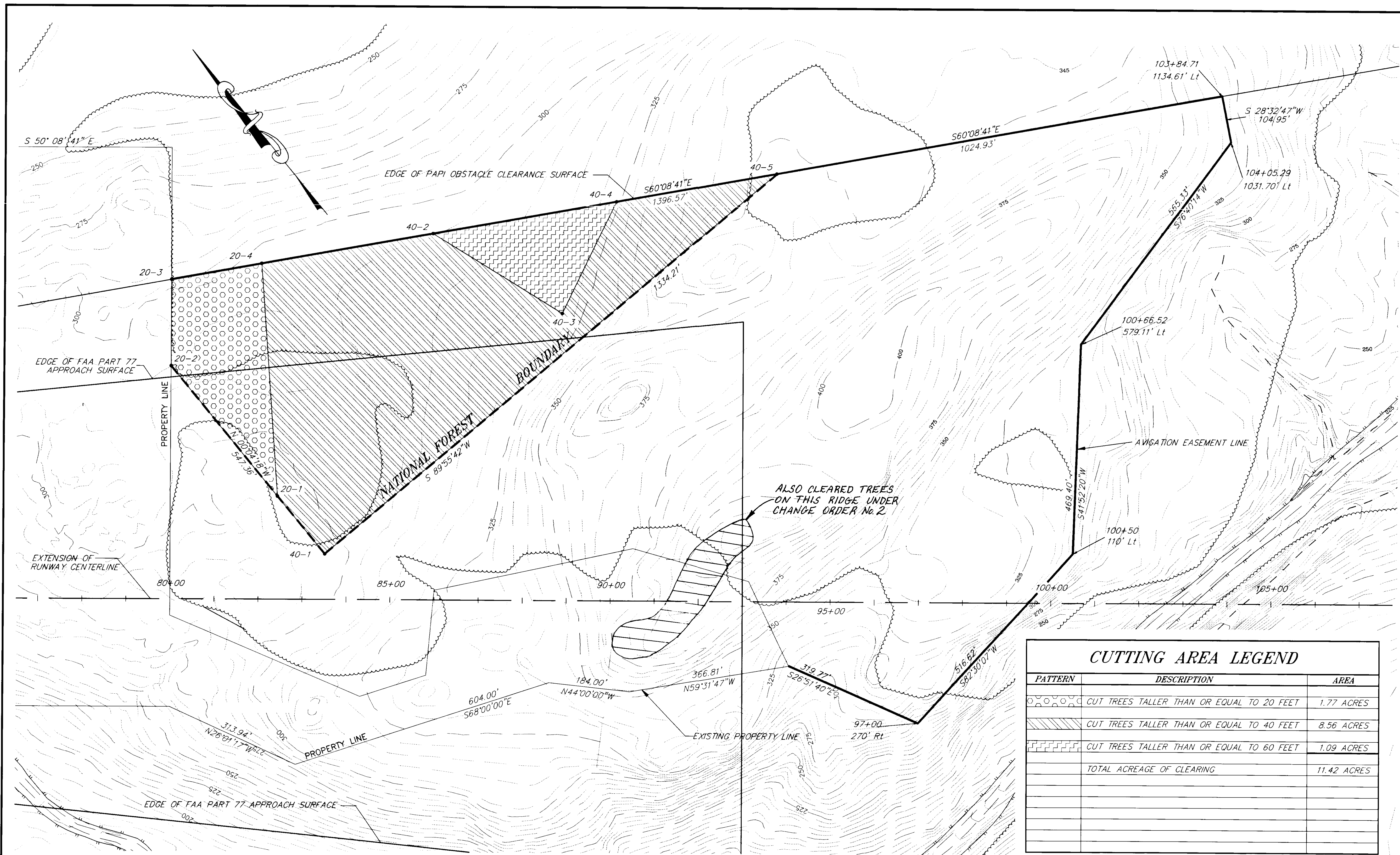
RECORD OF REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

KAKE
KAKE AIRPORT OBSTRUCTION REMOVAL
3-02-0398-0596 ~ 72049
ALASKA
**ROCK EXCAVATION AREAS AND
ESTIMATE OF QUANTITIES**

DESIGNED BY: CNM	PROJECT NO. 72049
DRAWN BY: LPC	DATE: MARCH 1997
CHECKED BY: LPC	SHEET 3 OF 7





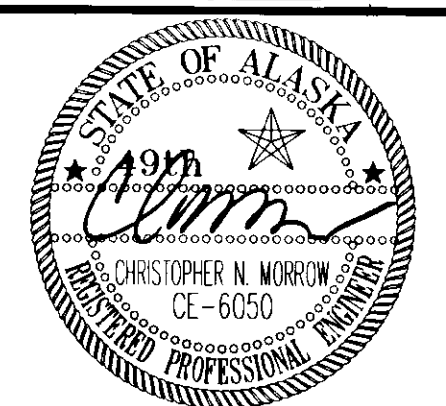
CUTTING AREA LEGEND		
PATTERN	DESCRIPTION	AREA
	CUT TREES TALLER THAN OR EQUAL TO 20 FEET	1.77 ACRES
	CUT TREES TALLER THAN OR EQUAL TO 40 FEET	8.56 ACRES
	CUT TREES TALLER THAN OR EQUAL TO 60 FEET	1.09 ACRES
	TOTAL ACREAGE OF CLEARING	11.42 ACRES

RECORD OF REVISIONS		
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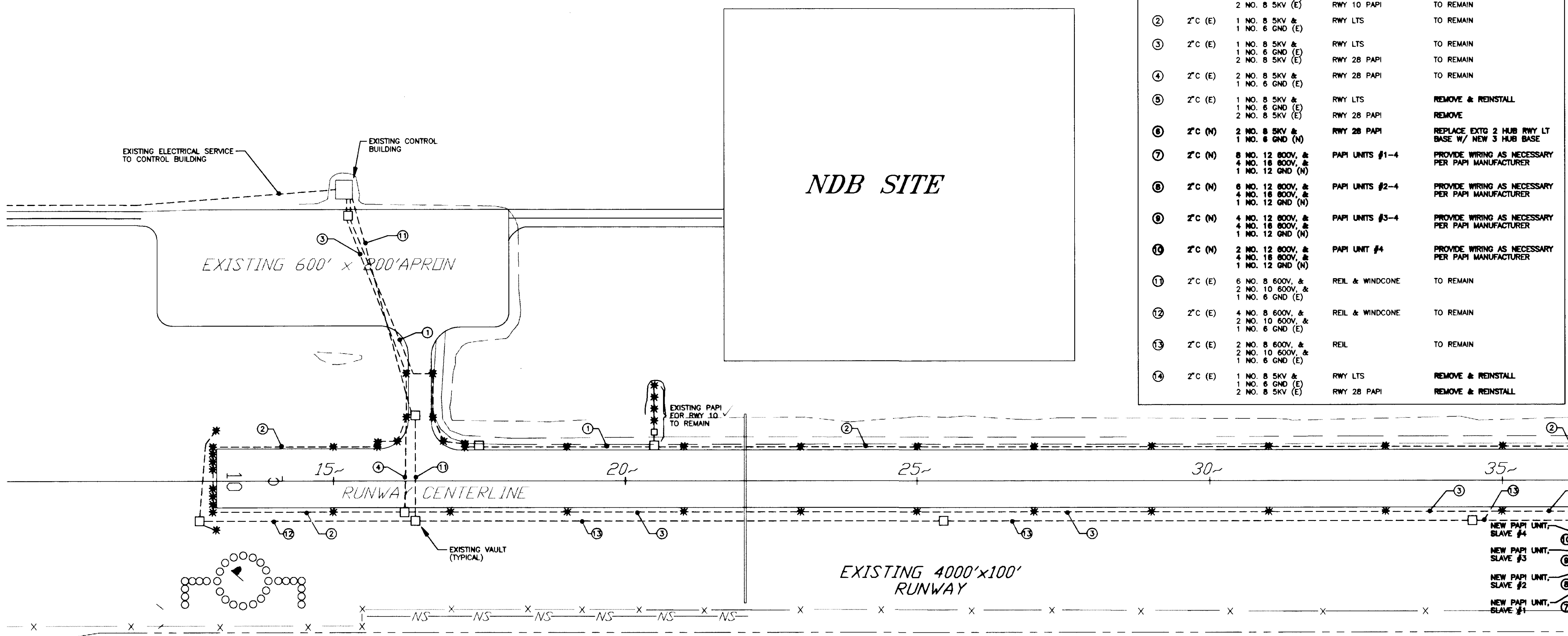
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 SOUTHEAST REGION DESIGN & CONSTRUCTION

KAKE
 KAKE AIRPORT OBSTRUCTION REMOVAL
 3-02-0398-0597 ~ 72049
 ALASKA
TIMBER CLEARING AREAS

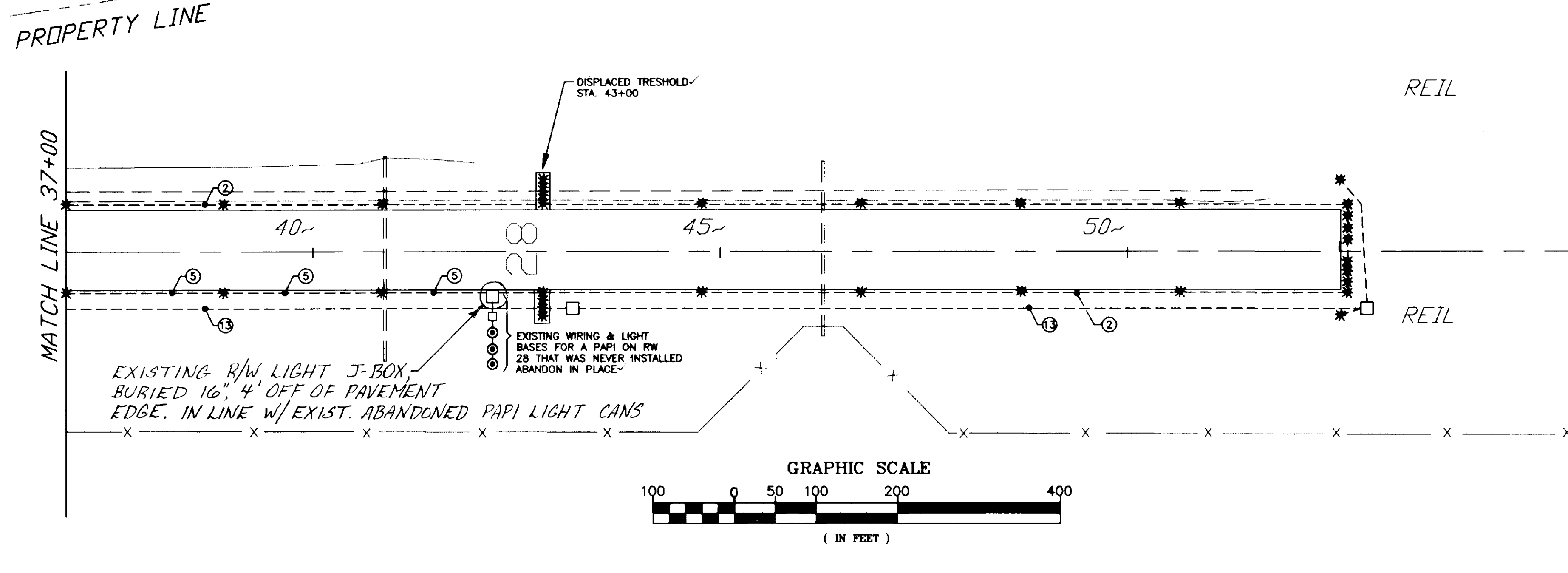
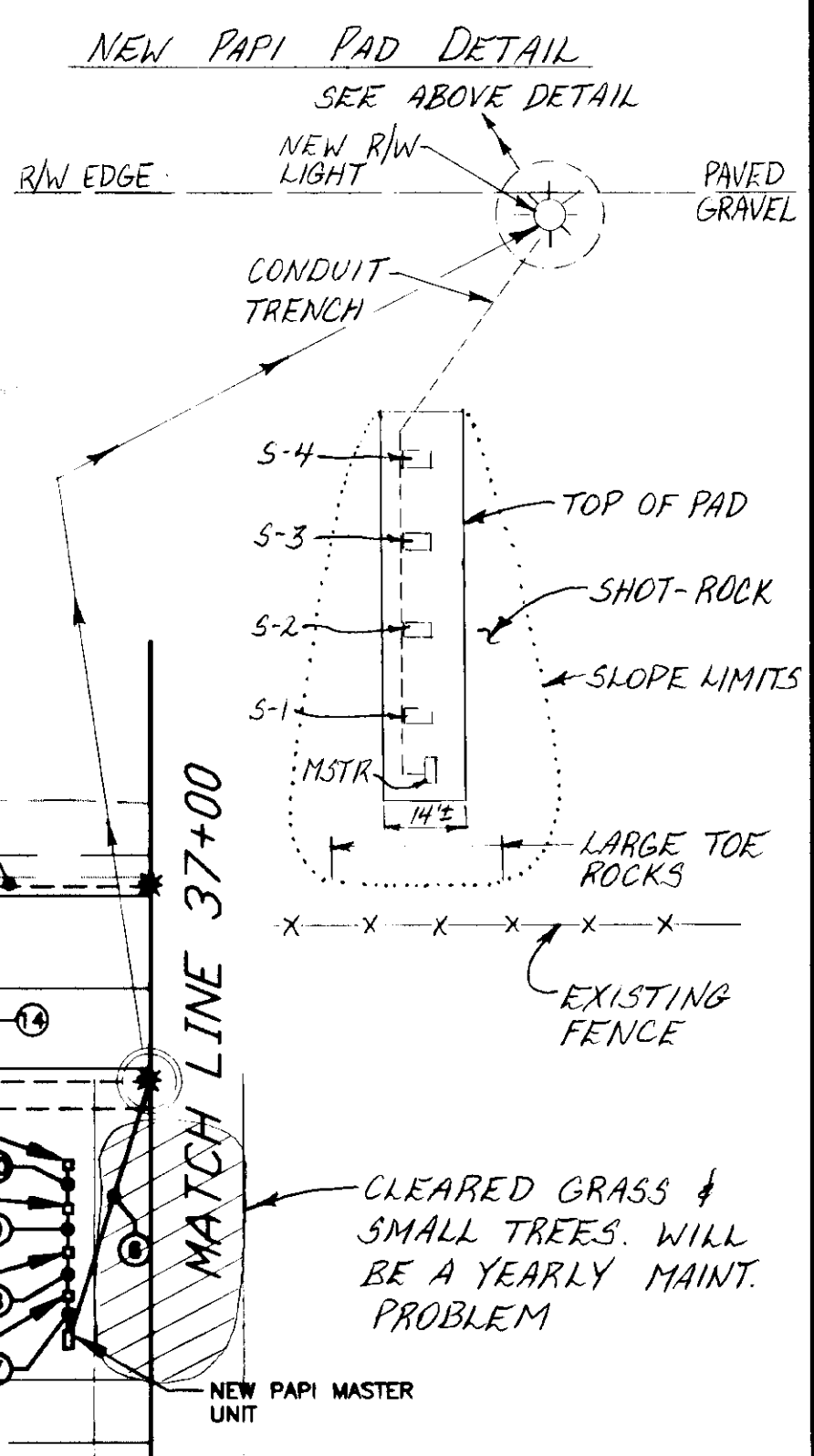
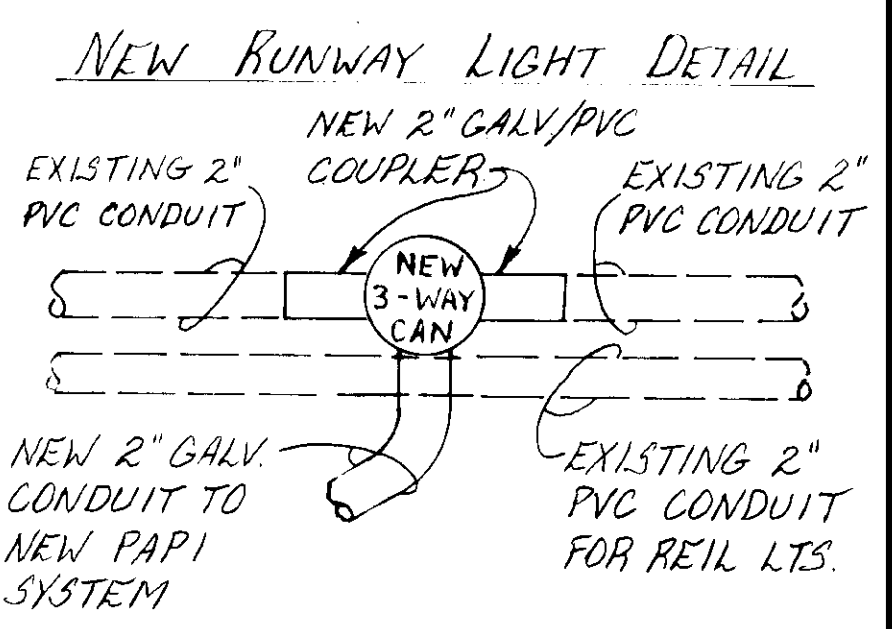
DESIGNED BY: CNM
 DRAWN BY: LPC
 CHECKED BY: LPC
 PROJECT NO. 72049
 DATE: MARCH 1997
 SHEET 4 OF 7



EM 12/1/97

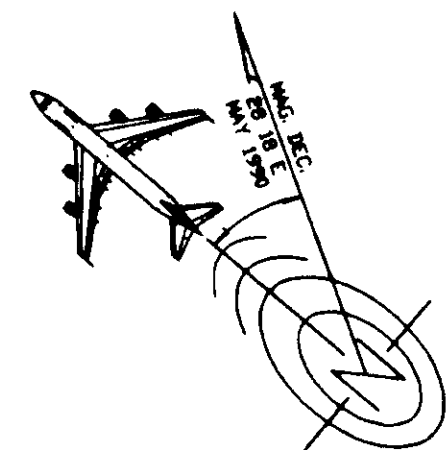
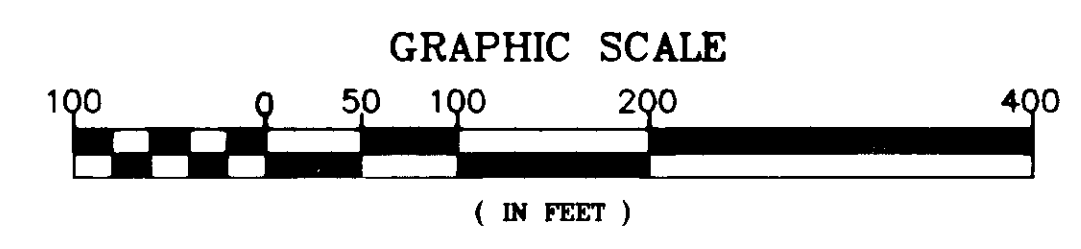


E = EXISTING N = NEW		CABLING SCHEDULE		
NO.	RACEWAY	CONDUCTOR	PURPOSE	INSTRUCTIONS
1	2" C (E)	1 NO. 8 5KV & 1 NO. 6 GND (E)	RWY LTS	TO REMAIN
2	2" C (E)	1 NO. 8 5KV & 1 NO. 6 GND (E)	RWY 10 PAPI	TO REMAIN
3	2" C (E)	1 NO. 8 5KV & 1 NO. 6 GND (E)	RWY LTS	TO REMAIN
4	2" C (E)	1 NO. 8 5KV & 1 NO. 6 GND (E)	RWY 28 PAPI	TO REMAIN
5	2" C (E)	2 NO. 8 5KV & 1 NO. 6 GND (E)	RWY 28 PAPI	TO REMAIN
6	2" C (E)	1 NO. 8 5KV & 1 NO. 6 GND (E)	RWY LTS	REMOVE & REINSTALL
7	2" C (M)	2 NO. 8 5KV & 1 NO. 6 GND (M)	RWY 28 PAPI	REMOVE
8	2" C (M)	2 NO. 8 5KV & 1 NO. 6 GND (M)	REPLACE EXTO 2 HUB RWY LT BASE W/ NEW 3 HUB BASE	
9	2" C (M)	8 NO. 12 800V, & 4 NO. 18 800V, & 1 NO. 12 GND (M)	PAPI UNITS #1-4	PROVIDE WIRING AS NECESSARY PER PAPI MANUFACTURER
10	2" C (M)	8 NO. 12 800V, & 4 NO. 18 800V, & 1 NO. 12 GND (M)	PAPI UNITS #2-4	PROVIDE WIRING AS NECESSARY PER PAPI MANUFACTURER
11	2" C (M)	4 NO. 12 800V, & 4 NO. 18 800V, & 1 NO. 12 GND (M)	PAPI UNITS #3-4	PROVIDE WIRING AS NECESSARY PER PAPI MANUFACTURER
12	2" C (M)	2 NO. 12 800V, & 4 NO. 18 800V, & 1 NO. 12 GND (M)	PAPI UNIT #4	PROVIDE WIRING AS NECESSARY PER PAPI MANUFACTURER
13	2" C (E)	6 NO. 8 600V, & 2 NO. 10 600V, & 1 NO. 6 GND (E)	REIL & WINDCONE	TO REMAIN
14	2" C (E)	4 NO. 8 600V, & 2 NO. 10 600V, & 1 NO. 6 GND (E)	REIL & WINDCONE	TO REMAIN
15	2" C (E)	2 NO. 8 600V, & 2 NO. 10 600V, & 1 NO. 6 GND (E)	REIL	TO REMAIN
16	2" C (E)	1 NO. 8 5KV & 1 NO. 6 GND (E)	RWY LTS	REMOVE & REINSTALL
17	2" C (E)	1 NO. 8 5KV & 2 NO. 8 5KV (E)	RWY 28 PAPI	REMOVE & REINSTALL



PAPI SITING SCHEDULE			
PAPI UNIT	LOCATION (FEET)	HT ABOVE GROUND TO TOP OF UNIT (INCHES)	AIMING ANGLE (DEGREES & MINUTES)
MASTER	STA 36+50, 200' RT 199.6' RT	36" N/A - CONFLICT W/ DIM. ON NEXT PAGE.	N/A
SLAVE #1	STA 36+50, 175' RT 174.6' RT	40"	3° 30'
SLAVE #2	STA 36+50, 150' RT 149.6' RT	40"	3° 50'
SLAVE #3	STA 36+50, 125' RT 124.6' RT	40"	4° 10'
SLAVE #4	STA 36+50, 100' RT 99.6' RT	40"	4° 30'

NOTES:
 1. THE LOCATION DISTANCE SHALL BE TO THE CENTER OF THE UNIT ± .15"
 2. THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE WITHIN ± 0.5 INCHES OF A HORIZONTAL PLANE. THIS HORIZONTAL PLANE SHALL BE WITHIN ± 6 INCHES OF THE RUNWAY CENTERLINE AT THE INTERCEPT POINT OF THE VISUAL GLIDE PATH WITH THE RUNWAY (STA 36+50). SET THE GROUND ELEVATION AS NECESSARY TO ACHIEVE THIS.
 3. THE FRONT FACE OF EACH LIGHT UNIT SHALL BE LOCATED ON A LINE PERPENDICULAR TO THE RUNWAY CENTERLINE WITHIN ± 3 INCHES.
 4. EACH LIGHT UNIT SHALL BE AIMED OUTWARD INTO THE APPROACH ZONE ON A TOLERANCE OF ± 1/4 DEGREE.
 5. ALL SITING TOLERANCES SHALL BE DEMONSTRATED TO THE ENGINEER USING SURVEYING LASERS OR OTHER EQUIPMENT ACCEPTABLE TO THE ENGINEER.



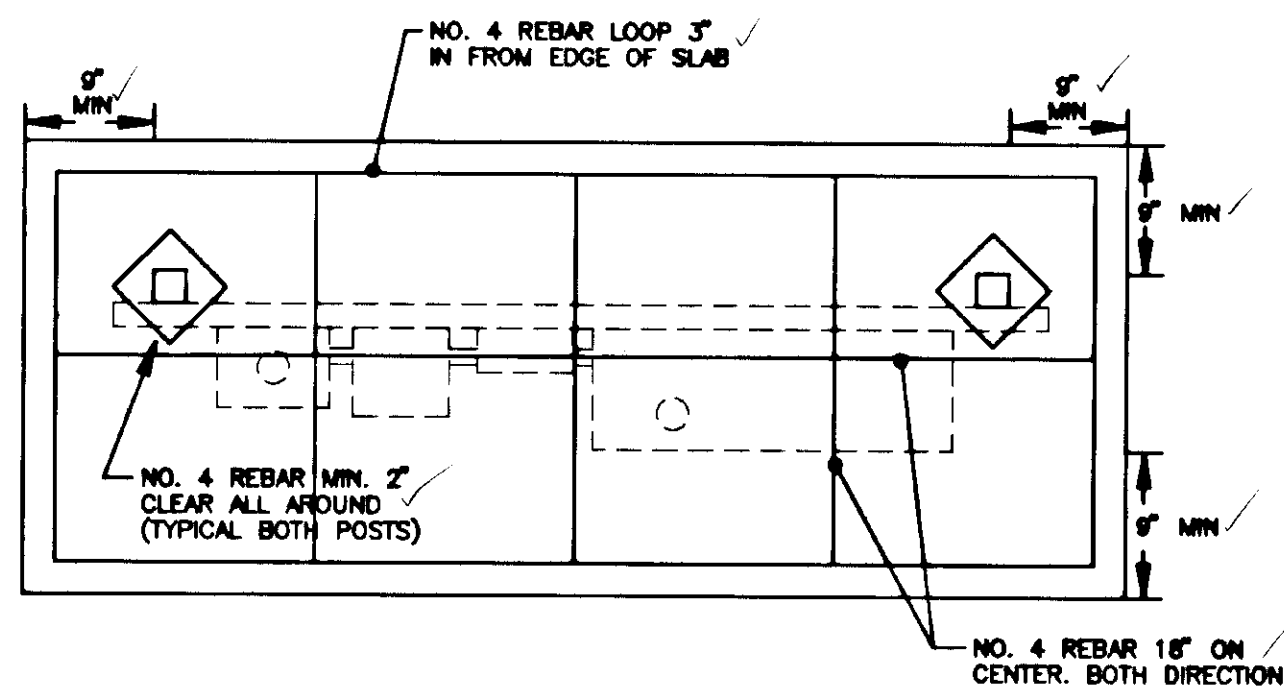
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DATE:	
DESCRIPTION OF CHANGE:	

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 SOUTHEAST REGION DESIGN & CONSTRUCTION

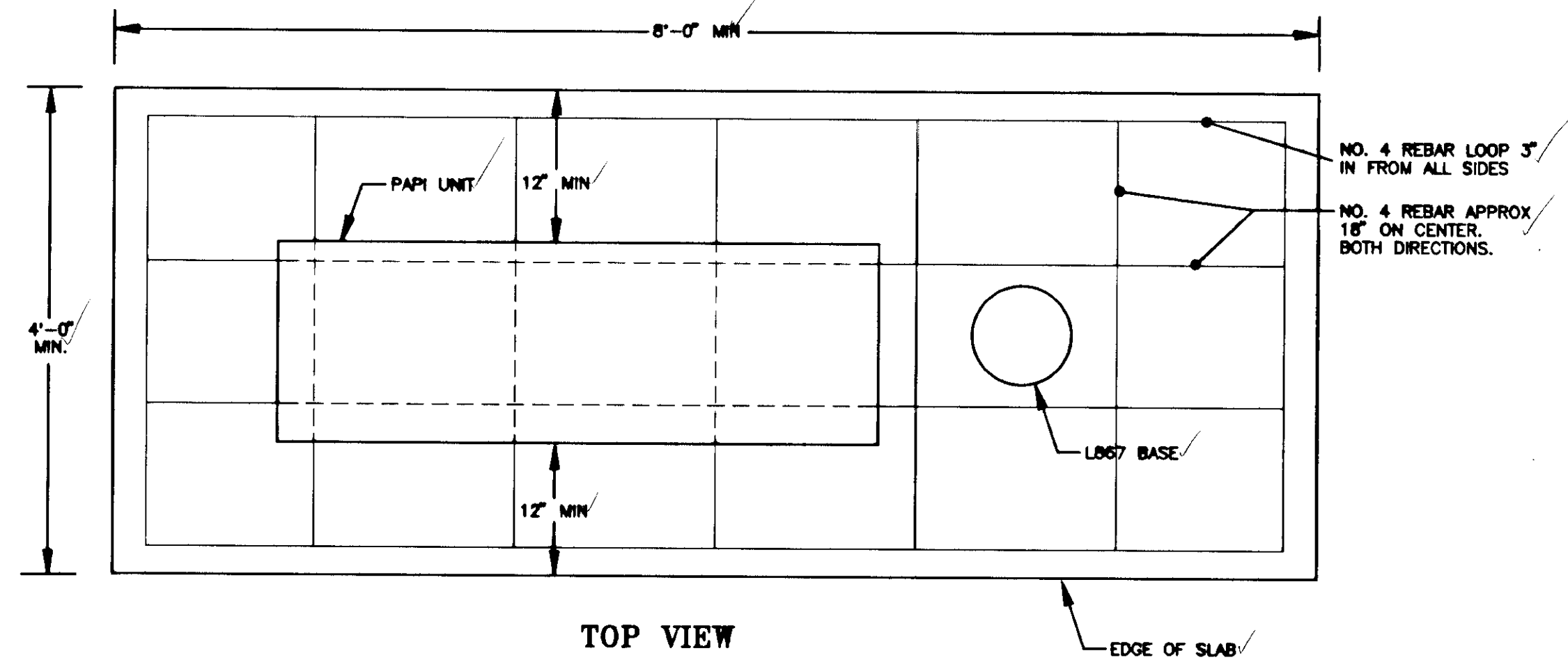
KAKE
 KAKE AIRPORT OBSTRUCTION REMOVE
 AND PAPI INSTALLATION
 PROJECT NO. 72049
 3-02-0398-0597
 PAPI LAYOUT PLAN

E-1		DESIGNED BY:	MGM	PROJECT NO.	72049
		DRAWN BY:	JLC & SPS	DATE:	1997
		CHECKED BY:	BCH	SHEET 6 OF 7	

ENGINEER'S SEAL



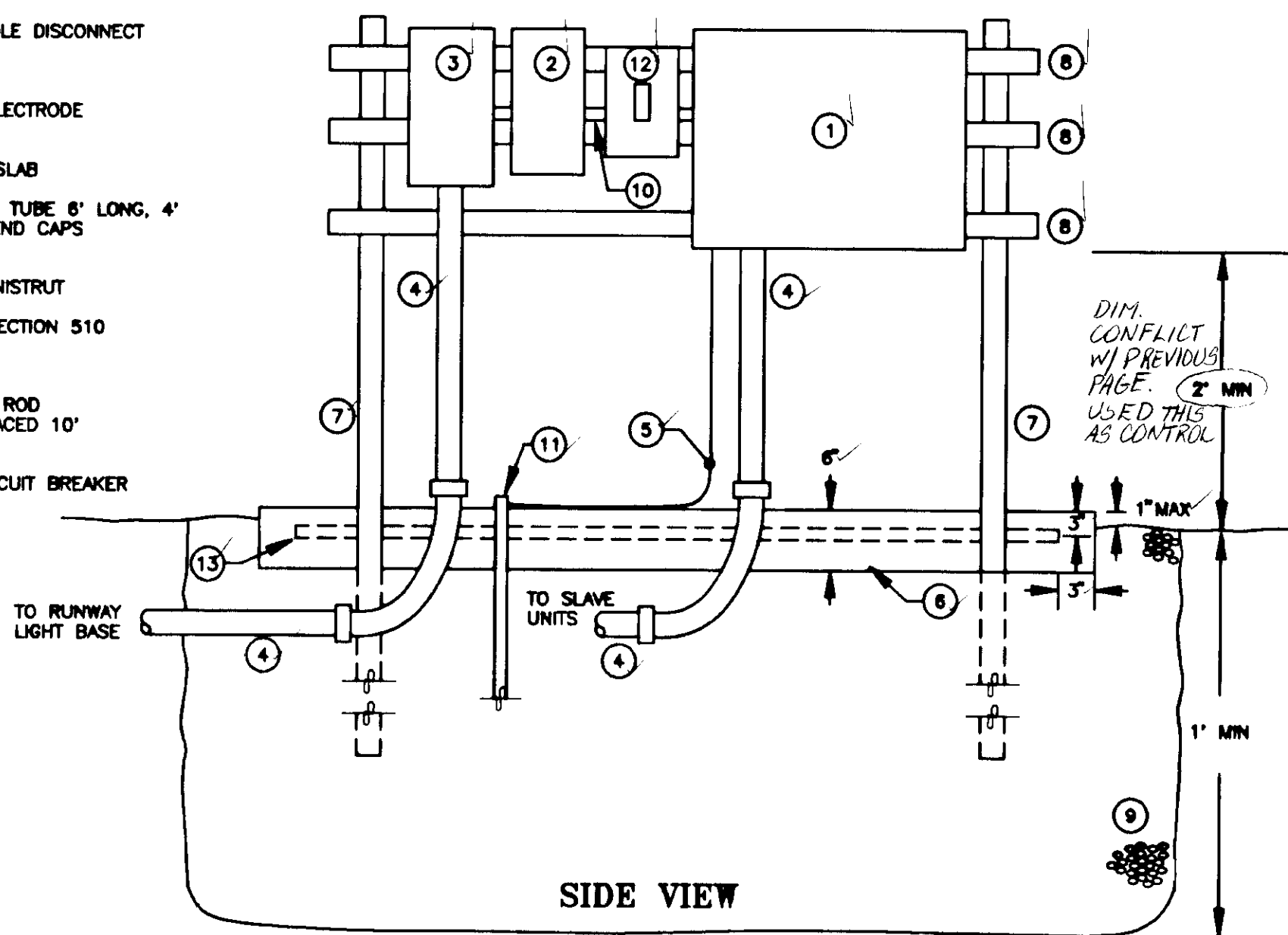
TOP VIEW



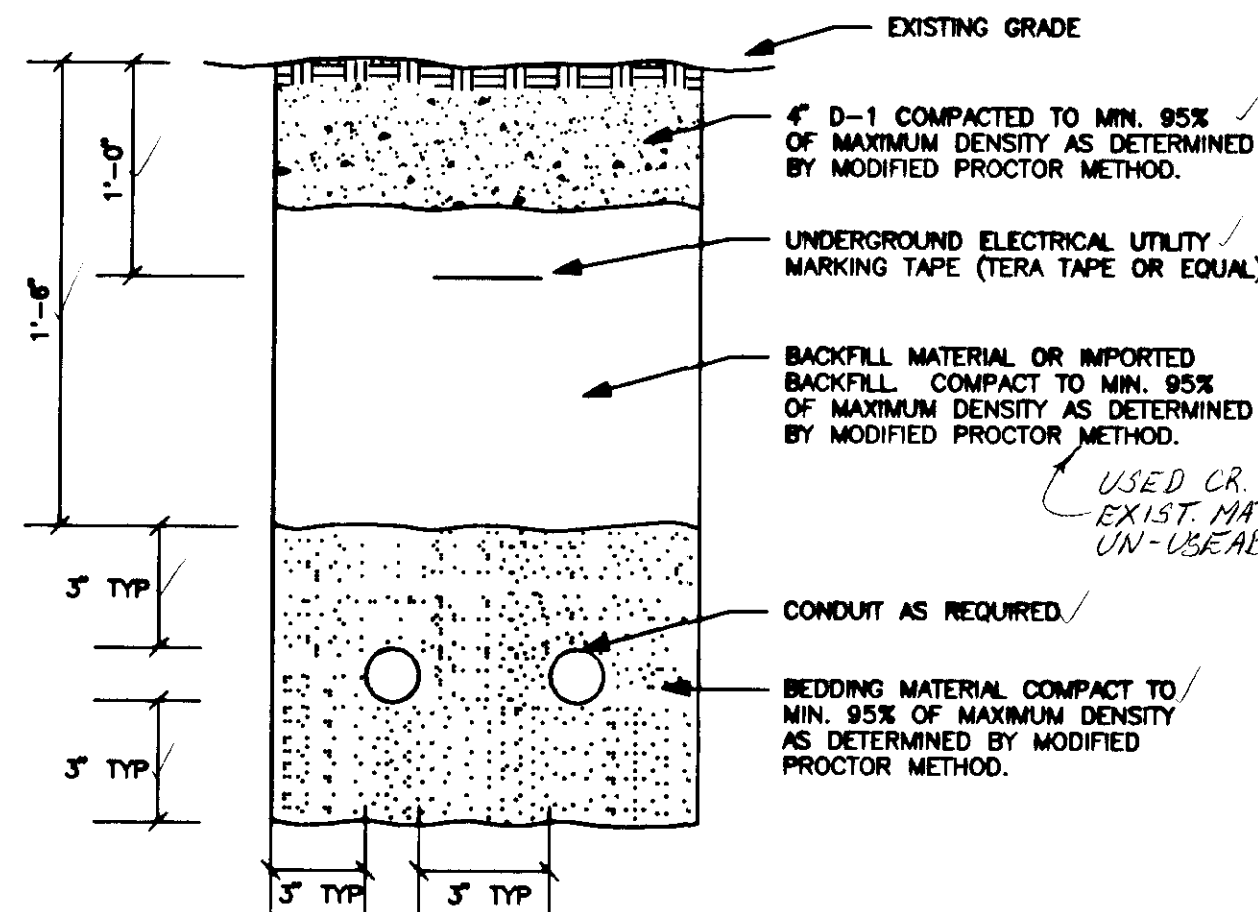
TOP VIEW

EQUIPMENT LIST

- 1 PAPI MASTER UNIT
- 2 600V, 120V, 2 KVA TRANSFORMER
- 3 600V, 30 AMP, 2 POLE DISCONNECT
- 4 2" GRS CONDUIT
- 5 NO. 8 GROUNDING ELECTRODE CONDUCTOR
- 6 6" DEEP CONCRETE SLAB
- 7 4" x 4" GALV. STEEL TUBE 8' LONG, 4" ABOVE GRADE WITH END CAPS ON TOP
- 8 GALVANIZED STEEL UNISTRUT
- 9 BASE COURSE SEE SECTION 510
- 10 1/2" GRS NIPPLE
- 11 5/8" x 10" GROUND ROD (TYPICAL OF TWO SPACED 10' APART)
- 12 20 AMP, 1 POLE CIRCUIT BREAKER
- 13 NO. 4 REBAR

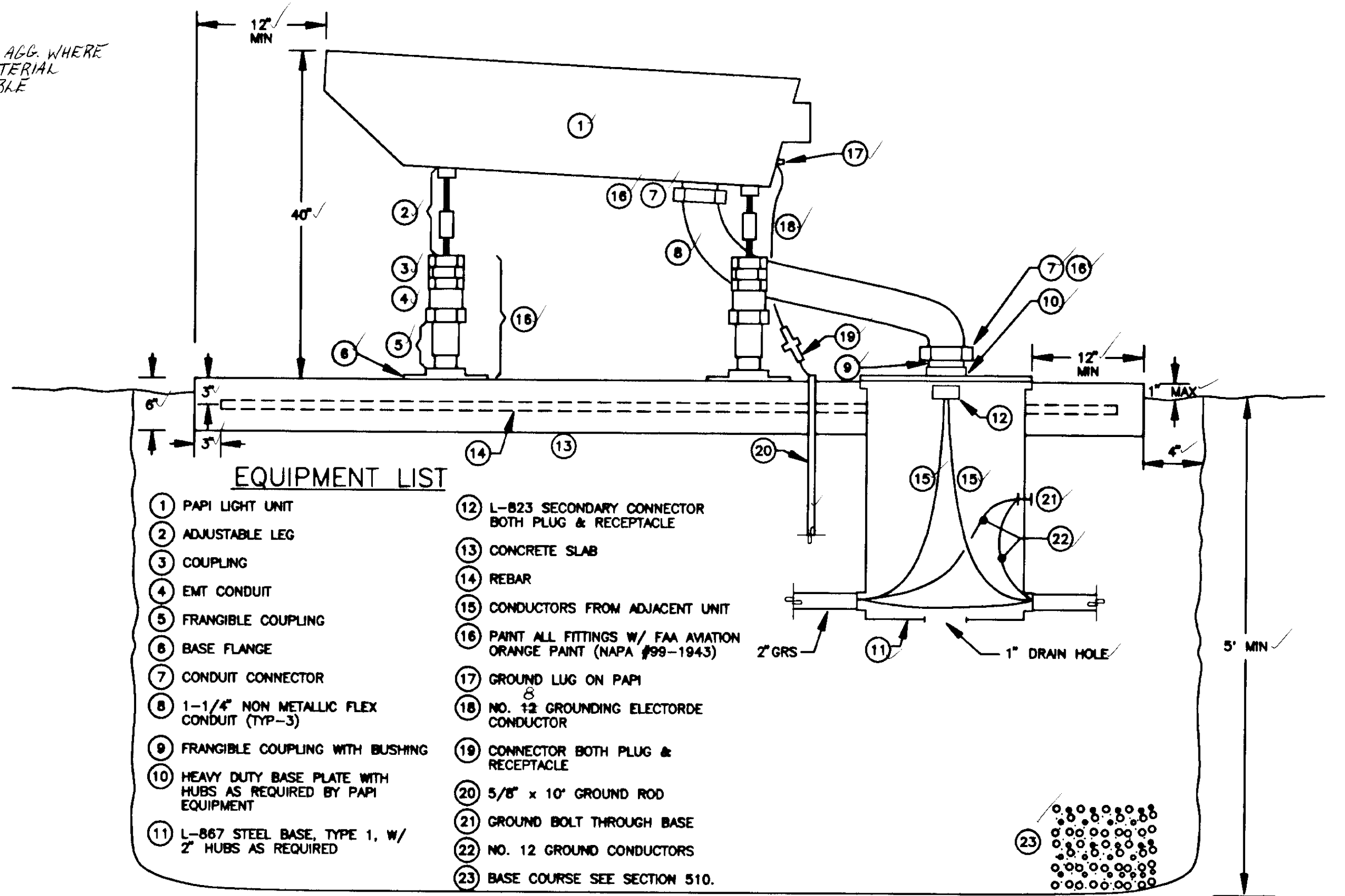


PAPI MASTER UNIT MOUNTING DETAIL



TRENCH DETAIL

NOTES:
1. SLOPE CONDUIT AT 1% - 3% WITH THE HIGH POINT CENTERED BETWEEN LIGHT BASES. SLOPE TO DRAIN INTO LIGHT BASE WHERE CONDUIT STUBS OUT OF GROUND AT ONE END.

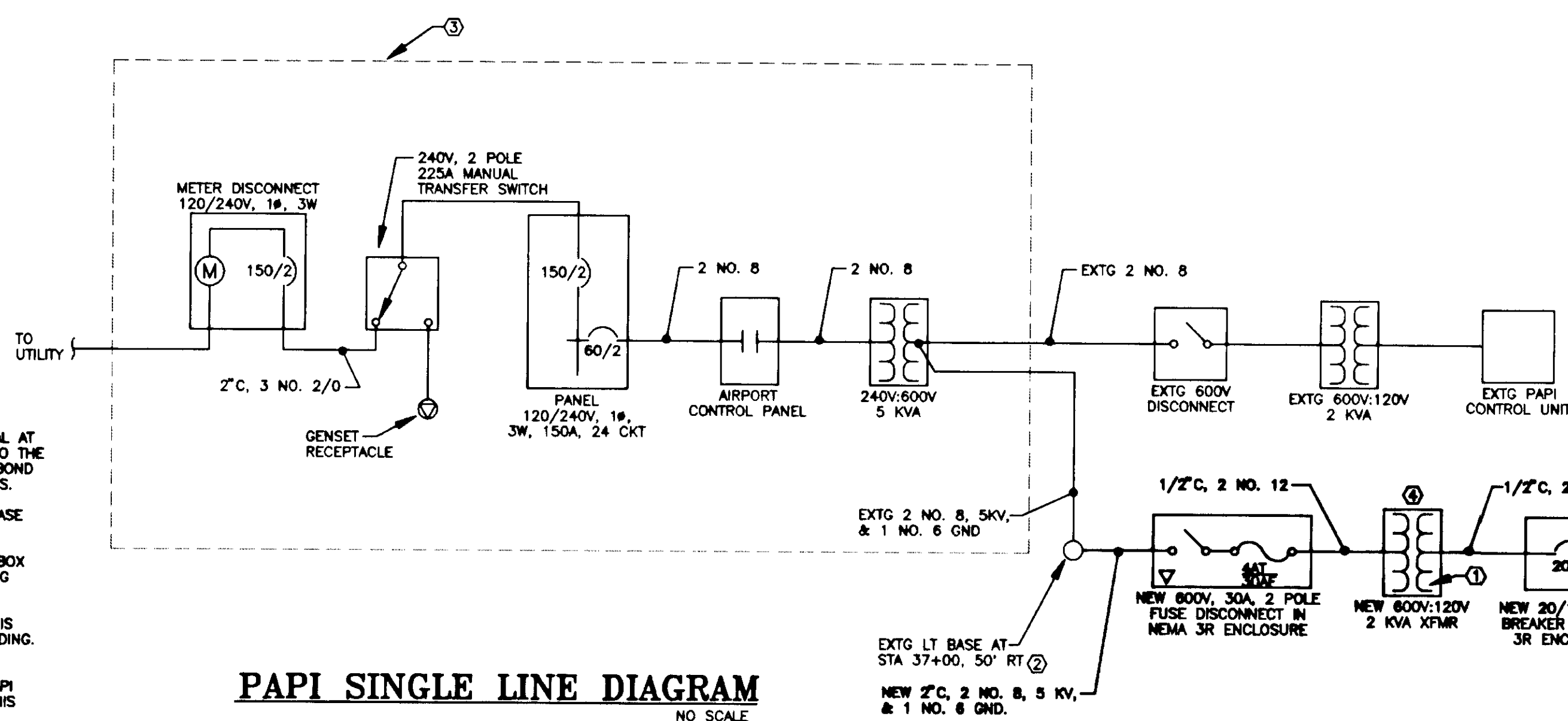


EQUIPMENT LIST

- 1 PAPI LIGHT UNIT
- 2 ADJUSTABLE LEG
- 3 COUPLING
- 4 EMT CONDUIT
- 5 FRANGIBLE COUPLING
- 6 BASE FLANGE
- 7 CONDUIT CONNECTOR
- 8 1-1/4" NON METALLIC FLEX CONDUIT (TYP-3)
- 9 FRANGIBLE COUPLING WITH BUSHING
- 10 HEAVY DUTY BASE PLATE WITH HUBS AS REQUIRED BY PAPI EQUIPMENT
- 11 L-867 STEEL BASE, TYPE 1, W/ 2" HUBS AS REQUIRED
- 12 L-823 SECONDARY CONNECTOR BOTH PLUG & RECEPTACLE
- 13 CONCRETE SLAB
- 14 REBAR
- 15 CONDUCTORS FROM ADJACENT UNIT
- 16 PAINT ALL FITTINGS W/ FAA AVIATION ORANGE PAINT (NAPA #99-1943)
- 17 GROUND LUG ON PAPI
- 18 NO. 12 GROUNDING ELECTRODE CONDUCTOR
- 19 CONNECTOR BOTH PLUG & RECEPTACLE
- 20 5/8" x 10" GROUND ROD
- 21 GROUND BOLT THROUGH BASE
- 22 NO. 12 GROUND CONDUCTORS
- 23 BASE COURSE SEE SECTION 510.

SIDE VIEW

PAPI UNIT MOUNTING DETAIL



PAPI SINGLE LINE DIAGRAM

- NOTES:
- 1 DO NOT GROUND SECONDARY NEUTRAL AT TRANSFORMER. BOND THE NEUTRAL TO THE GROUND BUS IN THE PAPI MASTER. BOND THE ENCLOSURE TO THE GROUND BUS.
 - 2 REPLACE EXISTING TWO HUB LIGHT BASE WITH NEW THREE HUB BASE.
 - 3 ALL EQUIPMENT INSIDE THE DASHED BOX IS LOCATED IN THE CONTROL BUILDING AND IS EXISTING.
 - 4 THIS TRANSFORMER IS EXISTING AND IS BEING STORED IN THE CONTROL BUILDING. LOCATE WHERE SHOWN.
 - 5 REFER TO PAPI MASTER UNIT AND PAPI SLAVE UNIT MOUNTING DETAILS ON THIS SHEET.
 - 6 CONFIRM WIRING WITH PAPI EQUIPMENT MANUFACTURER.

6' APART IS CODE PER BEN HAIGHT - USED 7"

BY:	DATE:	DESCRIPTION OF CHANGE:
PATH: C:\CAD\134\82\E2 1"=100'		
RECORD OF REVISIONS		

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

KAKE
KAKE AIRPORT OBSTRUCTION REMOVE
AND PAPI INSTALLATION
PROJECT NO. 72049
3-02-0398-0597
PAPI LAYOUT PLAN

ALASKA

DESIGNED BY: MGM	PROJECT NO. 72049			
			DRAWN BY: JLC & SPS	DATE: 1997
			CHECKED BY: BCH	SHEET 7 OF 7