PLANS FOR

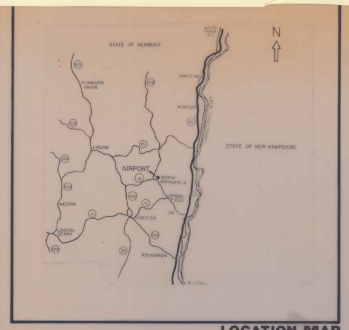
AIRPORT IMPROVEMENTS

TO INCLUDE: (1) REHABILITATION OF RUNWAY 11-29 (75' X 3000')
(2) INSTALLATION OF INADVERTENT ACCESS FENCE
(3) CLEARING
(4) INSTALLATION OF 2 MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS AND RELATED WORK

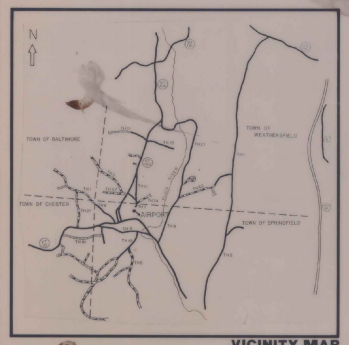
HARTNESS STATE AIRPORT
SPRINGFIELD, VERMONT

A.I.P. PROJECT NO. 3-50-0016-01
A.I.R. 03-2044

JULY - 1985



LOCATION MAP



VICINITY MAP

FEDERAL AVIATION ADMINISTRATION
APPROVED _____ CHIEF, AIRPORTS ENGINEERING AND SAFETY BRANCH
DATE _____

VERMONT AGENCY OF TRANSPORTATION
APPROVED Arthur J. Gross 12/10/86 DIRECTOR OF PLANNING AND PRECONSTRUCTION
DATE _____

AIP 3-50-0016-01
AIR 03-2044
1987

SHEET NO.	DESCRIPTION	
1	TITLE SHEET	
2	SITE PLAN	
3	PLAN & PROFILE-STA. 80+00 TO 95+50	
4	PLAN & PROFILE -STA. 95+50 TO 109+50	
5	PLAN & PROFILE-STA. 109+50 TO 124+00	
6	TYPICAL SECTIONS	
7	RUNWAY 5-23 INTERSECTION PROFILES	
7A	CROSS SECTIONS - STA 90+50 TO 91+50	
8	CROSS SECTIONS-STA. 92+00 TO 94+50	
9	CROSS SECTIONS -STA. 95+00 TO 97+00	
10	CROSS SECTIONS -STA. 97+50 TO 99+50	
11	CROSS SECTIONS-STA. 100+00 TO 102+00	
12	CROSS SECTIONS-STA. 102+50 TO 104+00	
13	CROSS SECTIONS-STA. 104+50 TO 106+50	
14	CROSS SECTIONS-STA. 107+00 TO 109+00	
15	CROSS SECTIONS-STA. 109+50 TO 111+50	
16	CROSS SECTIONS-STA. 112+00 TO 114+00	
17	CROSS SECTIONS-STA. 114+50 TO 116+50	
18	CROSS SECTIONS-STA. 117+00 TO 119+00	
19	CROSS SECTIONS-STA. 119+50 TO 121+50	
20	CROSS SECTIONS-STA. 122+00 TO 124+00	
21	QUANTITY SHEET	
22	F-2 DEC. 6, 1971	AGENCY OF TRANSPORTION STANDARDS
23	F-3 DEC. 6, 1971	
24	F-4 DEC. 6, 1971	
25	AP-10 JUNE 29, 1982	
26	D-6 APRIL 4, 1973	

INDEX OF SHEETS

ADDITIONAL SHEETS

4A.	INSTALLATION OF NEW MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS(BASE MOUNTED)
24A	AP-2 11-30-82R

Item	Description	Estimated Quantity	Actual Quantity
201.10	Clearing & Grubbing	Lump Sum	0 L.S.
203.17	Unclassified Excavation	2550 c.y.	2107 CY
404.55	Cut Back Asphalt	122 CWT	78.5 CWT
501.25	Concrete, Class B	2.5 c.y.	0 CY
507.15	Reinforcing Steel	193 lbs.	0 lbs.
604.45	Cast Iron Frame and Grate, Type A	1 each	0 ea.
608.25	All Purpose Excavator Rental	24 hours	16 HR.
631.10	Engineer's Field Office	Lump Sum	0 L.S.
635.10	Mobilization	Lump Sum	1 L.S.
651.15	Seed	1242 lbs.	1500 lbs.
651.18	Fertilizer	9180 lbs.	9180 lbs.
651.20	Agricultural Limestone	37 tons	38.65 TON
651.25	Hay mulch	23 tons	40.91 TON
651.36	Topsoil	425 c.y.	500.5 CY
620.12	Chain Link Fence (6')	3,900 l.f.	3366 LF
620.16	6' Drive Gate for Chain Link Fence	24 l.f.	36 LF
608.25	Bituminous Concrete Pavement (P-401)	5,040 tons	4990.44 TON
816.10	Runway and Taxiway Painting (P-620)	13,164 s.f.	14,628 SF
	Alternate I		
203.28	Excavation of Surfaces & Pavements	2550 c.y.	2607 CY
302.17	Uncrushed Aggregate Base Course (P-208)	2,725 c.y.	3240 CY
	Alternate II		
806.25	Cold Mixed Recycled Base Course (P-208A)	30,700 s.y.	
302.17	Uncrushed Aggregate Base Course (P-208)	3/5 c.y.	
620.21	Bracing Assembly For Chain Link Fence, 6 Feet	30 ea.	30 EA ADDITIONAL ITEMS
822.24	Medium Intensity Taxiway Guidance Signs, Base Mounted (L-125)	2 ea.	2 EA
864.15	Threshold Lights L-125 Remove & Reset	12 ea.	12 EA
	ADD BASE BID		
201.10	Clearing and Grubbing CO#1		1 L.S.
900.01	Extra Work Order #1 CO#2		1 L.S.

QUANTITIES

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By Paul Jensen Project Engineer
Date 2-2-88

THESE PLANS HAVE BEEN REVISED BY THE VERMONT AGENCY OF TRANSPORTATION APRIL 1987

THE VERMONT AGENCY OF TRANSPORTATION CERTIFIES THAT THE PLANS AND SPECIFICATIONS FOR THIS PROJECT WERE PREPARED IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULARS.

Arthur J. Gross 4/14/87
DIRECTOR OF PLANNING AND PRECONSTRUCTION DATE

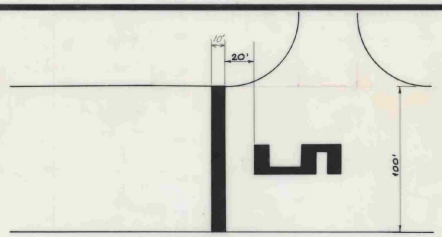
Consulting Engineers

Dufresne-Henry, Inc. certifies that the plans and specifications for the project were prepared in accordance with criteria contained in the current edition of F.A.A. Advisory Circulars.

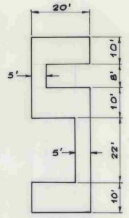
Walter B. Lovett, Jr., P.E. Director of Aviation Services

DufresneHenry
REVISED 5/11/87 JLR

Sheet 1 Of 26 Sheets



RELOCATED THRESHOLD MARKING
N.T.S.



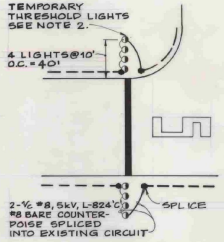
RUNWAY '5' NUMERAL DETAIL
N.T.S.

TEMPORARY RELOCATED THRESHOLD NOTES:

1. EIGHT TEMPORARY THRESHOLD LIGHTS* WERE ~~ARE TO~~ BE INSTALLED AS SHOWN.
2. CONTRACTOR ~~TO~~ INSTALL LIGHTS & SPLICE INTO EXISTING RUNWAY LIGHTING CIRCUIT. LIGHTS TO HAVE 180° GREEN/180° RED LENS. LIGHTS ARE TO BE STAKE MOUNTED.
3. THE CARE & MAINTENANCE OF THE LIGHTS ~~SHALL BE~~ WERE THE RESPONSIBILITY OF THE CONTRACTOR DURING THE CONSTRUCTION PHASE.
4. THE AIRPORT* ~~SHALL~~ RETAIN POSSESSION OF THE LIGHTS AFTER COMPLETION OF THE PROJECT. (*AGENCY OF TRANSPORTATION-MAINTENANCE DIVISION.)
5. THE COST OF THE TEMPORARY LIGHTS IS NOT A SEPARATE PAY ITEM. THIS WORK IS NECESSARY & INCIDENTAL TO THE COST OF THE PROJECT.

* LIGHTS ~~SHALL BE~~ WERE MEDIUM INTENSITY THRESHOLD LIGHTS CONFORMING TO FAA SPEC. L-861E, SEE DETAIL SHEET 6 OF 26

6. THE TEMPORARY RELOCATED THRESHOLD LIGHTS ~~SHALL BE~~ REMOVED AND THE SYSTEM RETURNED TO ITS ORIGINAL CONDITION AFTER COMPLETION OF THE WORK.
7. TEMPORARY RUNWAY MARKING (R/W 5 DISPLACEMENT) ~~MAY BE~~ WAS STRIATED (ALTERNATE 6" PAINTED/6" UNPAINTED) TO FACILITATE REMOVAL.
8. TEMPORARY MARKING ~~SHALL BE~~ WERE COMPLETELY OBLITERATED BY GRINDING TO THE SATISFACTION OF THE ENGINEER. AFTER COMPLETION OF THE WORK.
9. TEMPORARY MARKINGS ~~ARE TO BE~~ WERE PAID FOR UNDER ITEM 816.10 "RUNWAY AND TAXIWAY PAINTING.

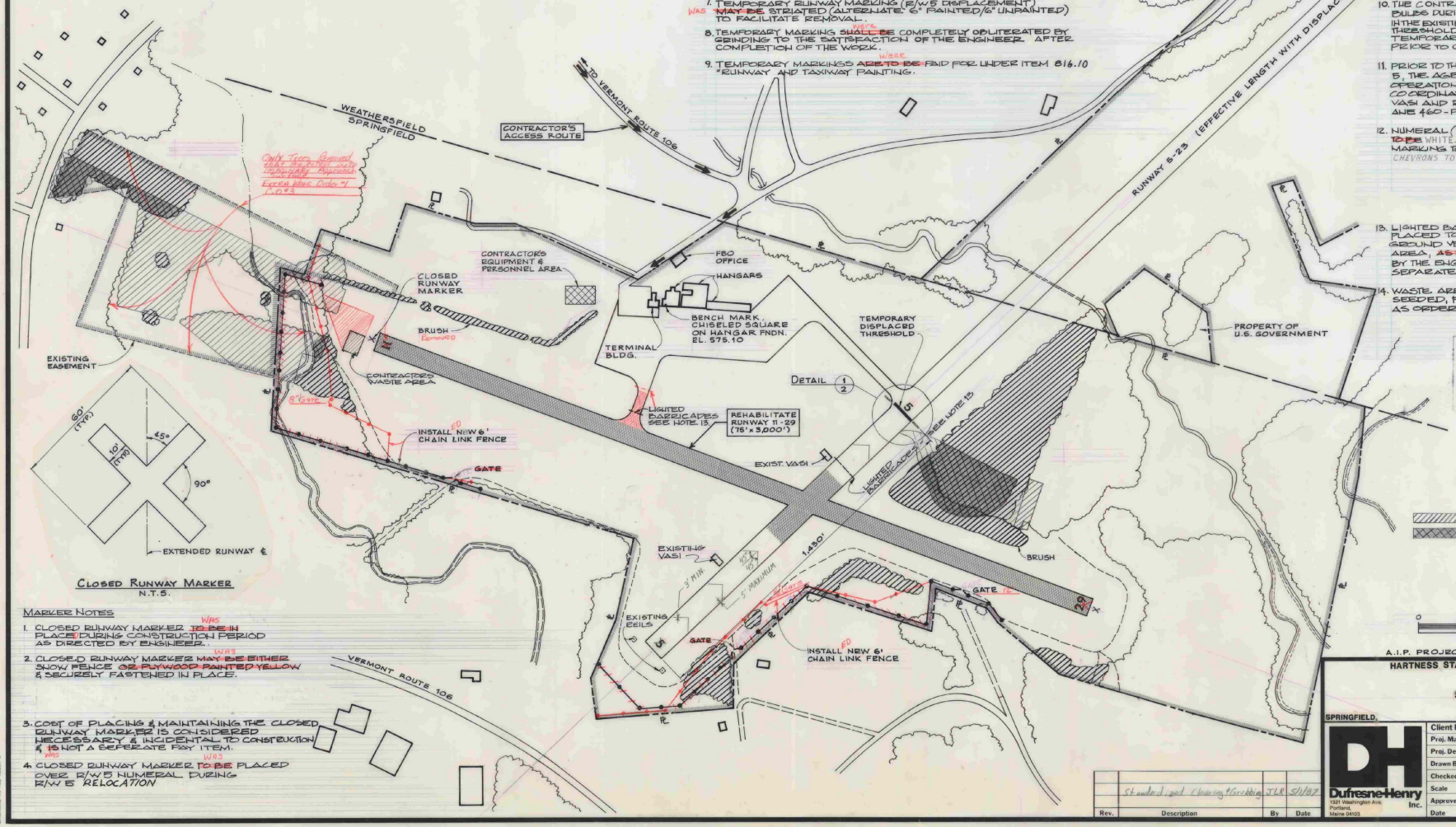


DETAIL (1/2)
N.T.S.

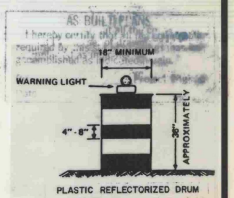
CLOSED RUNWAY MARKER
N.T.S.

MARKER NOTES

1. CLOSED RUNWAY MARKER ~~TO BE IN~~ WAS PLACED DURING CONSTRUCTION PERIOD AS DIRECTED BY ENGINEER.
2. CLOSED RUNWAY MARKER ~~MAY BE EITHER~~ WAS SNOW FENCE ~~OR PLYWOOD PAINTED YELLOW~~ & SECURELY FASTENED IN PLACE.
3. COST OF PLACING & MAINTAINING THE CLOSED RUNWAY MARKER IS CONSIDERED NECESSARY & INCIDENTAL TO CONSTRUCTION & ~~IS~~ WAS NOT A SEPERATE PAY ITEM.
4. CLOSED RUNWAY MARKER ~~TO BE~~ PLACED OVER R/W 5 NUMERAL DURING R/W 5 RELOCATION



10. THE CONTRACTOR ~~SHALL~~ REMOVE THE BULBS DURING THE CONSTRUCTION PHASE IN THE EXISTING RUNWAY LIGHTS FROM THE THRESHOLD OF RUNWAY 5 TO THE TEMPORARY THRESHOLD AND REPLACE PRIOR TO COMPLETION OF THE PROJECT.
11. PRIOR TO THE RELOCATION OF RUNWAY 5, THE AGENCY OF TRANSPORTATION - OPERATION DIVISION SHALL HAVE TO COORDINATE THE SHUT DOWN OF THE VASI AND REILS ON RUNWAY 5 - CONTACT ANE 460 - PAA FACILITIES MAINTENANCE
12. NUMERAL (5) AND THRESHOLD BAR ~~ARE TO BE~~ WERE WHITE. TEMPERARY MARKING TO CONFORM TO ITEM 816.10 CHEVRONS TO BE YELLOW
13. LIGHTED BARRICADES ~~ARE TO BE~~ WERE PLACED TO WARN AIRCRAFT AND GROUND VEHICLES OF CONSTRUCTION AREA, ~~AS SHOWN~~ OR AS DIRECTED BY THE ENGINEER. THIS ~~IS~~ WAS NOT A SEPARATE PAY ITEM.
14. WASTE AREA ~~TO BE~~ WAS GRADED, TOPSOILED, SEEDED, FERTILIZED AND MULCHED AS ORDERED BY THE ENGINEER.



PLASTIC REFLECTORIZED DRUM (ORANGE & WHITE) BARRICADE TYPICAL

AREA ~~TO BE~~ WAS CLEARED & GRUBBED

AREA TO BE CLEARED BY STATE FORCES

0 200 400 600
SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

SITE PLAN

SPRINGFIELD, VERMONT

Rev.	Description	By	Date
	Standard Lighting Cabling	JLR	5/1/87

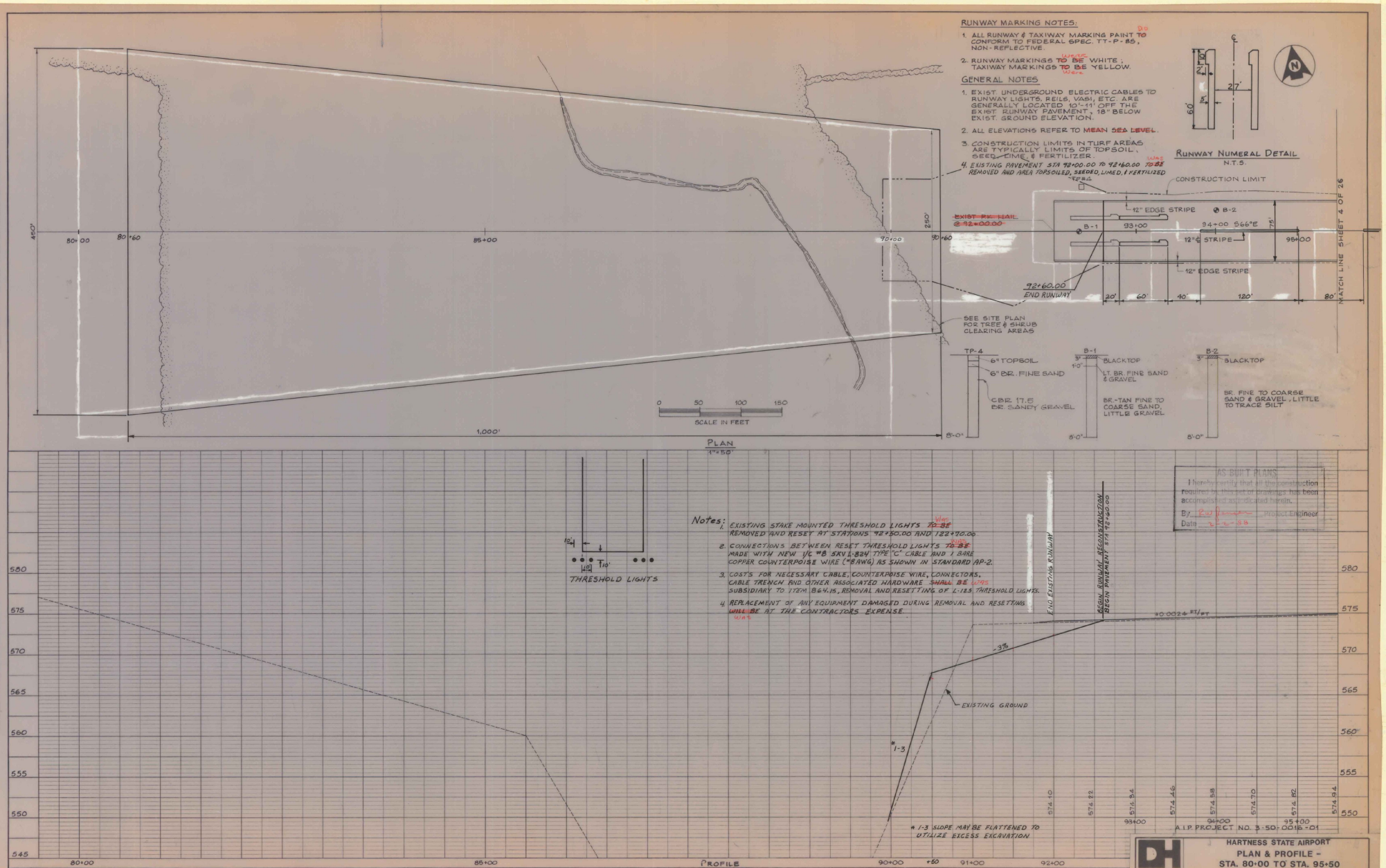
Dufresne-Henry Inc.
1321 Washington Ave.
Portland, Maine 04103

Client No.	30-0159
Proj. Manager	G.W. D'AMICO
Proj. Designer	R.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	9/5/85

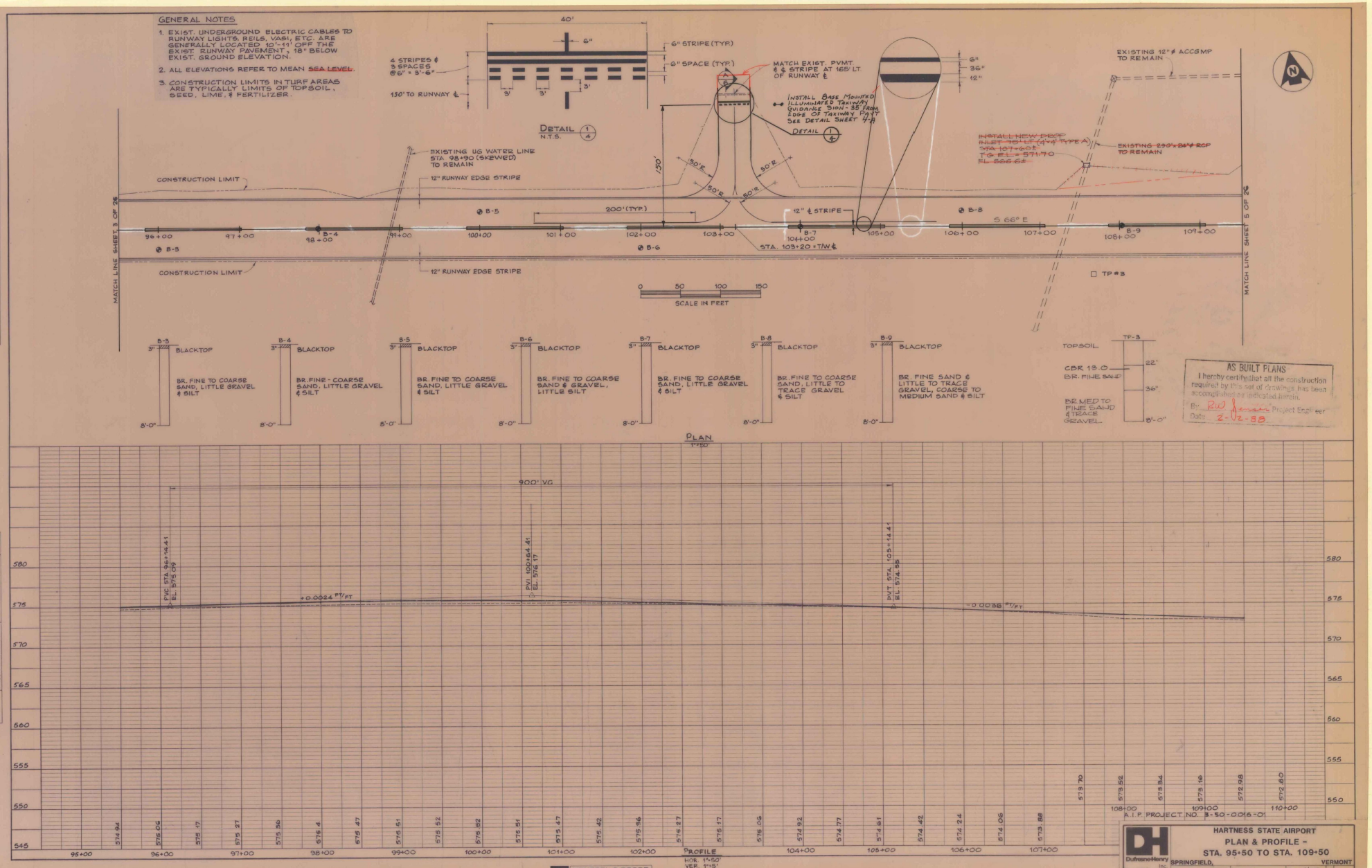
STATE OF VERMONT — No. 3873 — REGISTERED PROFESSIONAL ENGINEER

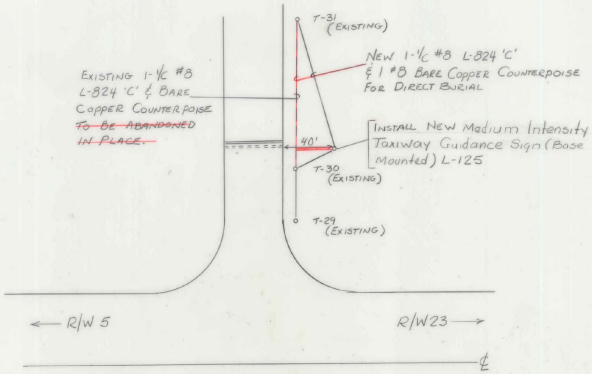
Sheet 2 of 26
D

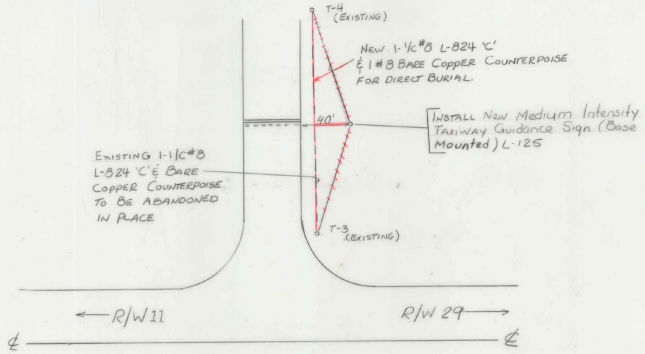
BRUNING 44-132 45337-3



RUNWAY MARKING NOTES:
1. ALL RUNWAY & TAXIWAY MARKING PAINT TO CONFORM TO FEDERAL SPEC. TT-P-85, NON-REFLECTIVE.
2. RUNWAY MARKINGS TO BE WHITE; TAXIWAY MARKINGS TO BE YELLOW.
GENERAL NOTES
1. EXIST. UNDERGROUND ELECTRIC CABLES TO RUNWAY LIGHTS, REILS, VASI, ETC. ARE GENERALLY LOCATED 10'-11' OFF THE EXIST. RUNWAY PAVEMENT, 18" BELOW EXIST. GROUND ELEVATION.
2. ALL ELEVATIONS REFER TO MEAN SEA LEVEL.
3. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF TOPSOIL, SEED, LIME, & FERTILIZER.
4. EXISTING PAVEMENT STA 92+00.00 TO 92+60.00 TO BE REMOVED AND AREA TOPSOILED, SEEDED, LIMED, & FERTILIZED
RUNWAY NUMERAL DETAIL
N.T.S.
CONSTRUCTION LIMIT
12" EDGE STRIPE
B-2
B-1
93+00
94+00 S66°E
12" ℄ STRIPE
95+00
12" EDGE STRIPE
92+60.00
END RUNWAY
MATCH LINE SHEET 4 OF 26
SEE SITE PLAN FOR TREE & SHRUB CLEARING AREAS
TP-4
6" TOPSOIL
6" BR. FINE SAND
CBR 17.5 BR. SANDY GRAVEL
B-1
BLACKTOP
LT. BR. FINE SAND & GRAVEL
BR.-TAN FINE TO COARSE SAND, LITTLE GRAVEL
B-2
BLACKTOP
BR. FINE TO COARSE SAND & GRAVEL, LITTLE TO TRACE SILT
SCALE IN FEET
PLAN
1"=50'
THRESHOLD LIGHTS
Notes:
1. EXISTING STAKE MOUNTED THRESHOLD LIGHTS TO BE REMOVED AND RESET AT STATIONS 92+50.00 AND 122+70.00
2. CONNECTIONS BETWEEN RESET THRESHOLD LIGHTS TO BE MADE WITH NEW 1/C #8 5KV L-824 TYPE "C" CABLE AND 1 BARE COPPER COUNTERPOISE WIRE (#8AWG) AS SHOWN IN STANDARD AP-2.
3. COSTS FOR NECESSARY CABLE, COUNTERPOISE WIRE, CONNECTORS, CABLE TRENCH AND OTHER ASSOCIATED HARDWARE SHALL BE SUBSIDIARY TO ITEM 864.15, REMOVAL AND RESETTING OF L-125 THRESHOLD LIGHTS.
4. REPLACEMENT OF ANY EQUIPMENT DAMAGED DURING REMOVAL AND RESETTING WILL BE AT THE CONTRACTORS EXPENSE.
END EXISTING RUNWAY
BEGIN RUNWAY RECONSTRUCTION
BEGIN PAVEMENT STA 92+60.00
+0.0024 FT/FT
-3%
EXISTING GROUND
1-3
* 1-3 SLOPE MAY BE FLATTENED TO UTILIZE EXCESS EXCAVATION
PROFILE
HOR. 1"=50'
VER. 1"=5'
A.I.P. PROJECT NO. 3-50-0016-01
AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By
Project Engineer
Date
PLAN
PROFILE
KEUFFEL & ESSER
HARTNESS STATE AIRPORT
PLAN & PROFILE -
STA. 80+00 TO STA. 95+50
Dufresne-Henry Inc.
SPRINGFIELD, VERMONT
3 of 26
Client No. 30-0159
Proj. Mgr. GWD
Date 8/85


GENERAL NOTES
1. EXIST. UNDERGROUND ELECTRIC CABLES TO RUNWAY LIGHTS, REILS, VASI, ETC. ARE GENERALLY LOCATED 10'-11' OFF THE EXIST. RUNWAY PAVEMENT, 18" BELOW EXIST. GROUND ELEVATION.
2. ALL ELEVATIONS REFER TO MEAN SEA LEVEL.
3. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF TOPSOIL, SEED, LIME, & FERTILIZER.
40'
6"
6" STRIPE (TYP.)
6" SPACE (TYP.)
4 STRIPES & 3 SPACES @6" = 3'-6"
150' TO RUNWAY ℄
3'
DETAIL 1/4
N.T.S.
MATCH EXIST. PVMT. & ℄ STRIPE AT 165' LT. OF RUNWAY ℄
INSTALL BASE MOUNTED ILLUMINATED TAXIWAY GUIDANCE SIGN - 35' FROM EDGE OF TAXIWAY PAVT. SEE DETAIL SHEET 4-A
DETAIL 1/4
6"
36"
12"
EXISTING 12" ø ACCGMP TO REMAIN
EXISTING UG WATER LINE STA. 98+90 (SKEWED) TO REMAIN
12" RUNWAY EDGE STRIPE
CONSTRUCTION LIMIT
150'
50'R
200' (TYP.)
12" ℄ STRIPE
S 66° E
STA. 103+20 = T/W ℄
96+00
97+00
98+00
99+00
100+00
101+00
102+00
103+00
104+00
105+00
106+00
107+00
108+00
109+00
B-3
B-4
B-5
B-6
B-7
B-8
B-9
TP #3
MATCH LINE SHEET 3 OF 26
MATCH LINE SHEET 5 OF 26
0 50 100 150
SCALE IN FEET
BLACKTOP
BR. FINE TO COARSE SAND, LITTLE GRAVEL & SILT
BR. FINE - COARSE SAND, LITTLE GRAVEL & SILT
BR. FINE TO COARSE SAND, LITTLE GRAVEL & SILT
BR. FINE TO COARSE SAND & GRAVEL, LITTLE SILT
BR. FINE TO COARSE SAND, LITTLE GRAVEL & SILT
BR. FINE TO COARSE SAND, LITTLE TO TRACE GRAVEL & SILT
BR. FINE SAND & LITTLE TO TRACE GRAVEL, COARSE TO MEDIUM SAND & SILT
8'-0"
TOPSOIL
CBR 13.0
BR. FINE SAND
BR. MED TO FINE SAND & TRACE GRAVEL
22"
36"
8'-0"
PLAN
1"=50'
900' VC
PVC STA. 96+14.41 EL. 575.09
PVI 100+64.41 EL. 576.17
PVT STA. 105+14.41 EL. 574.55
+0.0024 FT/FT
-0.0036 FT/FT
580
575
570
565
560
555
550
545
574.94
575.06
575.17
575.27
575.36
575.4
575.47
575.51
575.52
575.52
575.51
575.47
575.42
575.36
575.27
575.17
575.06
574.92
574.77
574.61
574.42
574.24
574.06
573.88
573.70
573.52
573.34
573.16
572.98
572.80
95+00
96+00
97+00
98+00
99+00
100+00
101+00
102+00
104+00
105+00
106+00
107+00
108+00
109+00
110+00
PROFILE
HOR. 1"=50'
VER. 1"=5'
A.I.P. PROJECT NO. 3-50-0016-01
AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By RW Jensen Project Engineer
Date 2-12-88
PLAN
PROFILE
KEUFFEL & ESSER
PLATE 1. PLAN-PROFILE
DH
Dufresne-Henry Inc.
HARTNESS STATE AIRPORT
PLAN & PROFILE -
STA. 95+50 TO STA. 109+50
SPRINGFIELD, VERMONT
4 of 26
Client No. 30-0159
Proj. Mgr. GWD
Date 8/85
D





AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated hereih.
By R.W. Jones Project Engineer
Date 2-1-88

SIGNS AS VIEWED FROM TAXIWAY
TYPE L-858 R, SIZE 3, STYLE 2, CLASS 2

SIGNS AS VIEWED FROM RUNWAY
TYPE L-858 Y, SIZE 3, STYLE 2, CLASS 2

Notes

1. Medium Intensity Taxiway Guidance Signs (Base Mounted) are to be as described in FAA Advisory Circulars 150/5340-18B (8/21/84) 150/5345-44D (4/30/84) and 150/5345-42B

2. Price bid for Medium Intensity Taxiway Guidance Signs (Base mounted), Item 822.24 will include costs for the following associated Items

L108	Cable Trench	160 ~~295~~ LF
L108	1c #8 L-824 Type 'C', 5KV	160 295 LF
L108	1c #8 Bare Counterpoise Wire	160 295 LF
L108	Watertight Connectors, L823	6 Ea

The quantities shown above reflect the requirements for both installations

INSTALLATION OF NEW MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS (BASE MOUNTED) AT TAXIWAYS A & B

DATUM
VERTICAL
HORIZONTAL

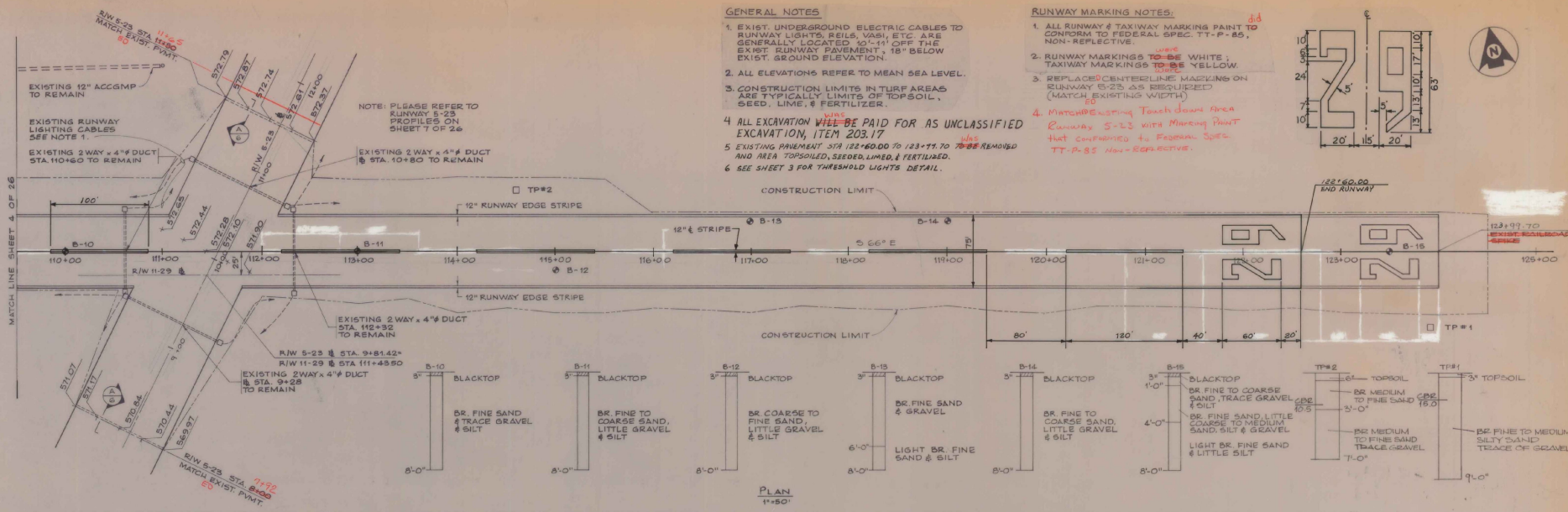
SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____
PROJ. NO.
SHEET 4-A OF

GENERAL NOTES

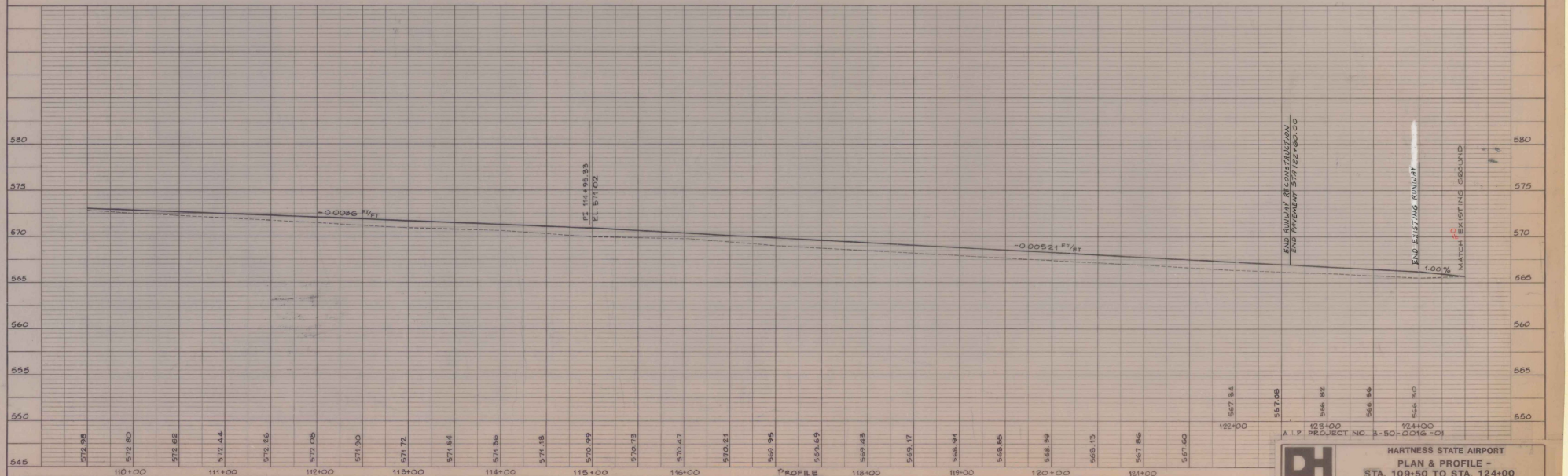
1. EXIST. UNDERGROUND ELECTRIC CABLES TO RUNWAY LIGHTS, REILS, VASI, ETC. ARE GENERALLY LOCATED 10'-11' OFF THE EXIST. RUNWAY PAVEMENT, 18" BELOW EXIST. GROUND ELEVATION.
2. ALL ELEVATIONS REFER TO MEAN SEA LEVEL.
3. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF TOPSOIL, SEED, LIME, & FERTILIZER.
4. ALL EXCAVATION ~~WILL BE~~ PAID FOR AS UNCLASSIFIED EXCAVATION, ITEM 203.17
5. EXISTING PAVEMENT STA 122+60.00 TO 123+77.70 ~~TO BE~~ REMOVED AND AREA TOPSOILED, SEEDED, LIMED, & FERTILIZED.
6. SEE SHEET 3 FOR THRESHOLD LIGHTS DETAIL.

RUNWAY MARKING NOTES:

1. ALL RUNWAY & TAXIWAY MARKING PAINT TO CONFORM TO FEDERAL SPEC. TT-P-85, NON-REFLECTIVE.
2. RUNWAY MARKINGS ~~TO BE~~ WHITE; TAXIWAY MARKINGS ~~TO BE~~ YELLOW.
3. REPLACED CENTERLINE MARKING ON RUNWAY 5-23 AS REQUIRED (MATCH EXISTING WIDTH)
4. MATCH EXISTING Touch down Area Runway 5-23 WITH Marking Paint that CONFORMED to Federal Spec. TT-P-85 Non-REFLECTIVE.



PLAN
1"=50'



PROFILE
HOR. 1"=50'
VER. 1"=5'

KEUFFEL & ESSER PLATE 1, PLAN-PROFILE 5

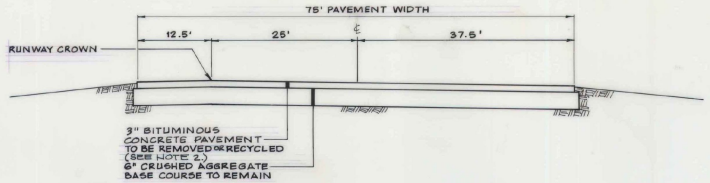
A.I.P. PROJECT NO. 3-50-0016-01

DufresneHenry Inc.

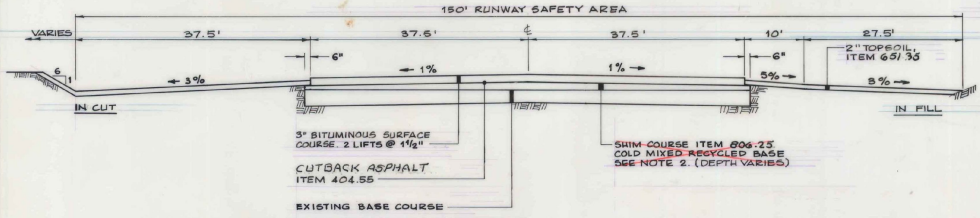
HARTNESS STATE AIRPORT
PLAN & PROFILE - STA. 109+50 TO STA. 124+00

SPRINGFIELD, VERMONT

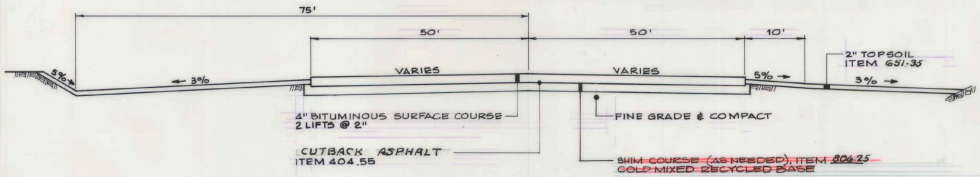
5 of 26 | Client No. 80-0159 | Proj. Mgr. GWD | Date 8/85



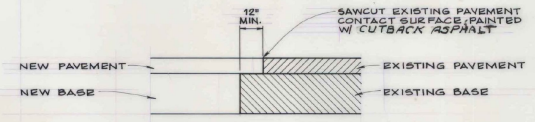
EXISTING RUNWAY 11-29 TYPYCAL SECTION
N.T.S.



PROPOSED RUNWAY 11-29 TYPICAL SECTION
N.T.S.



PROPOSED RUNWAY 5-23 TYPICAL SECTION
N.T.S.



DETAIL A4 A5
N.T.S.

NOTES:

1. COLD MIXED RECYCLED BASE COARSE TO BE COMPOSED OF EXISTING BITUMINOUS CONCRETE PAVEMENT & THE TOP 2" OF THE EXISTING BASE COURSE. THE MIXTURE OF EXISTING PAVEMENT & BASE COURSE IS TO BE CRUSHED, ROTOMILLED OR HAMMERMILLED SUCH THAT NO MATERIAL REMAINS ON A 1½" SCREEN. THEN THE MATERIAL SHALL BE BLENDED TO PRODUCE A UNIFORM MATERIAL WHICH CAN BE FINE GRADED & COMPACTED. ADDITIONAL MATERIAL CONFORMING TO P-208 UNCRUSHED AGGREGATE BASE COURSE WILL HAVE TO BE ADDED TO THE RECYCLED MATERIAL IN ORDER TO A SUFFICIENT QUANTITY OF SHIM COURSE.
2. THE CONTRACTOR, AT HIS OPTION, MAY REMOVE & WASTE OFFSITE THE EXISTING BITUMINOUS PAVEMENT & REPLACE WITH A SHIM COURSE OF UNCRUSHED AGGREGATE BASE COURSE (FAA SPEC. P-208)

CONSTRUCTION METHOD:

ALTERNATE # 1.

		PAY UNIT
ITEM 203.28	EXCAVATION OF SURFACES AND PAVEMENTS	2660 2550 CY
ITEM 302.17	UNCRUSHED AGGREGATE BASE COURSE TYPE 'C' (P-208)	3240 3,000 C.Y.

ALTERNATIVE # 2.

ITEM 806.25	COLD MIXED RECYCLED BASE COURSE, IN PLACE RECYCLING (OF EXISTING PAVEMENT)	30,700 SY.
ITEM 302.17	UNCRUSHED AGGREGATE BASE COURSE. TYPE 'C' (P-208)	450 CY

3. QUANTITY CALCULATIONS INDICATE THAT THERE IS APPROXIMATELY 2331CY OF SHIM COURSE REQUIRED (ALTERNATIVE #2), & APPROXIMATELY 1972CY OF COLD MIXED BASE COURSE AVAILABLE FOR SHIM COURSE. THEREFORE AN ADDITIONAL 450 CY OF P-208 UNCRUSHED AGGREGATE IS REQUIRED TO BE BLENDED WITH THE RECYCLED BASE COURSE TO PROVIDE A SUFFICIENT QUANTITY OF SHIM COURSE.

Seed, Item 651.15 WAS to be applied as directed by Engineer.

$/WT	LBS/A	Name	Pur %	Germ
3.33	2	Crown Vetch	97	75
50.00	30	Creeping Red Fescue	98	85
8.33	5	Timothy	99	85
16.67	10	Perr. Rye Grass (Var. Pennfine)	95	85
8.34	5	Alfalfa (Var. Saranac)	99	85
8.33	5	Birdsfoot Trefoil (Var. Empire	98	85
5.00	3	Highland Bent Grass	92	85
100.00	60			

The seed mixture shall not have a weed content exceeding 0.40% by weight and shall be free of all noxious weed seed.

Fertilizer, Item 651.18 WAS Formula 10-20-10 to be used with seed, Item 651.10, applied at the rate of 500 lbs/acre.

Agriculture Limestone, Item 651.20 Was To be applied at rate of 2 tons/acre or as directed by Engineer.

Hay mulch, Item 651.25 WAS To be placed on earth slopes at the rate of 2.1 2 tons/acre.

Topsoil, Item 651.35 WAS To be used with seed, item 651.15, as directed by the Engineer.

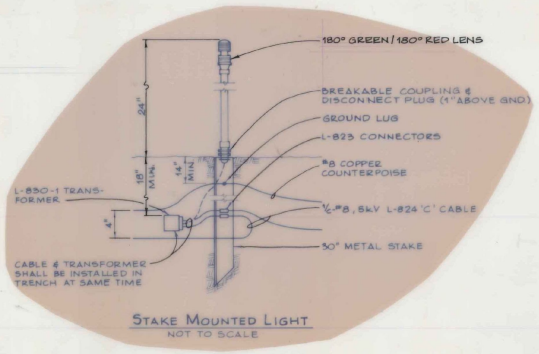
Allowable thickness tolerances

Subbase	± 3/4"
Pavement	± 3/16"
Base Course	± 3/4"

1. Sub-grade under areas to be paved WAS to be compacted to 100% density as per FAA T-611 (AASHTO T-180).
2. Bituminous tack coat WAS to be applied as per Item 404, Subsection 404.06, Type I first Application using RC-250.
3. Existing bituminous conc.pvmt. from Runway 11-29 to be pulverized and blended to form a cold mixed recycled base (shim) course Item 806.25 for the runway rehabilitation. Cost of pulverizing and blending the pvmt. will be included in the cost of Item 806.25 Cold Mix Recycled Base (shim) Course, per sq. yd.
4. Top of base under runway pavement to be WAS fine graded and compacted to 100% density as per FAA T-611 (AASHTO T-180).

RUNWAY LIGHTING NOTE

THE PLACEMENT OF TOPSOIL AND/OR REGRADING ALONGSIDE THE NEW EDGES OF PAVEMENT MAY REQUIRE THAT THE EXISTING RUNWAY LIGHTS BE ADJUSTED TO GRADE. (SEE CORRECT PLACEMENT AT LEFT) THIS IS NOT A SEPARATE PAY ITEM.



STAKE MOUNTED LIGHT
NOT TO SCALE

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By RW Jenness Project Engineer
Date 2-12-88

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

TYPICAL SECTIONS

SPRINGFIELD, VERMONT

Rev.	Description	By	Date

Duffresne-Henry Inc.
1321 Washington Ave.
Portland, Maine 04103

Client No.	30-0189
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	9/5/85

STATE OF VERMONT GERALD W. D'AMICO No. 3873 REGISTERED PROFESSIONAL ENGINEER

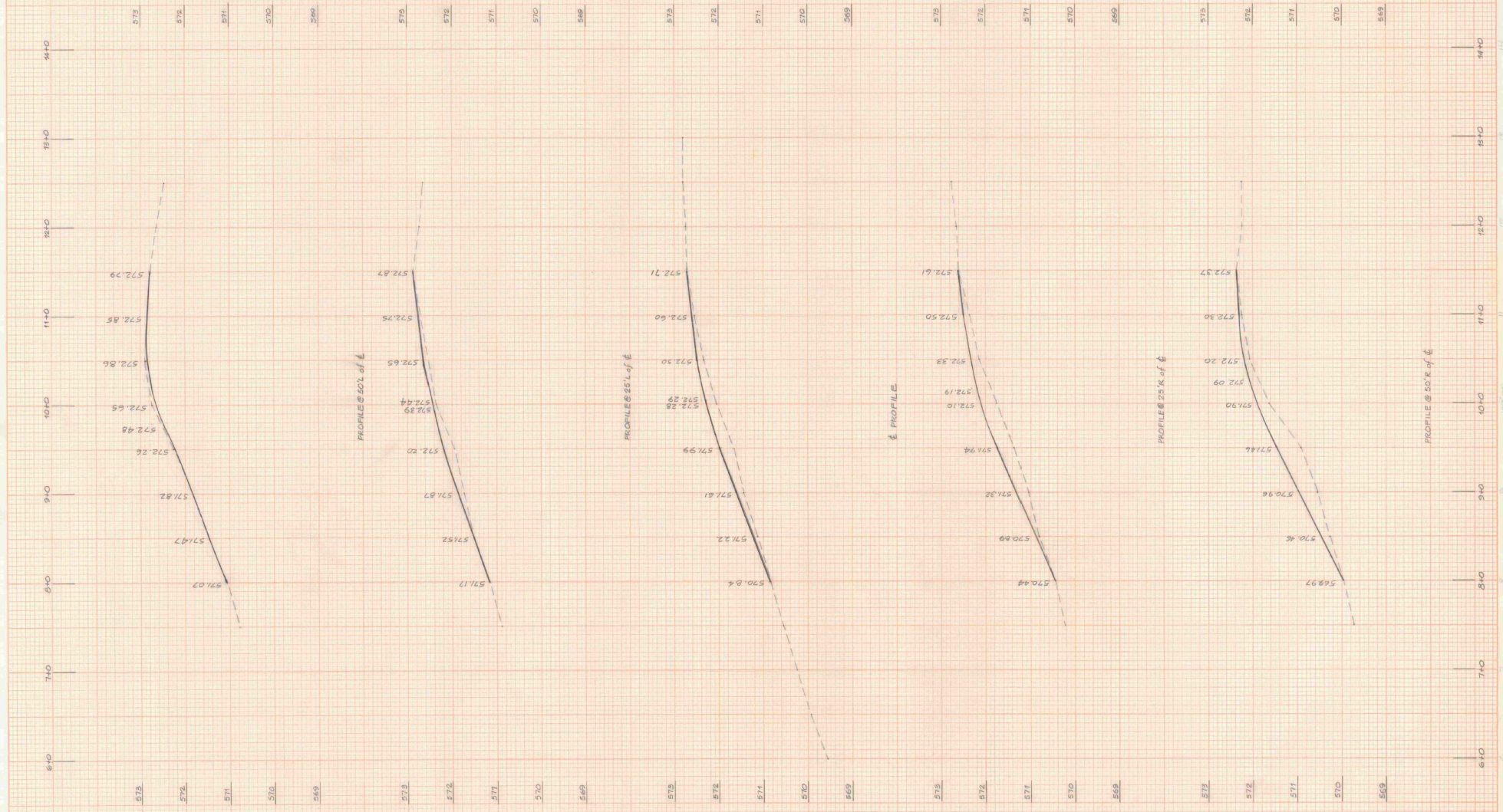
Sheet 6 of 26
D

BRUNING 44-132 40307-3

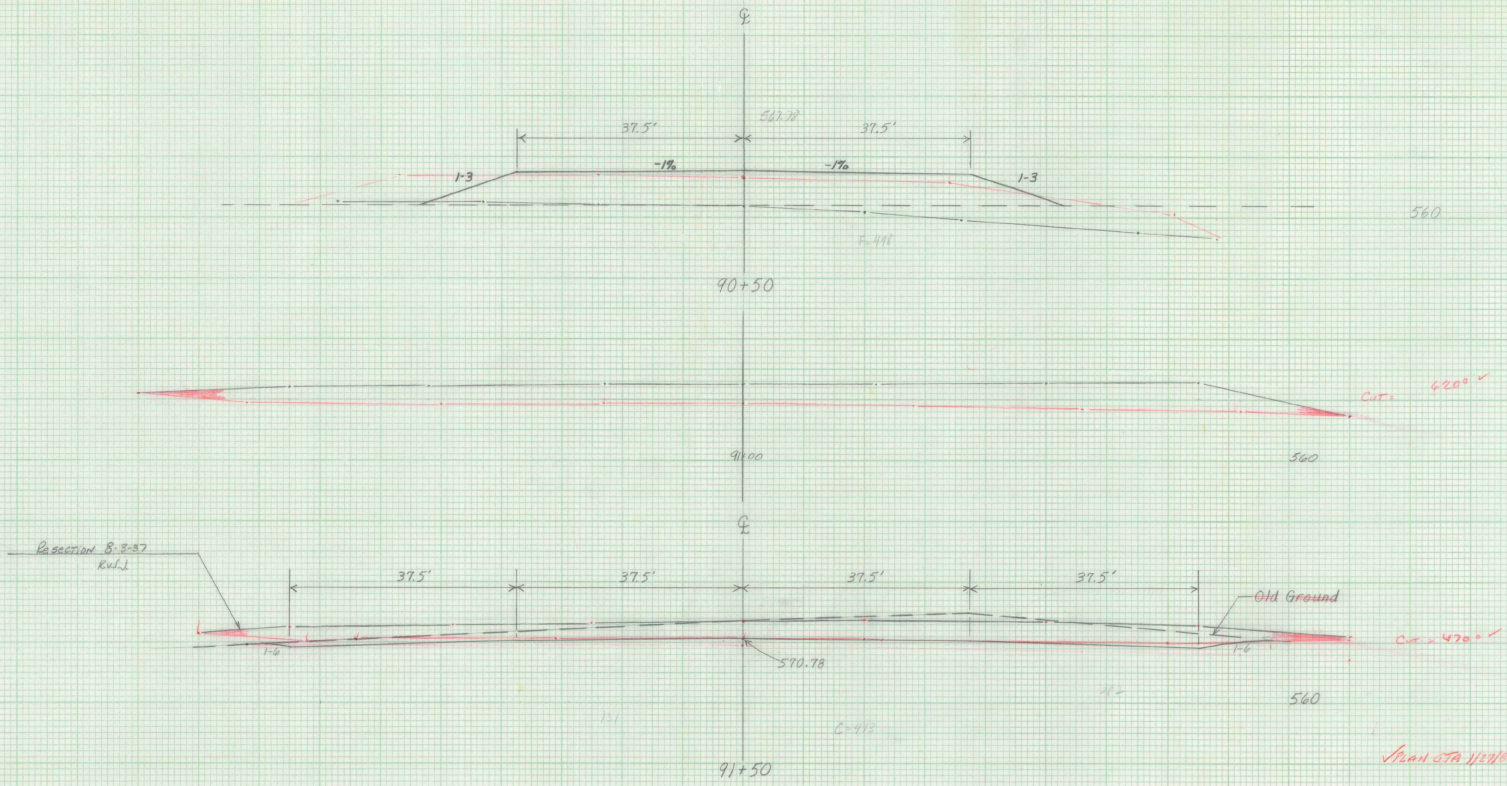
A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
RUNWAY 5-23 INTERSECTION PROFILES

SPRINGFIELD, VERMONT



KEUFFEL & ESSER CO. PLATE & CROSS SECTION



Scale: 1" = 10'

Hartness State Airport
AIR 03-2044
AIP No. 3-50-0016-01

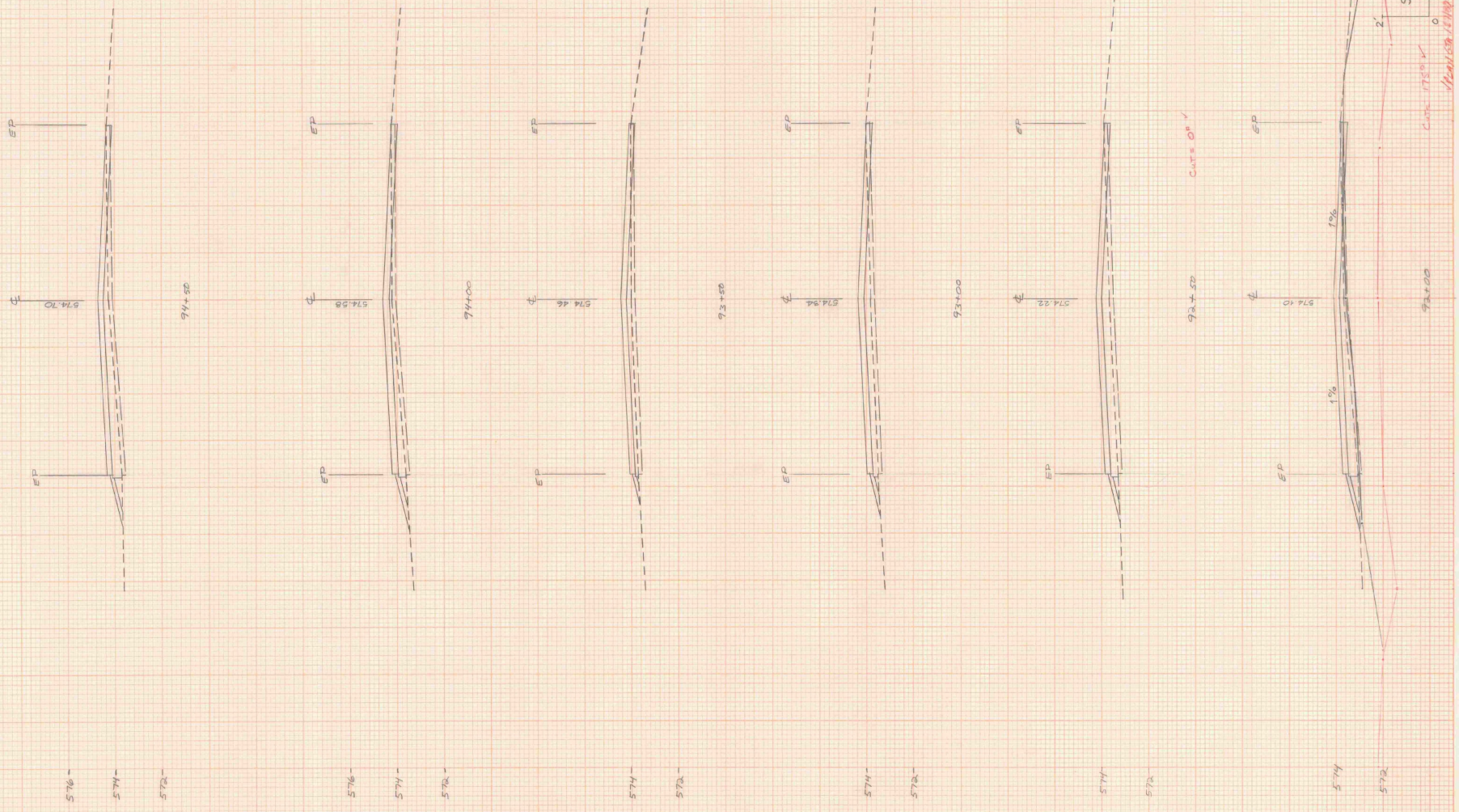
SHEET 7A of 26

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS -
STA. 92+00 TO STA. 94+50

SPRINGFIELD, VERMONT



A.I.P. PROJECT NO. 3-50-0016-01

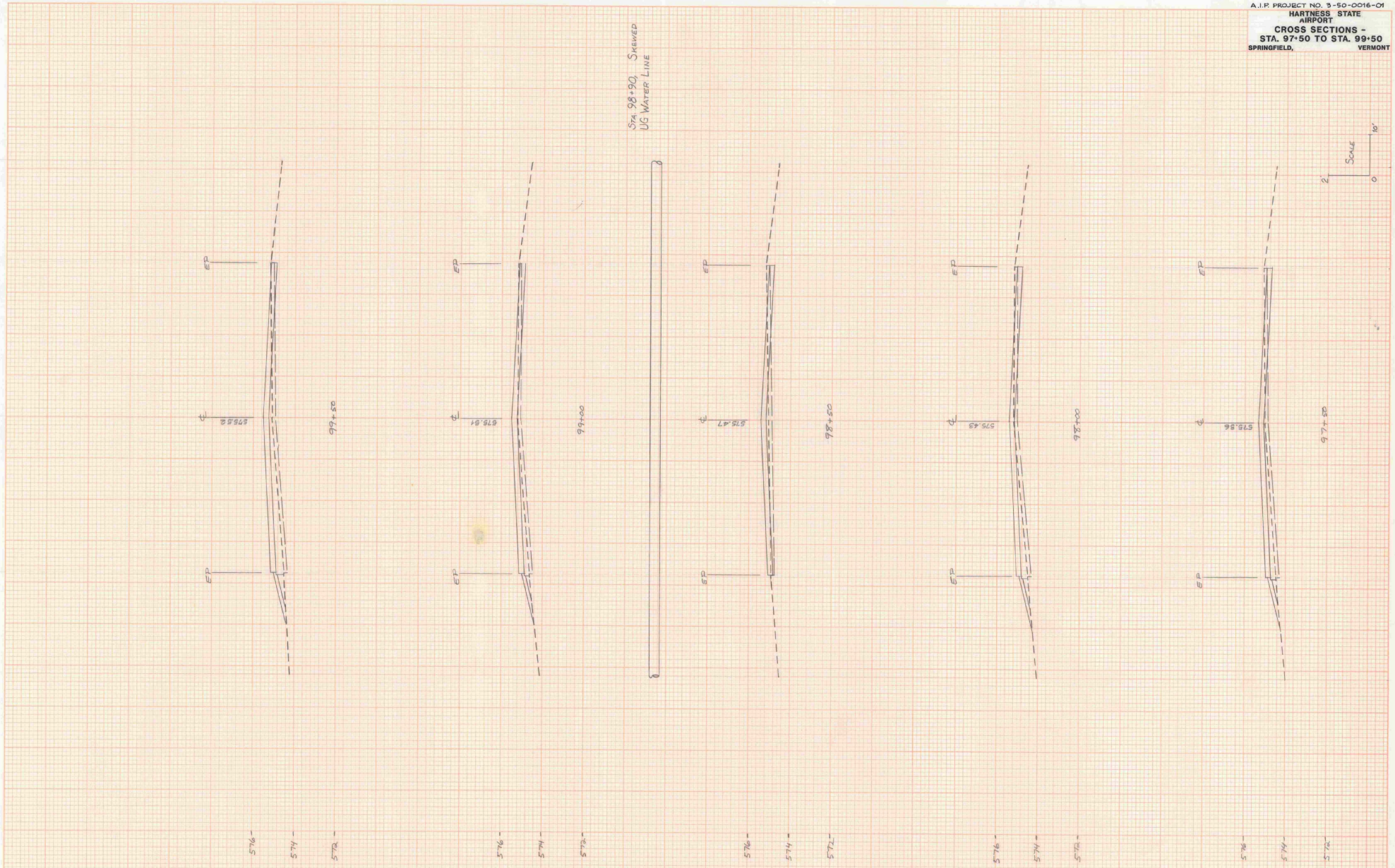
HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 95+00 TO STA. 97+00

SPRINGFIELD, VERMONT

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION
46 7999 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01
HARTNESS STATE AIRPORT
CROSS SECTIONS -
STA. 97+50 TO STA. 99+50
SPRINGFIELD, VERMONT



KEUFFEL & ESSER PLATE 3, CROSS SECTION

A.I.P. PROJECT NO. 3-50-0016-04

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 100+00 TO STA. 102+00

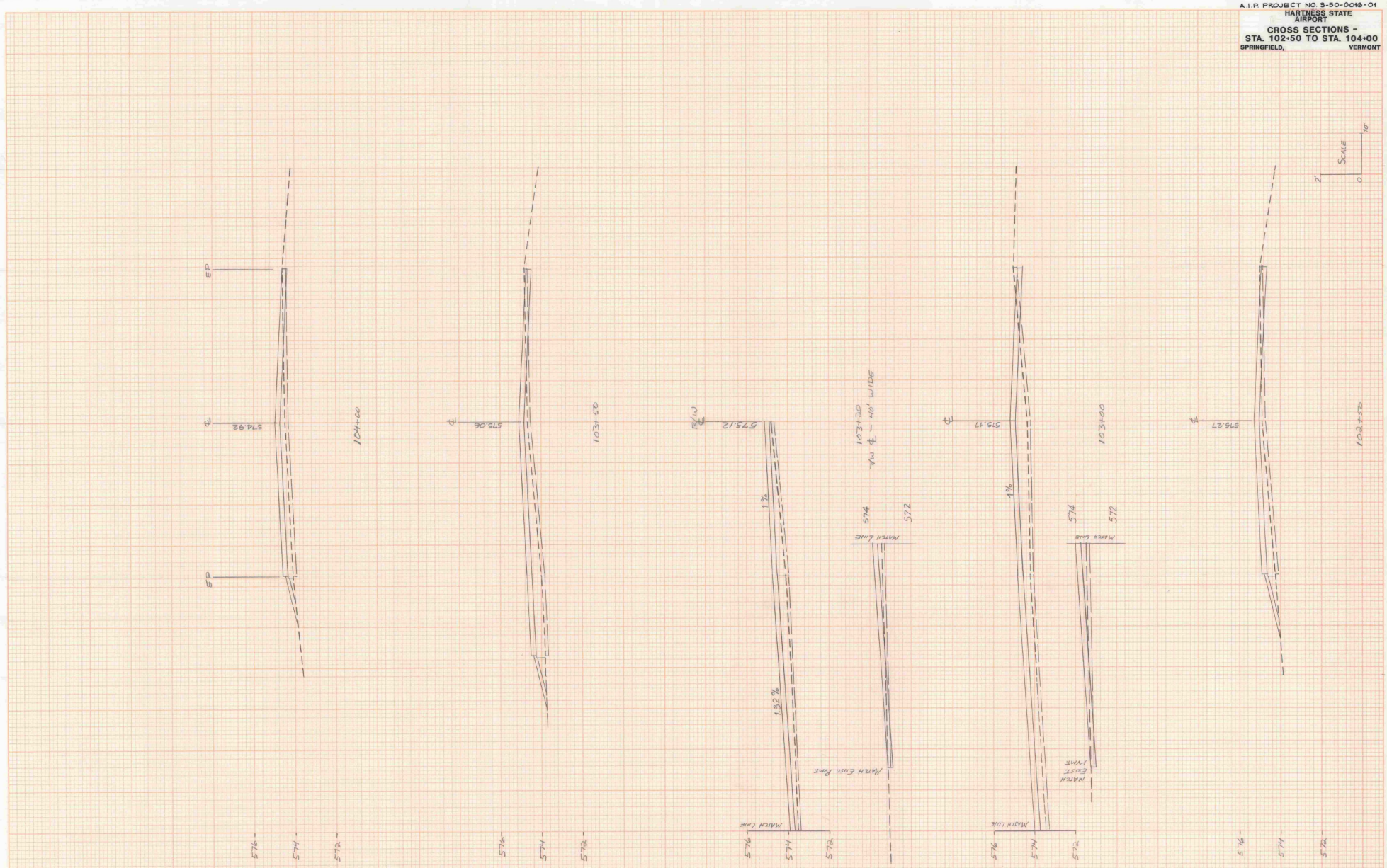
SPRINGFIELD, VERMONT

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 102+50 TO STA. 104+00

SPRINGFIELD, VERMONT



KEUFFEL & ESSER CO. PLATE 9, CROSS SECTION

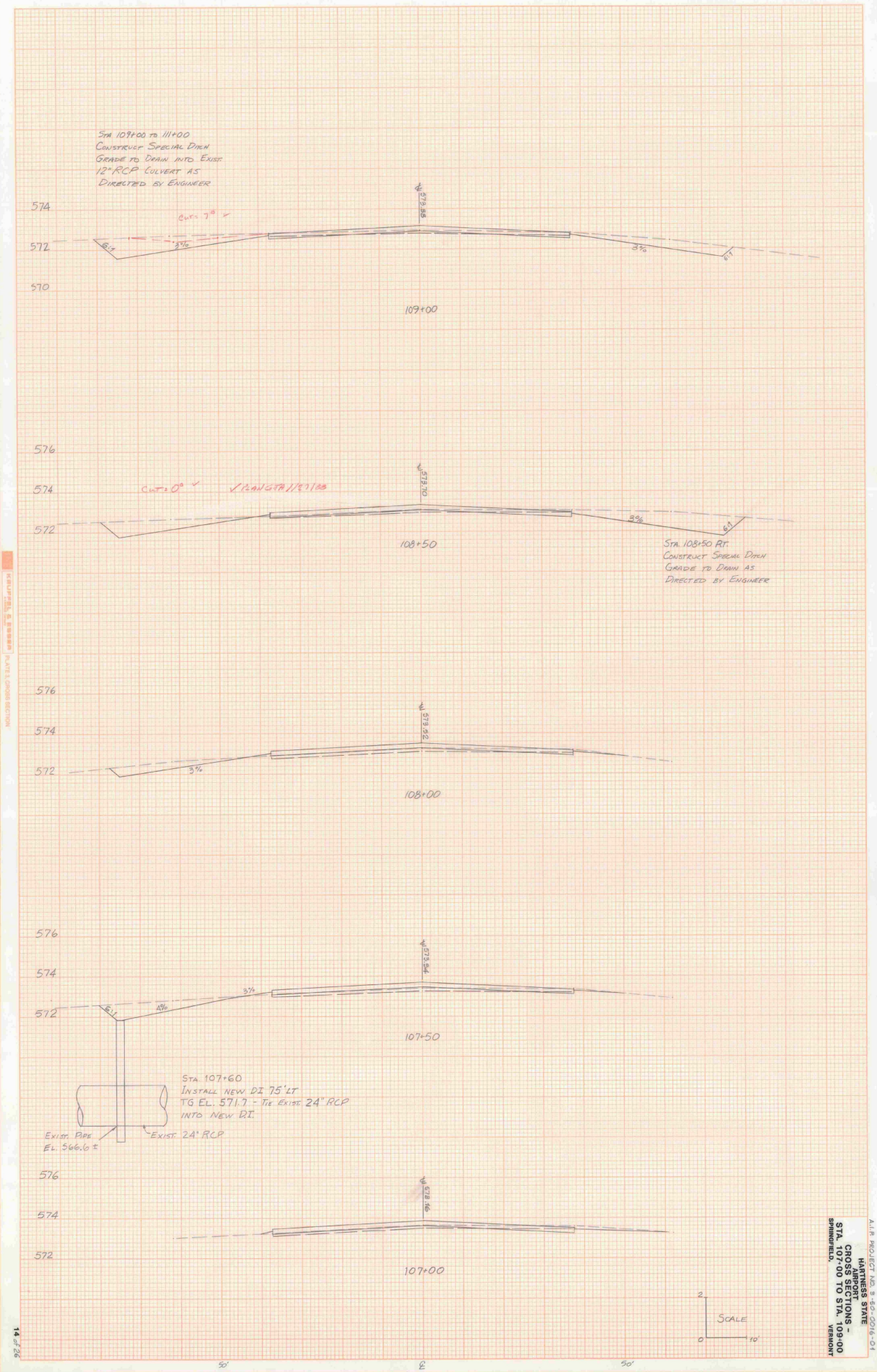
A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 104+50 TO STA. 106+50

SPRINGFIELD VERMONT

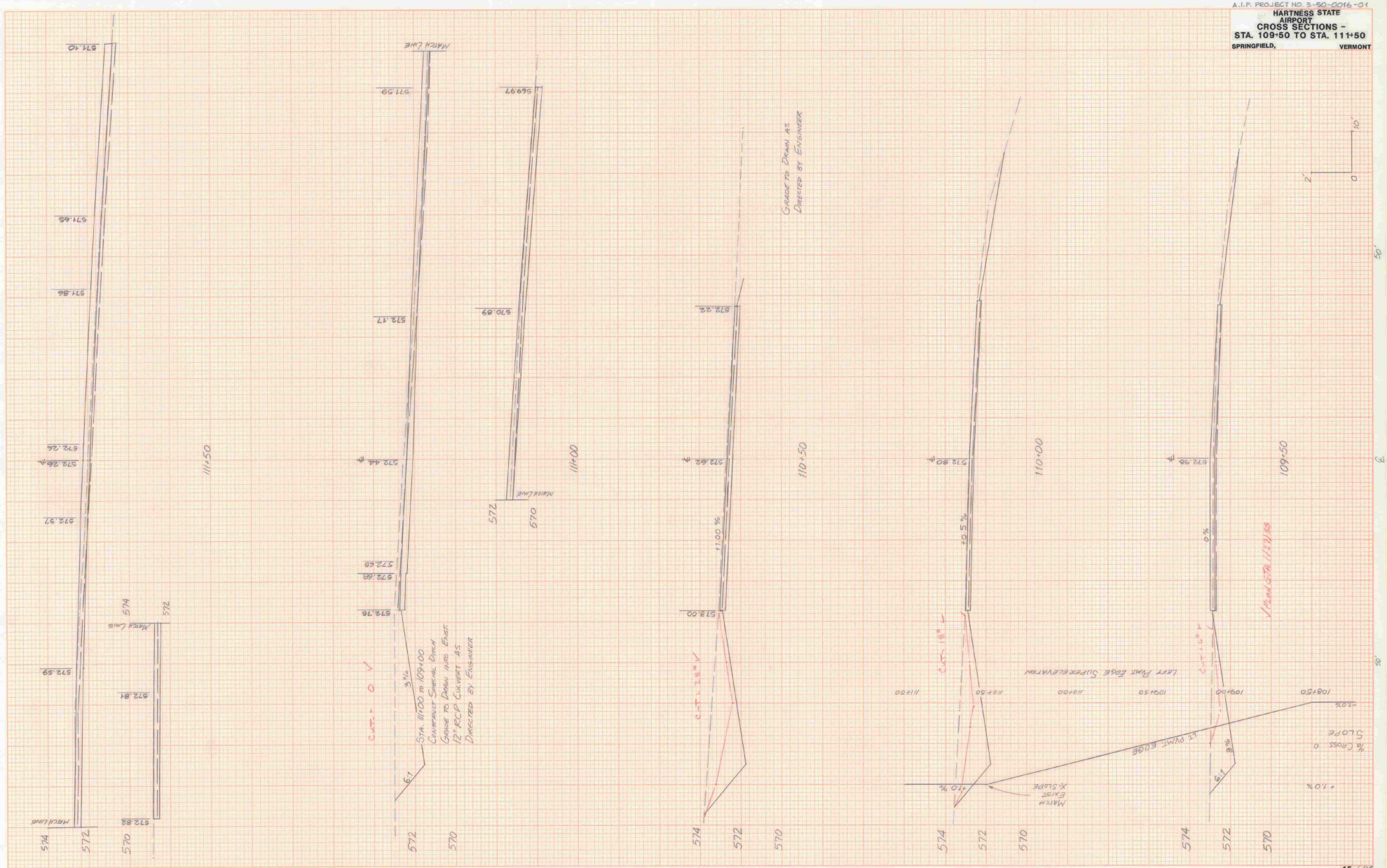
KEUFFEL & ESSER PLATE 3, CROSS SECTION



A.I.P. PROJECT NO. 9-50-0016-01
HARTNESS STATE AIRPORT
CROSS SECTIONS - STA. 107+00 TO STA. 109+00
SPRINGFIELD, VERMONT

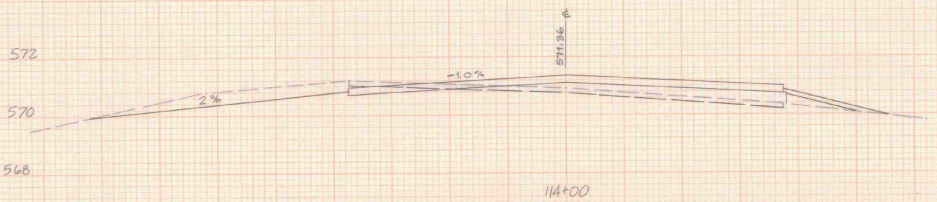
A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS –
STA. 109+50 TO STA. 111+50
SPRINGFIELD, VERMONT

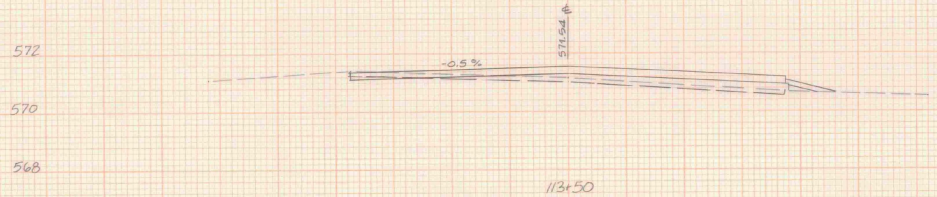


ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

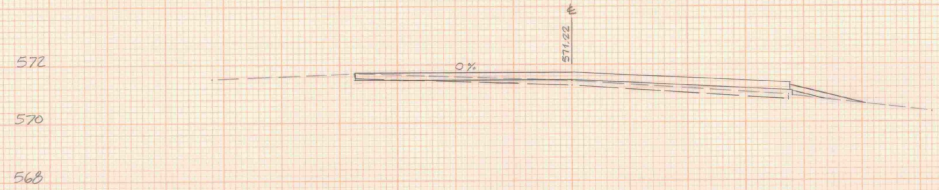
FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		



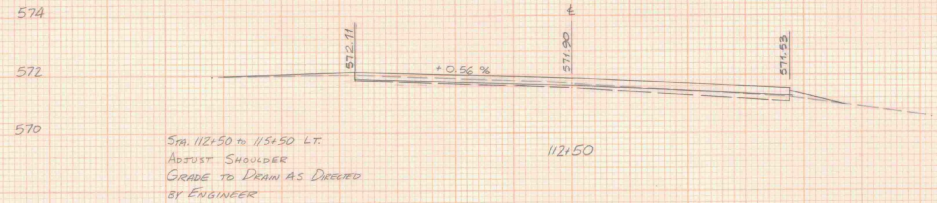
114+00



113+50

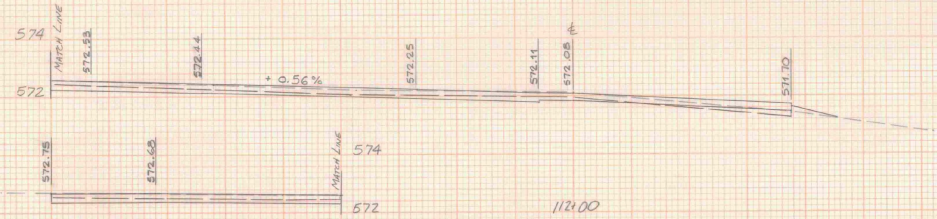


113+00

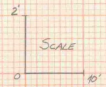


STA. 112+50 to 115+50 LT.
ADJUST SHOULDER
GRADE TO DRAIN AS DIRECTED
BY ENGINEER

112+50



112+00



50' ℄ 50'

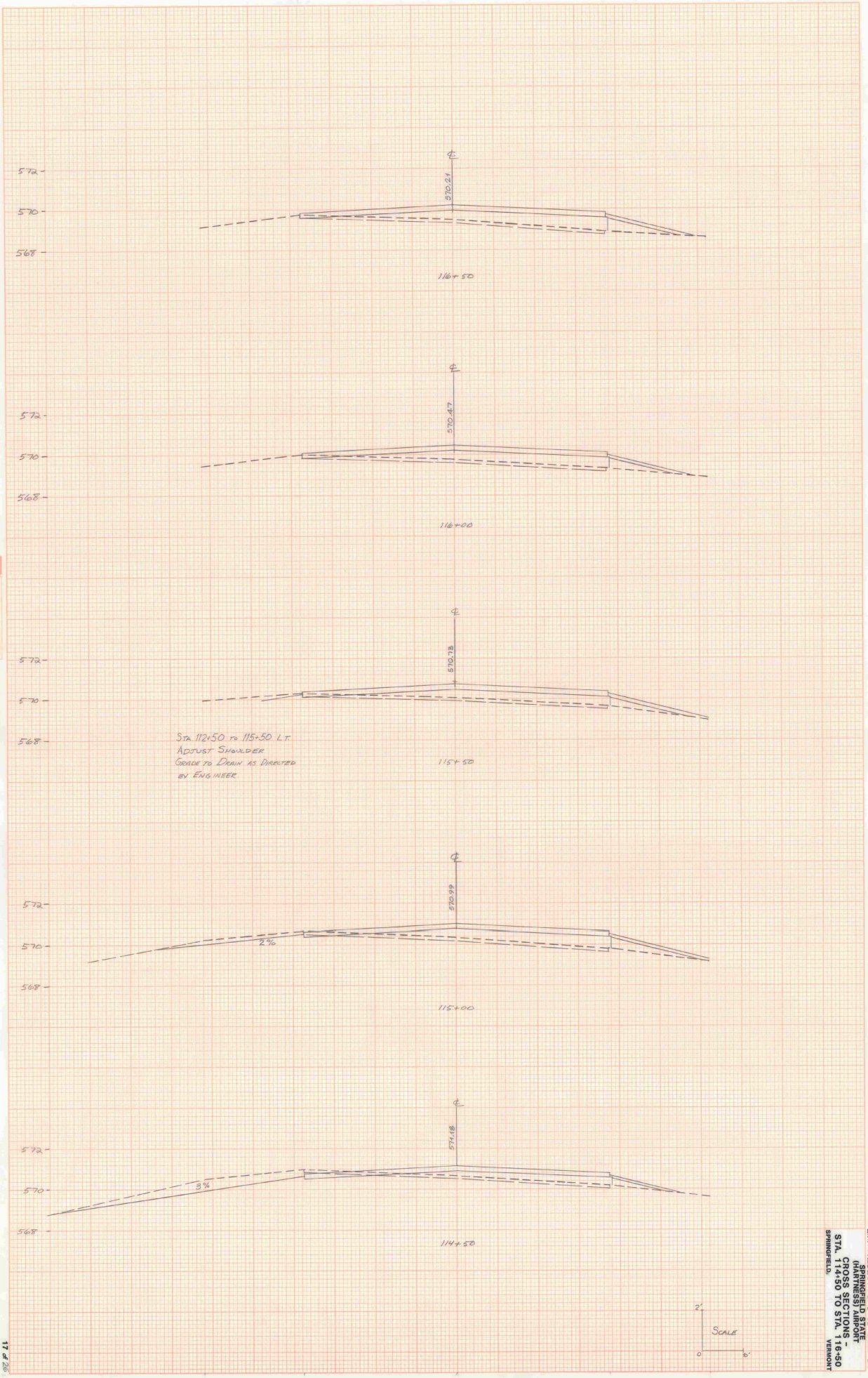
A.I.P. PROJECT NO. 3-50-0096-01

HARTNESS STATE AIRPORT
CROSS SECTIONS -
STA. 112+00 TO STA. 114+00
SPRINGFIELD, VERMONT

KEUFFEL & ESSER PLATE A CROSS SECTION

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		



KEUFFEL & ESSER PART 3 CROSS SECTION

A.I.P. PROJECT NO. 3-50-0016-01

SPRINGFIELD STATE
(HARTNESS) AIRPORT
CROSS SECTIONS
STA. 114+50 TO STA. 116+50
SPRINGFIELD, VERMONT

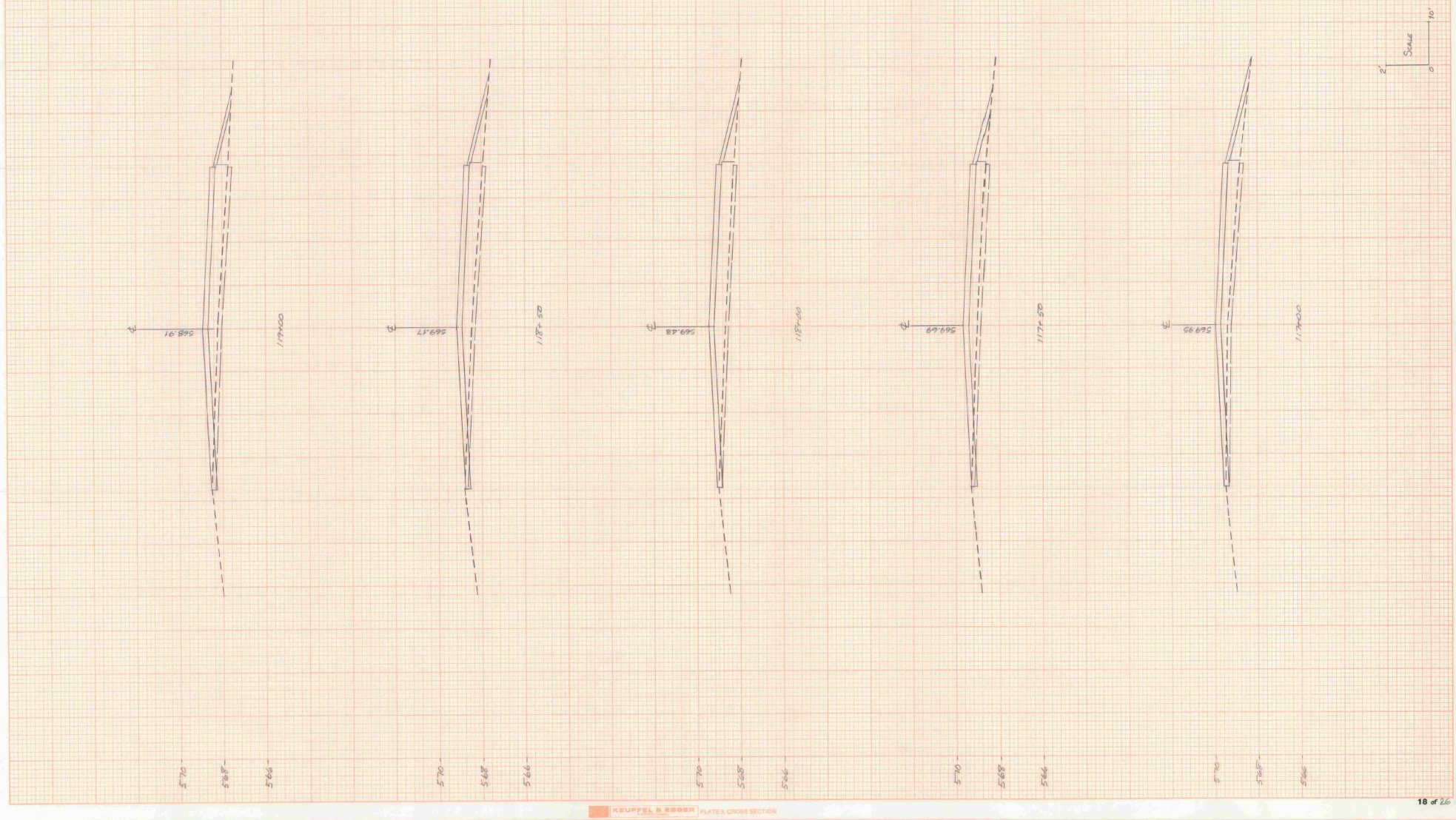
A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS -

STA. 117+00 TO STA 119+00

SPRINGFIELD, VERMONT



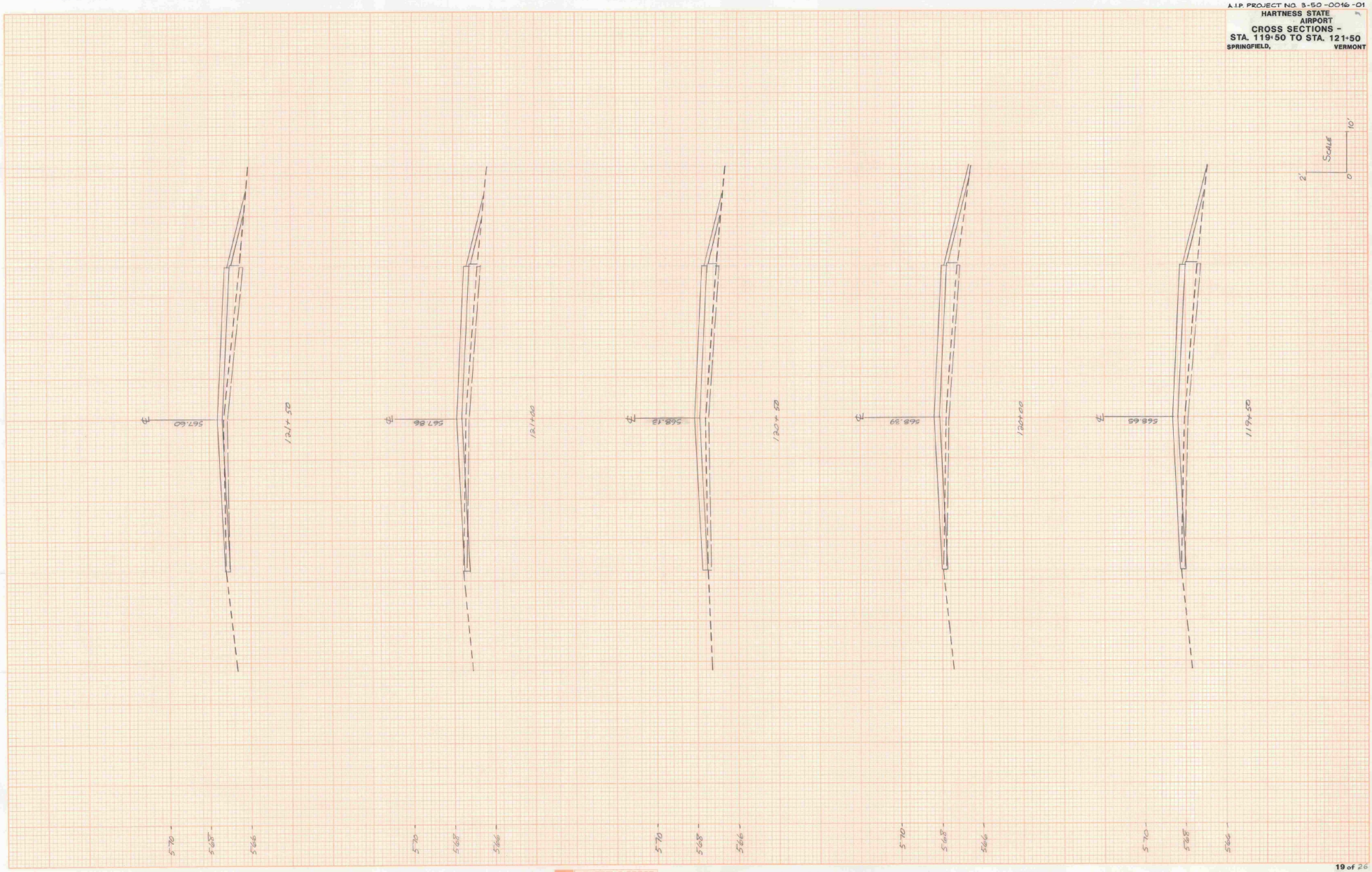
KEUFFEL & ESSER PLATE 3, CROSS SECTION

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 119+50 TO STA. 121+50

SPRINGFIELD, VERMONT



KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

A.I.P. PROJECT NO. 3-50-0016-04

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 122+00 TO STA. 124+00

SPRINGFIELD, VERMONT

KEUPPEL & SEEGER | PLATE 5 CROSS SECTION

EARTHWORK SHEET

STATE OF VERMONT

FED ROAD DIVISION NO.	STATE	PROJECT NO.	FISCAL YEAR POST WAR	SHEET NO.	TOTAL SHEETS
1	VT				

ALT. #2 — ALT. #1

VC	% GRADE	STATION	GRADES ELEVATION ON TANGENT	ON V CURVES	CORR V.C	DIST	TOTAL EXCAVATION (UNCLASSIFIED) AREA	CU YDS	SHIM REQUIRED AREA	CU YDS	SHIM AVAILABLE AREA	CU YDS	BASE AREA	CU YDS
		92+00	574.10				0							
						50'				30		23		37
		+50	574.22				0							
						50'				35		24		45
		93+00	574.34				0							
						50'				32		23		40
		+50	574.46				0							
						50'				27		24		34
		94+00	574.58				0							
						50'				30		28		37
		+50	574.70				0							
						50'				26		28		32
		95+00	574.82				0							
						50'				21		26		26
		+50	574.94				0							
						50'				23		25		29
		96+00	575.06				0							
	-0.240%	+14.41	575.09	575.09	—	50'				22		23		28
		+50	575.18	575.17	-0.01		0							
						50'				28		26		37
		97+00	575.30	575.27	-0.03		0							
						50'				33		31		41
		+50	575.42	575.36	-0.06		0							
						50'				25		31		31
		98+00	575.54	575.43	-0.11		0							
						50'				17		27		21
		+50	575.66	575.47	-0.19		0							
						50'				16		24		20
		99+00	575.78	575.51	-0.27		0							
						50'				27		24		34
		+50	575.90	575.52	-0.37		0							
						50'				31		26		39
		100+00	576.02	575.52	-0.49		0							
						50'				35		26		44
		+50	576.14	575.51	-0.63		0							
900' V.C.		+64.41	576.17	575.50	-0.67	50'				40		26		50
		101+00	576.26	575.47	-0.78		0							
						50'				42		26		52
		+50	576.38	575.42	-0.96		0							
						50'				34		24		42
		102+00	576.50	575.36	-1.14		0							
						50'				34		24		42
		+50	576.62	575.27	-1.35		0							
						50'		2		43		27		54
		103+00	576.74	575.17	-1.57		2.0							
						50'		2		60		25		75
		+50	576.86	575.06	-1.80		0.4							
						50'		-		42		28		52
		104+00	576.98	574.92	-2.06		0.2							
						50'		-		30		25		38
		+50	577.10	574.77	-2.33		0.4							
						50'				30		24		38
		105+00	577.22	574.61	-2.61		0	-						
		+14.41	577.25	574.55	-2.70	50'				21		24		26
		+50	574.42				1.0							
						50'		4		15		27		19
		106+00	574.24				3.2							
						50'		7		8		32		10
		+50	574.06				3.2							
						50'		10		3		32		5
		107+00	573.88				2.0							
						50'		18		7		26		9
		+50	573.70				18							
						50'		28		7		24		10
		108+00	573.52				12							
						50'		52		5		24		6
		+50	573.34				44							
						50'		76		5		26		6
		109+00	573.16				38							
						50'		63		5		28		6
		+50	572.98				30							
						50'		56		3		32		4
		110+00	572.80				30							
						50'		74		3		41		4
		+50	572.62				50							
						50'		93		45		87		56
		111+00	572.44				50							
						50'		19		111		118		140
		+50	572.26				0							
						50'				99		104		124
		112+00	572.08				0							
						50'				38		61		47
		+50	571.90				0							
						50'				10		24		12
		113+00	571.72				0							
						50'				17		26		22
		+50	571.54				0							
		COLUMN TOTAL						504		1215		1408		1524

ALT. #2 — ALT. #1

VC	% GRADE	STATION	GRADES ELEVATION ON TANGENT	ON V CURVES	CORR V.C	DIST	TOTAL EXCAVATION (UNCLASSIFIED) AREA	CU YDS	SHIM REQUIRED AREA	CU YDS	SHIM AVAILABLE AREA	CU YDS	BASE AREA	CU YDS
	-0.360%	113+50	571.54											
						50'	0							
		114+00	571.36					19		29		30		30
						50'	20							
		+50	571.18					41		33		30		41
						50'	24							
		+95.33	571.02					37		42		28		52
		115+00	570.99			50'	16							
								20		51		28		64
		+50	570.73			50'	6							
								6		56		26		70
		116+00	570.47			50'	0			65		24		78
		+50	570.21			50'				60		24		75
		117+00	569.95			50'				56		24		70
		+50	569.69			50'				60		24		75
	-0.521%	118+00	569.43			50'				64		24		80
		+50	569.17			50'				64		24		80
		119+00	568.91			50'				56		24		70
		+50	568.65			50'				49		24		62
		120+00	568.39			50'				52		24		65
		+50	568.13			50'				48		24		60
		121+00	567.86			50'				40		24		50
		+50	567.60			50'				45		24		56
		122+00	567.34			50'				50		24		62
		+50	567.08			50'				53		24		66
		123+00	566.82			50'				47		24		60
		+50	566.56			50'				42		24		60
		124+00	566.30							51		38		64

		COLUMN TOTAL					123							
		GRAND TOTAL					627							
		ROUNDING					23							
		TOTAL					650 CY							
		COLUMN TOTAL								1116		564		1398
		GRAND TOTAL								2331		1972		2922

TOTAL SHIM REQUIRED 2331 CY

RECYCLED MATERIAL AVAILABLE FOR SHIM 1972 CY

∴ REQUIRED ADDITIONAL MATERIAL (P-208) 352 CY

FILL FACTOR (0.25) 88 CY

ROUNDING 10 CY

P-208 REQUIRED ADDITIONAL MATERIAL 450 CY

COLUMN TOTAL	1398
GRAND TOTAL	2922
ROUNDING	78
TOTAL	3000 CY

QUANTITIES FOR CONSTRUCTION OF SAFETY AREA OFF RNWY 11 (STA 90+00-92+60)

UNCLASSIFIED EXCAVATION 1400 cy*

EMBANKMENT 720 cy

* EXCESS EXCAVATION TO BE USED TO FLATTEN 1:3 SLOPE

QUANTITIES

				EMBANKMENT		BASE	
ITEM NO.	DESCRIPTION	QUANTITY		AREA	CU YDS	AREA	CU YDS
201.10	CLEARING AND GRUBBING	LUMP SUM					
201.10	CLEARING AND GRUBBING (MISC AREA)	0	L.S.				
203.17	UNCLASSIFIED EXCAVATION	2050	C.Y.				
404.55	CUTBACK ASPHALT	122	CWT				
501.25	CONCRETE, CLASS 'B'	2.6	C.Y.				
507.15	REINFORCING STEEL	193	LBS.				
604.45	CAST IRON FRAME & GRATE, TYPE 'A'	1	EA.				
608.25	ALL-PURPOSE EXCAVATOR RENTAL	24	HOURS				
631.10	ENGINEER'S FIELD OFFICE	LUMP SUM					
635.10	MOBILIZATION	LUMP SUM					
651.15	SEED	1242	LBS.				
651.18	FERTILIZER	9185	LBS.				
651.20	AGRICUTURAL LIMESTONE	37	TONS				
651.25	HAY MULCH	37	TONS				
651.35	TOPSOIL	425	C.Y.				
620.12	CHAIN LINK FENCE - 6'	3900	L.F.				
620.16	GATE FOR CHAIN LINK FENCE, 6'	24	L.F.				
808.25	BITUMINOUS CONCRETE PAVEMENT (P-401)	5040	TONS				
816.10	RUNWAY & TAXIWAY PAINTING	13,164	S.F.				
ALTERNATIVE 1							
203.28	EXCAV. OF SURFACES & PAVEMENTS	2550	C.Y.				
* 302.17	UNCRUSHED AGGREGATE BASE COURSE (P-208) TYPE C	2725	C.Y.				
ALTERNATIVE 2							
806.25	COLD MIXED RECYCLED BASE COURSE (P-208A)	30,700	S.Y.				
* 302.17	UNCRUSHED AGGREGATE BASE COURSE (P-208) TYPE 'C'	315	C.Y.				
620.21	BRACING ASSEMBLY FOR CHAIN LINK FENCE, 6'	30	EA				
822.24	MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS, BASE MOUNTED (L-125)	2	EA				
864.15	THRESHOLD LIGHTS L-125 REMOVE & RESET	12	EA				

				EMBANKMENT		BASE	
				AREA	CU YDS	AREA	CU YDS
	30	EA					
ADDITIONAL ITEM	2	EA					
	12	EA					
400.01 Extra Work Order #1 C.O.#2	1	L.S.					

* Note: The Contractor may supply either an uncrushed aggregate base or a crushed aggregate base under this pay item. Refer to Section 302 - Aggregate Base Course.

CARRIED FORWARD

COLUMN FOOTINGS

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished substantially as shown hereon.

By Kurt Jensen Project Engineer

Date 3-12-88

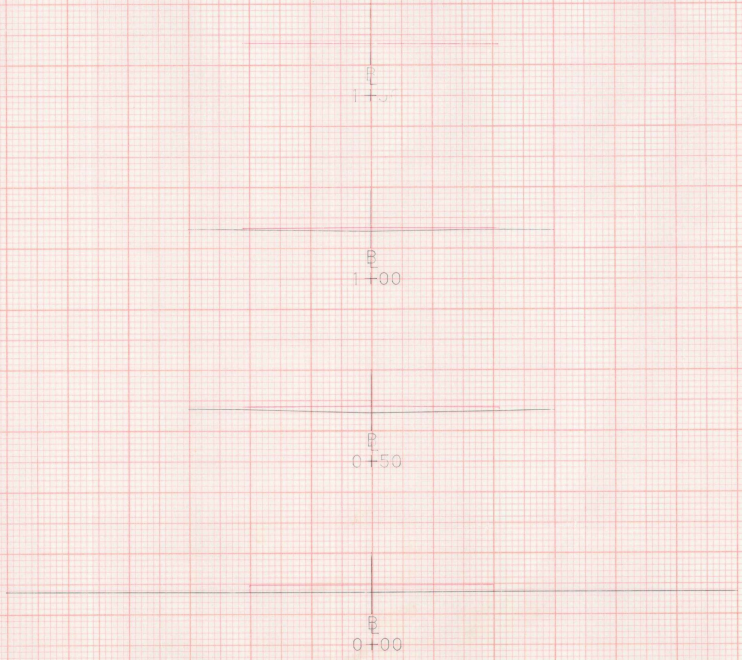
PROJECT HARTNESS STATE AIRPORT SPRINGFIELD, VERMONT

PROJECT AIR NO 03-2044

SHEET 21 OF 26 SHEETS

Revised 5/11/87 JLR

PROJECT NAME.	SPRINGFIELD PIT3
PROJECT NO.	AIR03-2044
RESIDENT ENG.	R.JENSEN
NAME OF PIT.	TAXIWAY
ITEM NO.	302.17
ORIGINAL LEVELS BY.	R.JENSEN 08/04/87
FINAL LEVELS BY.	R.JENSEN 09/17/87
SCALE.	ONE INCH = 10 FEET
DATE PLOTTED.	10/06/87



570

1+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL		

570

1+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	17	

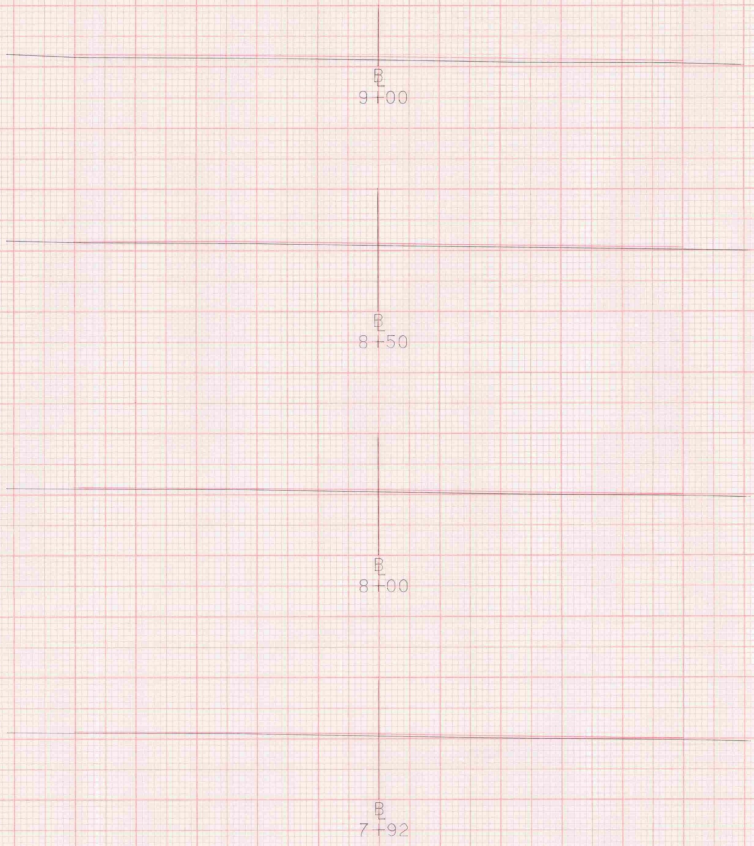
570

0+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	34	

570

0+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	47	

PROJECT NAME.	SPRINGFIELD PIT3
PROJECT NO.	AIR03-2044
RESIDENT ENG.	R.JENSEN
NAME OF PIT.	TAXIWAY
ITEM NO.	302.17
ORIGINAL LEVELS BY.	R.JENSEN 08/04/87
FINAL LEVELS BY.	R.JENSEN 09/17/87
SCALE.	ONE INCH = 10 FEET
DATE PLOTTED.	10/06/87



570

9+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	46	

570

8+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	29	

570

8+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	25	

570

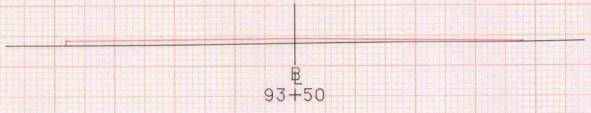
7+92	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	25	

PROJECT NAME.	SPRINGFIELD PIT2
PROJECT NO.	AIR03-2044
RESIDENT ENG.	R. JENSEN
NAME OF PIT.	RW 5-23
ITEM NO.	302.17
ORIGINAL LEVELS BY. .	R. JENSEN 07/30/87
FINAL LEVELS BY. . .	R. JENSEN 09/17/87
SCALE.	ONE INCH = 10 FEET
DATE PLOTTED.	10/06/87

NEXT TYPE TO BE PLOTTED
31
39

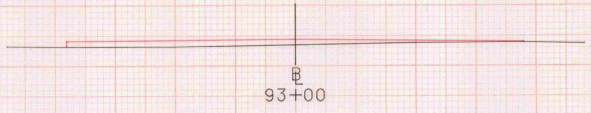
570

94+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	47	



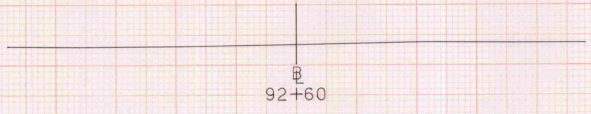
570

93+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	49	



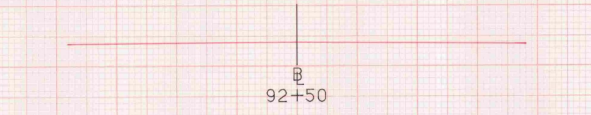
570

93+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	54	



570

92+60	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL		

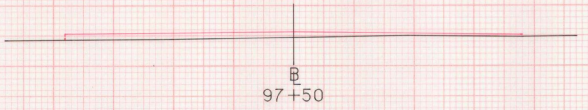


570

92+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL		

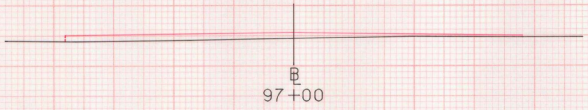
PROJECT NAME.....SPRINGFIELD PIT 1
PROJECT NO.....AIR03-2044
RESIDENT ENG.....R.JENSEN
NAME OF PIT.....RW11-29
ITEM NO.....302.17
ORIGINAL LEVELS BY..R.JENSEN 08/04/87
FINAL LEVELS BY.....R.JENSEN 09/16/87
SCALE.....ONE INCH = 10 FEET
DATE PLOTTED.....01/26/88

NEXT TYPE TO BE PLOTTED
31
39



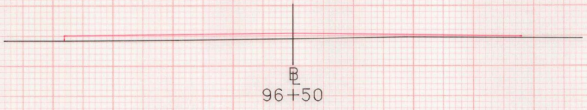
570

97+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	54	



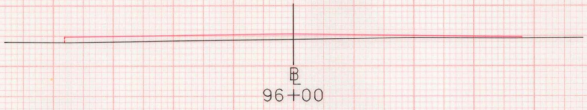
570

97+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	53	



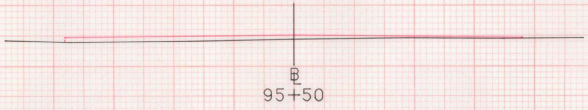
570

96+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	50	



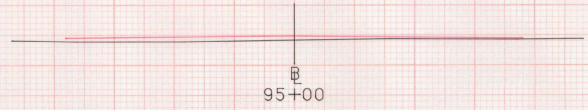
570

96+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	51	



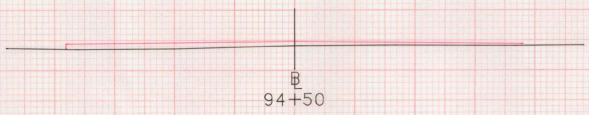
570

95+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	44	



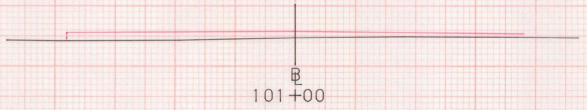
570

95+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	42	



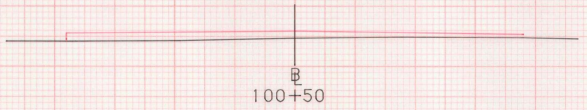
570

94+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	51	



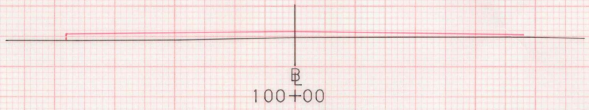
570

101+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	63	



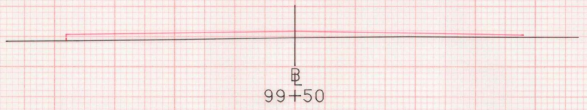
570

100+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	66	



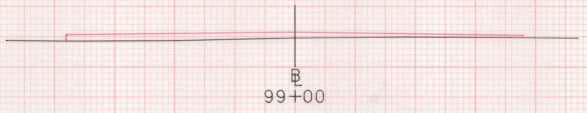
570

100+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	59	



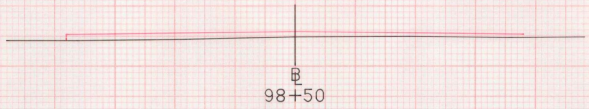
570

99+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	59	



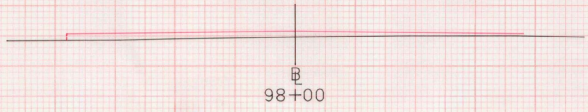
570

99+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	57	



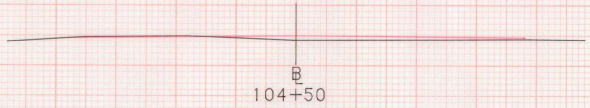
570

98+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	57	



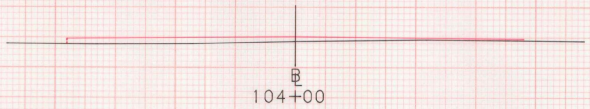
570

98+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	57	



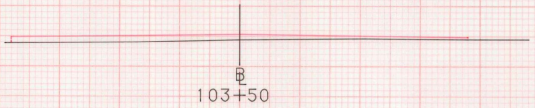
570

104+50	COMPUTED AREAS	PAYMENT AREAS
CUT	4	
FILL	23	



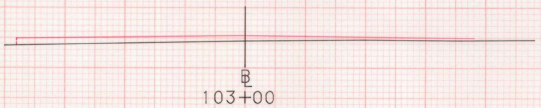
570

104+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	51	



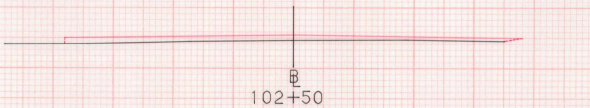
570

103+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	59	



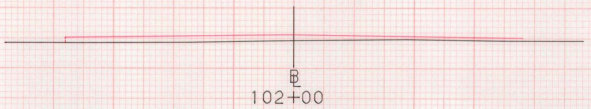
570

103+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	60	



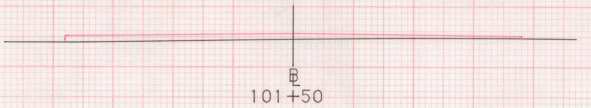
570

102+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	59	



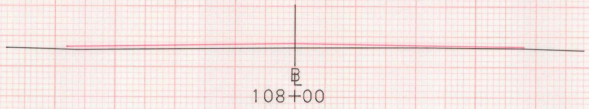
570

102+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	64	



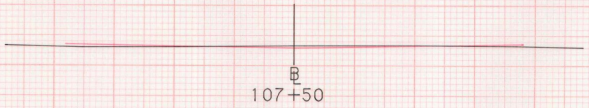
570

101+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	65	



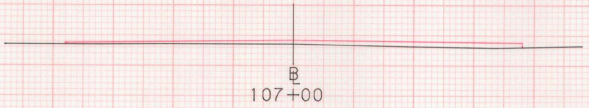
570

108+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	38	



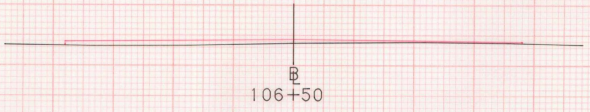
570

107+50	COMPUTED AREAS	PAYMENT AREAS
CUT	9	
FILL	8	



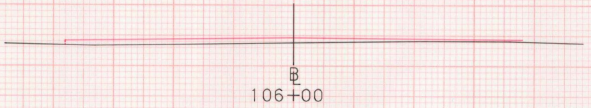
570

107+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	43	



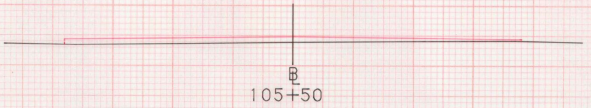
570

106+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	39	



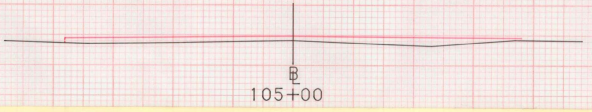
570

106+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	48	



570

105+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	55	

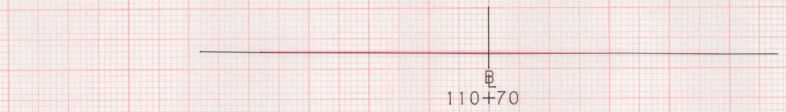


570

105+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	69	

570

111+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL		



570

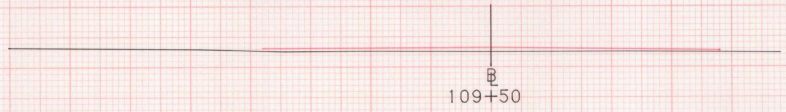
110+70	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	7	

570

110+50	COMPUTED AREAS	PAYMENT AREAS
CUT	1	
FILL	13	

570

110+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	20	



570

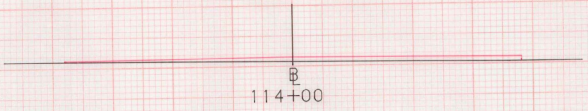
109+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	33	

570

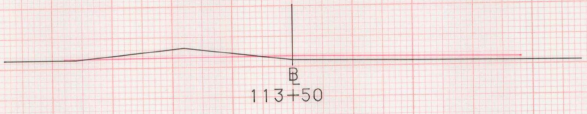
109+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	35	

570

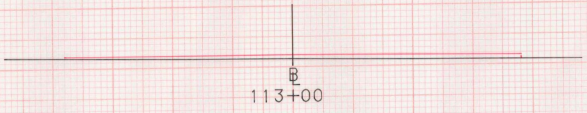
108+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	37	



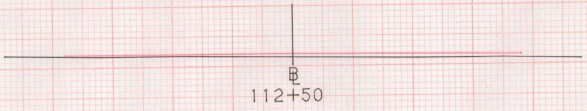
114+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	41	



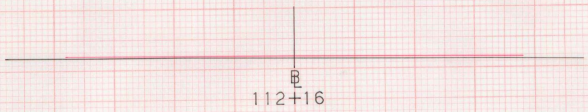
113+50	COMPUTED AREAS	PAYMENT AREAS
CUT	24	
FILL	23	



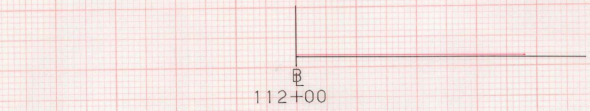
113+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	42	



112+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	32	

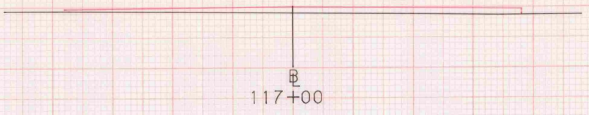


112+16	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	20	



112+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	11	

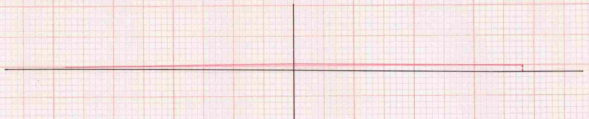
111+80	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL		



117+00

560

117+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	62	



116+50

560

116+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	63	

116+00

560

116+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	55	

115+50

560

115+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	54	

115+00

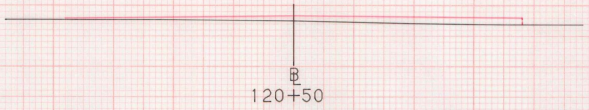
570

115+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	51	

114+50

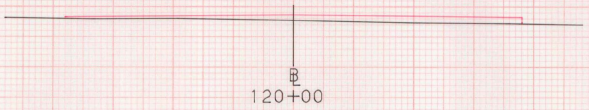
570

114+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	47	



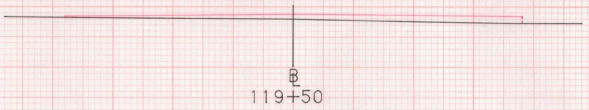
560

120+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	56	



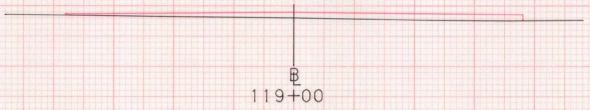
560

120+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	58	



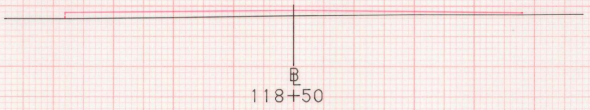
560

119+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	56	



560

119+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	59	



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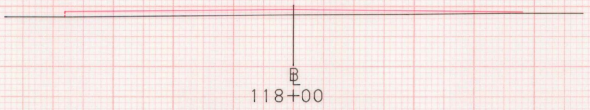
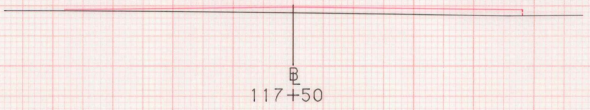
118+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	58	



560

118+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	56	

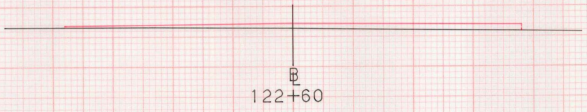


560

117+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	56	

CHANGE TO RED PEN

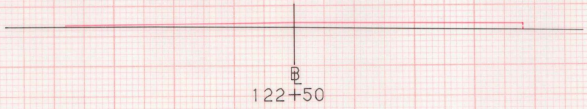
PROJECT NAME.....SPRINGFIELD PIT 1
PROJECT NO.....AIR03-2044
RESIDENT ENG.....R.JENSEN
NAME OF PIT.....RW11-29
ITEM NO.....302.17
ORIGINAL LEVELS BY..R.JENSEN 08/04/87
FINAL LEVELS BY.....R.JENSEN 09/16/87
SCALE.....ONE INCH = 10 FEET
DATE PLOTTED.....01/26/88



122+60

560

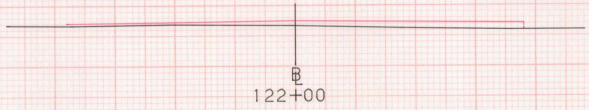
122+60	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	53	



122+50

560

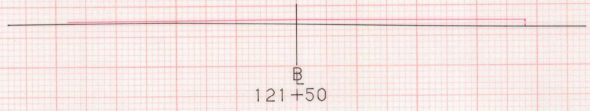
122+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	53	



122+00

560

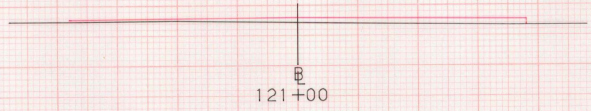
122+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	57	



121+50

560

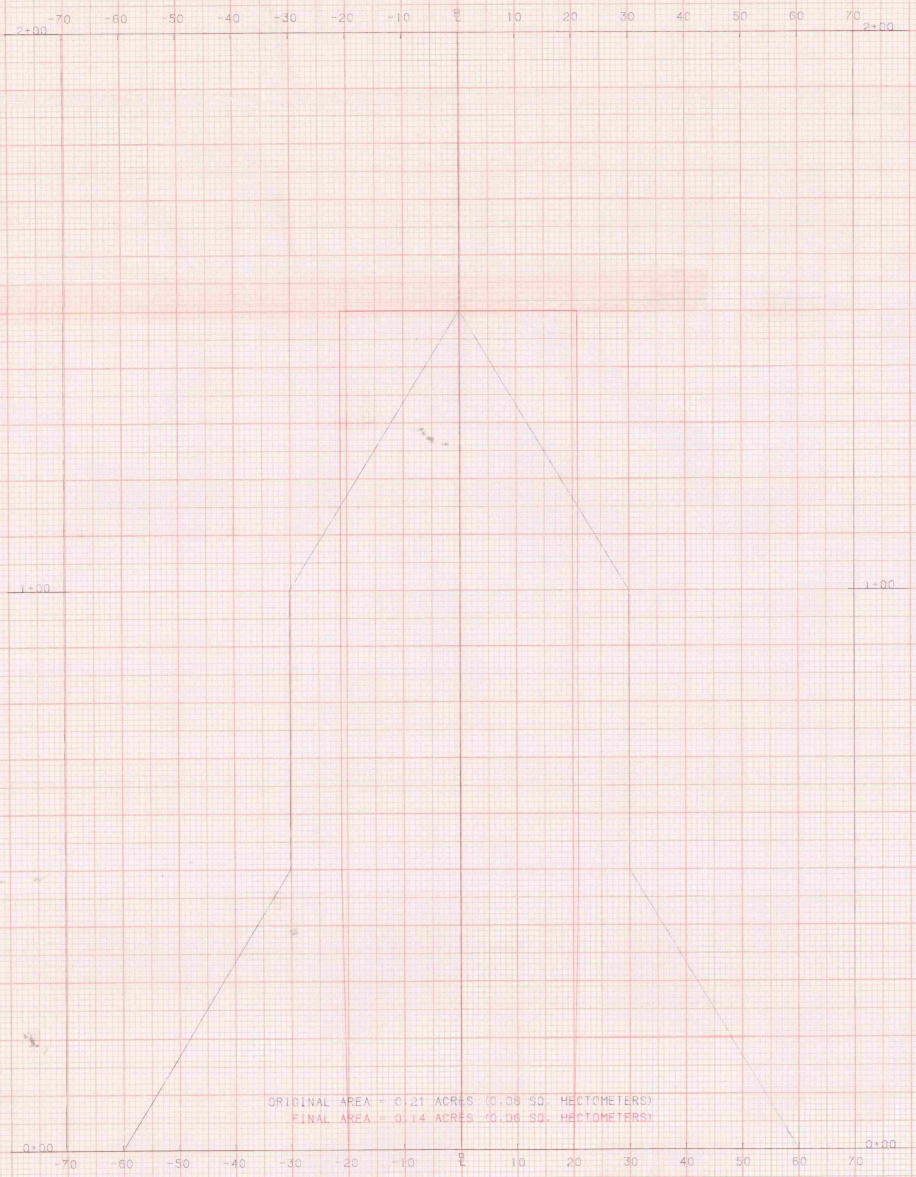
121+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	51	



121+00

560

121+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	52	



PROJECT NAME.	SPRINGFIELD PIT3
PROJECT NO.	AIR03-2044
RESIDENT ENG.	R. JENSEN
NAME OF PIT	TAXIWAY
ITEM NO.	302.17
ORIGINAL LEVELS BY.	R. JENSEN 08/04/87
FINAL LEVELS BY.	R. JENSEN 09/17/87
SCALE.	ONE INCH = 10 FEET
DATE PLOTTED.	10/06/87

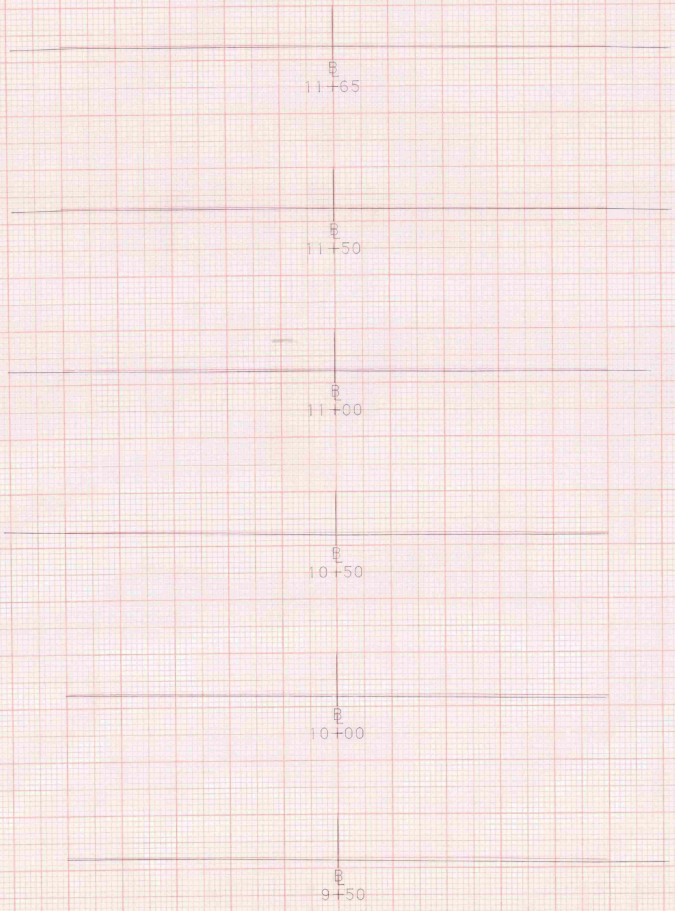
CHANGE TO BLACK PEN

PROJECT NAME	SPRINGFIELD PIT2
PROJECT NO.	AIR03-2044
RESIDENT ENG.	R.JENSEN
NAME OF PIT	RW 5-23
ITEM NO.	302.17
ORIGINAL LEVELS BY	R.JENSEN 07/30/87
FINAL LEVELS BY	R.JENSEN 09/17/87
SCALE	ONE INCH = 10 FEET
DATE PLOTTED	10/06/87

CHANGE TO BLACK PEN

CHANGE TO RED PEN

PROJECT NAME	SPRINGFIELD PIT2
PROJECT NO.	AIR03-2044
RESIDENT ENG.	R.JENSEN
NAME OF PIT	RW 5-23
ITEM NO.	302.17
ORIGINAL LEVELS BY	R.JENSEN 07/30/87
FINAL LEVELS BY	R.JENSEN 09/17/87
SCALE	ONE INCH = 10 FEET
DATE PLOTTED	10/06/87



570

570

570

570

570

570

11+65	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	23	

11+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	23	

11+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	34	

10+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	35	

10+00	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	38	

9+50	COMPUTED AREAS	PAYMENT AREAS
CUT		
FILL	45	

PLANS FOR

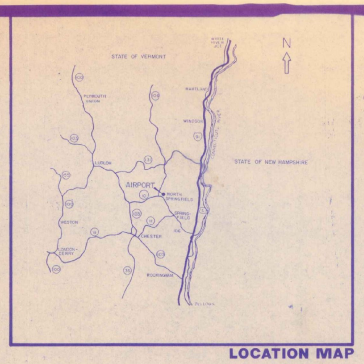
AIRPORT IMPROVEMENTS

TO INCLUDE: (1) REHABILITATION OF RUNWAY 11-29 (75' X 3000')
(2) INSTALLATION OF INADVERTENT ACCESS FENCE
(3) CLEARING
(4) INSTALLATION OF 2 MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS AND RELATED WORK

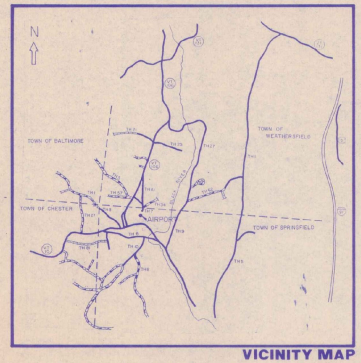
HARTNESS STATE AIRPORT
SPRINGFIELD, VERMONT

A.I.P. PROJECT NO. 3-50-0016-01
A.I.R. 03-2044

JULY - 1985



LOCATION MAP



VICINITY MAP

FEDERAL AVIATION ADMINISTRATION

APPROVED _____ CHIEF, AIRPORTS ENGINEERING AND SAFETY BRANCH

DATE _____

VERMONT AGENCY OF TRANSPORTATION

APPROVED Arthur J. Gosse 12/10/86
DIRECTOR OF PLANNING AND PRECONSTRUCTION

DATE _____

AIP 3-50-0016-01
AIR- 03-2044
★ 1987

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	PLAN & PROFILE-STA. 80+00 TO 95+50
4	PLAN & PROFILE -STA. 95+50 TO 109+50
5	PLAN & PROFILE-STA. 109+50 TO 124+00
6	TYPICAL SECTIONS
7	RUNWAY 5-23 INTERSECTION PROFILES
7A	CROSS SECTIONS -STA. 90+50 TO 91+50
8	CROSS SECTIONS-STA. 92+00 TO 94+50
9	CROSS SECTIONS -STA. 95+00 TO 97+00
10	CROSS SECTIONS -STA. 97+50 TO 99+50
11	CROSS SECTIONS-STA. 100+00 TO 102+00
12	CROSS SECTIONS-STA. 102+50 TO 104+00
13	CROSS SECTIONS-STA. 104+50 TO 106+50
14	CROSS SECTIONS-STA. 107+00 TO 109+00
15	CROSS SECTIONS-STA. 109+50 TO 111+50
16	CROSS SECTIONS-STA. 112+00 TO 114+00
17	CROSS SECTIONS-STA. 114+50 TO 116+50
18	CROSS SECTIONS-STA. 117+00 TO 119+00
19	CROSS SECTIONS-STA. 119+50 TO 121+50
20	CROSS SECTIONS-STA. 122+00 TO 124+00
21	QUANTITY SHEET
22	F-2 DEC. 6, 1971
23	F-3 DEC. 6, 1971
24	F-4 DEC. 6, 1971
25	AP-10 JUNE 29, 1982
26	D-6 APRIL 4, 1973

AGENCY OF TRANSPORTION STANDARDS

INDEX OF SHEETS

ADDITIONAL SHEETS

4A	INSTALLATION OF NEW MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS(BASE MOUNTED)
24A	AP-2 11-30-82R

Item	Description	Estimated Quantity	Actual Quantity
201.10	Clearing & Grubbing	Lump Sum	0 L.S.
203.17	Unclassified Excavation	8050 c.y.	2167 CY
404.55	Cut Back Asphalt	122 CWT	396.5 CWT
501.25	Concrete, Class B	2.6 c.y.	0 CY
507.15	Reinforcing Steel	193 lbs.	0 lbs
604.45	Cast Iron Frame and Grate, Type A	1 each	0 EA
608.25	All Purpose Excavator Rental	24 hours	16 HR
631.10	Engineer's Field Office	Lump Sum	0 L.S.
635.10	Mobilization	Lump Sum	1 L.S.
651.15	Seed	1242 lbs.	1200 lbs
651.18	Fertilizer	9102 lbs.	9180 lbs
651.20	Agricultural Limestone	57 tons	3805 Ton
651.25	Hay mulch	23 tons	4639 Ton
651.35	Topsoil	425 c.y.	500 CY
620.12	Chain Link Fence (6')	3,900 l.f.	3866 LF
620.16	6' Drive Gate for Chain Link Fence	24 l.f.	36 LF
808.25	Bituminous Concrete Pavement (P-401)	5,040 tons	4490.24 Ton
816.10	Runway and Taxiway Painting (P-620)	13,164 s.f.	14,628 SF
	Alternate I		
203.28	Excavation of Surfaces & Pavements	2550 c.y.	2667 CY
302.17	Uncrushed Aggregate Base Course (P-208)	2,725 s.y.	3240 CY
	Alternate II		
806.25	Cold Mixed Recycled Base Course (P-208A)	30,700 s.y.	
302.17	Uncrushed Aggregate Base Course (P-208)	315 c.y.	
620.21	Brocing Assembly For Chain Link Fence, 6 Feet	30 ea.	31ea ADDITIONAL ITEMS
822.24	Medium Intensity Taxiway Guidance Signs, Base Mounted(L125)	2 ea.	2ea
864.15	Threshold Lights L-125 Remove & Reset	12ea.	12ea
	AIRPORT S.A.		
201.10	CLEARING AND GRUBBING CO#1		1 L.S
900.01	EXTRA WORK Order #1 CO#3		1 L.S

QUANTITIES

Consulting Engineers

Dufresne-Henry, Inc. certifies that the plans and specifications for the project were prepared in accordance with criteria contained in the current edition of F.A.A. Advisory Circulars.

Walter B. Lovett, Jr., P.E. Director of Aviation Services

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated hereon.
By Paul Jensen Project Engineer
Date 2-2-88

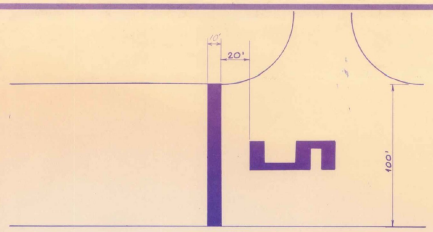
THESE PLANS HAVE BEEN REVISED BY THE VERMONT AGENCY OF TRANSPORTATION APRIL 1987

THE VERMONT AGENCY OF TRANSPORTATION CERTIFIES THAT THE PLANS AND SPECIFICATIONS FOR THIS PROJECT WERE PREPARED IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULARS.

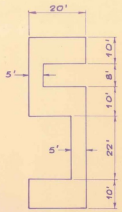
Arthur J. Gosse 4/10/87
DIRECTOR OF PLANNING AND PRECONSTRUCTION DATE

Dufresne-Henry
REVISED 5/11/87 JLR

Sheet 1 Of 26 Sheets



RELOCATED THRESHOLD MARKING
N.T.S.



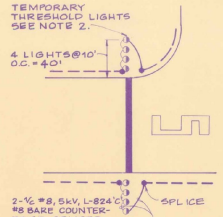
RUNWAY '5' NUMERAL DETAIL
N.T.S.

TEMPORARY ~~RELOCATED~~ THRESHOLD NOTES:

1. EIGHT TEMPORARY THRESHOLD LIGHTS* ~~ARE TO~~ WERE BE INSTALLED AS SHOWN.
2. CONTRACTOR ~~TO~~ SHALL INSTALL LIGHTS & Ssplice INTO EXISTING RUNWAY LIGHTING CIRCUIT. LIGHTS TO HAVE 180° GREEN/180° RED LENS. LIGHTS ARE TO BE STAKE MOUNTED.
3. THE CARE & MAINTENANCE OF THE LIGHTS ~~SHALL BE~~ WERE THE RESPONSIBILITY OF THE CONTRACTOR DURING THE CONSTRUCTION PHASE.
4. THE AIRPORT ~~SHALL~~ WILL RETAIN POSSESSION OF THE LIGHTS AFTER COMPLETION OF THE PROJECT. (AGENCY OF TRANSPORTATION-MAINTENANCE DIVISION.)
5. THE COST OF THE TEMPORARY LIGHTS IS NOT A SEPARATE PAY ITEM. THIS WORK IS NECESSARY & INCIDENTAL TO THE COST OF THE PROJECT.

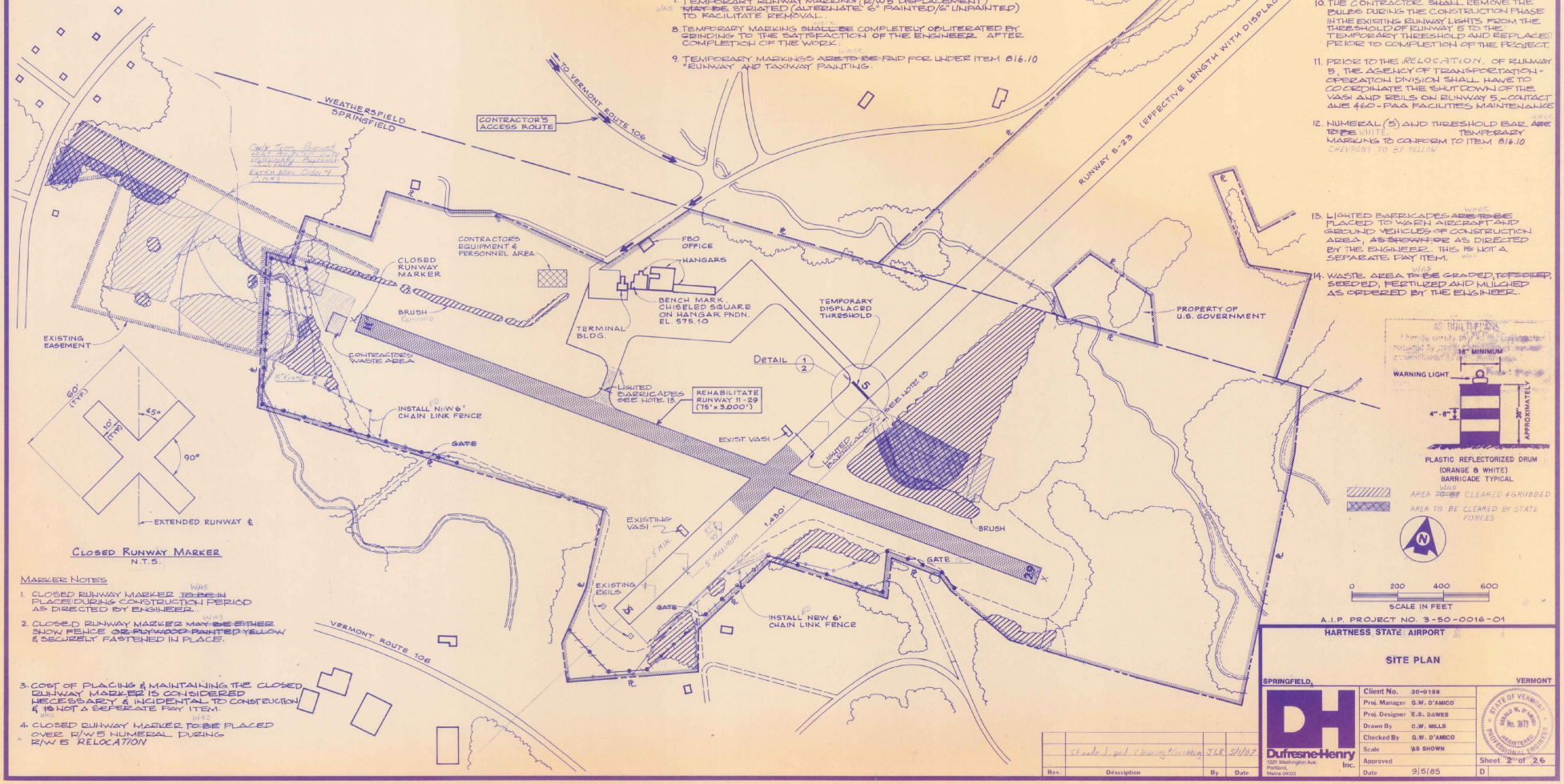
* LIGHTS ~~SHALL BE~~ WERE MEDIUM INTENSITY THRESHOLD LIGHTS CONFORMING TO FAA SPEC. L-861E, SEE DETAIL SHEET 6 OF 26

6. THE TEMPORARY ~~RELOCATED~~ THRESHOLD LIGHTS ~~SHALL BE~~ WERE REMOVED AND THE SYSTEM RETURNED TO ITS ORIGINAL CONDITION AFTER COMPLETION OF THE WORK.
7. TEMPORARY RUNWAY MARKING (R/W 5 DISPLACEMENT) ~~MAY BE~~ WAS STRIATED (ALTERNATE: 6" PAINTED/6" UNPAINTED) TO FACILITATE REMOVAL.
8. TEMPORARY MARKING ~~SHALL BE~~ WERE COMPLETELY OBLITERATED BY GRINDING TO THE SATISFACTION OF THE ENGINEER AFTER COMPLETION OF THE WORK.
9. TEMPORARY MARKINGS ~~ARE TO BE~~ WERE PAID FOR UNDER ITEM 816.10 "RUNWAY AND TAXIWAY PAINTING."



DETAIL 1/2
N.T.S.

10. THE CONTRACTOR ~~SHALL~~ WILL REMOVE THE BULBS DURING THE CONSTRUCTION PHASE IN THE EXISTING RUNWAY LIGHTS FROM THE THRESHOLD OF RUNWAY 5 TO THE TEMPORARY THRESHOLD AND REPLACED PRIOR TO COMPLETION OF THE PROJECT.
11. PRIOR TO THE RELOCATION OF RUNWAY 5, THE AGENCY OF TRANSPORTATION - OPERATION DIVISION SHALL HAVE TO COORDINATE THE SHUT DOWN OF THE VASI AND REILS ON RUNWAY 5, CONTACT ANE 460 - PAA FACILITIES MAINTENANCE
12. NUMERAL (5) AND THRESHOLD BAR ~~ARE TO BE~~ WERE WHITE. TEMPORARY MARKING TO CONFORM TO ITEM 816.10 CHEVRONS TO BE YELLOW
13. LIGHTED BARRICADES ~~ARE TO BE~~ WERE PLACED TO WARN AIRCRAFT AND GROUND VEHICLES OF CONSTRUCTION AREA, AS SHOWN HERE OR AS DIRECTED BY THE ENGINEER. THIS IS NOT A SEPARATE PAY ITEM.
14. WASTE AREA ~~TO BE~~ WAS GRADED, TOPSOILED, SEEDED, MULCHED AND MULCHED AS ORDERED BY THE ENGINEER.



CLOSED RUNWAY MARKER
N.T.S.

PLASTIC REFLECTORIZED DRUM
(ORANGE & WHITE)
BARRICADE TYPICAL

AREA ~~TO BE~~ WAS CLEARED & GRUBBED

AREA TO BE CLEARED BY STATE FORCES

0 200 400 600
SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0016-01

MARKER NOTES

1. CLOSED RUNWAY MARKER ~~TO BE~~ WAS IN PLACE DURING CONSTRUCTION PERIOD AS DIRECTED BY ENGINEER.
2. CLOSED RUNWAY MARKER MAY ~~BE EITHER~~ WAS SNOW FENCE ~~OR PLYWOOD PAINTED YELLOW~~ & SECURELY FASTENED IN PLACE.
3. COST OF PLACING & MAINTAINING THE CLOSED RUNWAY MARKER IS CONSIDERED NECESSARY & INCIDENTAL TO CONSTRUCTION & IS NOT A SEPERATE PAY ITEM.
4. CLOSED RUNWAY MARKER ~~TO BE~~ WAS PLACED OVER R/W 5 NUMERAL DURING R/W 5 RELOCATION

HARTNESS STATE AIRPORT

SITE PLAN

SPRINGFIELD, VERMONT

Rev.	Description	By	Date
	Standard Lighted Closing Barricade	JLR	5/16/87

DufresneHenry Inc.
321 Wellington Ave.
Portland, Maine 04103

Client No.	30-0159
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	9/5/85

STATE OF VERMONT GERALD W. D'AMICO No. 3873 REGISTERED PROFESSIONAL ENGINEER

Sheet 2 of 26

D

BRUNING 44-132 #23373

PLAN
1"=50'

RUNWAY MARKING NOTES:

1. ALL RUNWAY & TAXIWAY MARKING PAINT TO CONFORM TO FEDERAL SPEC. TT-P-85, NON-REFLECTIVE.
2. RUNWAY MARKINGS TO BE WHITE, TAXIWAY MARKINGS TO BE YELLOW.

GENERAL NOTES

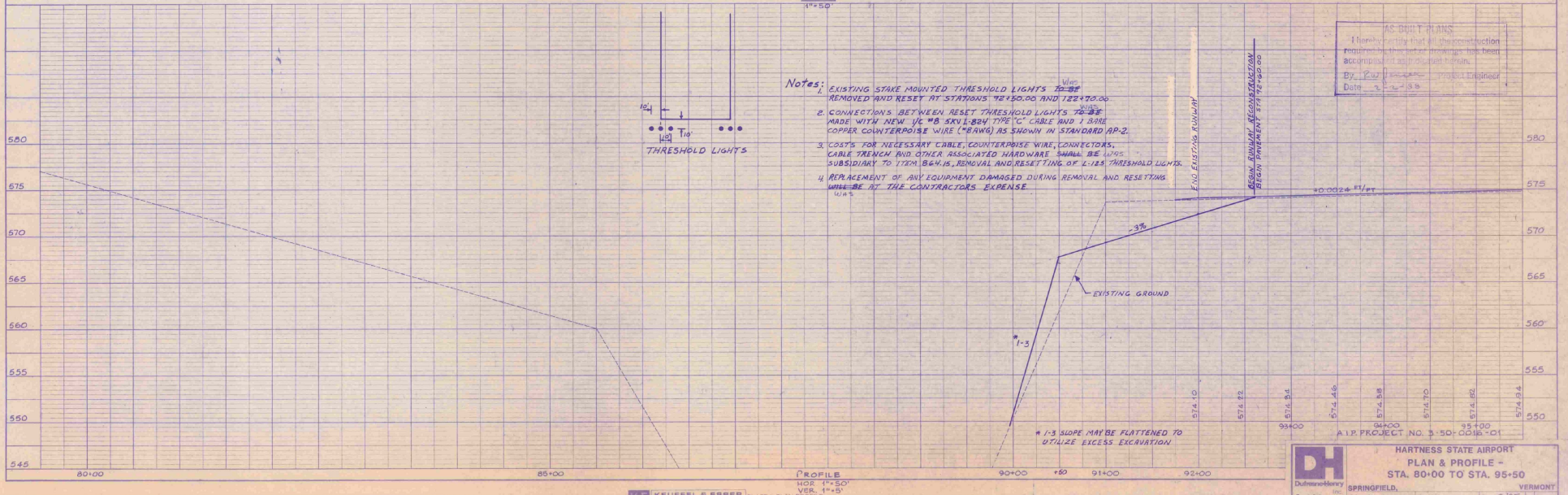
1. EXIST. UNDERGROUND ELECTRIC CABLES TO RUNWAY LIGHTS, REILS, VASI, ETC. ARE GENERALLY LOCATED 10'-11' OFF THE EXIST. RUNWAY PAVEMENT, 18" BELOW EXIST. GROUND ELEVATION.
2. ALL ELEVATIONS REFER TO MEAN SEA LEVEL
3. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF TOPSOIL, SEED, LIME, & FERTILIZER.
4. EXISTING PAVEMENT STA 92+00.00 TO 92+60.00 REMOVED AND AREA TOPSOILED, SEEDED, LIMED, & FERTILIZED

RUNWAY NUMERAL DETAIL
N.T.S.

THRESHOLD LIGHTS

Notes:
1. EXISTING STAKE MOUNTED THRESHOLD LIGHTS TO BE REMOVED AND RESET AT STATIONS 92+50.00 AND 122+70.00.
2. CONNECTIONS BETWEEN RESET THRESHOLD LIGHTS TO BE MADE WITH NEW 1/C #8 5KV L-824 TYPE "C" CABLE AND 1 BARE COPPER COUNTERPOISE WIRE (#8AWG) AS SHOWN IN STANDARD AP-2.
3. COSTS FOR NECESSARY CABLE, COUNTERPOISE WIRE, CONNECTORS, CABLE TRENCH AND OTHER ASSOCIATED HARDWARE SHALL BE SUBSIDIARY TO ITEM B64-15, REMOVAL AND RESETTING OF L-125 THRESHOLD LIGHTS.
4. REPLACEMENT OF ANY EQUIPMENT DAMAGED DURING REMOVAL AND RESETTING WILL BE AT THE CONTRACTORS EXPENSE

AS-BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated hereon.
By _____ Project Engineer
Date _____



PROFILE
HOR. 1"=50'
VER. 1"=5'

A.I.P. PROJECT NO. 3-50-0016-01

KEUFFEL & ESSER

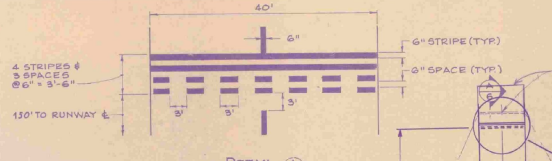
Dufresne-Henry Inc.

HARTNESS STATE AIRPORT
PLAN & PROFILE -
STA. 80+00 TO STA. 95+50
SPRINGFIELD, VERMONT
Client No. 30-0156 | Proj. Mgr. GWD. | Date 8/85 | 0

3 of 26

GENERAL NOTES

1. EXIST. UNDERGROUND ELECTRIC CABLES TO RUNWAY LIGHTS, REILS, VASI, ETC. ARE GENERALLY LOCATED 10'-11' OFF THE EXIST. RUNWAY PAVEMENT, 18" BELOW EXIST. GROUND ELEVATION.
2. ALL ELEVATIONS REFER TO MEAN ~~SEA LEVEL~~.
3. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF TOPSOIL, SEED, LIME, & FERTILIZER.



DETAIL (1/4) N.T.S.

MATCH EXIST. PVMT. & STRIPE AT 165' LT. OF RUNWAY ℄

INSTALL BASE MOUNTED ILLUMINATED TAXIWAY GUIDANCE SIGN - 35' FROM EDGE OF TAXIWAY. PATT. SEE DETAIL SHEET 4-A

DETAIL (1/4)

6"
36"
12"

EXISTING 12" ℄ ACCESS MP TO REMAIN

INSTALL NEW DROP INLET TYPE (4'-0" TYPE A) STA. 107+00 ℄ TO EL. 571.70 FL. SLOPE

EXISTING 29'9" BY 1" RCP TO REMAIN

EXISTING UG WATER LINE STA. 98+90 (SKEWED) TO REMAIN

CONSTRUCTION LIMIT

12" RUNWAY EDGE STRIPE

150'

50'E

50'E

50'E

50'E

200' (TYP.)

12" ℄ STRIPE

B-3 B-4 B-5 B-6 B-7 B-8 B-9

96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00

STA. 103+20 +T/W ℄

S 68° E

TP #3

MATCH LINE SHEET 3 OF 26

MATCH LINE SHEET 5 OF 26

0 50 100 150
SCALE IN FEET

B-3	B-4	B-5	B-6	B-7	B-8	B-9	TP-3
3" BLACKTOP	3" BLACKTOP	3" BLACKTOP	3" BLACKTOP	3" BLACKTOP	3" BLACKTOP	3" BLACKTOP	TOPSOIL
BR. FINE TO COARSE SAND, LITTLE GRAVEL & SILT	BR. FINE - COARSE SAND, LITTLE GRAVEL & SILT	BR. FINE TO COARSE SAND, LITTLE GRAVEL & SILT	BR. FINE TO COARSE SAND & GRAVEL, LITTLE SILT	BR. FINE TO COARSE SAND, LITTLE GRAVEL & SILT	BR. FINE TO COARSE SAND, LITTLE TO TRACE GRAVEL & SILT	BR. FINE SAND & LITTLE TO TRACE GRAVEL, COARSE TO MEDIUM SAND & SILT	CBR 13.0 BR. FINE SAND
8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	22" 36" BR. MED TO FINE SAND & TRACE GRAVEL 8'-0"

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as constructed.
By: Ron Jensen Asst Engineer
Date: 2-12-88

PLAN

1"=50'

900' VC

PVC STA. 96+14.41 EL. 575.09

+0.0024 FT/FT

PVI 100+64.41 EL. 576.17

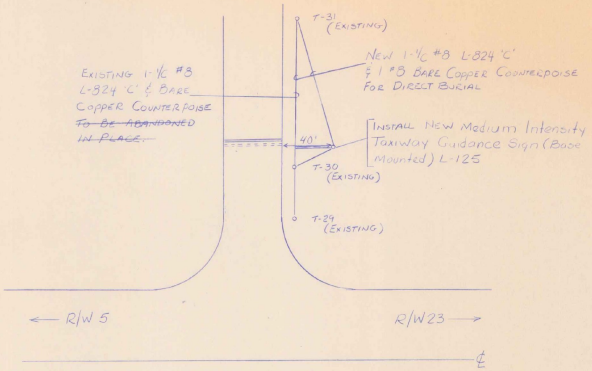
PVT STA. 109+14.41 EL. 574.95

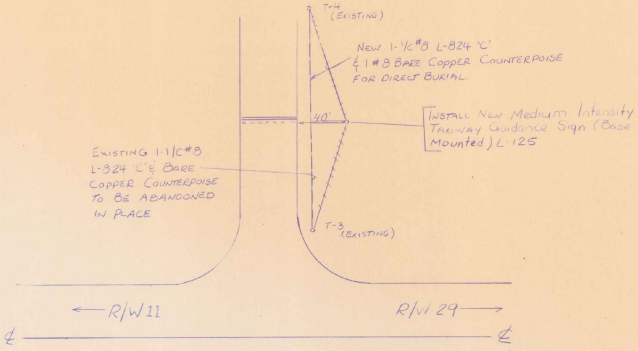
-0.0038 FT/FT

PROFILE

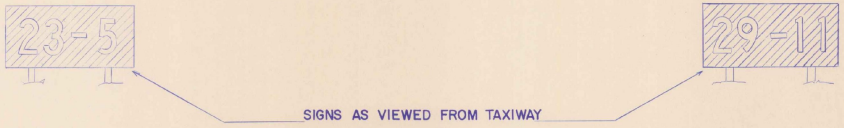
HOR. 1"=50'
VER. 1"=5'

| | | | | | | |

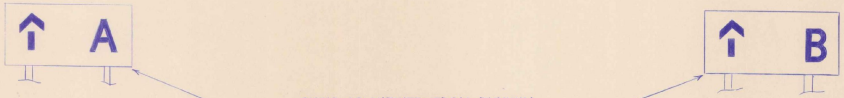




AS BUILT PLANS
I hereby certify that all the construction required by this set of plans has been accomplished as indicated hereon.
By _____ Project Engineer
Date 2-1-88



SIGNS AS VIEWED FROM TAXIWAY
TYPE L-858 R, SIZE 3, STYLE 2, CLASS 2



SIGNS AS VIEWED FROM RUNWAY
TYPE L-858 Y, SIZE 3, STYLE 2, CLASS 2

NOTES

1. Medium Intensity Taxiway Guidance Signs (Base Mounted) are to be as described in FAA Advisory Circulars 150/5340-18B (8/21/84) 150/5345-44D (4/30/84) and 150/5345-42B

2. Price bid for Medium Intensity Taxiway Guidance Signs (Base mounted), Item 822.24 will include costs for the following associated items —

L 108	Cable Trench	160 ~~295~~ LF
L 108	1/c #8 L-824 Type 'C', 5KV	160 295 LF
L 108	1/c #8 Bare Counterpoise Wire	160 295 LF
L 108	Watertight Connectors, L 823	6 EA

The quantities shown above reflect the requirements for both installations

INSTALLATION OF NEW MEDIUM INTENSITY TAXIWAY GUIDANCE SIGNS (BASE MOUNTED) AT TAXIWAYS A & B

DATUM
VERTICAL _____
HORIZONTAL _____

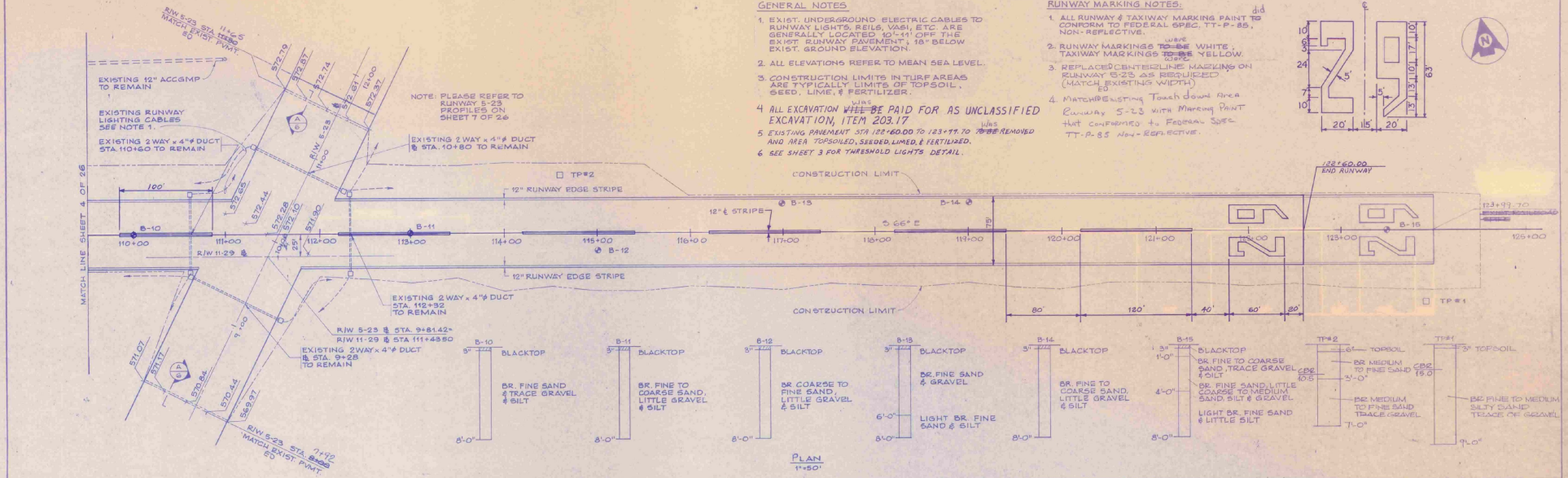
SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____
PROJ. NO.
SHEET 4-A OF

GENERAL NOTES

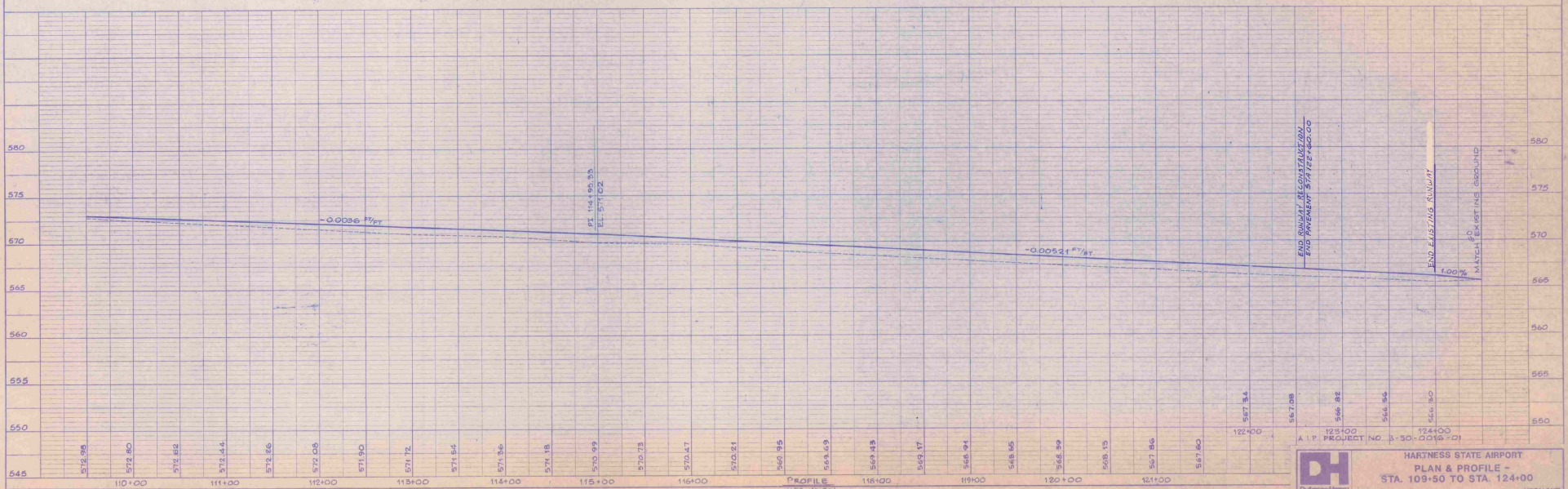
1. EXIST. UNDERGROUND ELECTRIC CABLES TO RUNWAY LIGHTS, REILS, VASI, ETC. ARE GENERALLY LOCATED 10'-11' OFF THE EXIST. RUNWAY PAVEMENT, 18" BELOW EXIST. GROUND ELEVATION.
2. ALL ELEVATIONS REFER TO MEAN SEA LEVEL.
3. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF TOPSOIL, SEED, LIME, & FERTILIZER.
4. ALL EXCAVATION ~~WILL BE~~ PAID FOR AS UNCLASSIFIED EXCAVATION, ITEM 203.17 VIAS
5. EXISTING PAVEMENT STA 122+60.00 TO 123+99.70 ~~TO BE~~ REMOVED AND AREA TOPSOILED, SEEDED, LIMED, & FERTILIZED. VIAS
6. SEE SHEET 3 FOR THRESHOLD LIGHTS DETAIL.

RUNWAY MARKING NOTES:

1. ALL RUNWAY & TAXIWAY MARKING PAINT ~~TO~~ did CONFORM TO FEDERAL SPEC. TT-P-85, NON-REFLECTIVE.
2. RUNWAY MARKINGS ~~TO BE~~ WHITE; TAXIWAY MARKINGS ~~TO BE~~ YELLOW. were
3. REPLACED CENTERLINE MARKING ON RUNWAY 5-23 AS REQUIRED (MATCH EXISTING WIDTH) ED
4. MATCH EXISTING Touch down Area Runway 5-23 WITH MARKING PAINT that CONFORMED to Federal Spec. TT-P-85 Non-Reflective.



PLAN
1"=50'



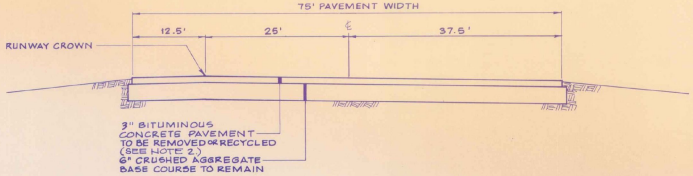
KEUFFEL & ESSER

A.I.P. PROJECT NO. 3-50-0016-01

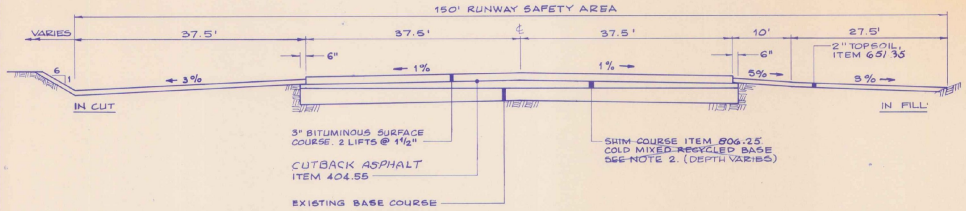
HARTNESS STATE AIRPORT
PLAN & PROFILE – STA. 109+50 TO STA. 124+00

Dufresne-Henry Inc. SPRINGFIELD, VERMONT
Client No. 50-0158 | Proj. Mgr. GWD | Date 8/85

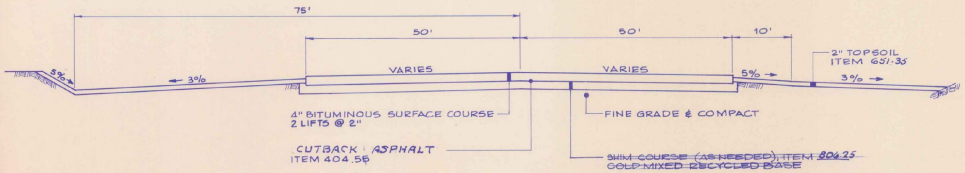
5 of 26



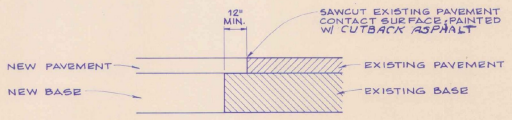
EXISTING RUNWAY 11-29 TYPYCAL SECTION
N.T.S.



PROPOSED RUNWAY 11-29 TYPICAL SECTION
N.T.S.



PROPOSED RUNWAY 5-23 TYPICAL SECTION
N.T.S.



DETAIL (A/4) (A/5)
N.T.S.

NOTES:

1. COLD MIXED RECYCLED BASE COARSE TO BE COMPOSED OF EXISTING BITUMINOUS CONCRETE PAVEMENT & THE TOP 2" OF THE EXISTING BASE COURSE. THE MIXTURE OF EXISTING PAVEMENT & BASE COURSE IS TO BE CRUSHED, ROTOMILLED OR HAMMERMILLED SUCH THAT NO MATERIAL REMAINS ON A 4½" SCREEN. THEN THE MATERIAL SHALL BE BLENDED TO PRODUCE A UNIFORM MATERIAL WHICH CAN BE FINE GRADED & COMPACTED. ADDITIONAL MATERIAL CONFORMING TO P-208 UNCRUSHED AGGREGATE BASE COURSE WILL HAVE TO BE ADDED TO THE RECYCLED MATERIAL IN ORDER TO A SUFFICIENT QUANTITY OF SHIM COURSE.
2. THE CONTRACTOR, AT HIS OPTION, MAY REMOVE & WASTE OFFSITE THE EXISTING BITUMINOUS PAVEMENT & REPLACE WITH A SHIM COURSE OF UNCRUSHED AGGREGATE BASE COURSE (FAA SPEC. P-208)

CONSTRUCTION METHOD:

ALTERNATE #1.

		PAY UNIT
ITEM 203.28 EXCAVATION OF SURFACES AND PAVEMENTS	2667	2880 C.Y.
ITEM 302.17 UNCRUSHED AGGREGATE BASE COURSE, TYPE 'C' (P-208)	3240	3,000 C.Y.

ALTERNATE #2.

ITEM 806.25 COLD MIXED RECYCLED BASE COURSE, (IN PLACE RECYCLING OF EXISTING PAVEMENT)		30,700 S.Y.
ITEM 302.17 UNCRUSHED AGGREGATE BASE COURSE, TYPE 'C' (P-208)		450 C.Y.

3. QUANTITY CALCULATIONS INDICATE THAT THERE IS APPROXIMATELY 2334 C.Y. OF SHIM COURSE REQUIRED (ALTERNATIVE #2), & APPROXIMATELY 1972 C.Y. OF COLD MIXED BASE COURSE AVAILABLE FOR SHIM COURSE. THEREFORE AN ADDITIONAL 450 C.Y. OF P-208 UNCRUSHED AGGREGATE IS REQUIRED TO BE BLENDED WITH THE RECYCLED BASE COURSE TO PROVIDE A SUFFICIENT QUANTITY OF SHIM COURSE.

Seed, Item 651.15 to be applied as directed by Engineer.

% WT	LBS/A	Name	Pur %	Germ
3.33	2	Crown Vetch	97	75
50.00	30	Creeping Red Fescue	98	85
8.33	5	Timothy	99	85
16.67	10	Perr. Rye Grass (Var. Pennfine)	95	85
8.34	5	Alfalfa (Var. Saranac)	99	85
8.33	5	Birdsfoot Trefoil (Var. Empire	98	85
5.00	3	Highland Bent Grass	92	85
100.00	60			

The seed mixture shall not have a weed content exceeding 0.40% by weight and shall be free of all noxious weed seed.

Fertilizer, Item 651.10 Formula 10-20-10 to be used with seed, Item 651.10, applied at the rate of 500 lbs/acre.

Agriculture Limestone, Item 651.20 To be applied at rate of 2 tons/acre or as directed by Engineer.

Hay mulch, Item 651.25 To be placed on earth slopes at the rate of 2 tons/acre.

Topsoil, Item 651.35 To be used with seed, item 651.15, as directed by the Engineer.

Allowable thickness tolerances

Subbase	± 3/4"
Pavement	± 3/16"
Base Course	± 3/4"

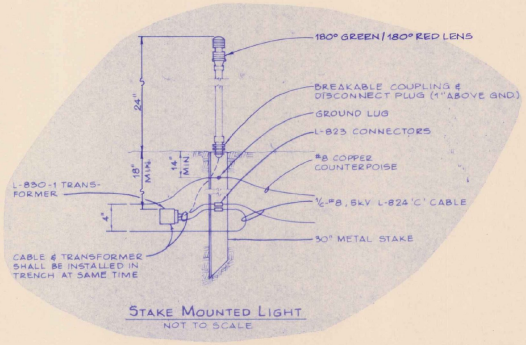
1. Sub-grade under areas to be paved to be compacted to 100% density as per FAA T-611 (AASHTO T-180).
2. Bituminous tack coat to be applied as per Item 404, Subsection 404.06, Type I first Application using RC-250.
3. Existing bituminous conc.pvmt. from Runway 11-29 to be pulverized and blended to form a cold mixed recycled base (shim) course Item 806.25 for the runway rehabilitation.

   Cost of pulverizing and blending the pvmt. will be included in the cost of Item 806.25 Cold Mix Recycled Base (shim) Course, per sq. yd.

4. Top of base under runway pavement to be fine graded and compacted to 100% density as per FAA T-611 (AASHTO T-180).

RUNWAY LIGHTING NOTE.

THE PLACEMENT OF TOPSOIL AND/OR REGRADING ALONGSIDE THE NEW EDGE OF PAVEMENT MAY REQUIRE THAT THE EXISTING RUNWAY LIGHTS BE ADJUSTED TO GRADE. (SEE CORRECT PLACEMENT AT LEFT) THIS IS NOT A SEPARATE PAY ITEM.



STAKE MOUNTED LIGHT
NOT TO SCALE

AS BUILT PLANS
I hereby certify that all the construction ... conform to these drawings and ... were made during the construction ...
By: G.W. D'Amico, Project Engr.
Date: 12-88

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

TYPICAL SECTIONS

SPRINGFIELD, VERMONT

Rev.	Description	By	Date

Dufresne-Henry, Inc.
101 Washington Ave.
Portland, Maine 04103

Client No.	30-0159
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	9/5/85

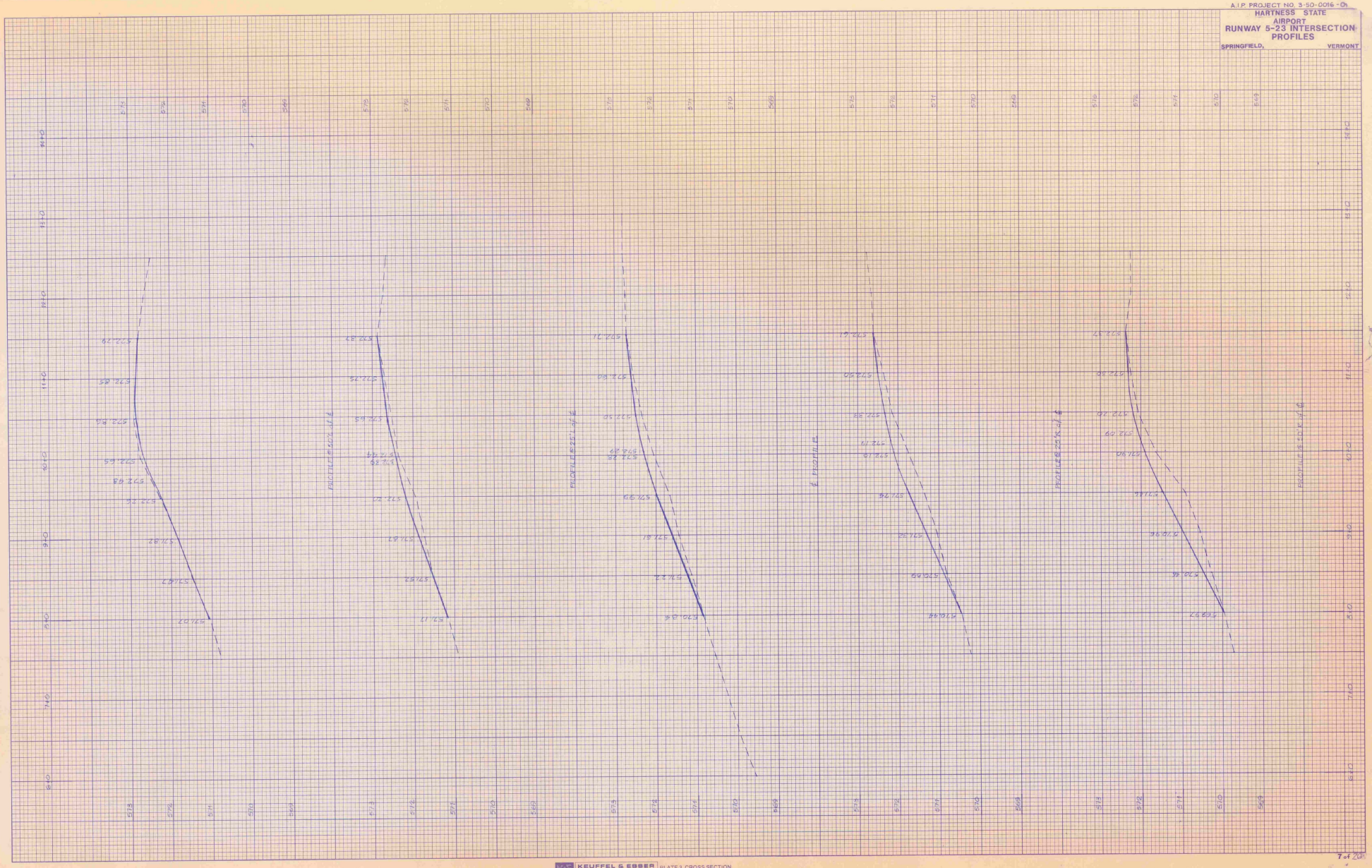
Sheet 6 of 26
D

BRUNING 44-132-45037-3

A.I.P. PROJECT NO. 3-50-0016-05

HARTNESS STATE AIRPORT
RUNWAY 5-23 INTERSECTION PROFILES

SPRINGFIELD, VERMONT

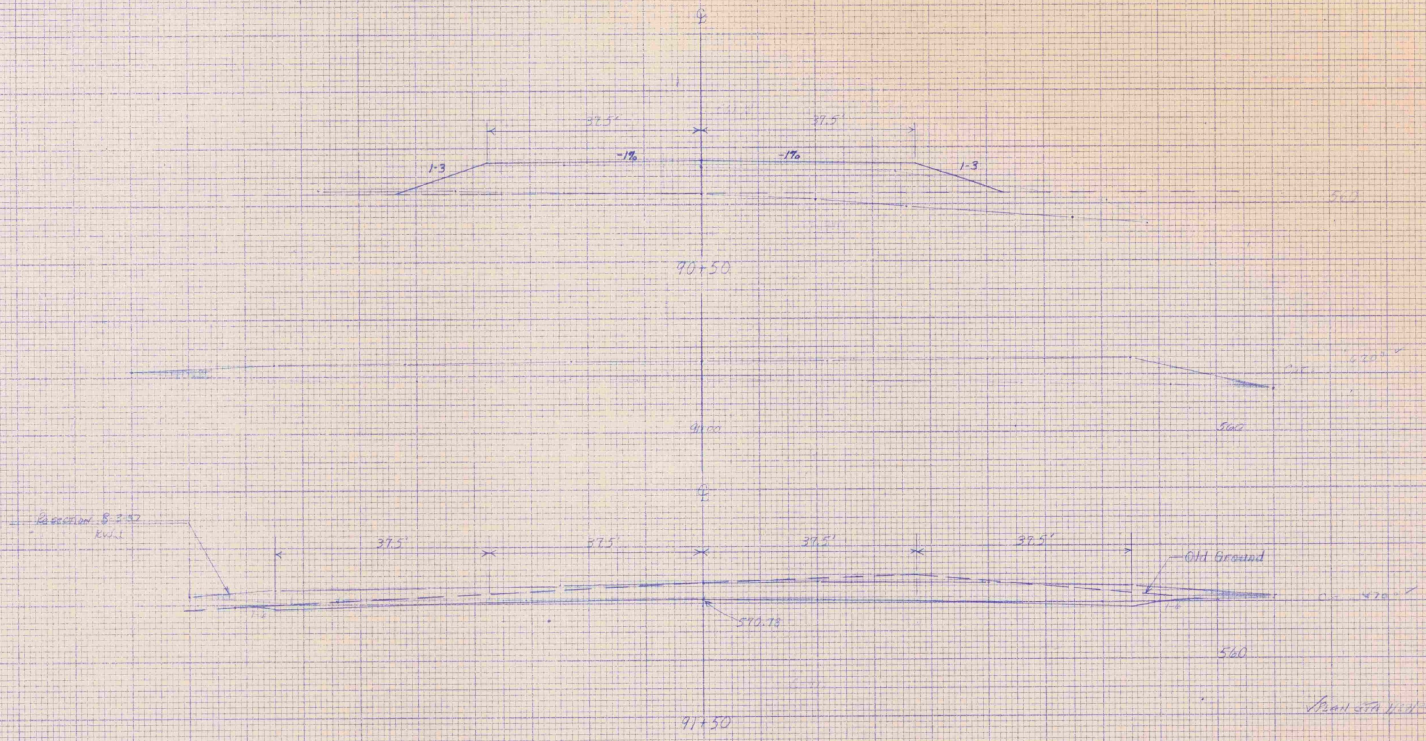


FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

48 7056 Made in U.S.A.



Scale: 1"=10'

Hartness State Airport
AIP 03-2044
AIP No. 3-38-0016-01

SHEET 7A of 26

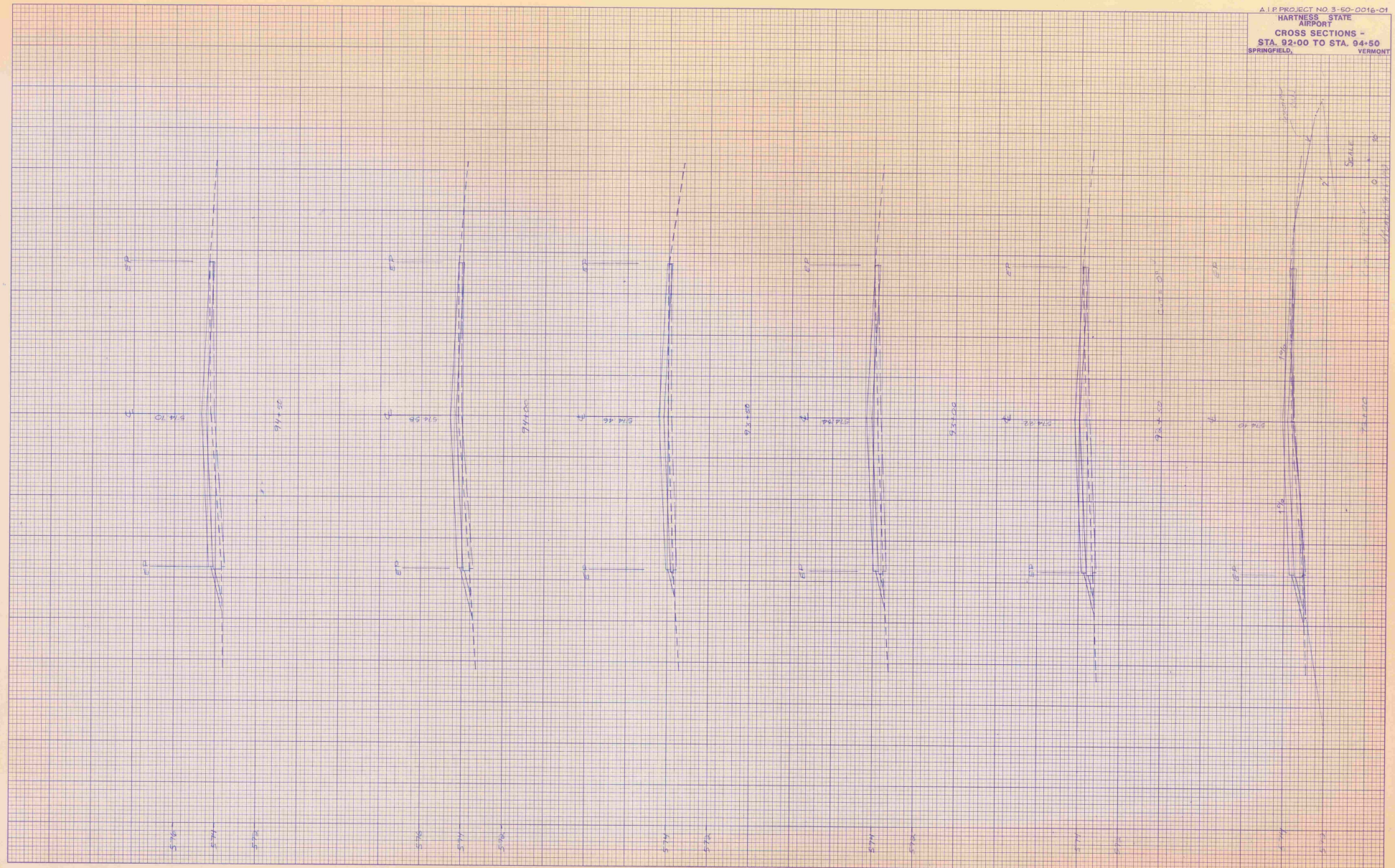
A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS -

STA. 92+00 TO STA. 94+50

SPRINGFIELD, VERMONT



FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

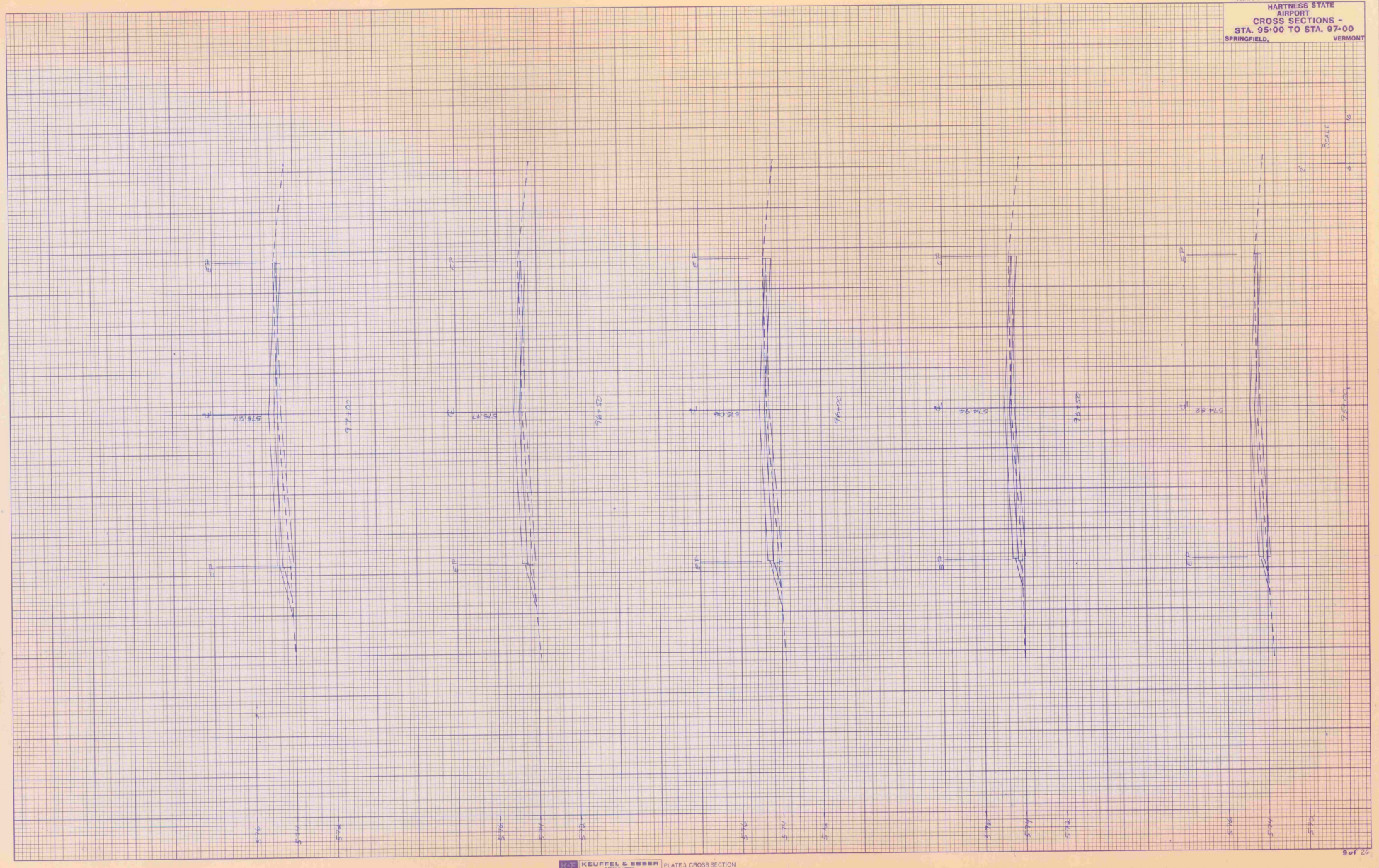
KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS - STA. 95+00 TO STA. 97+00

SPRINGFIELD, VERMONT



FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

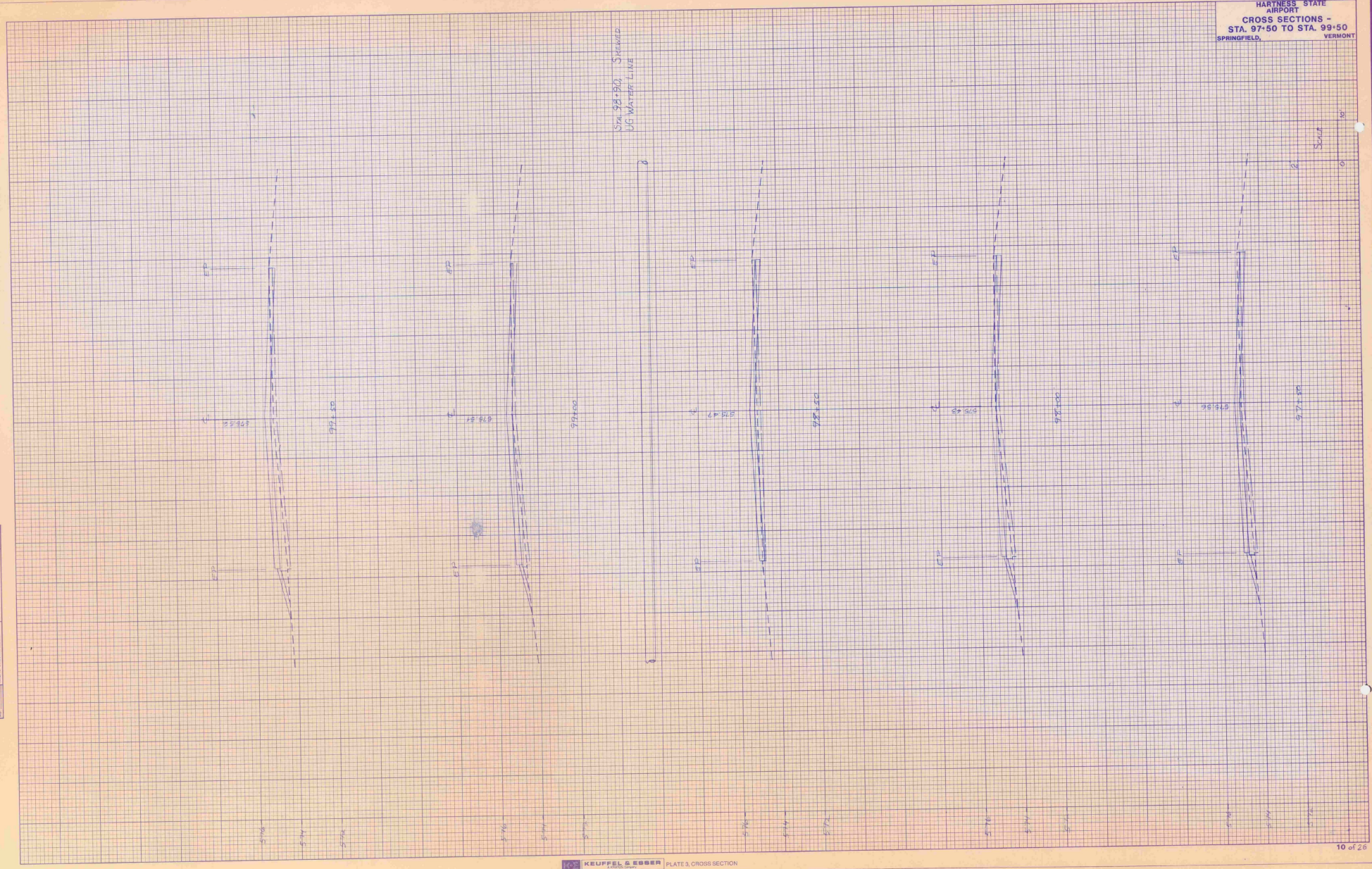
48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 97+50 TO STA. 99+50

SPRINGFIELD, VERMONT



FINAL SURVEY
SURVEYED:
PLOTTED:
NOTE BOOK
AREAS
AREAS CHECKED
NO.
BY
DATE

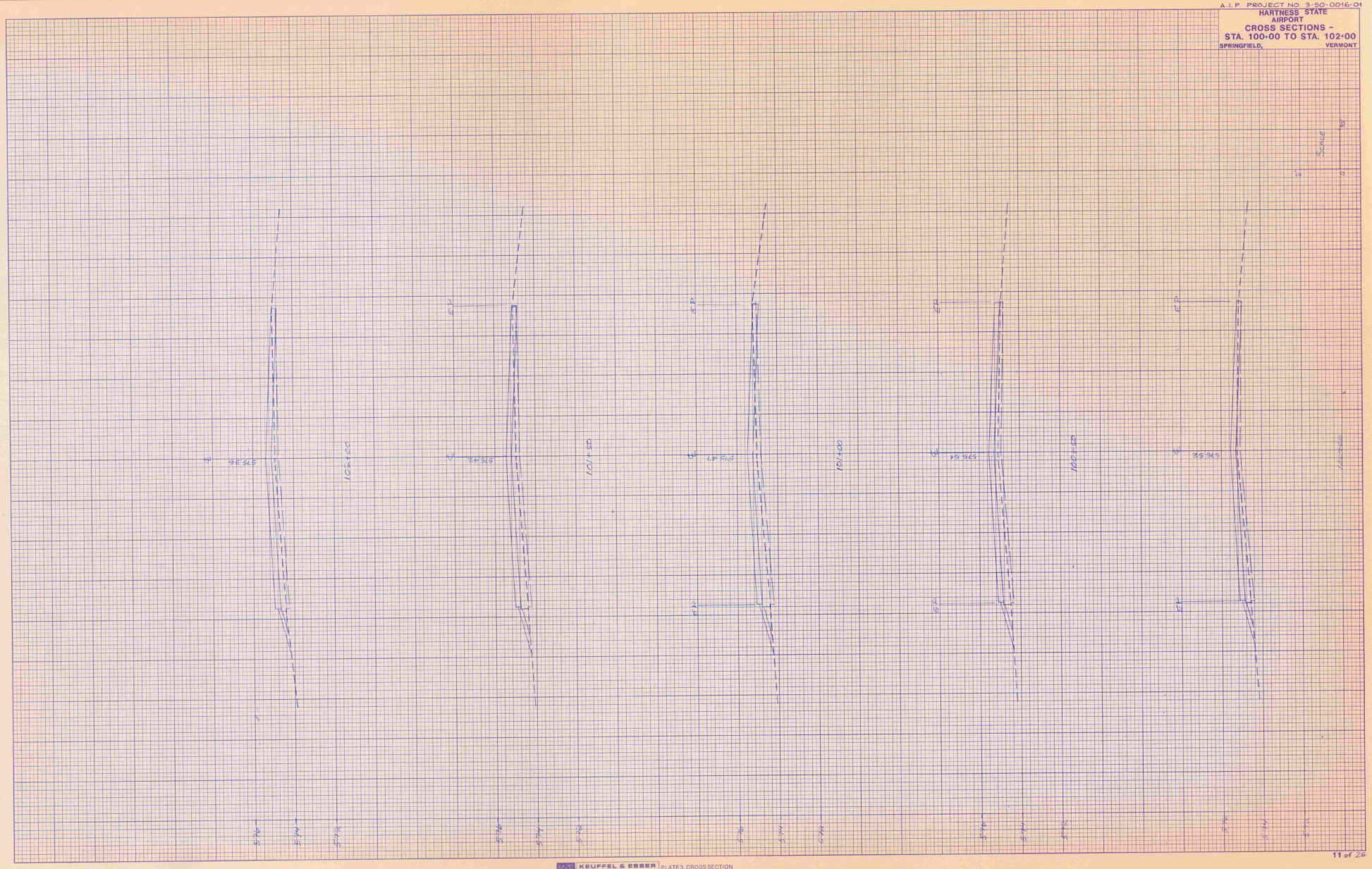
ORIGINAL SURVEY
SURVEYED:
PLOTTED:
NOTE BOOK
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS - STA. 100+00 TO STA. 102+00
SPRINGFIELD, VERMONT



FINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY

ORIGINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

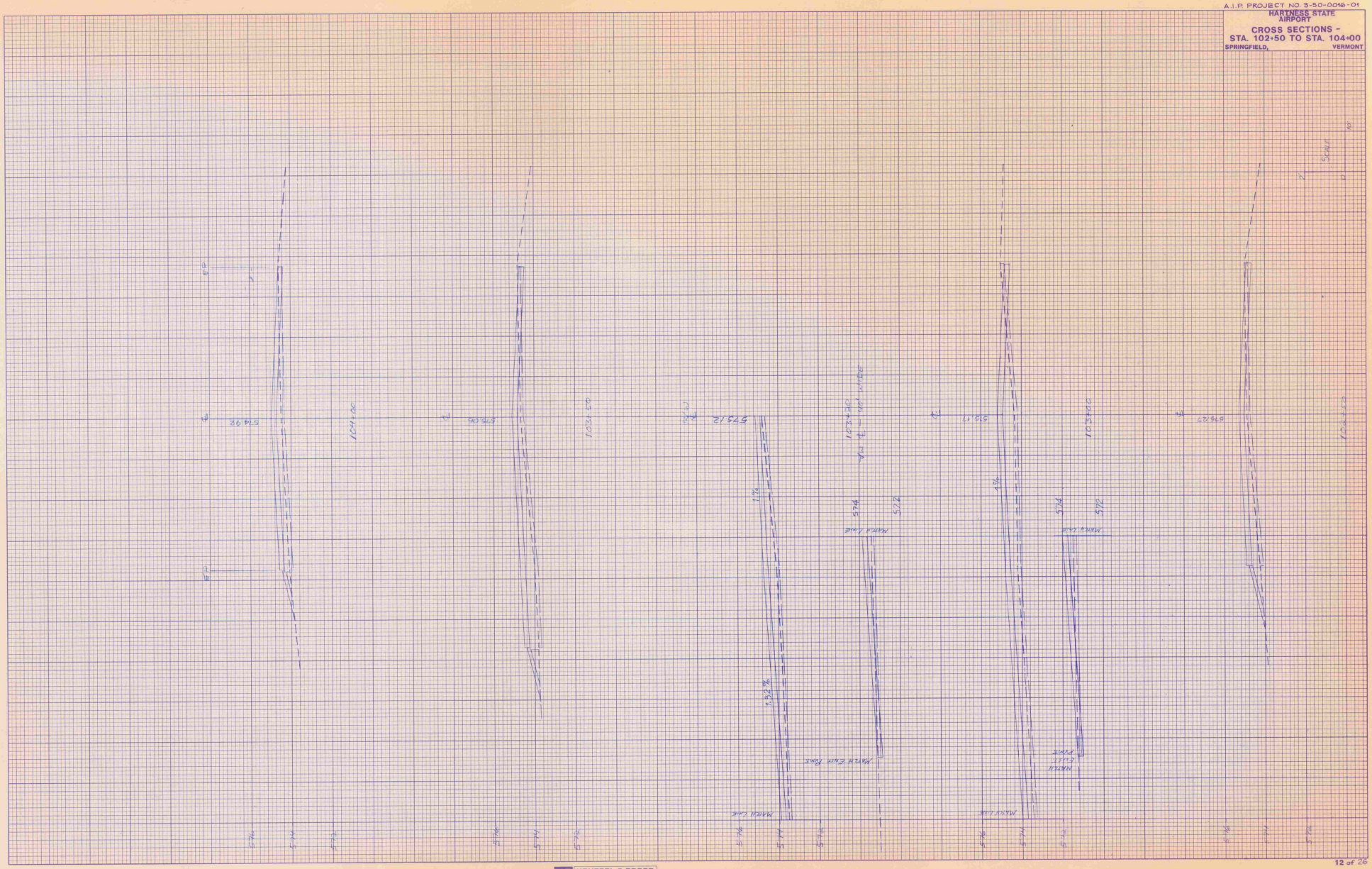
KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION
48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0046-01

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 102+50 TO STA. 104+00

SPRINGFIELD, VERMONT



FINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

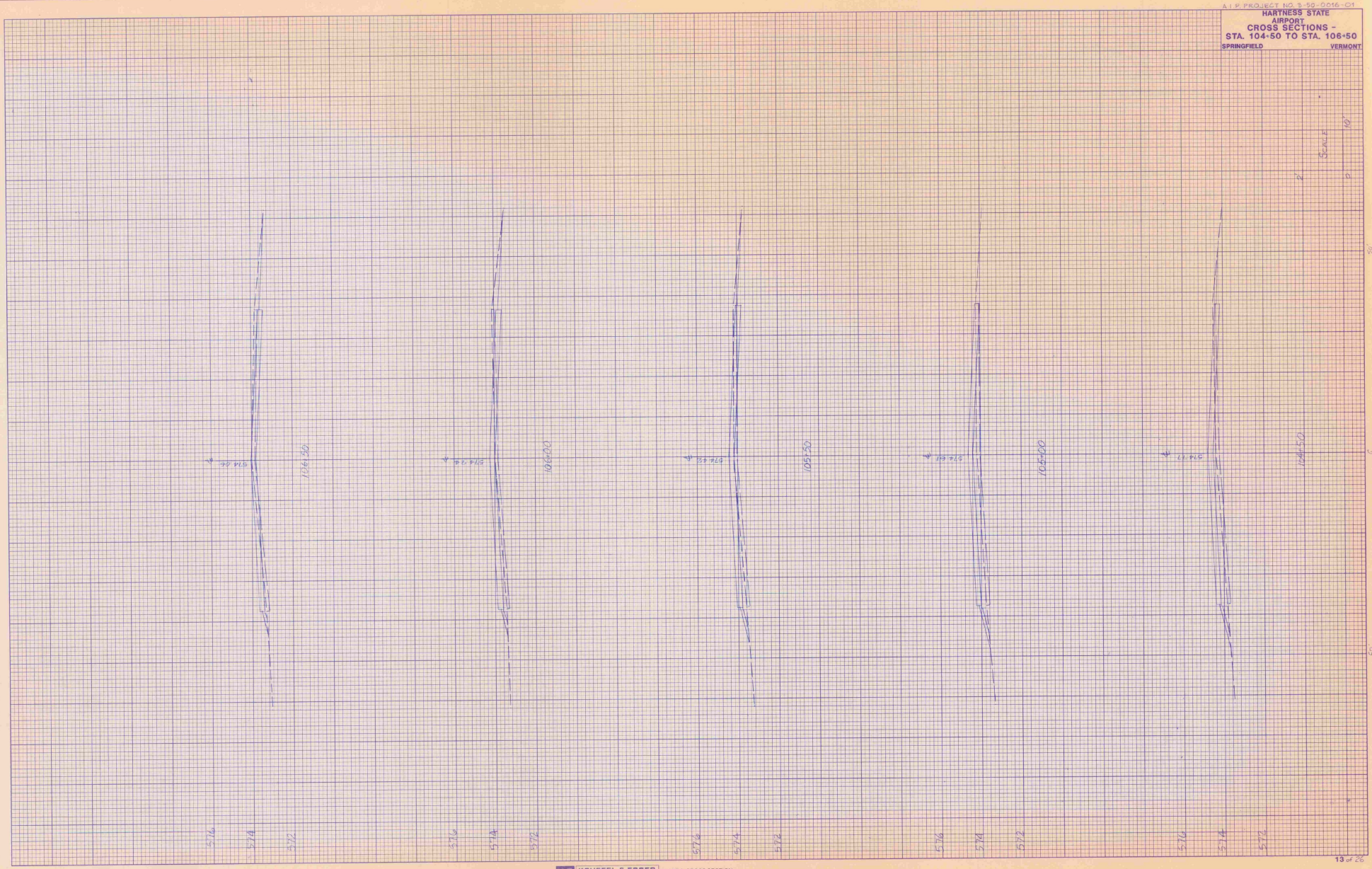
ORIGINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

KEUFFEL & ESSER PLATE 3, CROSS SECTION
48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS - STA. 104+50 TO STA. 106+50

SPRINGFIELD VERMONT



ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
BY
DATE

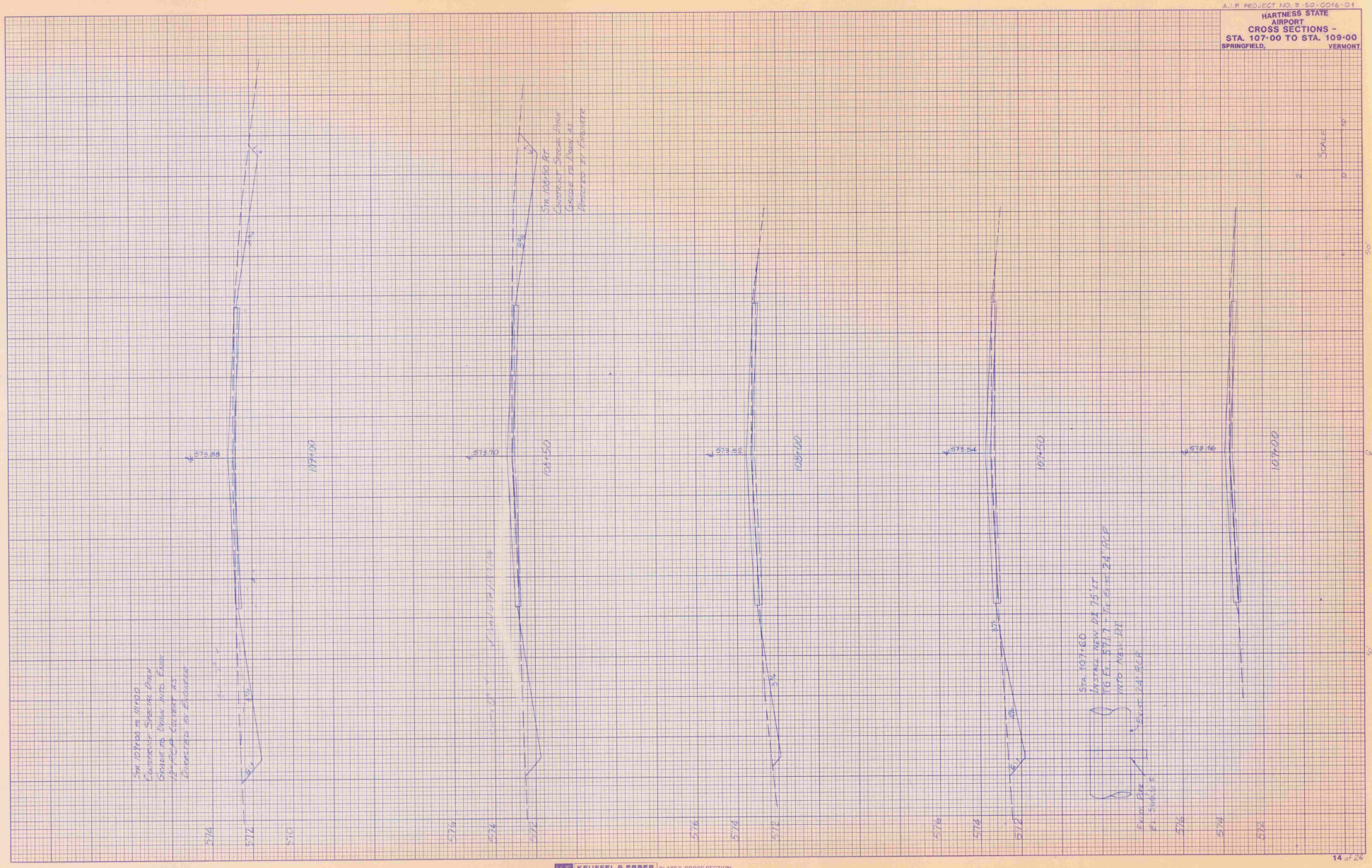
FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
BY
DATE

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

48 7036 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS -
STA. 107+00 TO STA. 109+00
SPRINGFIELD, VERMONT



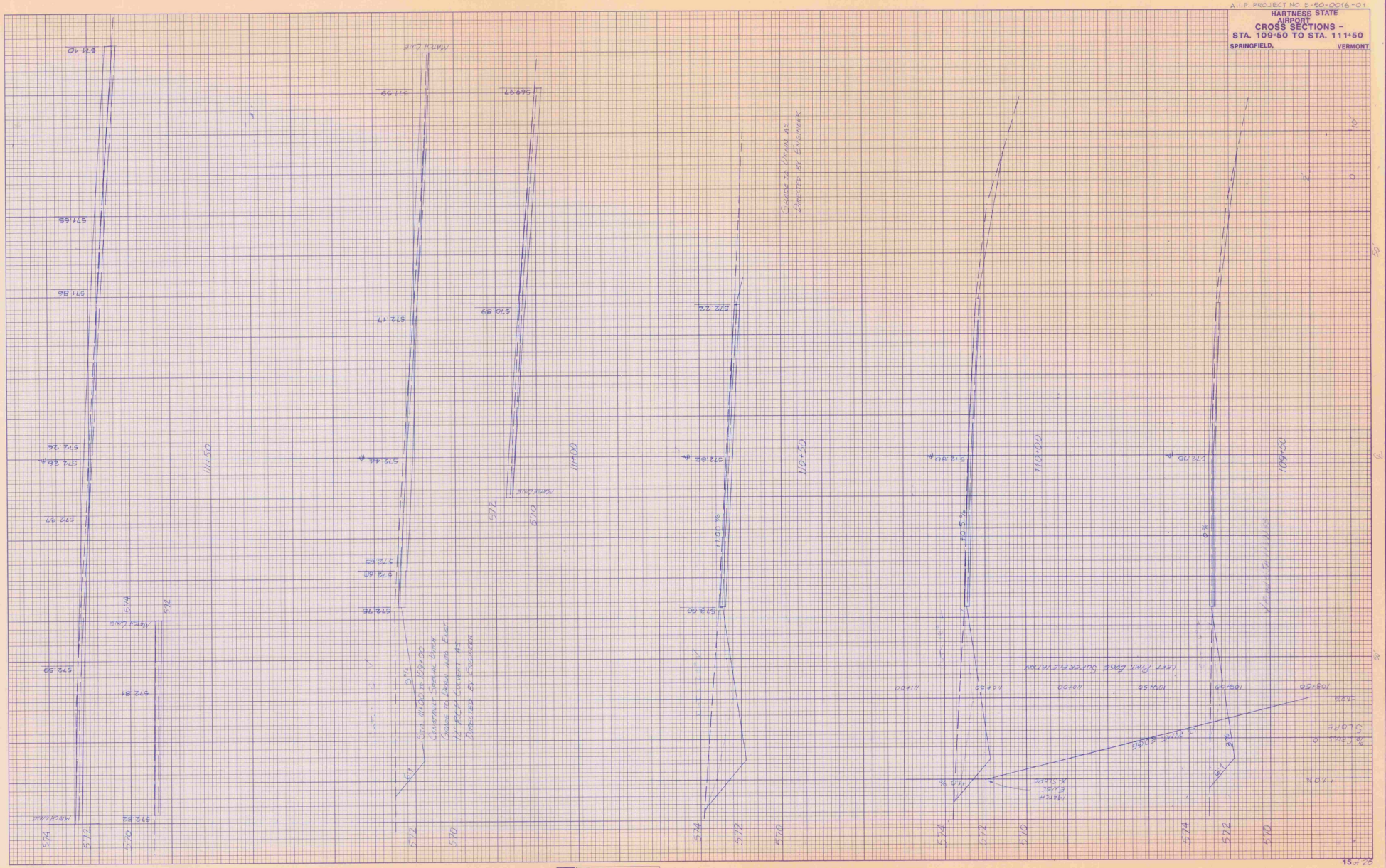
FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS - STA. 109+50 TO STA. 111+50

SPRINGFIELD, VERMONT



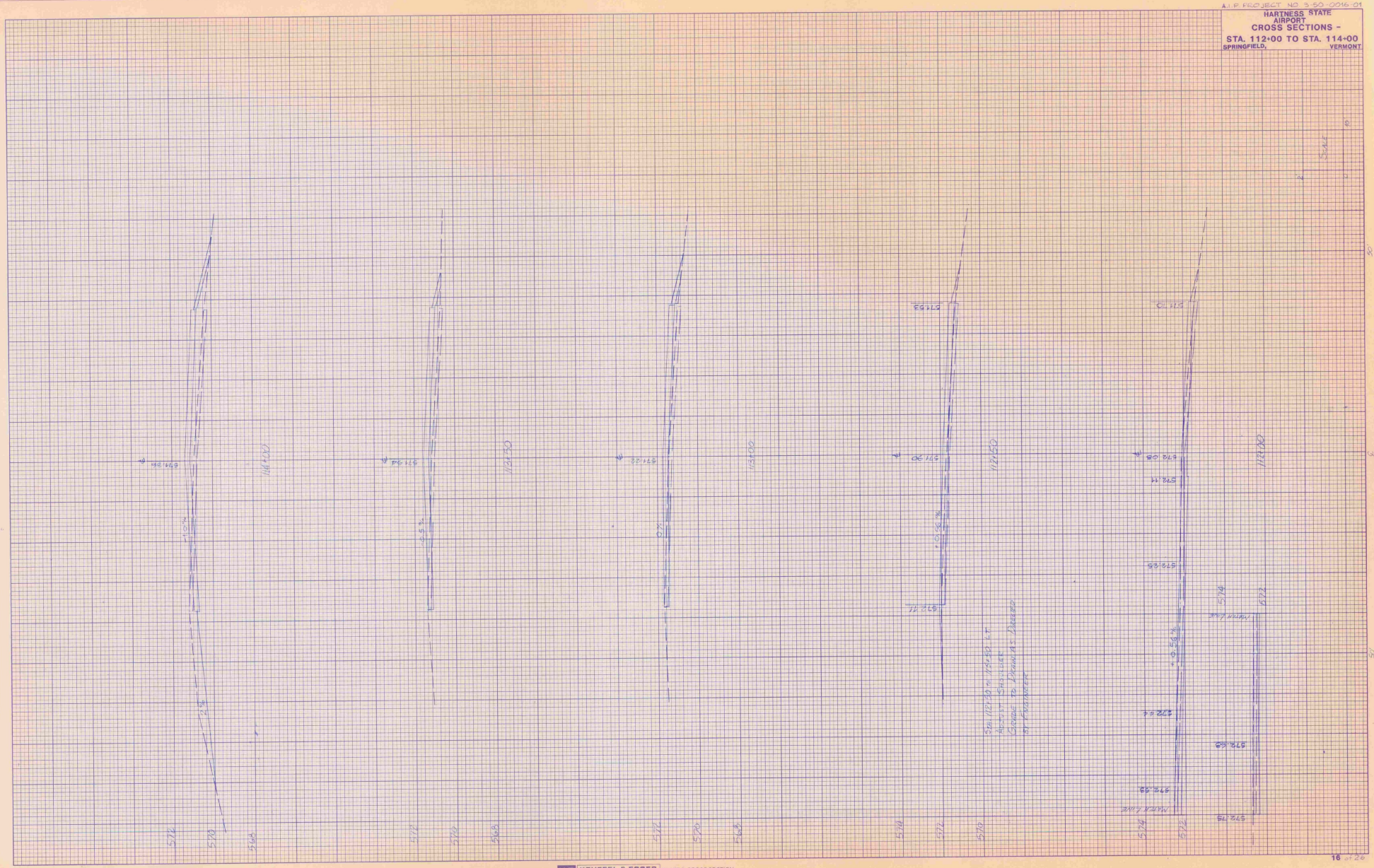
FINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
AREAS
AREAS CHECKED
NO. BY DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
AREAS
AREAS CHECKED
NO. BY DATE

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS –
STA. 112+00 TO STA. 114+00

SPRINGFIELD, VERMONT



FINAL SURVEY	
	SURVEYED
	PLOTTED
	TEMPLATE
NOTE BOOK	AREAS CHECKED
NO.	

ORIGINAL SURVEY	
	SURVEYED
	PLOTTED
	TEMPLATE
NOTE BOOK	AREAS CHECKED
NO.	

DATE

BY

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

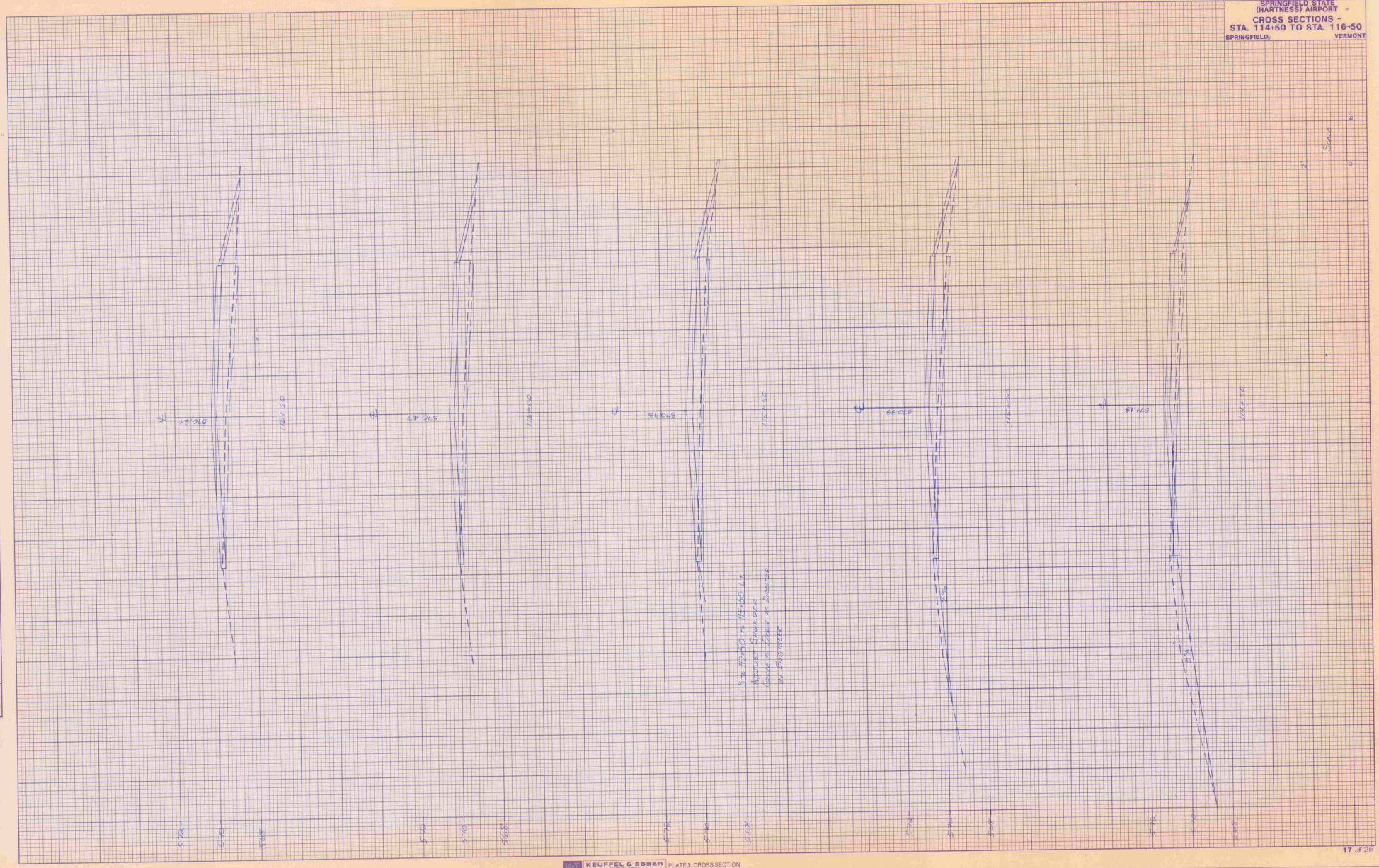
48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-01

SPRINGFIELD STATE
(HARTNESS) AIRPORT

CROSS SECTIONS -
STA. 114+50 TO STA. 116+50

SPRINGFIELD, VERMONT



KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

48 7058 Made in U.S.A.

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
BY
DATE

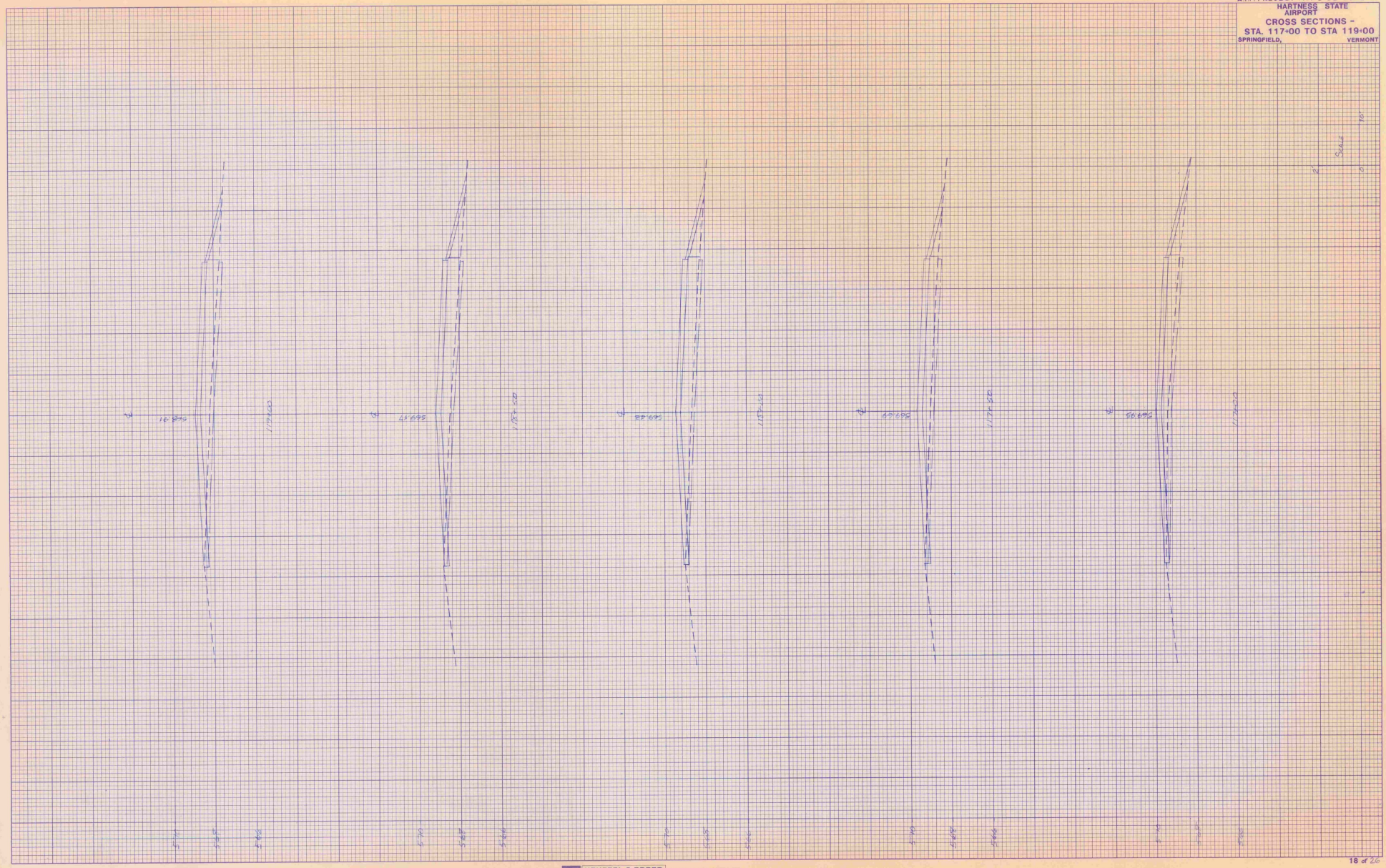
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
BY
DATE

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 117+00 TO STA 119+00

SPRINGFIELD, VERMONT



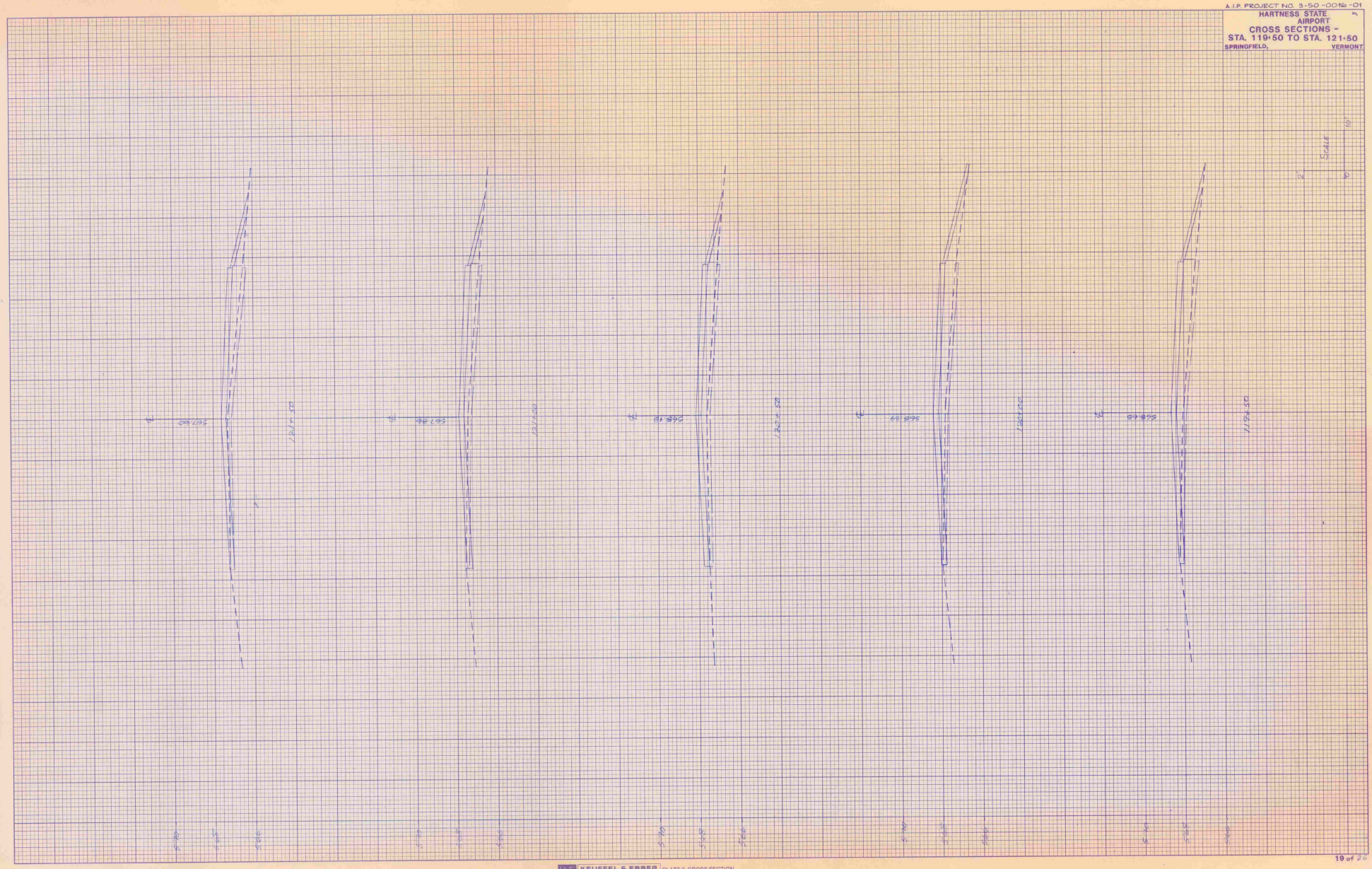
FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
AREAS CHECKED
NO.
BY

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
AREAS CHECKED
NO.
BY
DATE

A.I.P. PROJECT NO. 3-50-0016-01

HARTNESS STATE AIRPORT
CROSS SECTIONS - STA. 119+50 TO STA. 121+50

SPRINGFIELD, VERMONT



FINAL SURVEY
NOTE BOOK
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREA CHECKED
NO.
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

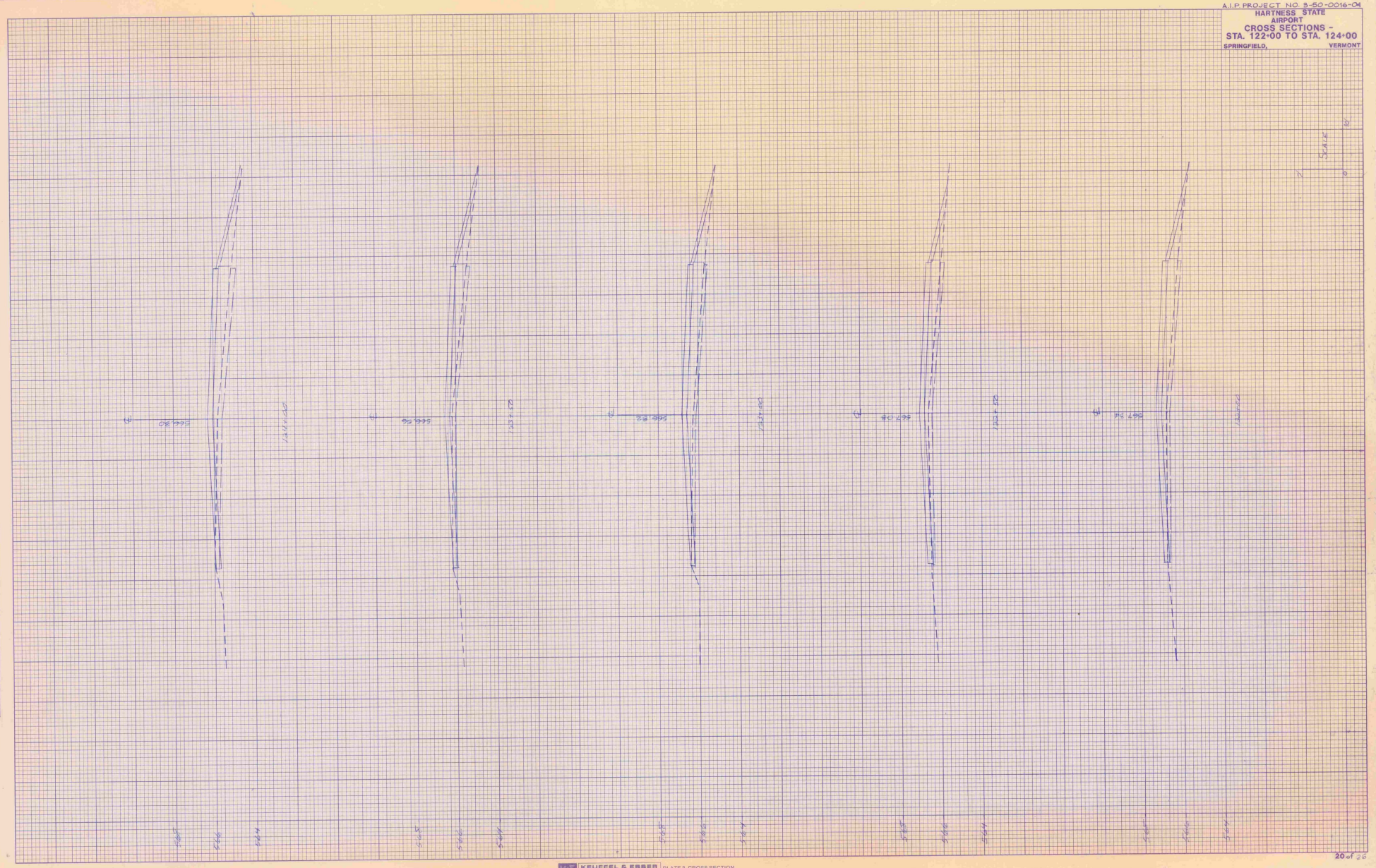
48 7056 Made in U.S.A.

A.I.P. PROJECT NO. 3-50-0016-04

HARTNESS STATE AIRPORT

CROSS SECTIONS - STA. 122+00 TO STA. 124+00

SPRINGFIELD, VERMONT



FINAL SURVEY
NOTE BOOK
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

KEUFFEL & ESSER CO. PLATE 3, CROSS SECTION

48 7056 Made in U.S.A.

EARTHWORK SHEET

STATE OF VERMONT

FED. ROAD DIVISION NO.	STATE	PROJECT NO.	FISCAL YEAR POST WAR	SHEET NO.	TOTAL SHEETS
1	VT.				

V.C.	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V CURVES	GRADES CORR V.C.	DIST	TOTAL EXCAVATION (UNCLASSIFIED) AREA	TOTAL EXCAVATION (UNCLASSIFIED) CU. YDS.	SHIM REQUIRED (ALT. #2) AREA	SHIM REQUIRED (ALT. #2) CU. YDS.	SHIM AVAILABLE (ALT. #1) AREA	SHIM AVAILABLE (ALT. #1) CU. YDS.	BASE AREA	BASE CU. YDS.
		92+00	574.10				0							
		+50	574.22			50'	0			30		23		37
		93+00	574.34			50'	0			35		24		45
		+50	574.46			50'	0			32		23		40
		94+00	574.58			50'	0			27		24		34
		+50	574.70			50'	0			30		28		37
		95+00	574.82			50'	0			26		28		32
		+50	574.94			50'	0			21		26		26
		96+00	575.06				0			23		25		29
		+14.41	575.09	575.09	—	50'				22		23		28
		+50	575.18	575.17	-0.01		0							
		97+00	575.30	575.27	-0.03	50'	0			28		26		37
		+50	575.42	575.36	-0.06	50'	0			33		31		41
		98+00	575.54	575.43	-0.11	50'	0			25		31		31
		+50	575.66	575.47	-0.19	50'	0			17		27		21
		99+00	575.78	575.51	-0.27	50'	0			16		24		20
		+50	575.90	575.52	-0.37	50'	0			27		24		34
		100+00	576.02	575.52	-0.49	50'	0			31		26		39
		+50	576.14	575.51	-0.63	50'	0			35		26		44
		+64.41	576.17	575.50	-0.67	50'				40		26		50
		101+00	576.26	575.47	-0.78		0							
		+50	576.38	575.42	-0.96	50'	0			42		26		52
		102+00	576.50	575.36	-1.14	50'	0			34		24		42
		+50	576.62	575.27	-1.35	50'	0			34		24		42
		103+00	576.74	575.17	-1.57	50'	2.0	2		43		27		54
		+50	576.86	575.06	-1.80	50'	0.4	2		60		25		75
		104+00	576.98	574.92	-2.06	50'	0.2	–		42		28		52
		+50	577.10	574.77	-2.33	50'	0.4	–		30		25		38
		105+00	577.22	574.61	-2.61	50'	0	–		30		24		38
		+14.41	577.25	574.55	-2.70	50'				21		24		26
		+50	574.42				1.0	4		15		27		19
		106+00	574.24			50'	3.2	7		8		32		10
		+50	574.06			50'	3.2	10		3		32		5
		107+00	573.88			50'	2.0	18		7		26		9
		+50	573.70			50'	18	28		7		24		10
		108+00	573.52			50'	12	52		5		24		6
		+50	573.34			50'	44	76		5		26		6
		109+00	573.16			50'	38	63		5		28		6
		+50	572.98			50'	30	56		3		32		4
		110+00	572.80			50'	30	74		3		41		4
		+50	572.62			50'	50	93		45		87		56
		111+00	572.44			50'	50	19		111		118		140
		+50	572.26			50'	0			99		104		124
		112+00	572.08			50'	0			38		61		47
		+50	571.90			50'	0			10		24		12
		113+00	571.72			50'	0			17		26		22
		+50	571.54				0							
		COLUMN TOTAL						504		1215		1408		1524

-0.240 %

900' V.C.

-0.360 %

V.C.	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V CURVES	GRADES CORR V.C.	DIST	TOTAL EXCAVATION (UNCLASSIFIED) AREA	TOTAL EXCAVATION (UNCLASSIFIED) CU. YDS.	SHIM REQUIRED (ALT. #2) AREA	SHIM REQUIRED (ALT. #2) CU. YDS.	SHIM AVAILABLE (ALT. #1) AREA	SHIM AVAILABLE (ALT. #1) CU. YDS.	BASE AREA	BASE CU. YDS.
	-0.360%	113+50	571.54											
		114+00	571.36			50'	0	19		29		30		30
		+50	571.18			50'	20	41		33		30		41
		+9533	571.02			50'	24	37		42		28		52
		115+00	570.99				16							
		+50	570.73			50'	6	20		51		28		64
		116+00	570.47			50'	0	6		56		26		70
		+50	570.21			50'				63		24		78
		117+00	569.95			50'				60		24		75
		+50	569.69			50'				56		24		70
		118+00	569.43			50'				60		24		75
		+50	569.17			50'				64		24		80
		119+00	568.91			50'				64		24		80
		+50	568.65			50'				56		24		70
		120+00	568.39			50'				49		24		62
		+50	568.13			50'				52		24		65
		121+00	567.86			50'				48		24		60
		+50	567.60			50'				40		24		50
		122+00	567.34			50'				45		24		56
		+50	567.08			50'				50		24		62
		123+00	566.82			50'				53		24		66
		+50	566.56			50'				47		24		60
		124+00	566.30							42		24		60
										51		38		64

-0.521 %

COLUMN TOTAL	123	
GRAND TOTAL	627	
ROUNDING	23	
TOTAL	650CY	

TOTAL SHIM REQUIRED	2331	CY
RECYCLED MATERIAL AVAILABLE FOR SHIM	1972	CY
∴ REQUIRED ADDITIONAL MATERIAL (P-208)	352	CY
FILL FACTOR (0.25)	88	CY
ROUNDING	10	CY
P-208 REQUIRED ADDITIONAL MATERIAL	450	CY

COLUMN TOTAL		1398
GRAND TOTAL		2922
ROUNDING		78
TOTAL		3000 CY

QUANTITIES FOR CONSTRUCTION OF SAFETY AREA OFF RNWY 11 (sta 90+00-92+60)

UNCLASSIFIED EXCAVATION	1400 cy*
EMBANKMENT	720 cy

* EXCESS EXCAVATION TO BE USED TO FLATTEN 1:3 SLOPE

| | | | | | | | | | | |