INDEX OF SHEETS

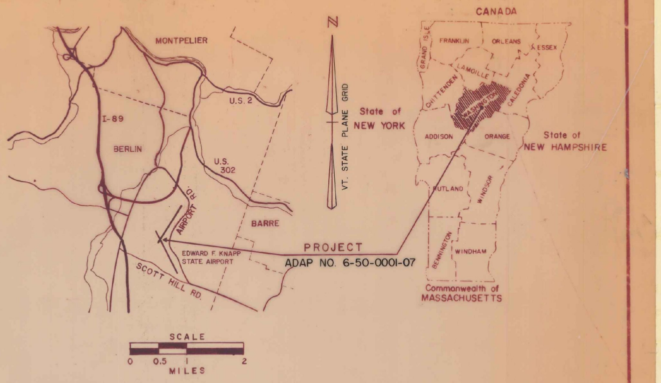
1. Title Sheet
2. Typical Sheet
3. Misc. Details
4. Item Quantity & Grade Sheet
5. Plan-Profile Sheet
6-11. Cross Sections

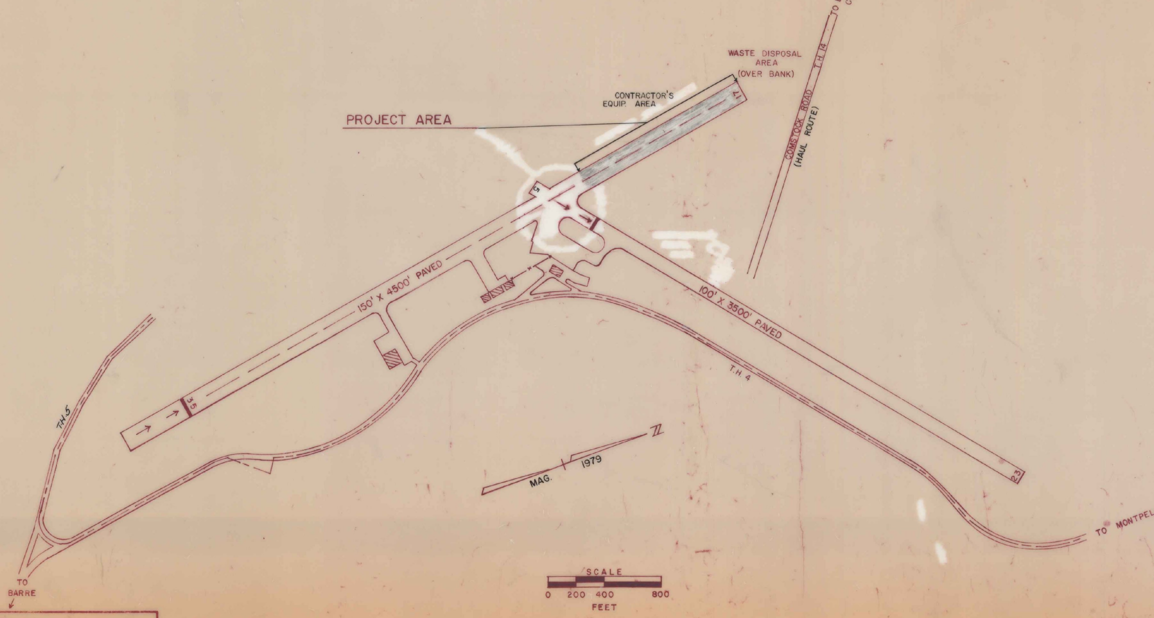
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TOWN OF BERLIN
COUNTY OF WASHINGTON
EDWARD F. KNAPP STATE AIRPORT
ADAP NO. 6-50-0001-07

RECONSTRUCTION OF THE NORTH END OF RUNWAY 17-35
AND INSTALLATION OF NEW UNDERDRAIN

LENGTH OF PROJECT 1354 FT. = 0.256 MI.


MONTPELIER
U.S. 2
I-89
BERLIN
U.S. 302
AIRPORT RD.
BARRE
EDWARD F. KNAPP STATE AIRPORT
SCOTT HILL RD.
N
VT. STATE PLANE GRID
State of NEW YORK
PROJECT
ADAP NO. 6-50-0001-07
CANADA
GRAND ISLE
FRANKLIN
ORLEANS
ESSEX
LAMOILLE
CHITTENDEN
WASHINGTON
CALEDONIA
ADDISON
ORANGE
State of NEW HAMPSHIRE
RUTLAND
WINDSOR
BENNINGTON
WINDHAM
Commonwealth of MASSACHUSETTS
SCALE
0 0.5 1 2
MILES


TO BERLIN COR.
WASTE DISPOSAL AREA (OVER BANK)
CONTRACTOR'S EQUIP. AREA
PROJECT AREA
17
5
COMSTOCK ROAD T.H. 14 (HAUL ROUTE)
150' X 4500' PAVED
100' X 3500' PAVED
T.H. 4
T.H. 5
35
23
N
MAG. 1979
TO MONTPELIER
TO BARRE
SCALE
0 200 400 800
FEET

CONVENTIONAL SIGNS

- COUNTY LINE
- TOWN LINE
- LIMITS OF ACCESS
- POINT OF ACCESS
- FENCE LINE
- STONE WALL
- TRAVELED WAY
- GUARD RAIL
- RAILROAD
- SURVEY LINE
- CULVERT
- POWER POLE
- TELEPHONE POLE
- TREES
- CONTROL OF ACCESS
- PROPERTY LINE
- R.O.W. TAKING LINE
- SLOPE RIGHTS SR
- TOP OF CUT
- TOE OF SLOPE

DATUM
VERTICAL ASSUMED
HORIZONTAL N/A

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By Resident Engineer
Date 7/6/82

These plans are subject to such engineering changes as may be required by the Federal Aviation Administration or the Director of Engineering and Constr.

Construction ~~is to be~~ WAS carried on in accordance with these plans and the Standard Specifications for Highway and Bridge Construction dated March, 1976, as approved by the Federal Highway Administration on October 27, 1976 for use on this project, including all subsequent revisions and such revised specifications and special provisions as are incorporated in these plans.

ADAP NO. 6-50-0001-07

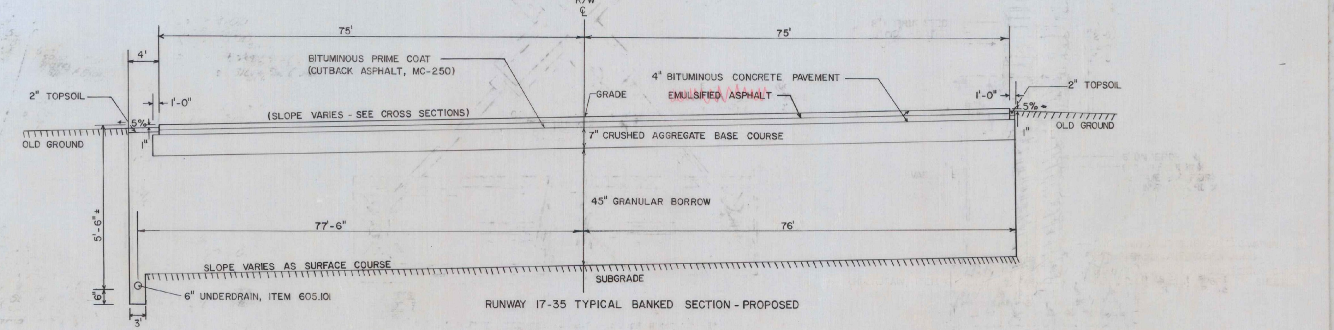
SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD
APPROVED S. J. Gage P.E. DATE JUL 6 1981
DIRECTOR OF ENGINEERING AND CONSTRUCTION

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
APPROVED ______ DATE ______
CHIEF, ENGINEERING BRANCH

PROJECT AIR № 23-2010
ADAP 6-50-0001-07
SHEET 1 OF 11 SHEETS

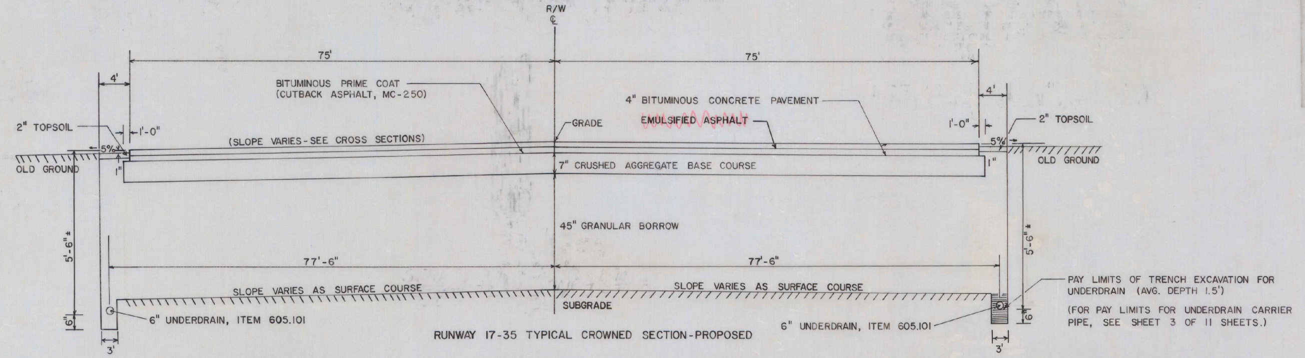
TYPICAL SECTIONS

4" BITUMINOUS CONCRETE PAVEMENT, ITEM P-401 (2-2" LIFTS) ✱ (PAY ITEM 853.02)
BITUMINOUS PRIME COAT, ITEM 404.55 (CUTBACK ASPHALT, MC-250)
7" CRUSHED AGGREGATE BASE COURSE, P-209 (PAY ITEM 853.07), GRADATION B
45" GRANULAR BORROW, ITEM 203.25
✱ EMULSIFIED ASPHALT, ITEM 404.65, BETWEEN LIFTS (2" TYPE B OVER 2" TYPE A)



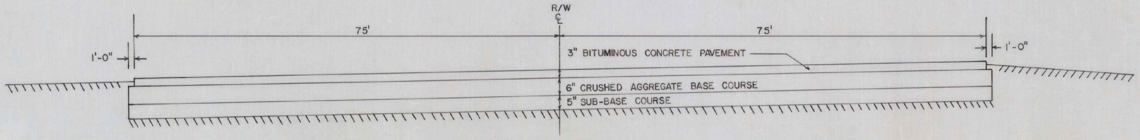
R/W
℄
75'
75'
4'
BITUMINOUS PRIME COAT
(CUTBACK ASPHALT, MC-250)
4" BITUMINOUS CONCRETE PAVEMENT
2" TOPSOIL
2" TOPSOIL
1'-0"
GRADE
EMULSIFIED ASPHALT
1'-0"
5%
5%
(SLOPE VARIES - SEE CROSS SECTIONS)
OLD GROUND
OLD GROUND
1"
1"
7" CRUSHED AGGREGATE BASE COURSE
45" GRANULAR BORROW
5'-6"±
77'-6"
76'
SLOPE VARIES AS SURFACE COURSE
SUBGRADE
6"
6" UNDERDRAIN, ITEM 605.101
3'

RUNWAY 17-35 TYPICAL BANKED SECTION - PROPOSED



R/W
℄
75'
75'
4'
4'
BITUMINOUS PRIME COAT
(CUTBACK ASPHALT, MC-250)
4" BITUMINOUS CONCRETE PAVEMENT
2" TOPSOIL
2" TOPSOIL
1'-0"
GRADE
EMULSIFIED ASPHALT
1'-0"
5%
5%
(SLOPE VARIES - SEE CROSS SECTIONS)
OLD GROUND
OLD GROUND
1"
1"
7" CRUSHED AGGREGATE BASE COURSE
45" GRANULAR BORROW
5'-6"±
5'-6"±
77'-6"
77'-6"
SLOPE VARIES AS SURFACE COURSE
SLOPE VARIES AS SURFACE COURSE
SUBGRADE
6"
6"
6" UNDERDRAIN, ITEM 605.101
6" UNDERDRAIN, ITEM 605.101
3'
3'
PAY LIMITS OF TRENCH EXCAVATION FOR UNDERDRAIN (AVG. DEPTH 1.5')
(FOR PAY LIMITS FOR UNDERDRAIN CARRIER PIPE, SEE SHEET 3 OF 11 SHEETS.)

RUNWAY 17-35 TYPICAL CROWNED SECTION - PROPOSED



R/W
℄
75'
75'
1'-0"
1'-0"
3" BITUMINOUS CONCRETE PAVEMENT
6" CRUSHED AGGREGATE BASE COURSE
5" SUB-BASE COURSE

RUNWAY 17-35 EXISTING TYPICAL

GENERAL NOTES

SEED, ITEM 651.10
TO BE APPLIED AS DIRECTED BY THE 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	PERENNIAL 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 LBS/ACRE			

THE SEED MIXTURE ~~SHALL NOT~~ HAD HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND ~~SHALL BE~~ WAS FREE OF ALL NOXIOUS WEED SEED.

FERTILIZER, ITEM 651.15
FORMULA 10-20-10 ~~TO BE~~ USED WITH SEED,
ITEM 651.10 APPLIED AT THE RATE OF 500 LBS/ACRE

AGRICULTURAL LIMESTONE, ITEM 651.20
~~TO BE~~ APPLIED AT RATE OF 2 TONS/ACRE
~~OR~~ AS DIRECTED BY THE ENGINEER

HAY MULCH, ITEM 651.25
~~TO BE~~ PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE

TOPSOIL, ITEM 653.10
~~TO BE~~ USED WITH SEED, ITEM 651.10
AS DIRECTED BY THE ENGINEER

ALLOWABLE THICKNESS TOLERANCES ✱

SUB-BASE	± 1"
CONTROLLED MATERIAL	± 1"
PAVEMENT	± 1/4"
BASE COURSE	± 3/8"

✱APPLIES TO TOTAL THICKNESS OF ALL LIFTS

NOTES

1. SUB-GRADE UNDER AREAS TO BE PAVED ~~TO BE~~ WERE COMPACTED TO 95% DENSITY AS PER FAA T-611 (AASHTO T-180).
2. BITUMINOUS PRIME COAT ~~TO BE~~ APPLIED AS PER ITEM 404.55, SUBSECTION 404.06 (C), TYPE I, USING MC-250.
3. TOP 9" OF GRANULAR BORROW ~~TO BE~~ WAS COMPACTED TO 100% DENSITY (AASHTO T-180).
4. AREAS ADJACENT TO THE RUNWAY THAT ~~ARE~~ WERE DISTURBED BY NEW CONSTRUCTION ~~ARE~~ WAS ~~TO BE~~ GRADED, RAKED FREE OF STONES, COVERED WITH 2" OF TOPSOIL, SEEDED, AND ROLLED.

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By ______________ Resident Engineer
Date ______________

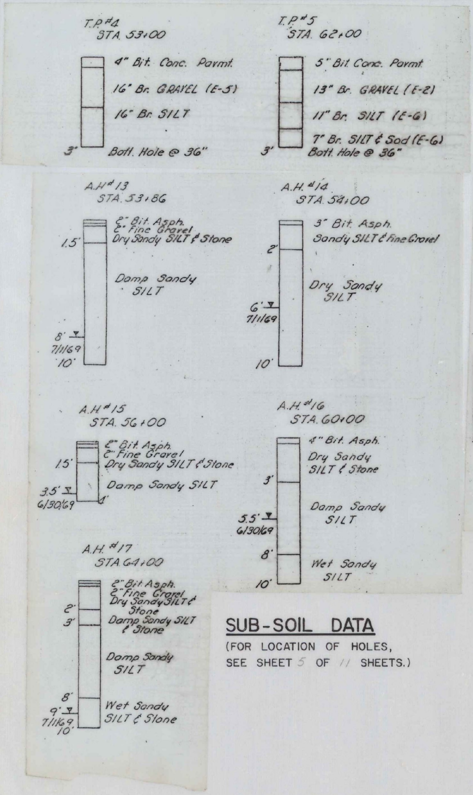
ADAP NO. 6-50-0001-07

EDWARD F. KNAPP AIRPORT

VERMONT AGENCY OF TRANSPORTATION

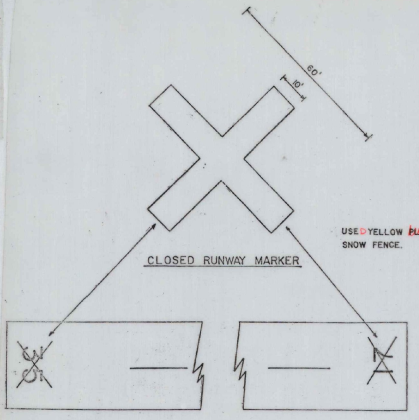
PROJ. AIR NO 23-2010

SHEET 2 OF 11


T.P.#4
STA. 53+00
4" Bit. Conc. Pavmt.
16" Br. GRAVEL (E-5)
16" Br. SILT
3'
Bott. Hole @ 36"
T.P.#5
STA. 62+00
5" Bit. Conc. Pavmt.
13" Br. GRAVEL (E-2)
11" Br. SILT (E-6)
7" Br. SILT & Sod (E-6)
3'
Bott. Hole @ 36"
A.H.#13
STA. 53+86
2" Bit. Asph.
2" Fine Gravel
Dry Sandy SILT & Stone
1.5'
Damp Sandy SILT
8'
7/1/69
10'
A.H.#14
STA. 54+00
3" Bit. Asph.
Sandy SILT & Fine Gravel
2'
Dry Sandy SILT
6'
7/1/69
10'
A.H.#15
STA. 56+00
2" Bit. Asph.
2" Fine Gravel
Dry Sandy SILT & Stone
1.5'
Damp Sandy SILT
3.5'
6/30/69
4'
A.H.#16
STA. 60+00
4" Bit. Asph.
Dry Sandy SILT & Stone
3'
Damp Sandy SILT
5.5'
6/30/69
8'
Wet Sandy SILT
10'
A.H.#17
STA. 64+00
2" Bit. Asph.
2" Fine Gravel
Dry Sandy SILT & Stone
2'
3'
Damp Sandy SILT & Stone
Damp Sandy SILT
8'
9'
7/1/69
10'
Wet Sandy SILT & Stone

SUB-SOIL DATA

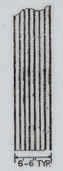
(FOR LOCATION OF HOLES,
SEE SHEET 5 OF 11 SHEETS.)



USED YELLOW ~~PLYWOOD~~ OR
SNOW FENCE.

CLOSED RUNWAY MARKER

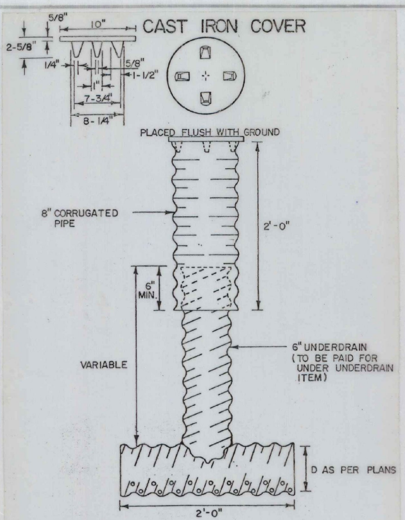
NOTES
1. NO SEPARATE PAY ITEM FOR CLOSED RUNWAY MARKERS. (PAYMENT ~~WILL BE~~ WAS CONSIDERED SUBSIDIARY TO OTHER CONTRACT ITEMS.)
2. CLOSED RUNWAY MARKERS REQUIRED AT EACH END OF RUNWAY 17-35.
3. CLOSED RUNWAY MARKERS ~~TO BE~~ WERE IN PLACE DURING THE CONSTRUCTION PERIOD.



MARKER STRIPE
- ALL STRIPES AND SPACES ~~TO BE~~ WERE EQUAL WIDTH (6")

STRIATED MARKING DETAIL

SCALE: 1"=12'

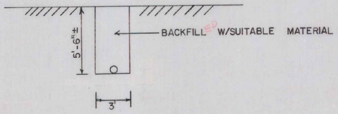

5/8"
10"
CAST IRON COVER
2-5/8"
1/4"
5/8"
1-1/2"
1"
7-3/4"
8-1/4"
PLACED FLUSH WITH GROUND
8" CORRUGATED PIPE
2'-0"
6" MIN.
VARIABLE
6" UNDERDRAIN (TO BE PAID FOR UNDER UNDERDRAIN ITEM)
D AS PER PLANS
2'-0"

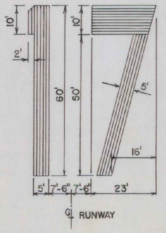
FLUSHING BASINS AT BEGINNING OF LINE ~~SHALL HAVE~~ HAD A 90° ELBOW RATHER THAN A T AS SHOWN ABOVE. (ELBOW ~~TO BE~~ PAID FOR UNDER UNDERDRAIN ITEM)

UNDERDRAIN FLUSHING BASIN

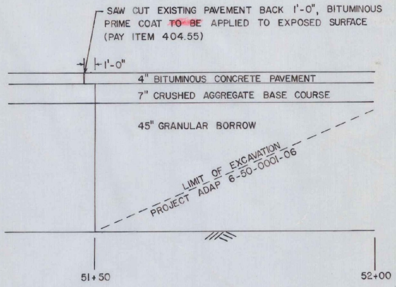
PAY LIMITS OF TRENCH EXCAVATION FOR UNDERDRAIN CARRIER PIPE

(NOT TO SCALE)

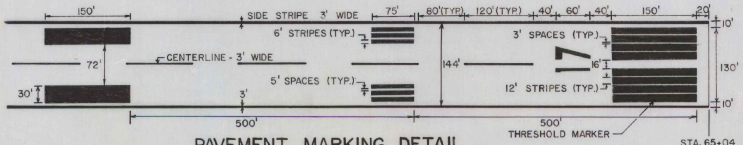

5'-6"±
BACKFILLED W/SUITABLE MATERIAL
3'


10'
2'
60'
10'
50'
5'
16'
5'
7'-6"
7'-6"
23'
℄ RUNWAY

NUMERAL DETAILS


SAW CUT EXISTING PAVEMENT BACK 1'-0", BITUMINOUS PRIME COAT ~~TO BE~~ APPLIED TO EXPOSED SURFACE (PAY ITEM 404.55)
1'-0"
4" BITUMINOUS CONCRETE PAVEMENT
7" CRUSHED AGGREGATE BASE COURSE
45" GRANULAR BORROW
LIMIT OF EXCAVATION
PROJECT ADAP 6-50-0001-06
51+50
52+00

TRANSITION BUTT DETAIL


150'
SIDE STRIPE 3' WIDE
75'
80'(TYP.)
120'(TYP.)
40'
60'
40'
150'
20'
10'
6' STRIPES (TYP.)
3' SPACES (TYP.)
72'
CENTERLINE - 3' WIDE
144'
17
16'
130'
5' SPACES (TYP.)
12' STRIPES (TYP.)
30'
3'
10'
500'
500'
THRESHOLD MARKER
STA. 65+04

PAVEMENT MARKING DETAIL

NOTES
1. ALL RUNWAY MARKING ~~SHALL~~ ARE BE WHITE AND STRIATED.
2. ALL RUNWAY DIMENSIONS ARE NOMINAL.
3. SEE DETAIL FOR STRIATED MARKING.
4. TYPICALLY, ADD 6" TO ALL WIDTHS.

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By [illegible] Resident Engineer
Date [illegible]

MISCELLANEOUS DETAILS

ADAP NO. 6-50-0001-07

EDWARD F. KNAPP AIRPORT

VERMONT AGENCY OF TRANSPORTATION

PROJ. AIR NO. 23-2010 | SHEET 3 OF 11

D-8

QUANTITY, EARTHWORKS, DRAINAGE AND ITEM DETAIL SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

EROSION CONTROL	~~BRIDGE~~	RUNWAY ~~ROADWAY~~	GRAND TOTAL	UNIT	PAY ITEM	PAY ITEM NUMBER	RNDG.
		37000	37000	CY	Common Excavation	203.15	49
		100	100	CY	Solid Rock Excavation (est)	203.16	
		33,700	33,700	CY	Granular Borrow (factored)	203.32	37
		475	475	CY	Trench Excavation of Earth	204.20	5
		10	10	CY	Trench Excavation of Rock (est)	204.21	
		475	475	CWT	Cutback Asphalt (MC-250)	404.55	1.1
		80	80	CWT	Emulsified Asphalt	404.65	4.2
		2	2	CY	Concrete Class B (est)	501.25	
		200	200	LB	Reinforcing Steel (est)	507.15	
		2200	2200	LF	6" Underdrain	605.101	26
		176	176	LF	6" Underdrain Carrier Pipe (est)	605.151	
		5	5	EA	Underdrain Flushing Basin	605.95	
		16	16	HR	All Purpose Excavator Rental, Type I (est)	608.25	
		16	16	HR	Truck Rental (est)	608.37	
		100	100	M/GAL	Dust Control w/ Water (est)	609.10	
		1	1	L.S.	Field Office - Engineers	631.10	
		1	1	L.S.	Mobilization	635.10	
		120	120	LB	Seed (est)	651.10	
		1000	1000	LB	Fertilizer (est)	651.15	
		4	4	TON	Agricultural Limestone (est)	651.20	
		4	4	TON	Hay Mulch (est)	651.25	
		75	75	CY	Topsoil	653.10	8
		5020	5020	TON	Bituminous Concrete Pavement	853.02	52
		1	1	L.S.	Runway & Taxiway Painting	853.05	
		4450	4450	CY	Crushed Aggregate Base Course	853.07	4
COLUMN TOTALS							

DETAILED SUMMARY OF QUANTITIES

QUANTITY	UNIT	PAY ITEM

GRADES ~~AND EARTHWORK~~

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVE	V.C. CORR.	~~DIST. (FT.)~~	TOTAL EXCAV. EARTH & ROCK AREA (SF)	VOL. (CY.)	ROCK EXCAVATION AREA (SF)	VOL. (CY.)	EMBANKMENT AREA (SF)	VOL. (CY.)
	-0.95	R/W 17-35										
		51	1112.35									
50' VC		+25	1112.12	1112.12	0.00							
		+45	1111.93	1111.92	-0.01							
		+50	1111.88	1111.86	-0.02	Begin Project AIR 23-2010						
150' VC	-1.32	+75	1111.55	1111.55	0.00							
		52	1111.22	1111.22	0.00							
		+25	1110.89	1110.87	-0.02							
		+50	1110.56	1110.53	-0.03							
		+75	1110.18	1110.16	-0.02							
		53	1109.81	1109.81	0.00							
		+25	1109.43	1109.43	0.00							
	-1.5024	+50	1109.06									
		54	1108.31									
		+50	1107.56									
		55	1106.80									
		+50	1106.05									
		56	1105.30									
		+50	1104.55									
		57	1103.80									
		+50	1103.05									
		58	1102.30									
		+50	1101.55									
		59	1100.79									
		+50	1100.04									
		60	1099.29									
		+50	1098.54									
		61	1097.79									
		+50	1097.04									
		62	1096.29									
		+50	1095.54									
		63	1094.78									
		+50	1094.03									
		64	1093.28									
		+50	1092.53									
		65	1091.78									
		+04	1091.72			End Project AIR 23-2010						
COLUMN TOTALS												

EARTHWORK SUMMARY

EARTH AND ROCK EXCAVATION	CY.
SOLID ROCK EXCAVATION	CY.
EARTH EXCAVATION	CY.
PLANIMETERED FILL	CY.
LESS FACTORED SOLID ROCK	CY.
LESS DISPLACEMENT OF LARGE STRUCTURES	CY.
NET PLANIMETERED FILL	CY.
FACTOR (x NET PLANIMETERED FILL)	CY.
PLANIMETERED FILL INCLUDING FACTOR	CY.
MATERIALS AVAILABLE FOR FILLS:	
EARTH EXCAVATION	CY.
CHANNEL EXCAVATION (%x CY)	CY.
UNDERDRAIN EXCAVATION (%x CY)	CY.
STRUCTURE EXCAVATION (%x CY)	CY.
TOTAL MATERIAL AVAILABLE FOR FILLS	CY.
TOTAL FILL INCLUDING FACTOR	CY.
TOTAL MATERIAL FOR FILLS	CY.
BORROW	CY.
EXCESS EXCAVATION	CY.
LESS FACTORED DEDUCTIBLE GRANULAR BORROW	CY.
NET EARTH BORROW	CY.
NET EXCESS EXCAVATION	CY.

UNDERDRAIN AND CARRIER PIPE

STATION TO STATION		TYPE U	TYPE C.P.	POS.	D (IN.)	L (FT.)	TRENCH EXC EARTH (CY.)	TRENCH EXC ROCK (CY.)	GRAN BKF (CY.)	FB (EA)		MKR. POSTS (EA)
52+00	65+08	X		Lt	6	1308	218			2		
58+00	65+08	X		Rt	6	708	118			1		
65+08		X		Rt Lt	6	158	26			1		
65+08			X	Lt	6	176	108			1		
		X			6	2174						
			X			176						
COLUMN TOTALS							470			5		

GUARD RAIL, THREE CABLE W/LT.____POSTS

STATION TO STATION	POS	MEASURED LENGTH (FT.& IN.)	POST SPACING (FT.& IN.)	FACTOR	PAY LENGTH (LF)	ANCHORS 621.66 (EA)	621.67 (EA)
COLUMN TOTALS							

GUARD RAIL, BOX BEAM W/ST POSTS

STATION TO STATION	POS	POST SPACING (FT.& IN.)	PAY LENGTH (LF)	REMARKS
COLUMN TOTALS				

DRAINAGE STRUCTURES

STATION	POS	ASKEW	TYPE IN/OUT	DITCH IN	DITCH OUT	RCP D(IN)	RCP L(FT)	RCP CL	ACCGMP D(IN)	ACCGMP L(FT)	ACCGMP TH(IN)	OPTION PIPES D (IN.)	L (FT.)	RCP CL.	CGMP TH.	CASCP TH.	MES. (EA)	D.I. DEPTH (FT.)	CONC. CL. B (CY)	REINF. STEEL (LB.)	D.I. GRATE TYPE	CRM (CY)	TRENCH EXC. EARTH (CY)	ROCK (CY)	ST. FILL TYPE__ (CY)	MKR. POST LT.	RT.	REMARKS
COLUMN TOTALS																												

GUARD RAIL, ________ STEEL BEAM WITH ________ POSTS, TYPE II

STATION TO STATION	POS.	MEASURED LENGTH (FT.& IN.)	POST SPACING (FT.& IN.)	FACTOR	PAY LENGTH (LF)	ANCHORS 621.__ (EA.)	621.__ (EA.)	REMARKS
COLUMN TOTALS								

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By Resident Engineer

Date 7/6/82

TYPE OF CONSTRUCTION:

STATIONS FROM	TO	PAVEMENT WIDTHS			EQUATIONS +	−	REMARKS

LENGTH OF PROJECT

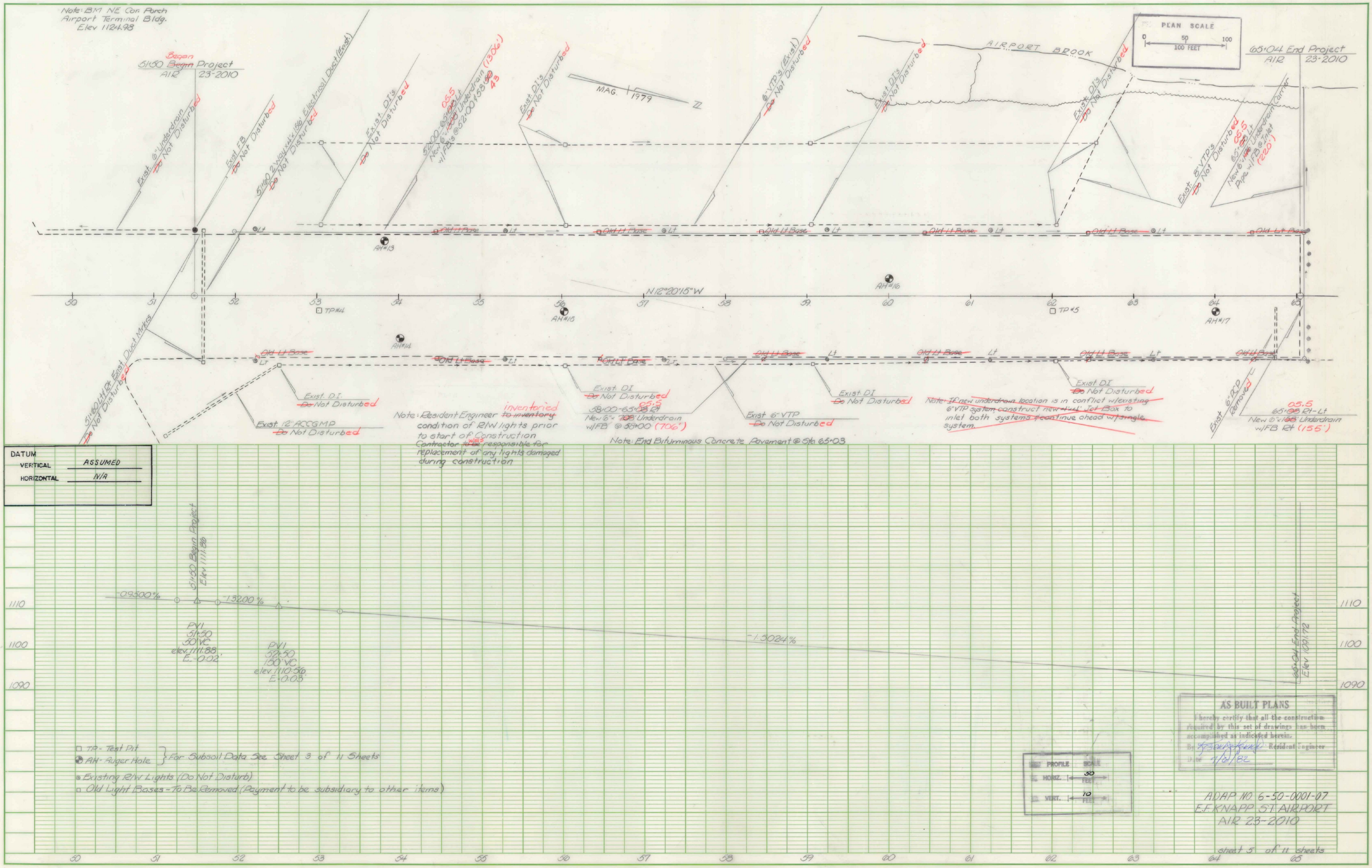
STATION	STATION	FEET	MILES	REMARKS
51+50	65+04	1354	0.256	Reconstruct Runway 17-35 (North End)
COLUMN TOTALS		1354	0.256	

PROJECT NAME ADAP NO. 6-50-0001-07 EF Knapp Airport

PROJECT NO. AIR 23-2010

SHEET 4 OF 11 SHEETS

D-8 17 Oct 73


PLAN
PROFILE
Began
51+50 ~~Begin~~ Project
AIR 23-2010
65+04 End Project
AIR 23-2010
Exist. 6" Underdrain
~~Do~~ Not Disturbed
Exist FB
~~Do~~ Not Disturbed
51+60 2 Way x 4" x 156' Electrical Duct (Exist.)
~~Do~~ Not Disturbed
Exist. DI's
~~Do~~ Not Disturbed
05.5
52+00-65+~~08~~ Lt
New 6" x ~~1308~~' Underdrain (1306')
w/FB's @ 52+00 & 58+~~50~~ 43
MAG. 1979
6" VTP's (Exist.)
~~Do~~ Not Disturbed
AIRPORT BROOK
Exist. 8" VTP's
~~Do~~ Not Disturbed
05.5
65+~~08~~ Lt
New 6" x ~~146~~' Underdrain Carrier
Pipe w/FB @ Inlet (220')
PLAN SCALE
0 50 100
100 FEET
Old Lt Base
Lt
AH#13
AH#14
AH#15
AH#16
AH#17
TP#4
TP#5
N12°20'15"W
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
51+60 Lt & Rt Exist. Duct Mrkrs
~~Do~~ Not Disturbed
Exist. D.I.
~~Do~~ Not Disturbed
Exist. 12" ACCGMP
~~Do~~ Not Disturbed
Exist. DI
~~Do~~ Not Disturbed
05.5
58+00-65+~~08~~ Rt
New 6" x ~~708~~' Underdrain
w/FB @ 58+00 (706')
Exist 6" VTP
~~Do~~ Not Disturbed
Exist. 6" PCP
Removed
05.5
65+~~08~~ Rt-Lt
New 6" x ~~158~~' Underdrain
w/FB Rt (155')
51+50 Begin Project
Elev 1111.86
-0.9500%
-1.3200%
-1.3024%
PVI
51+50
50' VC
elev. 1111.88
E. -0.02'
PVI
52+50
150' VC
elev. 1110.56
E. -0.03'
65+04 End Project
Elev 1091.72
1110
1100
1090

Note: BM NE Cor. Porch
Airport Terminal Bldg.
Elev 1124.98

Note: Resident Engineer ~~to inventory~~ inventoried condition of R/W lights prior to start of Construction
Contractor ~~to be~~ was responsible for replacement of any lights damaged during construction

~~Note: If new underdrain location is in conflict w/existing 6" VTP system, construct new "dual" Jct Box to inlet both systems & continue ahead w/single system.~~

Note: End Bituminous Concrete Pavement @ Sta 65+03

DATUM	
VERTICAL	ASSUMED
HORIZONTAL	N/A

- □ TP - Test Pit
- ⊕ AH - Auger Hole

} For Subsoil Data See Sheet 3 of 11 Sheets

- ● Existing R/W Lights (Do Not Disturb)
- □ Old Light Bases - To Be Removed (Payment to be subsidiary to other items)

PROFILE SCALE
HORIZ. 50 FEET
VERT. 10 FEET

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

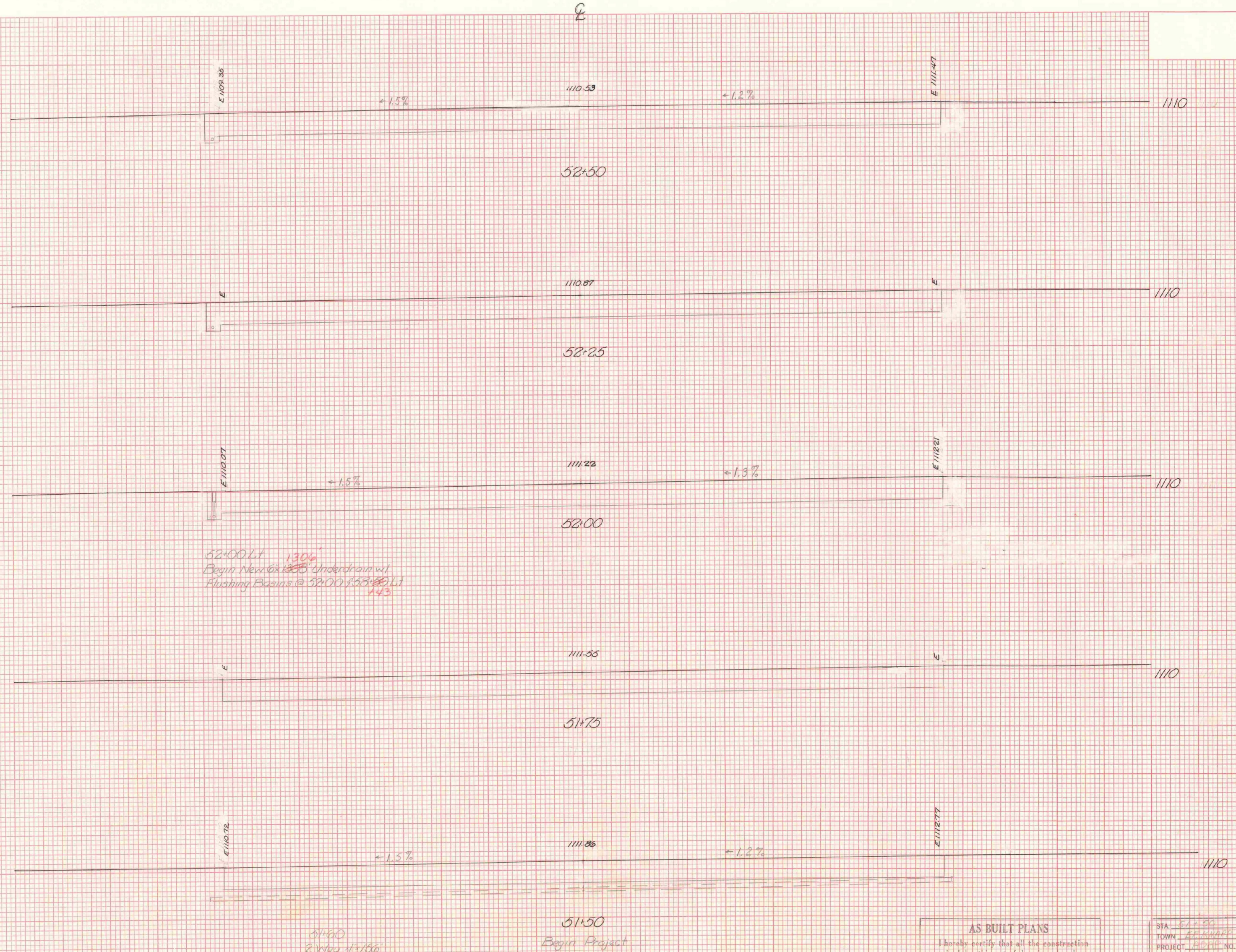
By Robert Kenyon Resident Engineer

Date 7/8/82

ADAP NO. 6-50-0001-07
E.F. KNAPP ST. AIRPORT
AIR 23-2010

sheet 5 of 11 sheets

K+E PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO.
46 7024 Made in U.S.A.


℄
E 1109.35
1110.53
E 1111.47
←1.5%
←1.2%
1110
52+50
1110.87
E
E
1110
52+25
E1110.07
1111.22
E1112.21
←1.5%
←1.3%
1110
52+00
1111.55
E
E
1110
51+75
E1110.72
1111.86
E1112.77
←1.5%
←1.2%
1110
51+50
℄

52+00 Lt
Begin New 6"x ~~1308~~ 1306' Underdrain w/
Flushing Basins @ 52+00 & 58+~~50~~ 43 Lt

51+60
2 Way 4"x156'
Electrical Ducts
Do Not Disturb

Begin Project
AIR 23-2010

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

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

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By Robert J. Henry Resident Engineer
Date 7/6/82

STA. 51+50 STA. 52+50
TOWN E.F. KNAPP AP AIR 23-2010
PROJECT ADAP NO. 6-50-0001-07
SHEET 6 OF 11 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
SURVEYED BY: DATE

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION

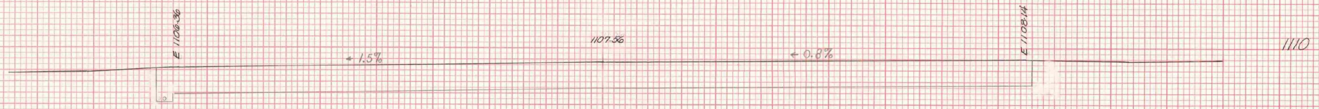
FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

BY	DATE

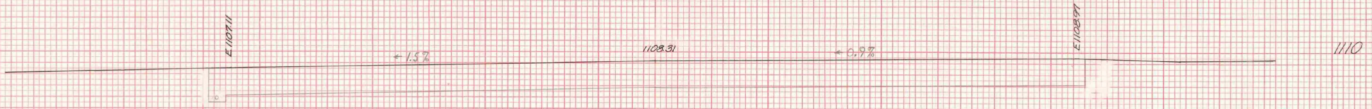
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

BY	DATE

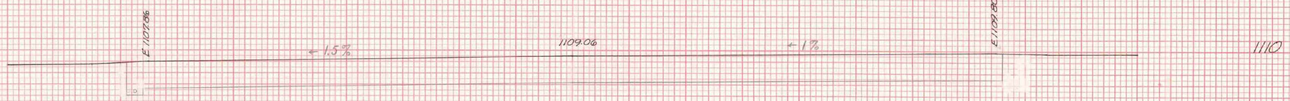
℄


E 1106.36
← 1.5%
1107.56
← 0.8%
E 1108.14
1110

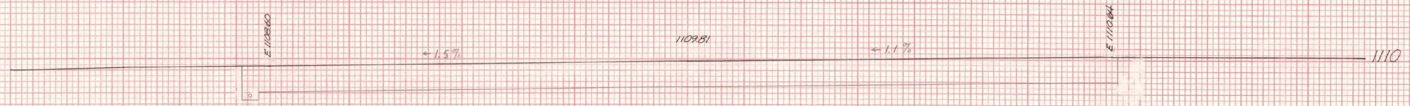
54+50


E 1107.11
← 1.5%
1108.31
← 0.9%
E 1108.97
1110

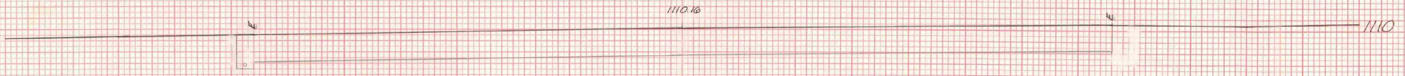
54+00


E 1107.86
← 1.5%
1109.06
← 1%
E 1109.80
1110

53+50


E 1108.60
← 1.5%
1109.81
← 1.1%
E 1110.64
1110

53+00


E
1110.16
E
1110

52+75

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By Resident Engineer

Date 7/6/82

STA. 52+75 STA. 54+50
TOWN E.F. KNAPP AP AIR 23-2010
PROJECT ADAP NO. 6-50-0001-07
SHEET 7 OF 11 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
SURVEYED BY DATE

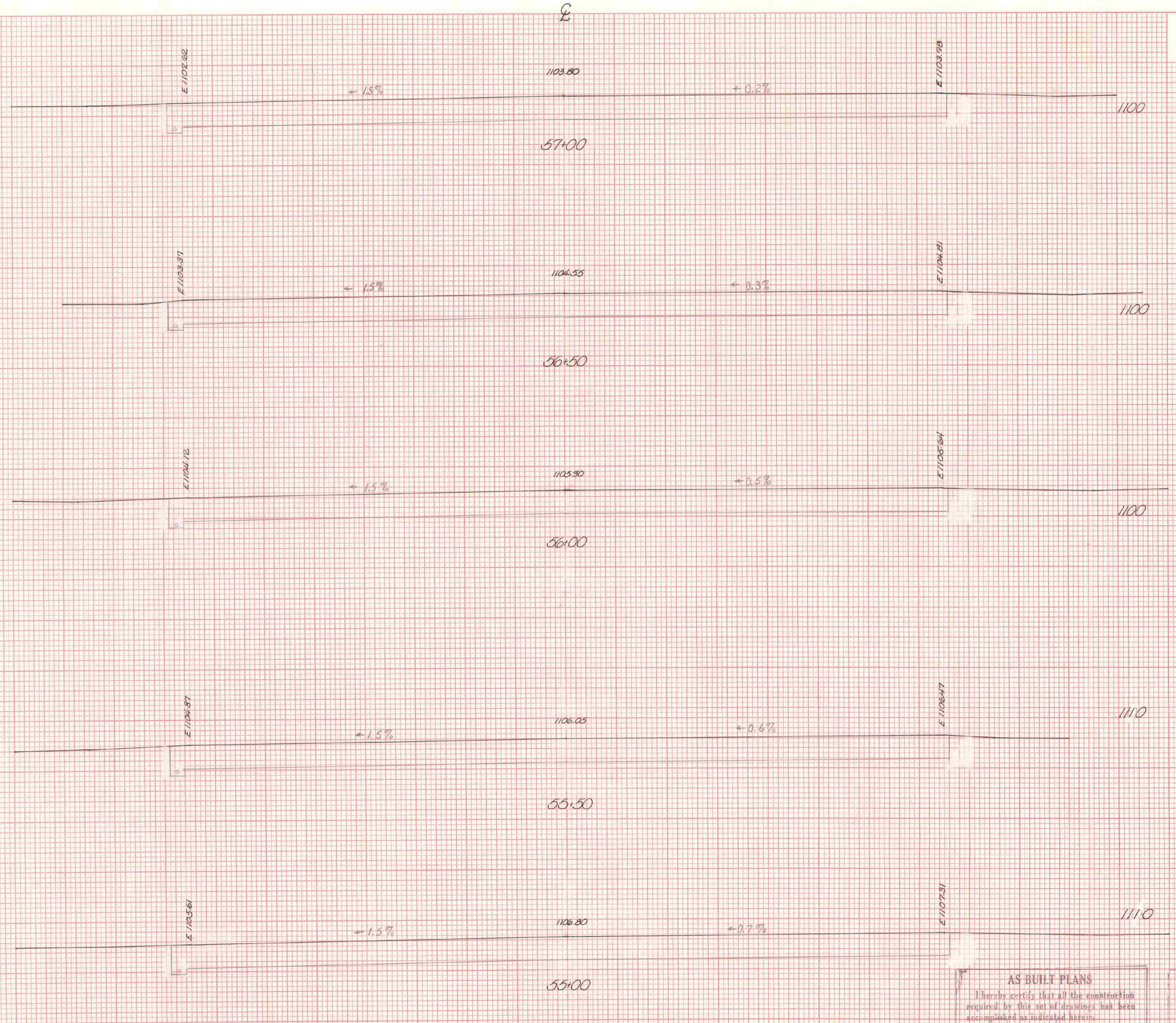
℄

FINAL SURVEY

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

ORIGINAL SURVEY

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


℄
E 1102.62
1103.80
E 1103.98
← 1.5%
← 0.2%
1100
57+00
E 1103.37
1104.55
E 1104.81
← 1.5%
← 0.3%
1100
56+50
E 1104.12
1105.30
E 1106.64
← 1.5%
← 0.5%
1100
56+00
E 1104.87
1106.05
E 1106.47
← 1.5%
← 0.6%
1110
55+50
E 1105.61
1106.80
E 1107.31
← 1.5%
← 0.7%
1110
55+00
℄

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein:

By ______ Resident Engineer

Date 7/6/82

STA. 55+00 STA. 57+00

TOWN E F KNAPP AP 23-2010

PROJECT ADAP NO. 6-50-0001-07

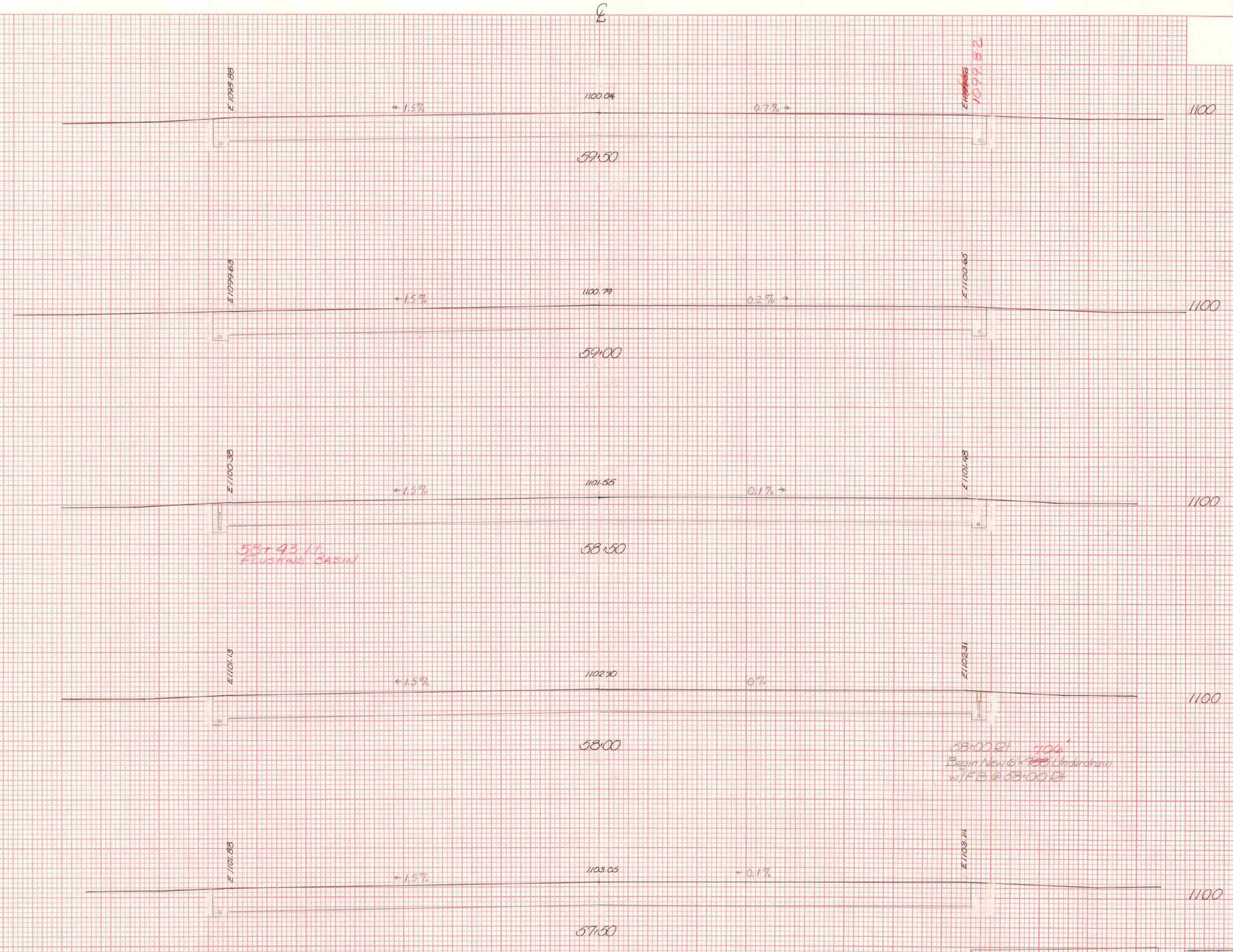
SHEET 8 OF 11 SHEETS

HORIZ. AND VERT. SCALE

0 10 20

SURVEYED BY: ______ DATE ______

PLATE 3 CROSS SECTION D. P. R. & R. E. STANDARD
DIETZGEN CORPORATION


℄
~~E1099.02~~ 1099.82
E1098.88
←1.5%
1100.04
0.7%→
1100
59+50
E1099.63
←1.5%
1100.79
0.2%→
E1100.65
1100
59+00
E1100.38
←1.5%
1101.55
0.1%→
E1101.48
1100
58+50
58+43 Lt.
FLUSHING BASIN
E1101.19
←1.5%
1102.30
0%
E1102.31
1100
58+00
58+00 Rt
~~708~~ 706'
Begin New 6" × 706' Underdrain
w/FB @ 58+00 Rt
E1101.88
←1.5%
1103.05
←0.1%
E1103.14
1100
57+50

FINAL SURVEY

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

ORIGINAL SURVEY

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

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By Robert Kerr Resident Engineer

Date 6/7/82

STA. 57+50 STA. 59+50

TOWN E.F. KNAPP AP AIR 23-2010

PROJECT ADAP NO. 6-50-0001-07

SHEET 9 OF 11 SHEETS

HORIZ. AND VERT. SCALE

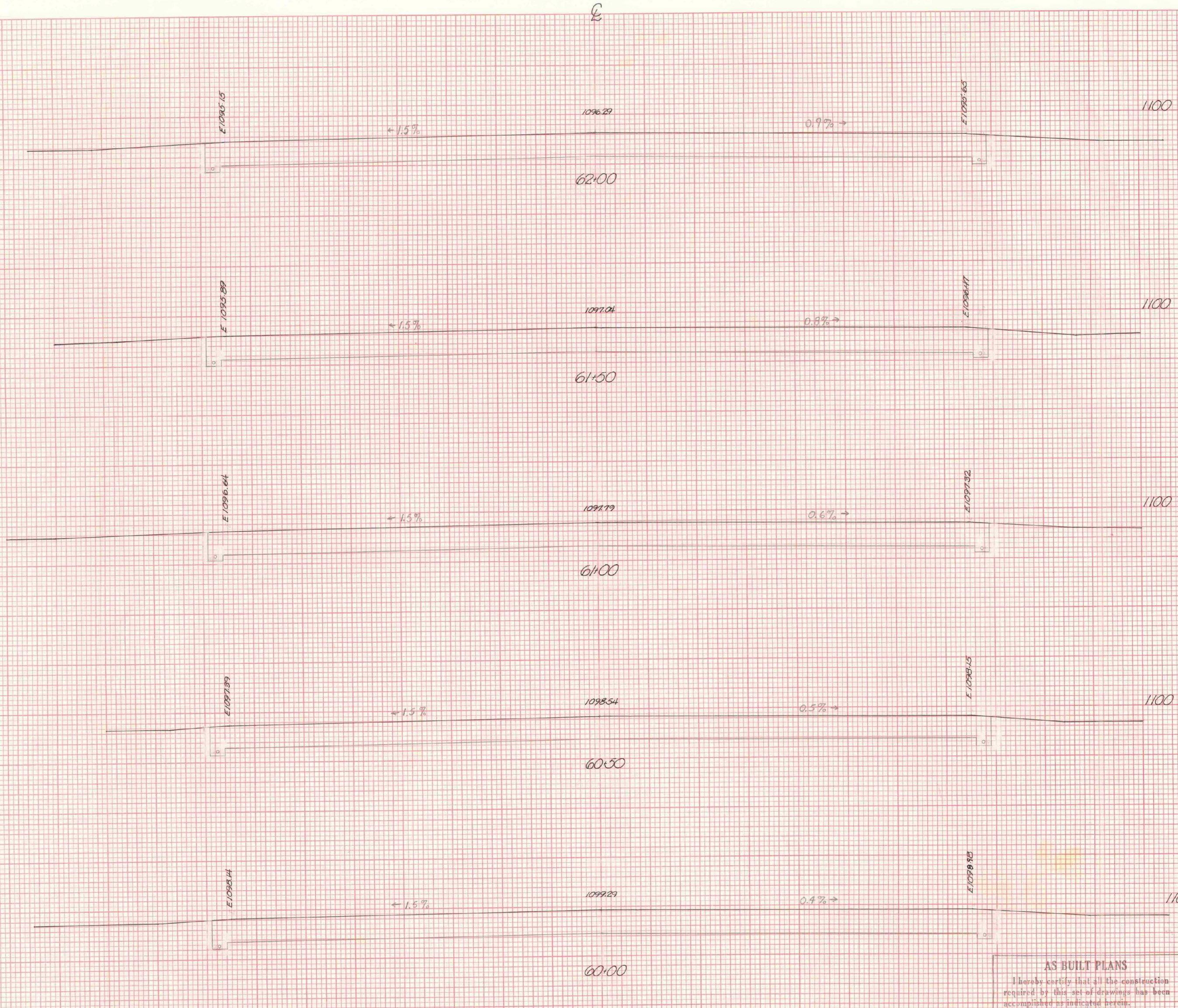
0 10 20

SURVEYED BY: ____ DATE ____

℄

PLATE 3 CROSS SECTION O. P. R. & P. E. STANDARD
DIETZGEN CORPORATION

℄



E1095.15
1096.29
0.9% →
← 1.5%
E1095.65
1100
62+00
E 1095.89
1097.04
← 1.5%
0.8% →
E1096.47
1100
61+50
E1096.64
1097.79
← 1.5%
0.6% →
E1097.32
1100
61+00
E1097.39
1098.54
← 1.5%
0.5% →
E1098.15
1100
60+50
E1098.14
1099.29
← 1.5%
0.4% →
E1098.98
1100
60+00

℄

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

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

AS BUILT PLANS

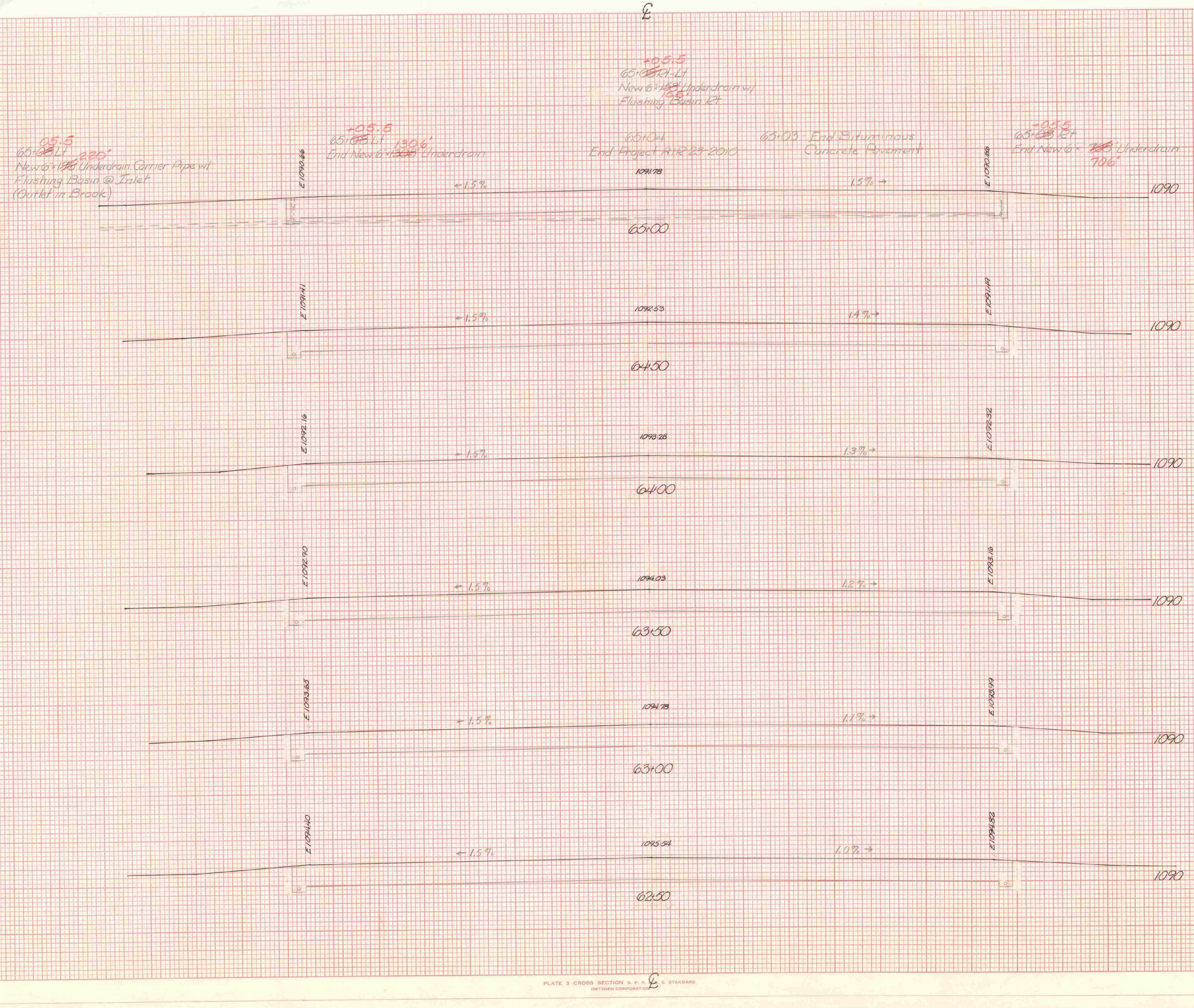
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By Robert J Kern Jr. Resident Engineer

Date 7/6/82

STA. 60+00 STA. 62+00
TOWN E F KNAPP AP AIR 23-2010
PROJECT ADAP NO. 6-50-0001-07
SHEET 10 OF 11 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
SURVEYED BY: DATE

PLATE 3 CROSS SECTION O. P. R. & S. E. STANDARD
DIETZGEN CORPORATION


℄
65+~~03~~ Rt-Lt +05.5
New 6"× ~~158~~ 155' Underdrain w/
Flushing Basin Rt
65+~~03~~ Lt 05.5
New 6"× ~~176~~ 220' Underdrain Carrier Pipe w/
Flushing Basin @ Inlet
(Outlet in Brook)
65+~~03~~ Lt +05.5
End New 6"× ~~130~~ 130.6' Underdrain
65+04
End Project AIR 23-2010
65+03 End Bituminous
Concrete Pavement
65+~~03~~ Rt +05.5
End New 6"× ~~706~~ 706' Underdrain
E1090.66
1091.78
E1090.66
← 1.5%
1.5% →
1090
65+00
E1091.41
1092.53
E1091.49
← 1.5%
1.4% →
1090
64+50
E1092.16
1093.28
E1092.32
← 1.5%
1.3% →
1090
64+00
E1092.90
1094.03
E1093.16
← 1.5%
1.2% →
1090
63+50
E1093.65
1094.78
E1093.99
← 1.5%
1.1% →
1090
63+00
E1094.40
1095.54
E1094.82
← 1.5%
1.0% →
1090
62+50
℄

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

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

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By ______ Resident Engineer

date 7/6/82

STA. 62+50 STA. 65+00
TOWN E.F. KNAPP AP AIR 23-2010
PROJECT ADAP NO. 6-50-0001-07
SHEET 12 OF 17 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
SURVEYED BY: ______ DATE ______

PLATE 3 CROSS SECTION C. P. R. E. STANDARD
DIETZGEN CORPORATION

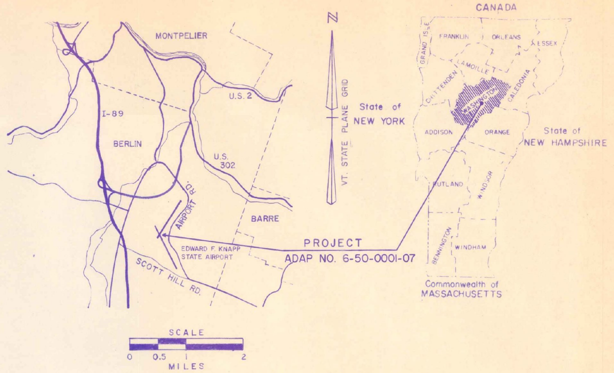
INDEX OF SHEETS

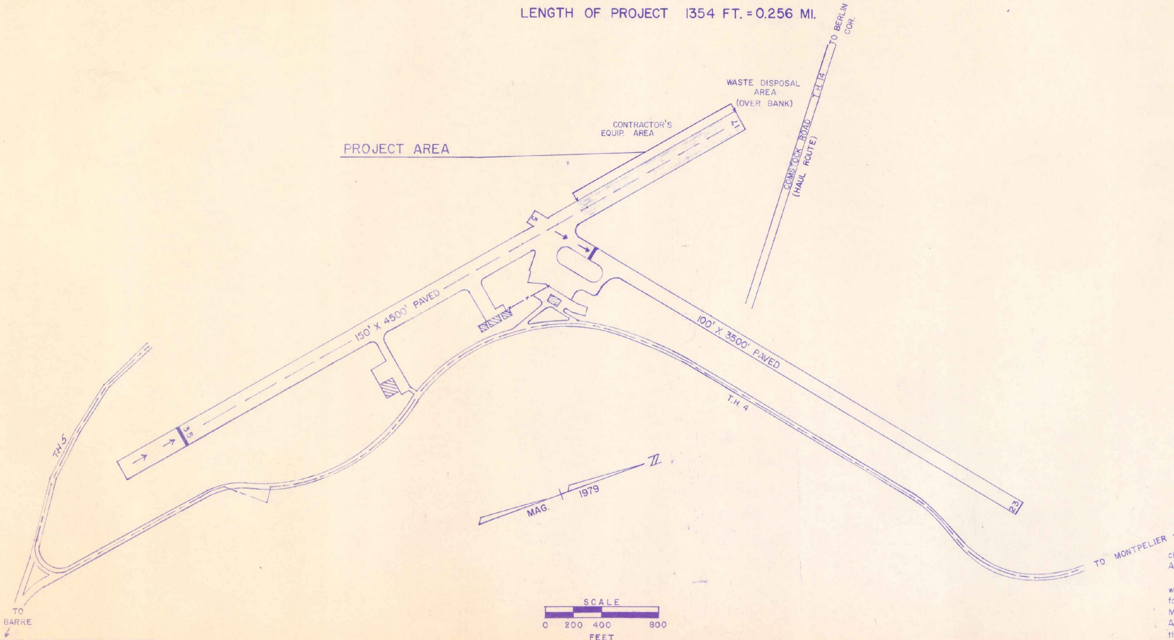
1 Title Sheet
2 [illegible]
3 [illegible]
4 [illegible] Grade Sheet
5 [illegible] Sheet
6-11 [illegible] ons

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TOWN OF BERLIN
COUNTY OF WASHINGTON
EDWARD F. KNAPP STATE AIRPORT

ADAP NO. 6-50-0001-07
RECONSTRUCTION OF THE NORTH END OF RUNWAY 17-35
AND INSTALLATION OF NEW UNDERDRAIN
LENGTH OF PROJECT 1354 FT. = 0.256 MI.


MONTPELIER
U.S. 2
I-89
BERLIN
U.S. 302
AIRPORT RD.
BARRE
EDWARD F. KNAPP STATE AIRPORT
SCOTT HILL RD.
PROJECT
ADAP NO. 6-50-0001-07
N
VT. STATE PLANE GRID
CANADA
FRANKLIN
ORLEANS
ESSEX
GRAND ISLE
CHITTENDEN
LAMOILLE
CALEDONIA
State of NEW YORK
ADDISON
ORANGE
State of NEW HAMPSHIRE
RUTLAND
WINDSOR
BENNINGTON
WINDHAM
Commonwealth of MASSACHUSETTS
SCALE
0 0.5 1 2
MILES


TO BERLIN COR.
WASTE DISPOSAL AREA (OVER BANK)
T.H. 18
CONTRACTOR'S EQUIP. AREA
17
PROJECT AREA
COMSTOCK ROAD (HAUL ROUTE)
150' X 4500' PAVED
100' X 3500' PAVED
T.H. 4
35
23
T.H. 5
N
MAG. 1979
TO MONTPELIER
TO BARRE
SCALE
0 200 400 800
FEET

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By ______ Resident Engineer
Date ______

CONVENTIONAL SIGNS

COUNTY LINE	— — — — —
TOWN LINE	— — — —
LIMIT OF ACCESS	—○—○—
POINT OF ACCESS	X
FENCE LINE	—x—x—
STONE WALL	∞∞∞∞
TRAVELED WAY	- - - -
GUARD RAIL	○ ○ ○ ○
RAILROAD	▬ ▬
SURVEY LINE	—+—+—
CULVERT	═══
POWER POLE	○
TELEPHONE POLE	○
TREES	○
CONTROL OF ACCESS	——
PROPERTY LINE	——
R.O.W. TAKING LINE	——
SLOPE RIGHTS	—○— SR —○—
TOP OF CUT	—△—
TOE OF SLOPE	—○—

DATUM
VERTICAL ASSUMED
HORIZONTAL N/A

These plans are subject to such engineering changes as may be required by the Federal Aviation Administration or the Director of Engineering and Constr.

Construction ~~is to be~~ WAS carried on in accordance with these plans and the Standard Specifications for Highway and Bridge Construction dated March, 1976, as approved by the Federal Highway Administration on October 27, 1976 for use on this project, including all subsequent revisions and such revised specifications and special provisions as are incorporated in these plans

ADAP NO. 6-50-0001-07

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD
APPROVED S. J. Gage P.E. DATE ______
DIRECTOR OF ENGINEERING AND CONSTRUCTION

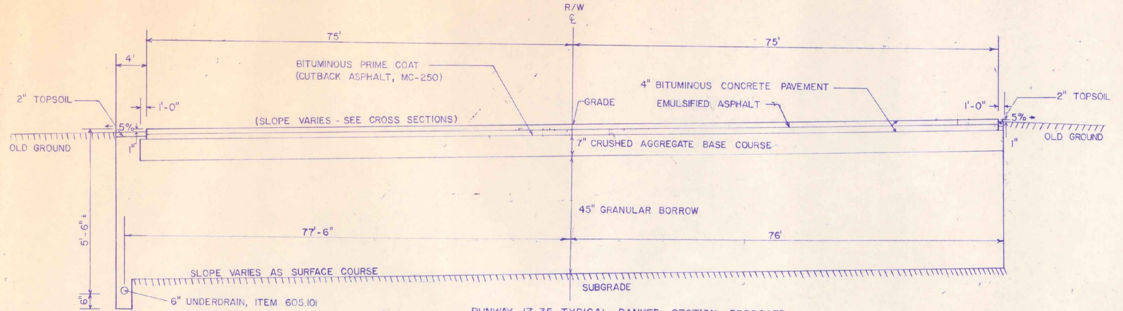
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
APPROVED ______ DATE ______
CHIEF, ENGINEERING BRANCH

PROJECT AIR № 23-2010
ADAP 6-50-0001-07
SHEET 1 OF 11 SHEETS

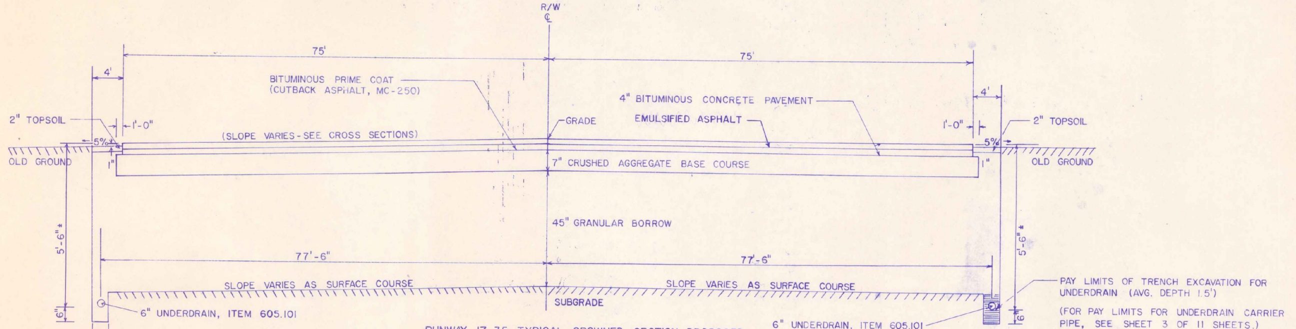
SRS 12/17/70

TYPICAL SECTIONS

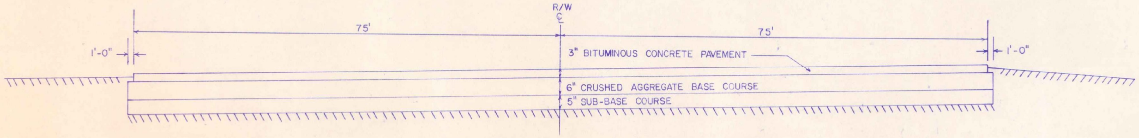
4" BITUMINOUS CONCRETE PAVEMENT, ITEM P-401 (2-2" LIFTS) ✱ (PAY ITEM 853.02)
BITUMINOUS PRIME COAT, ITEM 404.55 (CUTBACK ASPHALT, MC-250)
7" CRUSHED AGGREGATE BASE COURSE, P-209 (PAY ITEM 853.07), GRADATION B
45" GRANULAR BORROW, ITEM 203.25
✱ EMULSIFIED ASPHALT, ITEM 404.65, BETWEEN LIFTS (2" TYPE B OVER 2" TYPE A)


R/W
℄
75'
75'
4'
BITUMINOUS PRIME COAT
(CUTBACK ASPHALT, MC-250)
4" BITUMINOUS CONCRETE PAVEMENT
2" TOPSOIL
1'-0"
GRADE
EMULSIFIED ASPHALT
1'-0"
2" TOPSOIL
5%
(SLOPE VARIES - SEE CROSS SECTIONS)
5%
OLD GROUND
1"
7" CRUSHED AGGREGATE BASE COURSE
1"
OLD GROUND
45" GRANULAR BORROW
5'-6"±
77'-6"
76'
SLOPE VARIES AS SURFACE COURSE
SUBGRADE
6"
6" UNDERDRAIN, ITEM 605.101
3'

RUNWAY 17-35 TYPICAL BANKED SECTION - PROPOSED


R/W
℄
75'
75'
4'
BITUMINOUS PRIME COAT
(CUTBACK ASPHALT, MC-250)
4" BITUMINOUS CONCRETE PAVEMENT
4'
2" TOPSOIL
1'-0"
GRADE
EMULSIFIED ASPHALT
1'-0"
2" TOPSOIL
5%
(SLOPE VARIES-SEE CROSS SECTIONS)
5%
OLD GROUND
1"
7" CRUSHED AGGREGATE BASE COURSE
1"
OLD GROUND
45" GRANULAR BORROW
5'-6"±
5'-6"±
77'-6"
77'-6"
SLOPE VARIES AS SURFACE COURSE
SLOPE VARIES AS SURFACE COURSE
PAY LIMITS OF TRENCH EXCAVATION FOR UNDERDRAIN (AVG. DEPTH 1.5')
(FOR PAY LIMITS FOR UNDERDRAIN CARRIER PIPE, SEE SHEET 3 OF 11 SHEETS.)
SUBGRADE
6"
6" UNDERDRAIN, ITEM 605.101
6" UNDERDRAIN, ITEM 605.101
6"
3'
3'

RUNWAY 17-35 TYPICAL CROWNED SECTION-PROPOSED


R/W
℄
75'
75'
1'-0"
1'-0"
3" BITUMINOUS CONCRETE PAVEMENT
6" CRUSHED AGGREGATE BASE COURSE
5" SUB-BASE COURSE

RUNWAY 17-35 EXISTING TYPICAL

GENERAL NOTES

SEED, ITEM 651.10
TO BE APPLIED AS DIRECTED BY THE 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	PERENNIAL 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 LBS/ACRE			

THE SEED MIXTURE ~~SHALL NOT~~ HAD HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND ~~SHALL BE~~ WAS FREE OF ALL NOXIOUS WEED SEED.

FERTILIZER, ITEM 651.15
FORMULA 10-20-10 ~~TO BE~~ USED WITH SEED,
ITEM 651.10 APPLIED AT THE RATE OF 500 LBS/ACRE

AGRICULTURAL LIMESTONE, ITEM 651.20
~~TO BE~~ APPLIED AT RATE OF 2 TONS/ACRE
~~OR~~ AS DIRECTED BY THE ENGINEER

HAY MULCH, ITEM 651.25
~~TO BE~~ PLACED ON EARTH SLOPES AT THE RATE OF
2 TONS/ACRE

TOPSOIL, ITEM 653.10
~~TO BE~~ USED WITH SEED, ITEM 651.10
AS DIRECTED BY THE ENGINEER

ALLOWABLE THICKNESS TOLERANCES ✱

SUB-BASE	± 1"
CONTROLLED MATERIAL	± 1"
PAVEMENT	± 1/4"
BASE COURSE	± 3/8"

✱APPLIES TO TOTAL THICKNESS OF ALL LIFTS

NOTES

1. SUB-GRADE UNDER AREAS TO BE PAVED ~~TO BE~~ COMPACTED TO 95% DENSITY AS PER FAA T-611 (AASHTO T-180).
2. BITUMINOUS PRIME COAT TO BE APPLIED AS PER ITEM 404.55, SUBSECTION 404.06 (C), TYPE I, USING MC-250.
3. TOP 9" OF GRANULAR BORROW TO BE COMPACTED TO 100% DENSITY (AASHTO T-180).
4. AREAS ADJACENT TO THE RUNWAY THAT ARE DISTURBED BY NEW CONSTRUCTION ARE TO BE GRADED, RAKED FREE OF STONES, COVERED WITH 2" OF TOPSOIL, SEEDED, AND ROLLED.

AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.
By ______ Resident Engineer
Date

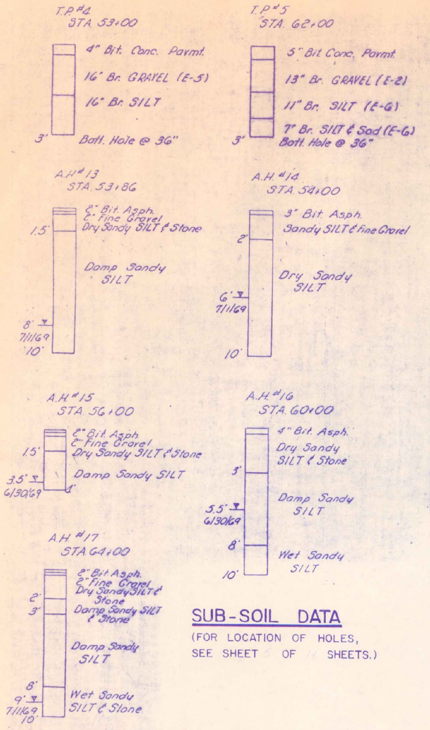
ADAP NO. 6-50-0001-07

EDWARD F. KNAPP AIRPORT

VERMONT AGENCY OF TRANSPORTATION

PROJ. AIR No 23-2010 | SHEET 2 OF 11

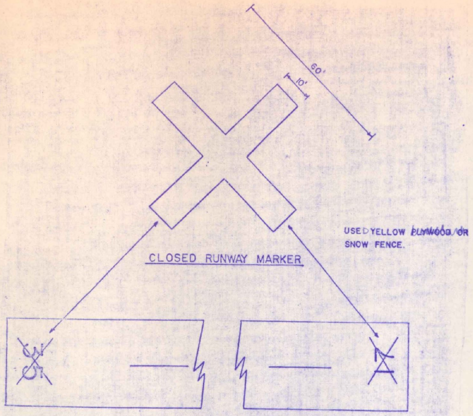
D—8



T.P. #4
STA. 53+00
4" Bit. Conc. Pavmt.
16" Br. GRAVEL (E-5)
16" Br. SILT
3'
Bott. Hole @ 36"
T.P. #5
STA. 62+00
5" Bit. Conc. Pavmt.
13" Br. GRAVEL (E-2)
11" Br. SILT (E-6)
7" Br. SILT & Sod (E-6)
3'
Bott. Hole @ 36"
A.H. #13
STA. 53+86
2" Bit. Asph.
2" Fine Gravel
Dry Sandy SILT & Stone
1.5'
Damp Sandy SILT
8'
7/1/69
10'
A.H. #14
STA. 54+00
3" Bit. Asph.
Sandy SILT & Fine Gravel
2'
Dry Sandy SILT
6'
7/1/69
10'
A.H. #15
STA. 56+00
2" Bit. Asph.
2" Fine Gravel
Dry Sandy SILT & Stone
1.5'
Damp Sandy SILT
3.5'
6/30/69
A.H. #16
STA. 60+00
4" Bit. Asph.
Dry Sandy SILT & Stone
3'
Damp Sandy SILT
5.5'
6/30/69
8'
Wet Sandy SILT
10'
A.H. #17
STA. 64+00
2" Bit. Asph.
2" Fine Gravel
Dry Sandy SILT & Stone
2'
3'
Damp Sandy SILT & Stone
Damp Sandy SILT
8'
9'
7/1/69
10'
Wet Sandy SILT & Stone

SUB-SOIL DATA

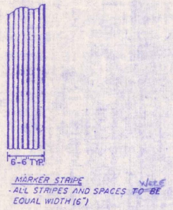
(FOR LOCATION OF HOLES,
SEE SHEET 5 OF 11 SHEETS.)



60'
10'
USED YELLOW ~~PLYWOOD~~ OR
SNOW FENCE.

CLOSED RUNWAY MARKER

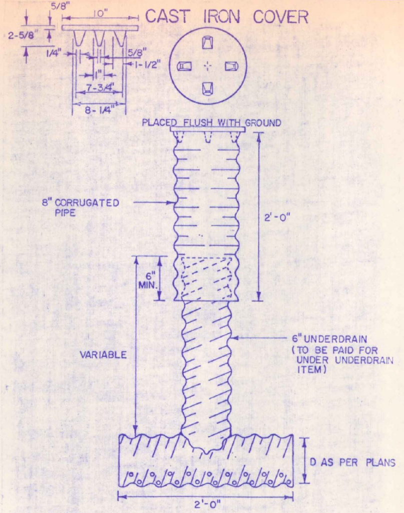
NOTES
1. NO SEPARATE PAY ITEM FOR CLOSED RUNWAY MARKERS. (PAYMENT ~~WILL BE~~ WAS CONSIDERED SUBSIDIARY TO OTHER CONTRACT ITEMS.)
2. CLOSED RUNWAY MARKERS REQUIRED AT EACH END OF RUNWAY 17-35.
3. CLOSED RUNWAY MARKERS ~~TO BE~~ WERE IN PLACE DURING THE CONSTRUCTION PERIOD.



MARKER STRIPE
-ALL STRIPES AND SPACES ~~TO BE~~ WERE
EQUAL WIDTH (6")

STRIATED MARKING DETAIL

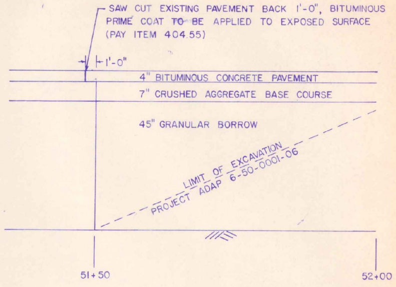
SCALE: 1"=12'



CAST IRON COVER
5/8"
10"
2-5/8"
1/4"
5/8"
1-1/2"
1"
7-3/4"
8-1/4"
PLACED FLUSH WITH GROUND
8" CORRUGATED PIPE
2'-0"
6" MIN.
VARIABLE
6" UNDERDRAIN (TO BE PAID FOR UNDER UNDERDRAIN ITEM)
D AS PER PLANS
2'-0"

FLUSHING BASINS AT BEGINNING OF LINE ~~SHALL~~ HAD ~~HAVE~~ A 90° ELBOW RATHER THAN A T AS SHOWN ABOVE. (ELBOW ~~TO BE~~ PAID FOR UNDER UNDERDRAIN ITEM)

UNDERDRAIN FLUSHING BASIN

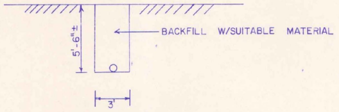


SAW CUT EXISTING PAVEMENT BACK 1'-0", BITUMINOUS PRIME COAT ~~TO BE~~ APPLIED TO EXPOSED SURFACE (PAY ITEM 404.55)
1'-0"
4" BITUMINOUS CONCRETE PAVEMENT
7" CRUSHED AGGREGATE BASE COURSE
45" GRANULAR BORROW
LIMIT OF EXCAVATION
PROJECT ADAP 6-50-0001-06
51+50
52+00

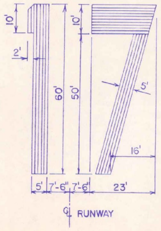
TRANSITION BUTT DETAIL

PAY LIMITS OF TRENCH EXCAVATION FOR UNDERDRAIN CARRIER PIPE

(NOT TO SCALE)

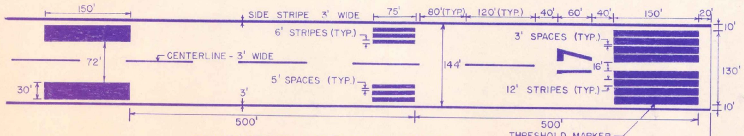


5'-6"±
BACKFILL W/SUITABLE MATERIAL
3'



10'
2'
60'
10'
50'
5'
16'
5'
7'-6"
7'-6"
23'
℄ RUNWAY

NUMERAL DETAILS



150'
SIDE STRIPE 3' WIDE
75'
80'(TYP.)
120'(TYP.)
40'
60'
40'
150'
20'
10'
6' STRIPES (TYP.)
3' SPACES (TYP.)
72'
CENTERLINE - 3' WIDE
144'
17
16'
130'
30'
5' SPACES (TYP.)
3'
12' STRIPES (TYP.)
10'
500'
500'
THRESHOLD MARKER
STA. 65+04

PAVEMENT MARKING DETAIL

NOTES
1. ALL RUNWAY MARKING SHALL BE WHITE AND STRIATED.
2. ALL RUNWAY DIMENSIONS ARE NOMINAL.
3. SEE DETAIL FOR STRIATED MARKING.
4. TYPICALLY, ADD 6" TO ALL WIDTHS.

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

MISCELLANEOUS DETAILS

ADAP NO. 6-50-0001-07
EDWARD F. KNAPP AIRPORT
VERMONT AGENCY OF TRANSPORTATION

PROJ. AIR NO. 23-2010 | SHEET 3 OF 11

D-8

QUANTITY, EARTHWORKS, DRAINAGE AND ITEM DETAIL SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

EROSION CONTROL	~~BRIDGE~~	RUNWAY	GRAND TOTAL	UNIT	PAY ITEM	PAY ITEM NUMBER	RNDG.
		37000	37000	CY	Common Excavation	203.15	49
		100	100	CY	Solid Rock Excavation (est)	203.16	
		33,700	33,700	CY	Granular Borrow (factored)	203.32	37
		475	475	CY	Trench Excavation of Earth	204.20	5
		10	10	CY	Trench Excavation of Rock (est)	204.21	
		475	475	CWT	Cutback Asphalt (MC-250)	404.55	11
		80	80	CWT	Emulsified Asphalt	404.65	42
		2	2	CY	Concrete Class B (est)	501.25	
		200	200	LB	Reinforcing Steel (est)	507.15	
		2200	2200	LF	6" Underdrain	605.101	26
		176	176	LF	6" Underdrain Carrier Pipe (est)	605.151	
		5	5	EA	Underdrain Flushing Basin	605.95	
		16	16	HR	All Purpose Excavator Rental, Type I (est)	608.25	
		16	16	HR	Truck Rental (est)	608.37	
		100	100	M/GAL	Dust Control w/ Water (est)	609.10	
		1	1	L.S	Field Office - Engineers	631.10	
		1	1	L.S.	Mobilization	635.10	
		120	120	LB	Seed (est)	651.10	
		1000	1000	LB	Fertilizer (est)	651.15	
		4	4	TON	Agricultural Limestone (est)	651.20	
		4	4	TON	Hay Mulch (est)	651.25	
		75	75	CY	Topsoil	653.10	8
		5020	5020	TON	Bituminous Concrete Pavement	853.02	52
		1	1	LS	Runway & Taxiway Painting	853.05	
		4450	4450	CY	Crushed Aggregate Base Course	853.07	4

COLUMN TOTALS

DETAILED SUMMARY OF QUANTITIES

QUANTITY	UNIT	PAY ITEM

GRADES ~~AND EARTHWORK~~

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVE	V.C. CORR.	~~DIST. (FT.)~~	~~TOTAL EXCAV. EARTH & ROCK AREA (SF)~~	~~TOTAL EXCAV. EARTH & ROCK VOL. (CY.)~~	~~ROCK EXCAVATION AREA (SF)~~	~~ROCK EXCAVATION VOL. (CY.)~~	~~EMBANKMENT AREA (SF)~~	~~EMBANKMENT VOL. (CY.)~~
	-0.95	R/W 17-35										
		51	1112.35									
50'VC		+25	1112.12	1112.12	0.00							
		+45	1111.93	1111.92	-0.01							
		+50	1111.88	1111.86	-0.02		Begin Project AIR 23-2010					
150' VC	-1.32	+75	1111.55	1111.55	0.00							
		52	1111.22	1111.22	0.00							
		+25	1110.89	1110.87	-0.02							
		+50	1110.56	1110.53	-0.03							
		+75	1110.18	1110.16	-0.02							
		53	1109.81	1109.81	0.00							
	-1.5024	+25	1109.43	1109.43	0.00							
		+50	1109.06									
		54	1108.31									
		+50	1107.56									
		55	1106.80									
		+50	1106.05									
		56	1105.30									
		+50	1104.55									
		57	1103.80									
		+50	1103.05									
		58	1102.30									
		+50	1101.55									
		59	1100.79									
		+50	1100.04									
		60	1099.29									
		+50	1098.54									
		61	1097.79									
		+50	1097.04									
		62	1096.29									
		+50	1095.54									
		63	1094.78									
		+50	1094.03									
		64	1093.28									
		+50	1092.53									
		65	1091.78									
		+04	1091.72				End Project AIR 23-2010					
		COLUMN TOTALS										

EARTHWORK SUMMARY

~~EARTH AND ROCK EXCAVATION~~	~~CY.~~
~~SOLID ROCK EXCAVATION~~	~~CY.~~
~~EARTH EXCAVATION~~	~~CY.~~
~~PLANIMETERED FILL~~	~~CY.~~
~~LESS FACTORED SOLID ROCK~~	~~CY.~~
~~LESS DISPLACEMENT OF LARGE STRUCTURES~~	~~CY.~~
~~NET PLANIMETERED FILL~~	~~CY.~~
~~FACTOR (x NET PLANIMETERED FILL)~~	~~CY.~~
~~PLANIMETERED FILL INCLUDING FACTOR~~	~~CY.~~
~~MATERIALS AVAILABLE FOR FILLS~~	
~~EARTH EXCAVATION~~	~~CY.~~
~~CHANNEL EXCAVATION (%x CY)~~	~~CY.~~
~~UNDERDRAIN EXCAVATION (%x CY)~~	~~CY.~~
~~STRUCTURE EXCAVATION (%x CY)~~	~~CY.~~
~~TOTAL MATERIAL AVAILABLE FOR FILLS~~	~~CY.~~
~~TOTAL FILL INCLUDING FACTOR~~	~~CY.~~
~~TOTAL MATERIAL FOR FILLS~~	~~CY.~~
~~BORROW~~	~~CY.~~
~~EXCESS EXCAVATION~~	~~CY.~~
~~LESS FACTORED DEDUCTIBLE GRANULAR BORROW~~	~~CY.~~
~~NET EARTH BORROW~~	~~CY.~~
~~NET EXCESS EXCAVATION~~	~~CY.~~

UNDERDRAIN AND CARRIER PIPE

STATION TO STATION		TYPE U	TYPE C.P.	P.O.S.	D (IN)	L (FT.)	TRENCH EXC. EARTH (CY.)	TRENCH EXC. ROCK (CY.)	GRAN. BKF. (CY.)	F.B. (EA)		MKR. POSTS (EA)
52+00	65+08	X		Lt	6	1308	218			2		
58+00	65+08	X		Rt	6	708	118			1		
65+08		X		Rt Lt	6	158	26			1		
65+08			X	Lt	6	176	108			1		
		X			6	2174						
			X			176						
COLUMN TOTALS							470			5		

~~GUARD RAIL, THREE CABLE W/LT.____POSTS~~

STATION TO STATION		P.O.S.	MEASURED LENGTH (FT.& IN.)	POST SPACING (FT.& IN.)	FACTOR	PAY LENGTH (L.F.)	ANCHORS 621.66 (EA)	ANCHORS 621.67 (EA)
COLUMN TOTALS								

~~GUARD RAIL, BOX BEAM W/ST. POSTS~~

STATION TO STATION		P.O.S.	POST SPACING (FT.& IN.)	PAY LENGTH (L.F.)	REMARKS
COLUMN TOTALS					

DRAINAGE STRUCTURES

STATION	POS	ASKEW	TYPE IN/OUT	DITCH IN	DITCH OUT	R.C.P. D(IN)	R.C.P. L(FT)	R.C.P. CL	ACCGMP D(IN)	ACCGMP L(FT)	ACCGMP TH(IN)	OPTION PIPES D (IN)	OPTION PIPES L (FT)	OPTION PIPES RCP CL	OPTION PIPES CGMP TH	OPTION PIPES CAACP TH			MES. (EA)	D.I. DEPTH (FT.)	CONC. CL. B (CY)	REINF. STEEL (LB.)	D.I. GRATE TYPE	CRM (CY)	TRENCH EXC. EARTH (CY)	TRENCH EXC. ROCK (CY)	ST. FILL TYPE__ (CY)		MKR. POST LT.	MKR. POST RT.	REMARKS
COLUMN TOTALS																															

~~GUARD RAIL, ____ STEEL BEAM WITH ____ POSTS, TYPE II~~

STATION TO STATION		P.O.S.	MEASURED LENGTH (FT. & IN.)	POST SPACING (FT. & IN.)	FACTOR	PAY LENGTH (L.F.)	ANCHORS 621.__ (EA.)	ANCHORS 621.__ (EA.)	REMARKS
COLUMN TOTALS									

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By ____________ Resident Engineer

Date ____________

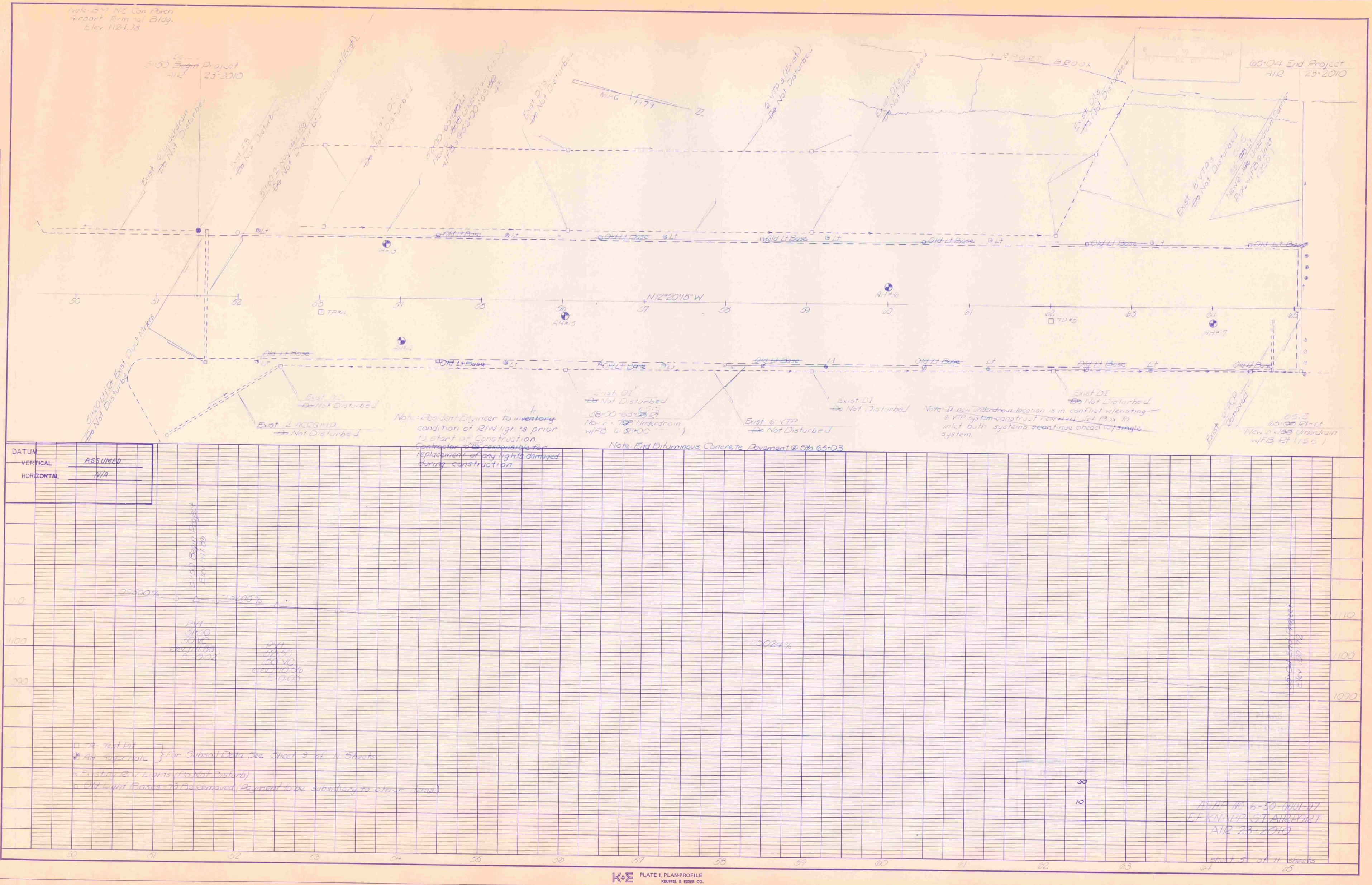
~~TYPE OF CONSTRUCTION~~

STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS			EQUATIONS +	EQUATIONS −	REMARKS

LENGTH OF PROJECT

STATION	STATION	FEET	MILES	REMARKS
51+50	65+04	1354	0.256	Reconstruct Runway 17-35 (North End)
COLUMN TOTALS		1354	0.256	

PROJECT ADAP NO. 6-50-0001-07 PROJECT NO. AIR-23-2010
NAME E.F.Knapp Airport SHEET 4 OF 11 SHEETS


Note: B.M. NE Cor. Paren Airport Terminal Bldg. Elev 1124.18
51+50 ~~Begin~~ Project AIR 23-2010
65+04 End Project AIR 23-2010
Exist 6" Underdrain ~~Do~~ Not Disturbed
Exist FB ~~Do~~ Not Disturbed
51+60 2 Way 4x1.5(?) Electrical Duct (Exist) ~~Do~~ Not Disturbed
Exist DIs ~~Do~~ Not Disturbed
51+00-65+5 Lt New 6" Underdrain (13.5s) w/FBs @ 52+00 (55+00) 4.3
MAG 1979
6" VTPs (Exist) ~~Do~~ Not Disturbed
AIRPORT BROOK
Exist 8" VTP's ~~Do~~ Not Disturbed
65+5 Lt New 6" Underdrain Carrier Pipe w/FB @ Inlet (220')
Old Lt Base
Lt
AH#13
AH#14
AH#15
AH#16
AH#17
TP#4
TP#5
N12°20'15"W
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
51+60 Lt/Rt Exist Duct Mrkrs ~~Do~~ Not Disturbed
Exist DI ~~Do~~ Not Disturbed
Exist 12" ACCGMP ~~Do~~ Not Disturbed
58+00-65+03 Rt New 6" Underdrain w/FB @ 58+00
Exist 6" VTP ~~Do~~ Not Disturbed
Exist 6" DCP Removed
65+5 65+03 Rt-Lt New 6" Underdrain w/FB Rt (155')
DATUM
VERTICAL ASSUMED
HORIZONTAL N/A
51+50 Begin Project Elev 1111.86
65+04 End Project Elev 1091.72
-0.9500%
-1.3200%
-1.0024%
PVI 51+50 50' VC elev 1111.83 E-0.02
PVI 52+50 150' VC elev 1110.56 E-0.03
1110
1100
1090
50
10
PLAN
NOTE BOOK
No.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE
PROFILE
GRADES CHECKED
B. M.'s NOTED
STRUCTURE NOTATIONS CHECKED

Note: Resident Engineer to ~~inventory~~ condition of R/W lights prior to start of Construction ~~Contractor to be responsible for replacement of any lights damaged during construction~~

Note: End Bituminous Concrete Pavement @ Sta 65+03

Note: ~~If new underdrain location is in conflict w/existing 6" VTP system construct new~~ Jct Box to inlet both systems ~~continue ahead w/single~~ system.

□ TP - Test Pit

● AH - Auger Hole

} For Subsoil Data See Sheet 3 of 11 Sheets

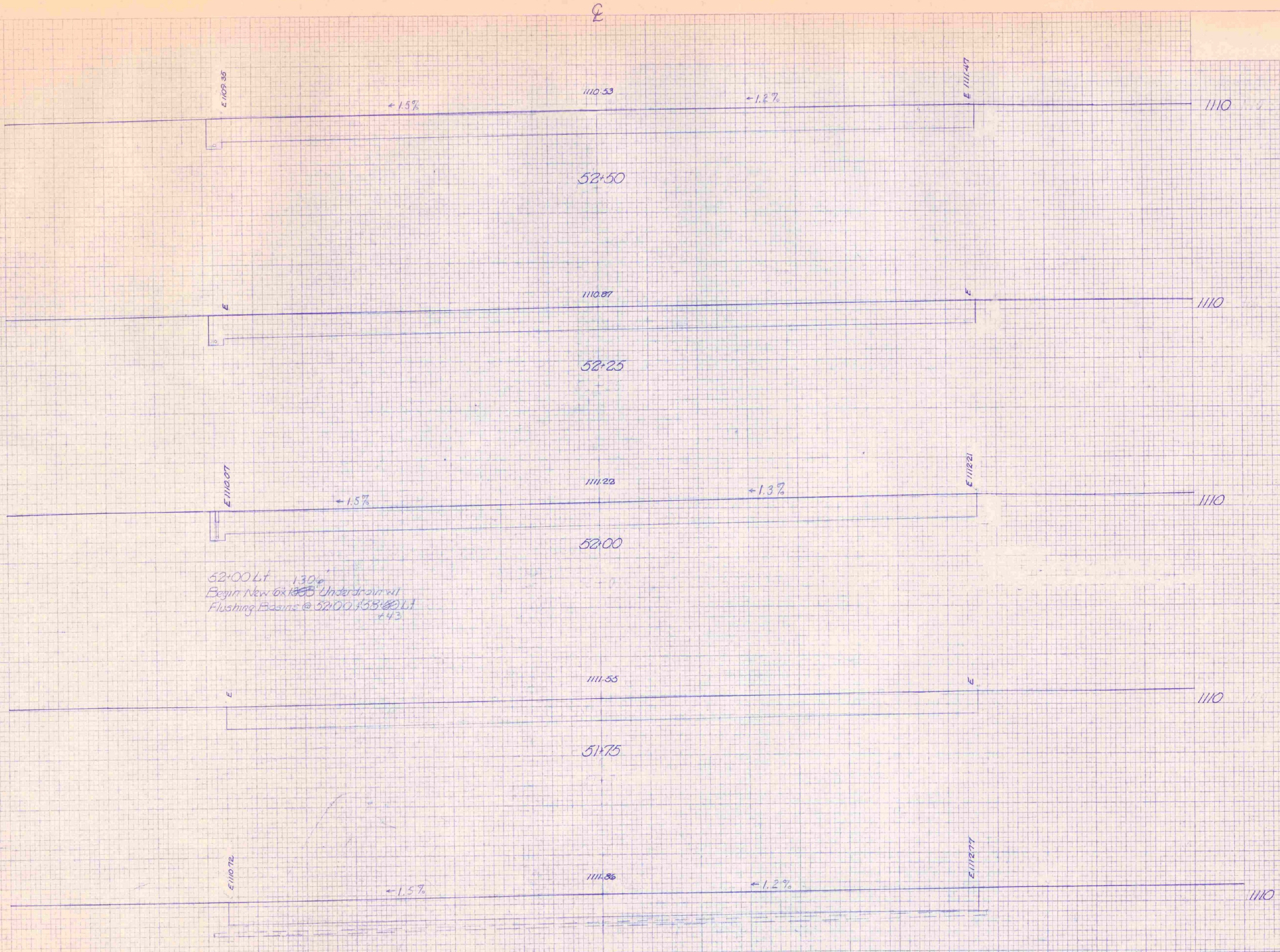
⊙ Existing R/W Lights (Do Not Disturb)

□ Old Light Bases - To Be Removed (Payment to be subsidiary to other items)

ADAP NO 6-50-0001-07
E.F. KNAPP ST. AIRPORT
AIR 23-2010

sheet 5 of 11 sheets

K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
48 7024 Made in U.S.A.


℄
E 1109.35
← 1.5%
1110.53
← 1.2%
E 1111.47
1110
52+50
E
1110.87
E
1110
52+25
E 1110.07
← 1.5%
1111.28
← 1.3%
E 1112.21
1110
52+00
E
1111.55
E
1110
51+75
E 1110.72
← 1.5%
1111.86
← 1.2%
E 1112.77
1110
51+50

52+00 Lt
Begin New 6" x ~~1363~~ 130' Underdrain w/
Flushing Basins @ 52+00 & 53+~~80~~43 Lt

51+60
2 Way 4" x 156'
Electrical Ducts
Do Not Disturb

Begin Project
C-AIR 23-2010

℄

PLATE 3 CROSS SECTION C. P. R. [illegible] E STANDARD
DIETZGEN CORPORATION

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

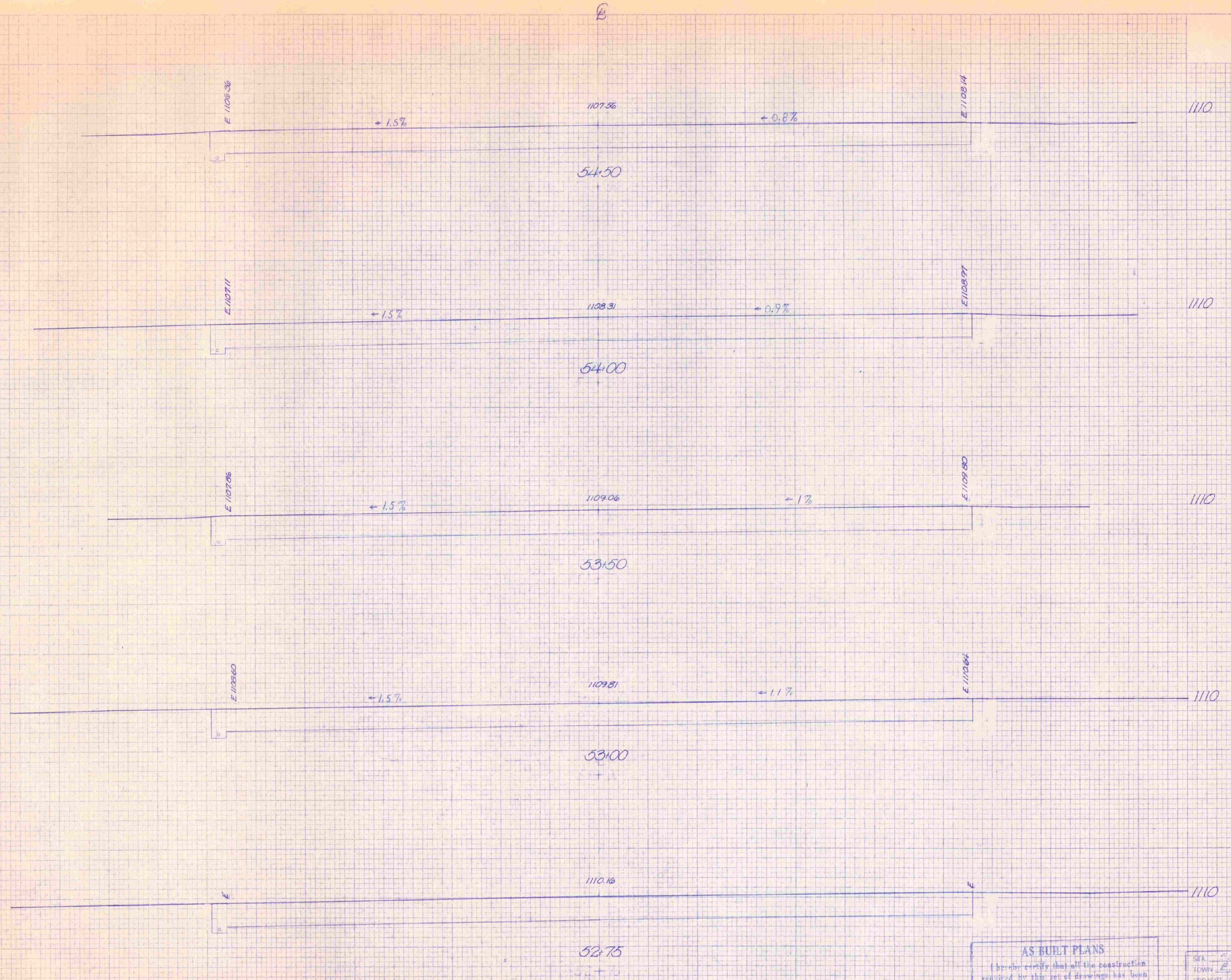
By [illegible] Resident Engineer

Date 7/6/76

STA. 51+50 STA. 52+50
TOWN [illegible] AIR 23-2010
PROJECT [illegible] NO. [illegible]-0001-07
SHEET 6 OF 11 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
[illegible] BY: DATE

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

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


℄
E 1106.36
1107.56
← 1.5%
← 0.8%
E 1108.14
1110
54+50
E 1107.11
1108.31
← 1.5%
← 0.9%
E 1108.97
1110
54+00
E 1107.86
1109.06
← 1.5%
← 1%
E 1109.80
1110
53+50
E 1108.60
1109.81
← 1.5%
← 1.1%
E 1110.64
1110
53+00
E
1110.16
E
1110
52+75

FINAL SURVEY
NOTE BOOK
NO.

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

ORIGINAL SURVEY
NOTE BOOK
NO.

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

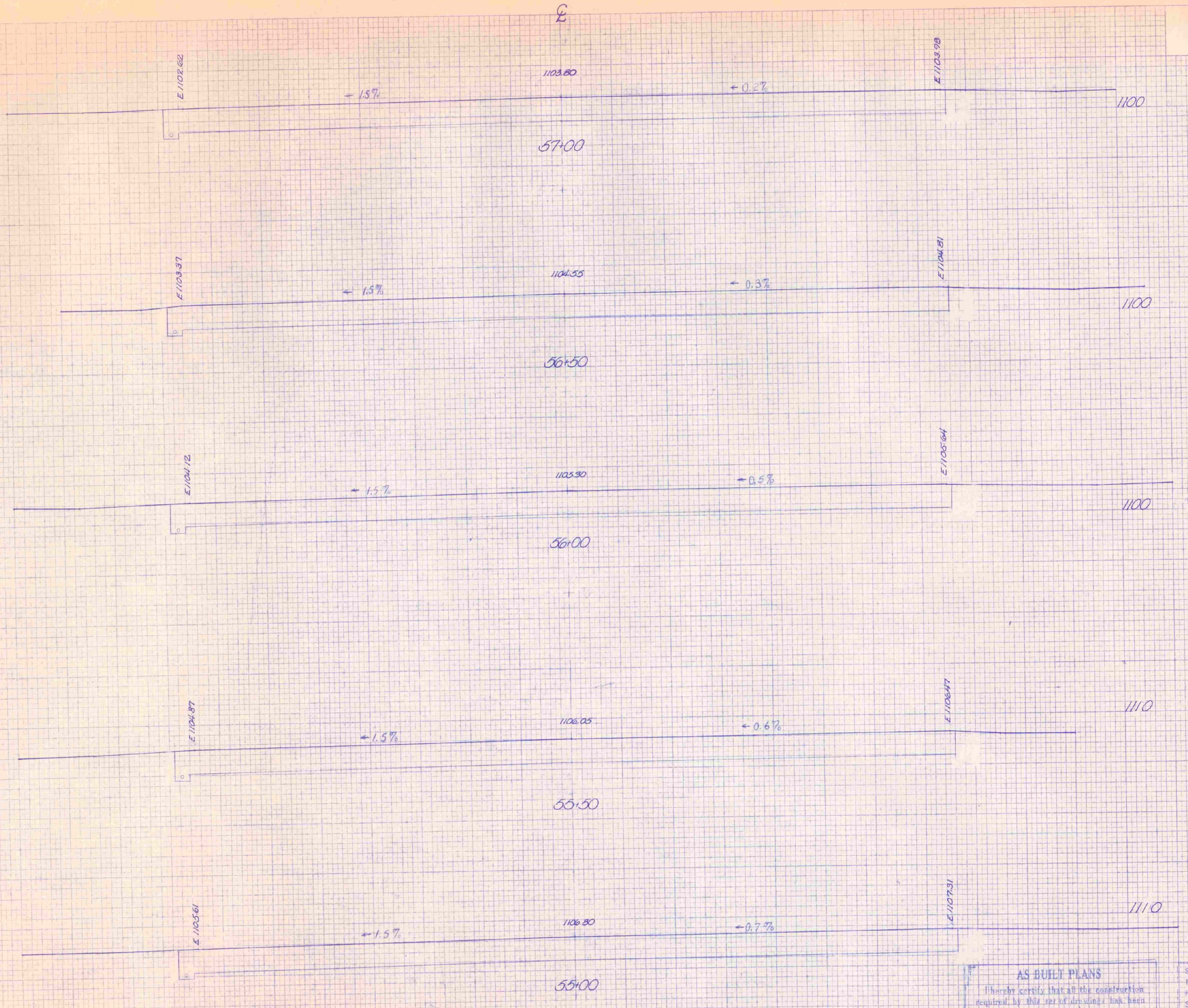
AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By [illegible] Resident Engineer

Date 7/6/82

STA. 52+75 STA. 54+50
TOWN E.F. KNAPP AP. AIR 23-2010
PROJECT ADAP NO. 6-50-0001-07
SHEET 9 OF 11 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
[illegible] DATE


℄
E.1102.62
1103.80
E.1103.98
← 1.5%
← 0.2%
1100
57+00
E.1103.37
1104.55
E.1104.81
← 1.5%
← 0.3%
1100
56+50
E.1104.12
1105.30
E.1105.64
← 1.5%
← 0.5%
1100
56+00
E.1104.87
1106.05
E.1106.47
← 1.5%
← 0.6%
1110
55+50
E.1105.61
1106.80
E.1107.31
← 1.5%
← 0.7%
1110
55+00
℄

FINAL SURVEY

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

ORIGINAL SURVEY

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

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By [illegible], Resident Engineer

Date [illegible]

STA. 55+00 STA. 57+00

TOWN E.F. KNAPP AP 23-2010

PROJECT ALAP NO. 6-50-0001-07

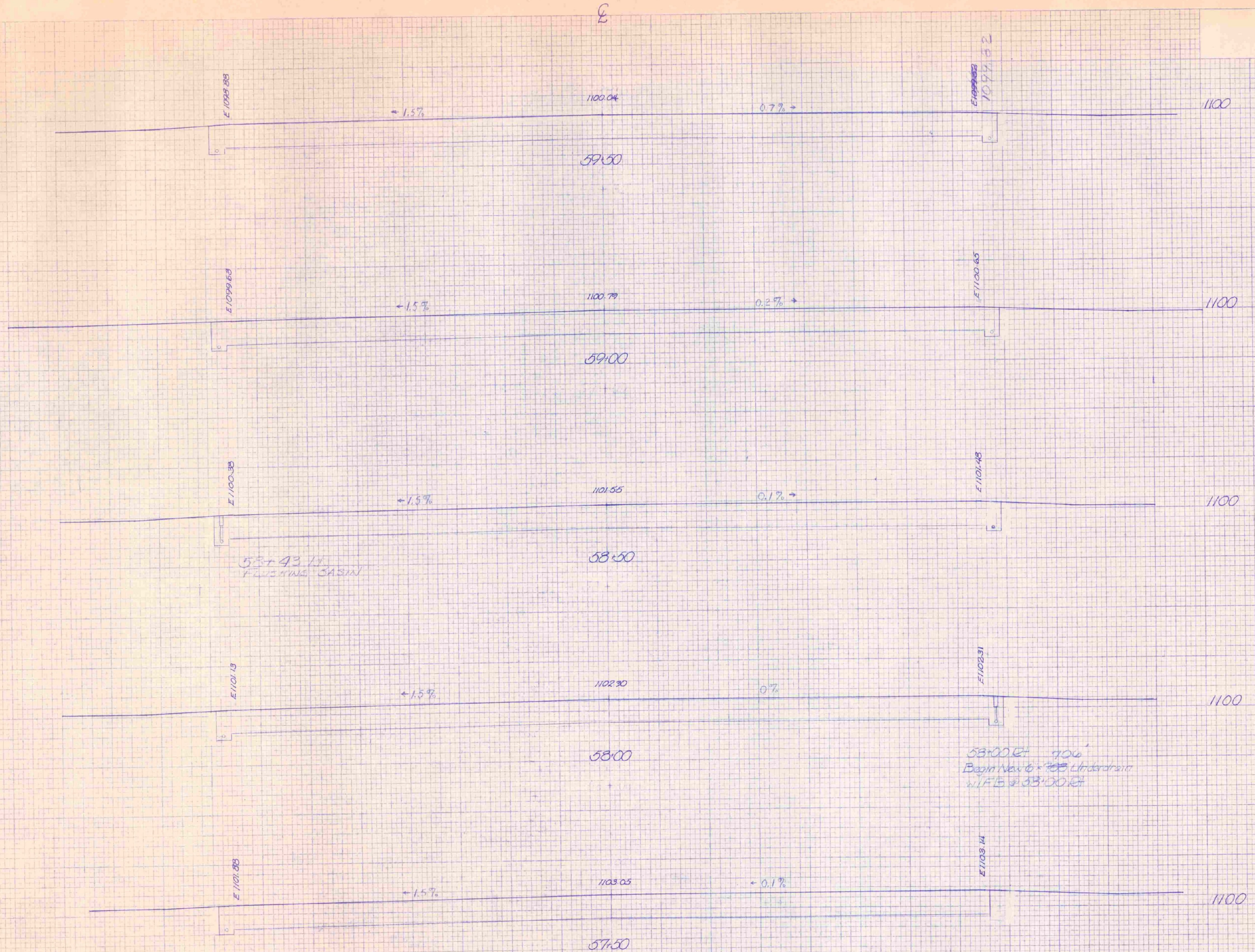
SHEET 8 OF 11 SHEETS

HORIZ. AND VERT. SCALE

0 10 20

SURV YED BY DATE

PLATE 3 CROSS SECTION O P R [illegible] STANDARD
DIETZGEN CORPORATION


℄
E1098.88
1100.04
← 1.5%
0.7% →
~~E1099.82~~
1099.82
1100
59+50
E1099.63
1100.79
← 1.5%
0.2% →
E1100.65
1100
59+00
E1100.38
1101.55
← 1.5%
0.1% →
E1101.48
1100
58+43 Lt.
FLUSHING BASIN
58+50
E1101.13
1102.30
← 1.5%
0%
E1102.31
1100
58+00
58+00 Rt 7.06
Begin New 6" × ~~7.85~~ Underdrain
w/FB @ 58+00 Rt
E1101.88
1103.05
← 1.5%
← 0.1%
E1103.14
1100
57+50

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By [illegible] Resident Engineer

Date 6/7/3

STA. 57+50 STA. 59+50

TOWN E.F. KNAPP AP AIR 23-2010

PROJECT ABAP NO. 6-50-0001-07

SHEET 2 OF 11 SHEETS

HORIZ. AND VERT. SCALE

0 10 20

SURVEYED BY: DATE

FINAL SURVEY

NOTE BOOK

NO.

SURVEYED

PLOTTED

TEMPLATE

AREAS

AREAS CHECKED

BY

DATE

ORIGINAL SURVEY

NOTE BOOK

NO.

SURVEYED

PLOTTED

TEMPLATE

AREAS

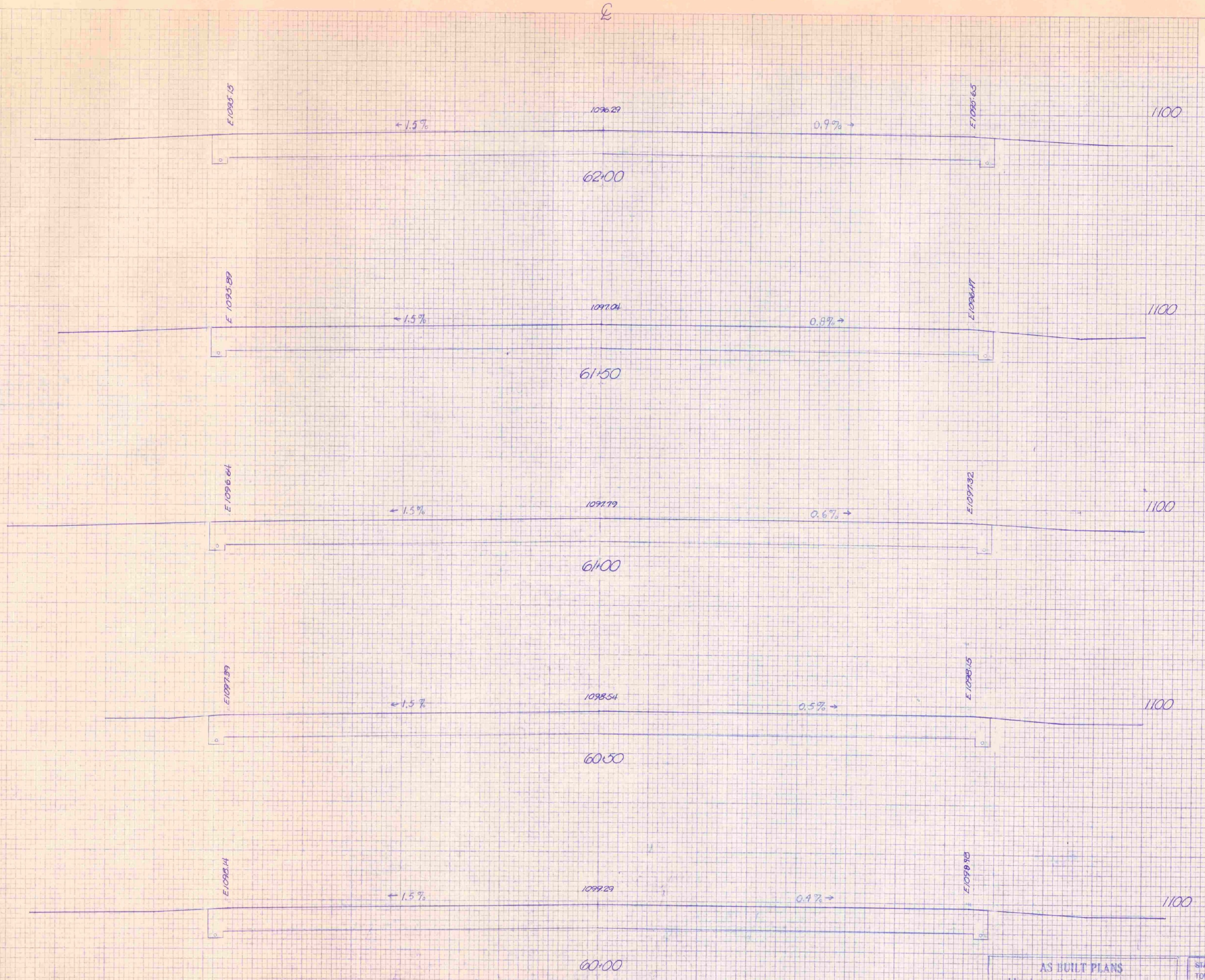
AREAS CHECKED

BY

DATE

℄

PLATE 3 CROSS SECTION O. P. R. E. STANDARD
DIETZGEN CORPORATION


℄
E1095.15
1096.29
← 1.5%
0.9% →
E1095.65
1100
62+00
E 1095.89
1097.04
← 1.5%
0.8% →
E1096.47
1100
61+50
E1096.64
1097.79
← 1.5%
0.6% →
E1097.32
1100
61+00
E1097.39
1098.54
← 1.5%
0.5% →
E1098.15
1100
60+50
E1098.14
1099.29
← 1.5%
0.4% →
E1098.98
1100
60+00
℄

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

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

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By [illegible] Resident Engineer

Date [illegible]

STA. 60+00 STA. 62+00

TOWN [illegible] AP AIR 23-2010

PROJECT ADAP NO. 6-60-0061-07

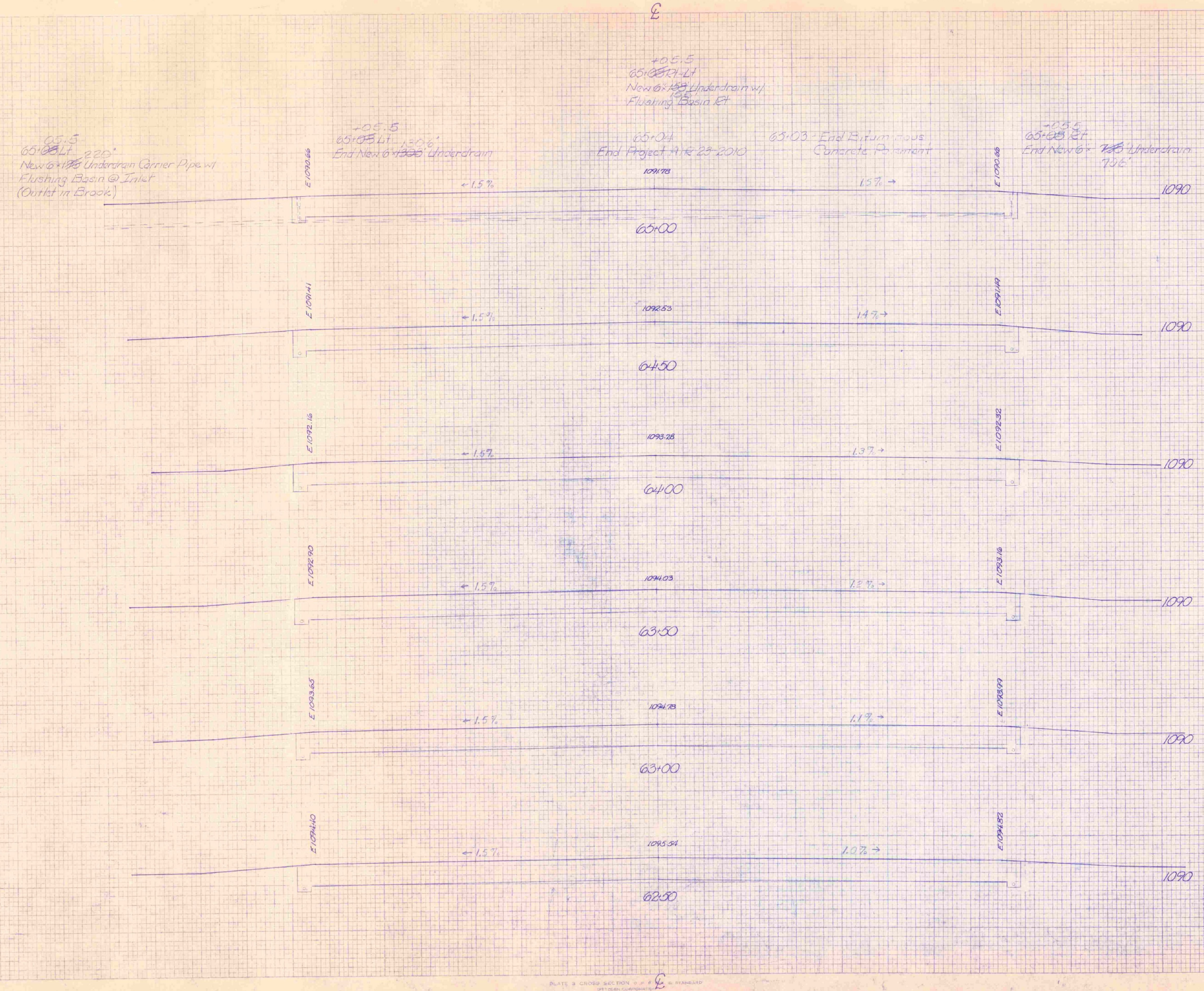
SHEET 21 OF 22 SHEETS

HORIZ. AND VERT. SCALE

0 10 20

SURVEYED BY: DATE

PLATE 3 CROSS SECTION D. P. R. S. STANDARD
DIETZGEN CORPORATION


℄
+05.5
65+~~03~~ Rt-Lt
New 6"x ~~138~~ Underdrain w/
125'
Flushing Basin Rt
-05.5
65+~~08~~ Lt
220'
New 6"x ~~195~~ Underdrain Carrier Pipe w/
Flushing Basin @ Inlet
(Outlet in Brook)
+05.5
65+~~05~~ Lt
130'
End New 6"x ~~1336~~ Underdrain
65+04
End Project AR 23-2010
65+03 - End Bituminous
Concrete Pavement
-05.5
65+~~08~~ Rt
End New 6"x ~~135~~ Underdrain
136'
E1090.86
1091.78
← 1.5%
1.5% →
E1090.86
1090
65+00
E1091.41
1092.53
← 1.5%
1.4% →
E1091.49
1090
64+50
E1092.16
1093.28
← 1.5%
1.3% →
E1092.32
1090
64+00
E1092.90
1094.03
← 1.5%
1.2% →
E1093.16
1090
63+50
E1093.65
1094.78
← 1.5%
1.1% →
E1093.99
1090
63+00
E1094.40
1095.54
← 1.5%
1.0% →
E1094.82
1090
62+50
℄

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

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

AS BUILT PLANS

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By _______ Resident Engineer

Date _______

STA. 62+50 STA. 65+00
TOWN E.F. KNAPP AP. AR 23-2010
PROJECT ADAP NO. 3-50-0001-07
SHEET 22 OF _______ SHEETS
HORIZ. AND VERT. SCALE
0 10 20
SURVEYED BY: _______ DATE _______