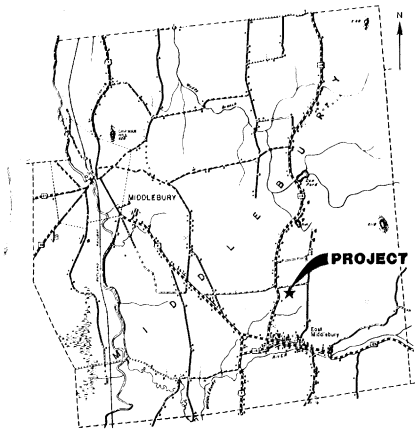
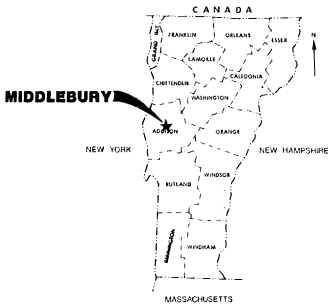


VICINITY MAP



LOCATION MAP

PLANS FOR CONSTRUCTION OF
AIRPORT IMPROVEMENTS
MIDDLEBURY STATE AIRPORT
Middlebury, Vermont

TO INCLUDE: (1) CONSTRUCTION OF AIRPORT ACCESS ROAD AND PARKING AREA, (2) INSTALLATION OF INADVERTANT ACCESS FENCE (3) CONSTRUCTION OF ACCESS DRIVE

A.I.R. PROJECT NO. 03-2042

JULY · 1985

INDEX OF SHEETS

Sheet No.	Description	
1	Title Sheet	
2	Site Plan and Typical Sections	
3-4	Plan and Profile Sheets	
5-11	Access Road Cross Sections	
	Vermont Agency of Transportation Standards	
12	A-61, Solid Rock Excavation	8-26-81 R
13	D-13, Concrete Catch Basin with Cast Iron Grate	8-10-81 R
14	F-2 Chain-Link Fence Type I and Gates	2-1-79 R
15	F-3, Chain-Link Fence Type III and Gates	2-1-79 R
16	F-4, Chain-Link Fence Type II and Gates	3-19-79 R

QUANTITIES

*Item	Description	Unit	Est. Quantity
201.10	Clearing and Grubbing	L.S.	1
203.15	Common Excavation	C.Y.	6850
203.16	Solid Rock Excavation (est.)	C.Y.	100
205.10	Drilling and Blasting of Solid Rock (est.)	L.F.	200
205.20	Drilling and Blasting fo Solid Rock Subgrade (est.)	S.Y.	800
301.15	Subbase of Gravel	C.Y.	3850
406.25	Bituminous Concrete Pavement	Ton	412
	Begin Option Items		
601.0215	18" CAAP .060	L.F.	136
601.0415	18" PECSP .064	L.F.	136
	End Option Items		
604.10	Concrete Catch Basin with Cast Iron Grate	Each	1
608.25	All Purpose Excavator Rental	Hour	24
609.10	Dust Control with Water	m/gal.	20
620.11	Chain-Link Fence, 4 feet	L.F.	2050
620.15	Gate for Chain Link Fence, 4 feet	L.F.	28
621.16	Cedar Log Rail	L.F.	490
635.10	Mobilization	L.S.	1
646.50	Temporary 4" White Line	L.F.	320
646.51	Temporary 4" Yellow Line	L.F.	1900
651.15	Seed	Lbs.	200
651.18	Fertilizer	Lbs.	2000
651.20	Agricultural Limestone	Ton	7
651.25	Hay Mulch	Ton	7

* All items for this project will be those items normal to State of Vt. Standard Specifications for Highway and Bridge Construction dated 1986

AS BUILT PLANS

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

by _____ Resident Engineer

Date _____

FEDERAL AVIATION ADMINISTRATION

APPROVED _____
CHIEF, AIRPORT ENGINEERING AND SAFETY BRANCH

DATE _____

VERMONT AGENCY OF TRANSPORTATION

APPROVED Frank E. Ward
DIRECTOR OF ENGINEERING AND CONSTRUCTION

DATE May 23, 1986

Consulting Engineers

Offices
North Springfield, Vermont 05150
St. Johnsbury, Vermont 05819
Montpelier, Vermont 05602
Manchester, New Hampshire 03103
Portland, Maine 04101
Greenfield, Massachusetts 01742
Greenfield, Massachusetts 01301
Morristown, New Jersey 07960

Engineering Disciplines
Civil
Environmental
Transportation
Municipal
Mountain
Structural
Electrical
Mechanical
Industrial

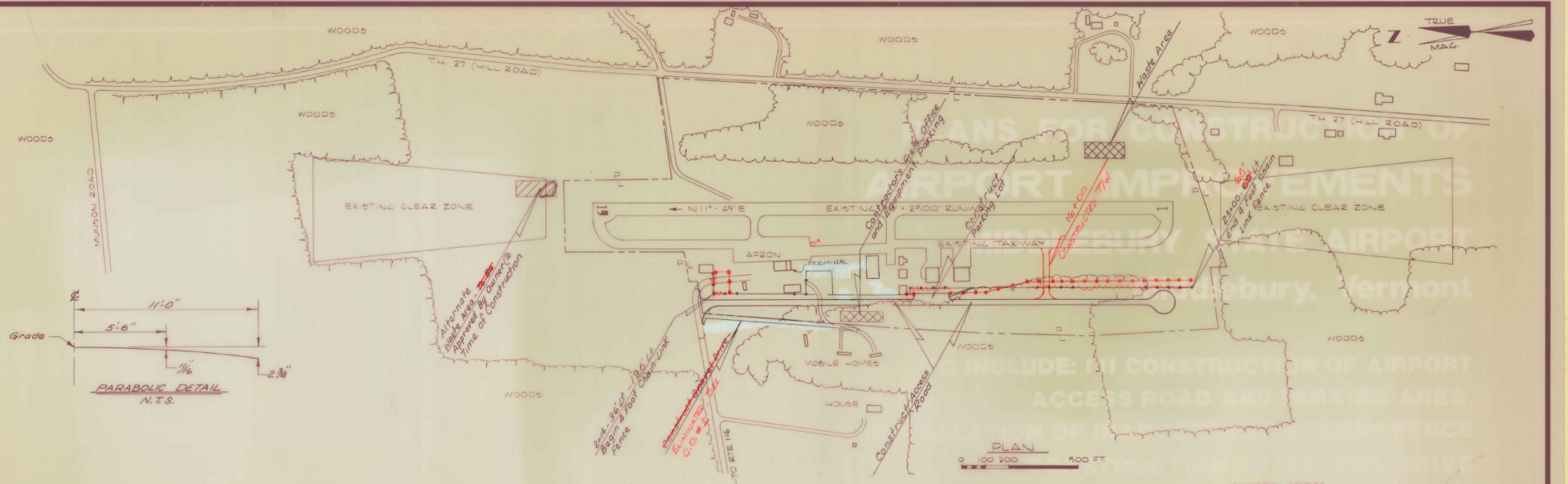
Associated Disciplines
Planning & Urban Development
Landscape Architecture
Surveying
Construction Management

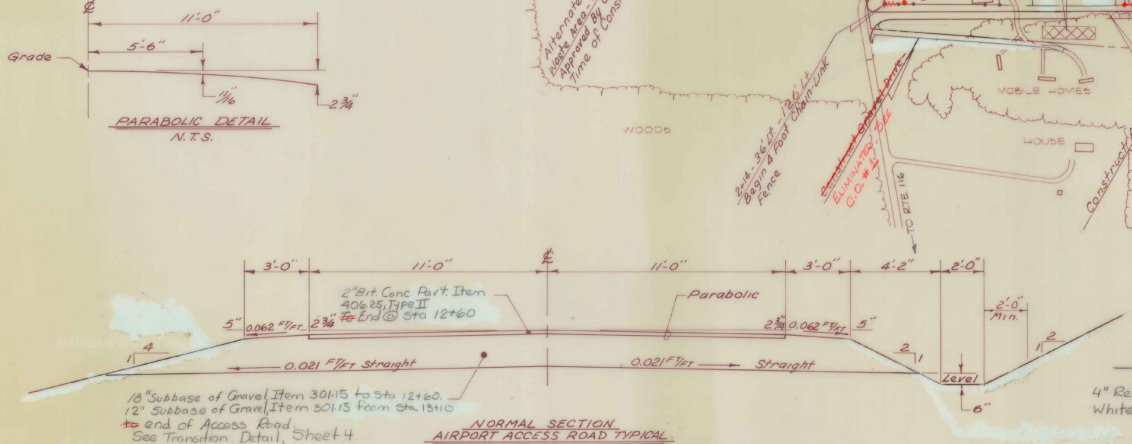
Applied Sciences
Water Quality
Geologic
Hydrologic

DUFRESNE-HENRY, INCORPORATED 1961 NORTH SPRINGFIELD, VT.

Dufresne-Henry Inc.
Precision Park
North Springfield,
Vermont 05150

DRAWING 44-132 403377-1

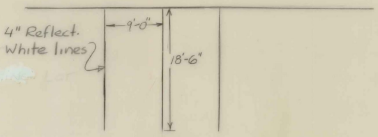


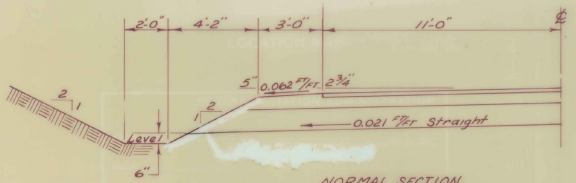


NORMAL SECTION
AIRPORT ACCESS ROAD TYPICAL
3/8" = 1'-0"

PARKING LOT ~ ACCESS ROAD
1+00 Lt ~ 12+50 Lt

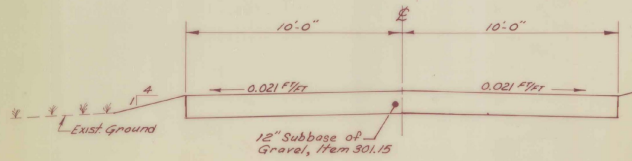
PARKING SPACE DIMENSIONS
(NTS)





NORMAL SECTION
IN ROCK CUT
3/8" = 1'-0"

For Slopes in Solid Rock Excavation and Drilling and Blasting of Solid Rock Subgrade See Vt. Standard Sheet 'A-61'



GRAVEL DRIVE TYPICAL
3/8" = 1'-0"

GENERAL NOTES

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 651.18
Formula 10-20-10 ~~to be~~ used with seed, Item 651.15, 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.
Cost of TOPSOIL ~~to be~~ SUBSIDIARY TO OTHER ITEMS.

Allowable thickness tolerances

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

AIR 03-2042

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 _____

MIDDLEBURY STATE AIRPORT
SITE PLAN
AND
TYPICAL SECTIONS
MIDDLEBURY VERMONT

Duffresne-Henry Inc.
Precision Park
No. Springfield
Vermont 05150

Client No.	30 0168
Proj. Manager	G.W. DAmico
Proj. Designer	W.J. Rabchiski
Drawn By	W.J.R-E.H.P.
Checked By	G.W.D.
Scale	As Shown
Approved	
Date	

STATE OF VERMONT — KEITH A. MORRIS — No. 3109 — REGISTERED PROFESSIONAL ENGINEER

Sheet 2 of 16
D

Rev.	Description	By	Date

BRUNING A4-132 A5393-3

A.O.T. MIDDLEBURY STATE AIRPORT AIR 03-2042

HOLE NO. B-1 STA. 10+0 OFFSET RT. 20'
DRILLER MCGLYNN
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE START 4-24-85 FINISH
SURFACE ELEVATION 502.5'

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
							NO SAMPLES
							TOP OF BEDROCK @ 3.0'
							AXDC 3.0' - 4.0' REC=61.0% RQD=0.0%
							AXDC 4.0' - 9.0' REC=70.4' RQD= 7.4%
							*ROCK TYPE-SEE BELOW
10							HOLE STOPPED @ 9.0' IN BEDROCK
							*ROCK TYPE - MOTTLED GRAY, SOMEWHAT PHYLLITIC QUARTZITE, CAN BARELY BE SCRATCHED WITH A POCKET KNIFE.
20							

Existing Taxiway
Apron
Existing Taxiway
B.M. USGS 22 JEA 1961 ELEV. 496.98
TERMINAL
STORAGE
TBM #1 30' S.I.R. 18" Pine ELEV. 493.97
PUMP HOUSE
STORAGE
Cedar Log Rail (Mod.)
4' Walk
20' Drive Gate
4' Chain Link Fence
6" CMP
4' CHAIN LINK FENCE
CEDAR LOG RAIL FENCE (MOD.)
NEW 18"x80' CAAP INLET STA 1485 18' Lt OUTLET STA 1478 57' Rt
233.4'
208.2'
249.3'
80°-54'-30"
Curve "A"
Δ = 17°-30' Rt
D = 19° 00'
R = 301.56'
T = 46.41'
L = 92.10'
E = 3.55'
PC. 31+53.59
PT. 32+45.69
S 11°49' W
OHW
Woods
Cleared Wetland
P.O.T. 9+95.59
Woods
P L
Construct Drive Access Rd Sta. 1+65 Rt ± 7+38 Rt ± (20' wide)
6+90 Rt ±
Access Rd. 6+90 Lt (14' wide)
PLAN SCALE 0 50 100 100 FEET
4' CHAIN LINK FENCE
2+[illegible] Lt ~ 6+15 Lt
7+15 Lt ~ 11+00 Lt
Remove Existing Temp. Access Road
New 18"x136' CAAP PCSSP, Class A
New 18"x136' CAAP PCSSP, Class A
4' RCD, Riprap Type A @ Inlet & Stone Fill Type I @ Outlet
Existing water line Fore placed in 8" Steel Pipe Sleeve Cost to be included in cost of Mobilization (Approx 100' in length)
EXISTING PIPE NOT OBSERVED A 2" PVC PIPE WAS INSTALLED AT SOME TIME FOR FUTURE WATER LINE MAINTENANCE
* 20 Foot Drive Gate For Cedar Log Rail ~~to be~~ Constructed with an eye-bolt in each end-post, Connected with a detachable Cable. Details as noted below. Costs for Cable, associated hardware and additional 8"x9' Posts ~~to be~~ Subsidiary to price bid for Cedar Log Rail.
10 8" Oak 6" Oak 5" Oak
P.O.T. 9+95.59 Ties
PRESSURE TREATED LUMBER ENTRY GATE, ITEM 901.02
EXISTING ACCESS ROAD
+1.1195%
+1.1195%
8" MIN. DIA. WOOD POST
20'-0"
Cedar Log Rail
500
490
480
491.80 491.84 491.50 491.06 490.62 490.18 489.88 489.84 490.50 491.06 491.62 492.18 492.88
490.67 491.28 491.38 492.34 492.90 493.46 494.02 494.58 495.14 495.70 496.26 496.82 497.38
1+00 +46 +54 +70 2+00 +50 3+00 +50 4+00 +50 5+00 +50 6+00 +50 7+00 +50 8+00 +50 9+00 +50 10+00 +50 11+00
FINISHED GRADE @ ℄

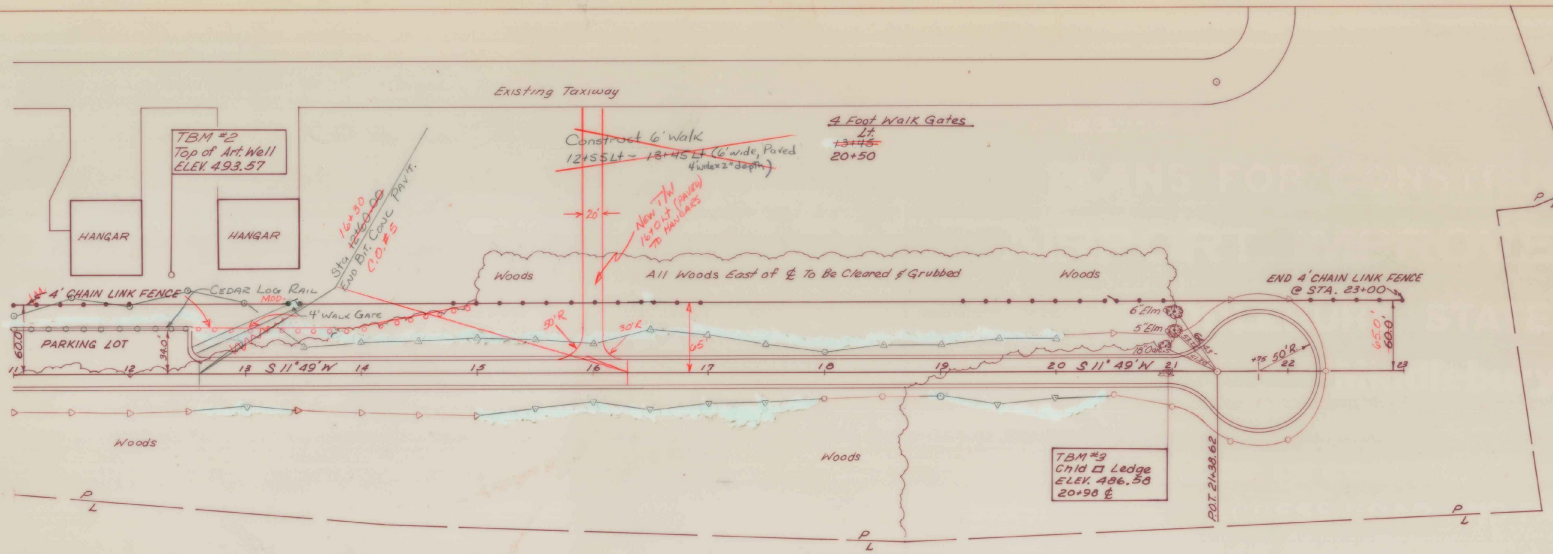
AS BUILT PLANS
I hereby certify that all the construction required by this set of drawings has been accomplished as indicated hereon.
By
Resident Engineer
Date

PROFILE SCALE HORIZ 1" = 50 FEET = 1
VERT 1" = 10 FEET = 1

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MIDDLEBURY STATE AIRPORT
ACCESS ROAD PLAN AND PROFILE
STA 0+00 EL. 1/1+00
TOWN MIDDLEBURY, VT.
PROJECT AIR AO 03-2042
SHEET 2 OF 16 SHEETS
DRAWN BY MJR CHECKED BY
DATE 4-30-85 DATE
Dufresne-Henry, Inc. PRECISION PARK, NO. SPRINGFIELD, VT 05150

STATE OF VERMONT REGISTERED No. 3109 PROFESSIONAL ENGINEER

PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE



CEDAR LOG RAIL (MOD.)
11+00 Lt ~ 12+50 Lt
(PARKING LOT)

4' CHAIN LINK FENCE
~~11+00~~ Lt ~ 23+00 Lt
12+50

PLAN SCALE
0 50 100
100 FEET

A.O.T. MIDDLEBURY STATE AIRPORT AIR 03-2042

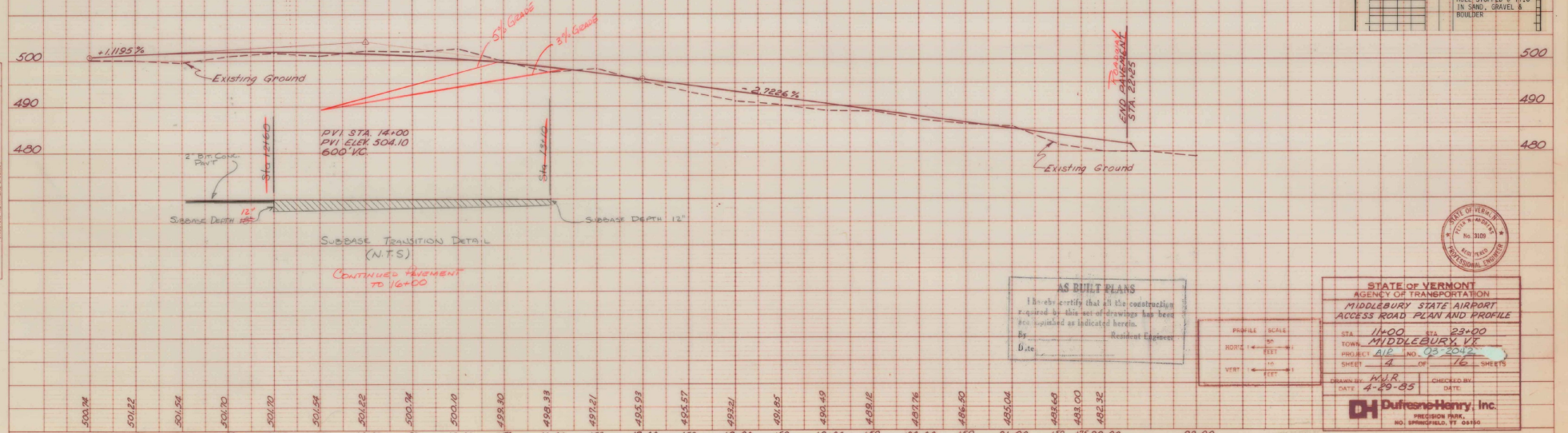
HOLE NO. B-2 STA. 15+0 OFFSET LT. 20'
DRILLER MCGLYNN
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE · START 4-24-85 FINISH
SURFACE ELEVATION 502.0'

DEPTH	BLOWS ON SPLIT SPOON STANDARD PENETRATION	PLASTICITY LIMIT LIQUID LIMIT	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
					NO SAMPLES 0.0' - 8.0'
10					HOLE STOPPED @ 8.0' IN SAND

A.O.T. MIDDLEBURY STATE AIRPORT AIR 03-2042

HOLE NO. B-3 STA. 17+0 OFFSET LT. 20'
DRILLER MCGLYNN
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE · START 4-24-85 FINISH
SURFACE ELEVATION 498.4'

DEPTH	BLOWS ON SPLIT SPOON STANDARD PENETRATION	PLASTICITY LIMIT LIQUID LIMIT	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
					NO SAMPLES 0.0' - 11.0'
10					SAND, GRAVEL, BO.
					HOLE STOPPED @ 11.0' IN SAND, GRAVEL & BOULDER



SUBBASE TRANSITION DETAIL
(N.T.S.)

CONTINUED PAVEMENT TO 16+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 _____

PROFILE SCALE
HORIZ 1" = 50 FEET
VERT 1" = 10 FEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MIDDLEBURY STATE AIRPORT
ACCESS ROAD PLAN AND PROFILE

STA 11+00 STA 23+00
TOWN MIDDLEBURY, VT.
PROJECT AIP NO. 03-2042
SHEET 4 OF 16 SHEETS
DRAWN BY W.J.R. CHECKED BY
DATE 4-29-85 DATE

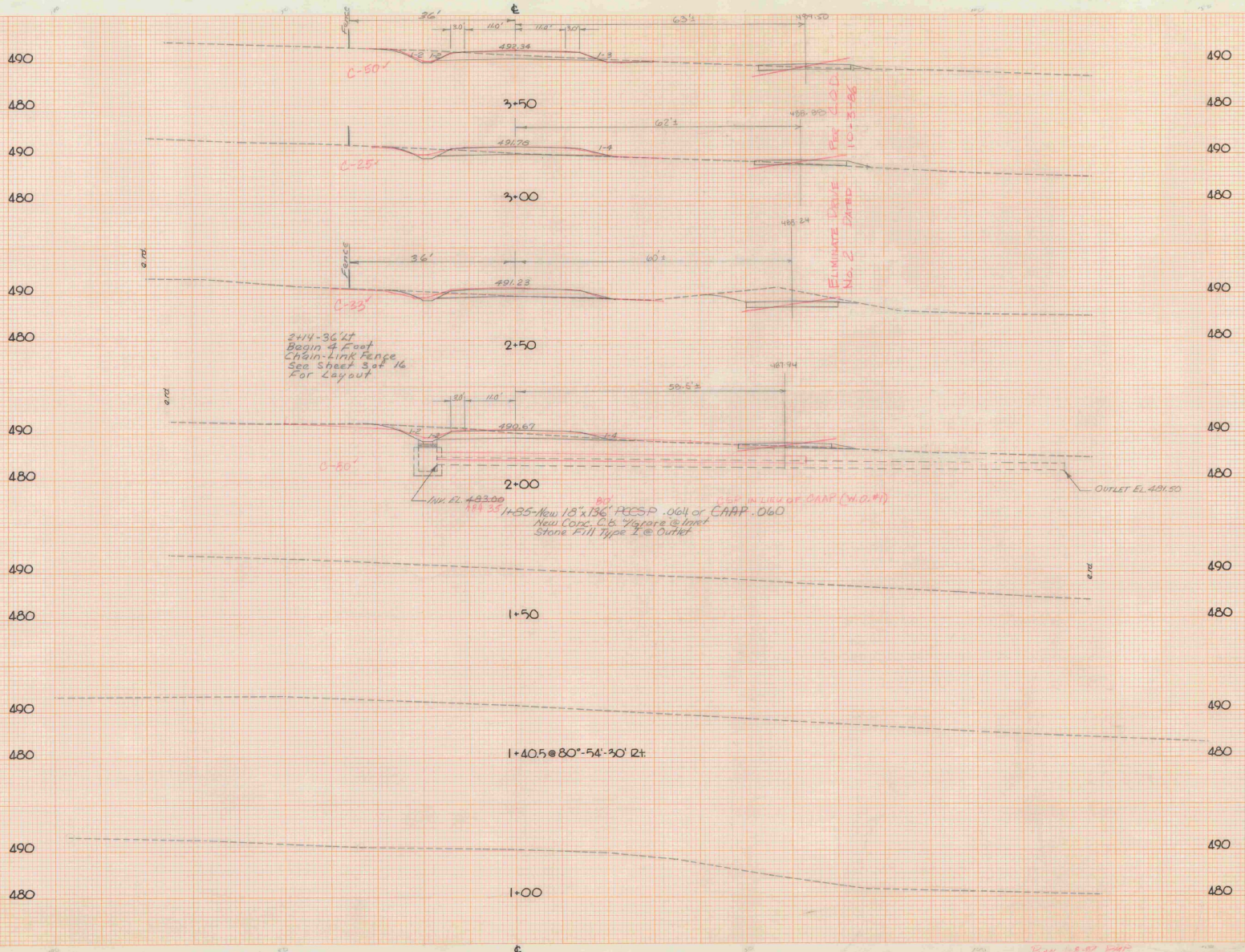
Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150

STATE OF VERMONT No. 3109 REGISTERED PROFESSIONAL ENGINEER

PLAN SURVEYED DRAWN TRACED NOTE BOOK CHECKED No. BY OF WHOM CHECKED

PROFILE SURVEYED DRAWN TRACED CHECKED NOTE BOOK CHECKED No. REMARKS AND/OR LOCATIONS CHECKED

HIGHWAY FEDERAL AID SHEET
PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
W. HELDEN
PRINTED IN U.S.A.



2+14-36' Lt
Begin 4 Foot
Chain-Link Fence
See Sheet 3 of 16
For Layout

1+85-New 18"x136' RCCSP .064 or CAAP .060
New Conc. C.B. w/grate @ Inlet
Stone Fill Type I @ Outlet

ELIMINATE CABLE
NO. 2 DATED

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 _____

Note: For Beginning of Access Road and Drive Stationing See Sheet 3 of 16

STATE OF VERMONT
PETER M. FRANCIS
No. 3136
REGISTERED
PROFESSIONAL ENGINEER

MIDDLEBURY STATE AIRPORT

STA. 1+00 TO STA. 3+50

TOWN MIDDLEBURY, VT.

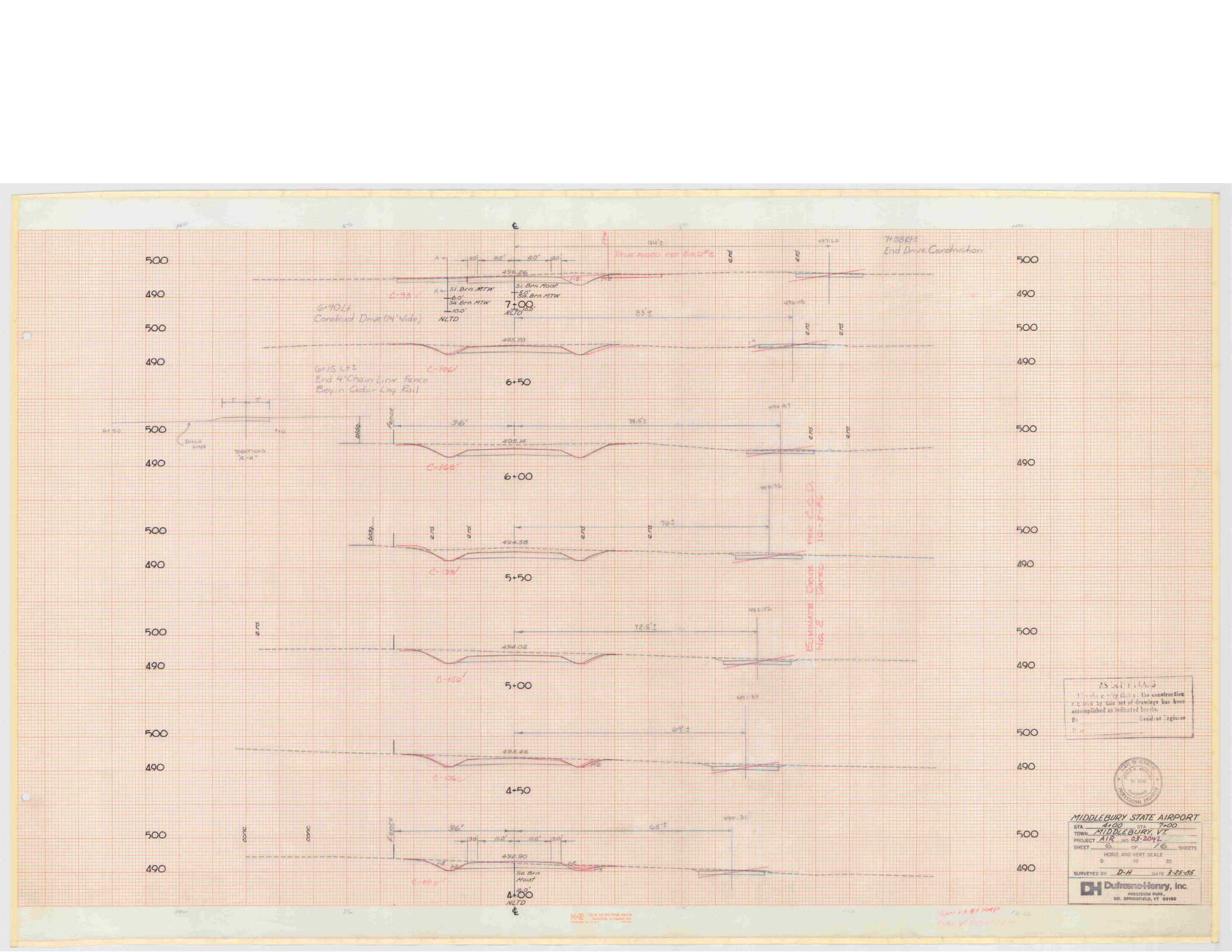
PROJECT AIP NO. 03-2042

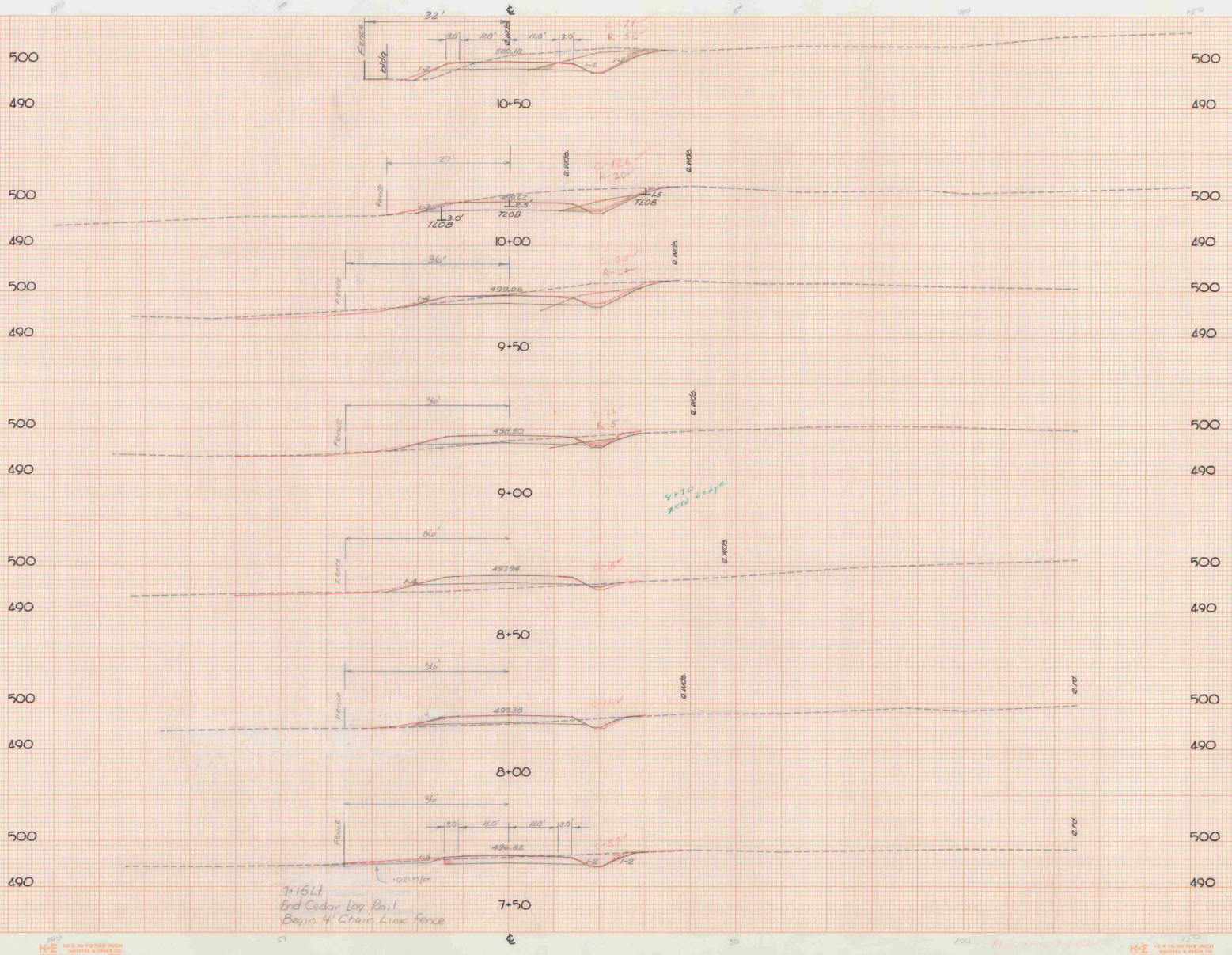
SHEET 5 OF 16 SHEETS

HORIZ. AND VERT. SCALE
0 10 20

SURVEYED BY: D-H. DATE 3-25-85

Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150


7+38 Rt ±
End Drive Construction
7+00
NLTD
Sl. Brn. MTW
Sa. Brn. MTW
Sl. Brn. Moist
Sa. Brn. MTW
496.26
496.03
495.70
6+90 Lt
Construct Drive (14' Wide)
6+15 Lt ±
End 4' Chain Link Fence
Begin Cedar Log Rail
6+50
495.14
6+00
494.58
5+50
494.02
5+00
493.46
4+50
492.90
4+00
NLTD
Sa. Brn. Moist
Ditch Line
Section "A-A"
Fence
ELIMINATE DRIVE PER C.A.O. 10-2-86 DATED
AS BUILT DATA
I hereby certify that the construction as shown by this set of drawings has been accomplished as indicated herein.
By: Resident Engineer
Title:
MIDDLEBURY STATE AIRPORT
STA. 4+00 TO 7+00
TOWN MIDDLEBURY, VT.
PROJECT AIR NO. 03-2042
SHEET 6 OF 16 SHEETS
HORIZ. AND VERT. SCALE
0 10 20
SURVEYED BY: D-H DATE 3-25-85
Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150



AS BUILT PLANS

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

By _____ Resident Engineer

Date _____

STATE OF VERMONT — PETER B. KEENAN — No. 3103 — REGISTERED PROFESSIONAL ENGINEER

MIDDLEBURY STATE AIRPORT

STA. 7+50 TO 10+50

TOWN MIDDLEBURY, VT.

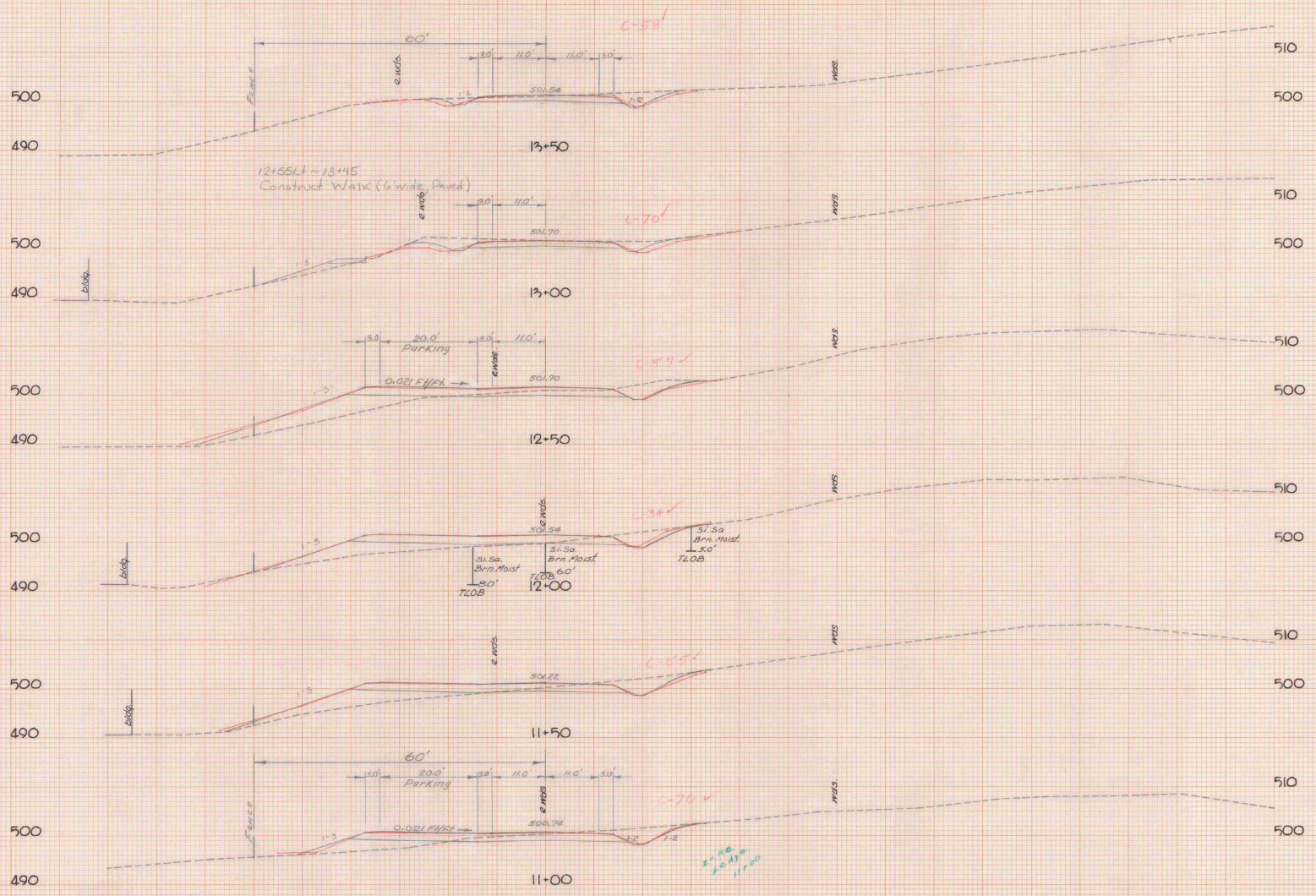
PROJECT AIR NO. 03-2042

SHEET 7 OF 62 SHEETS

HORZ. AND VERT. SCALE 0 10 20

SURVEYED BY: D-H DATE 3-25-85

Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150



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 _____

STATE OF VERMONT
TODD N. BROWN
No. 3105
REGISTERED
PROFESSIONAL ENGINEER

MIDDLEBURY STATE AIRPORT

STA. 11+00 STA. 13+50

TOWN MIDDLEBURY, VT.

PROJECT AIR NO. 03-2042

SHEET 8 OF 16 SHEETS

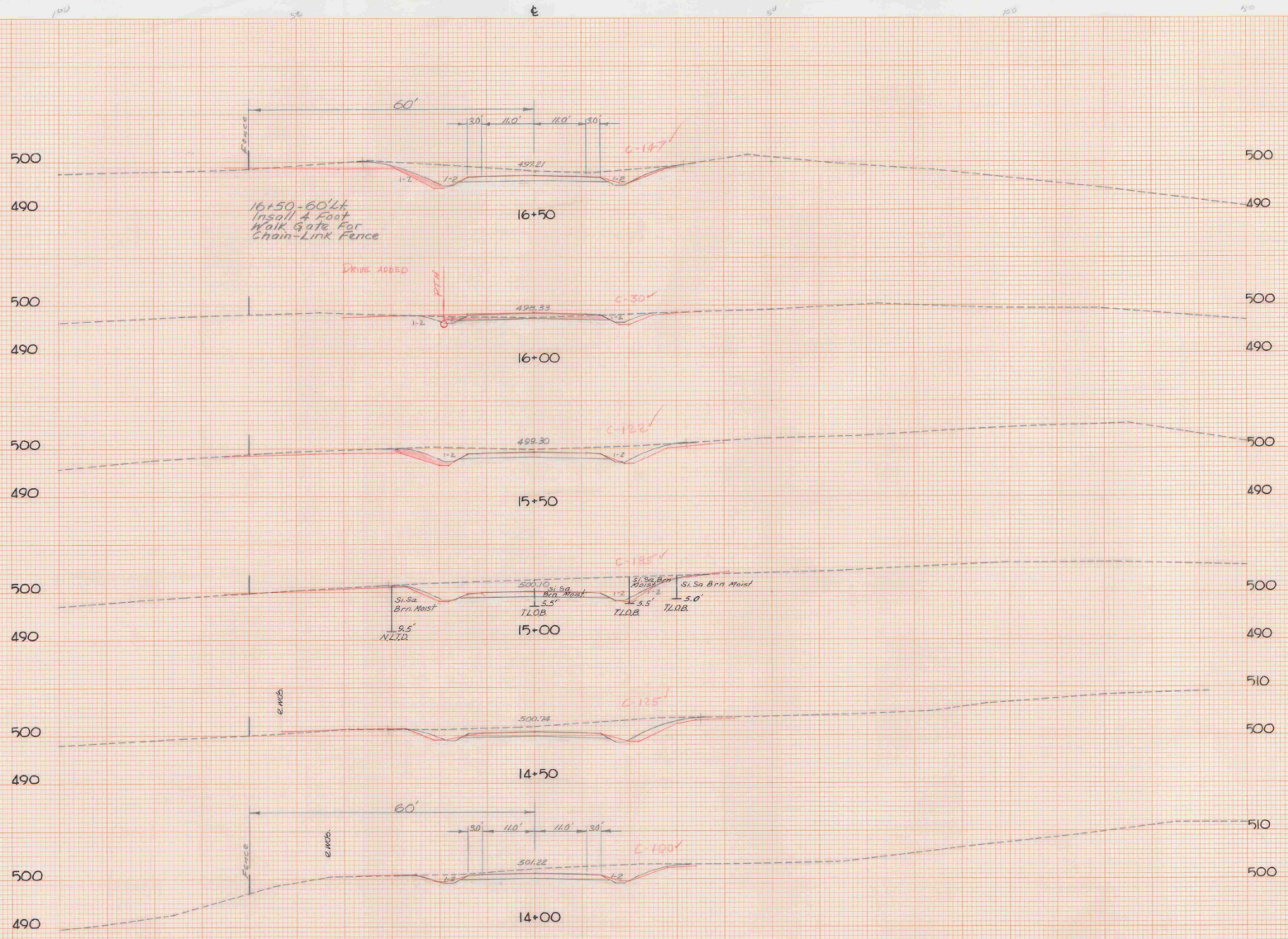
HORIZ. AND VERT. SCALE

0 10 20

SURVEYED BY: D-H DATE 3-25-85

DH Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150

H+E 10 X 10 TO THE INCH
KEUFFEL & ESSER CO.
PRINTED IN U.S.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 _____

STATE OF VERMONT
PETER S. DUFRESNE
No. 3109
REGISTERED
PROFESSIONAL ENGINEER

MIDDLEBURY STATE AIRPORT

STA. 14+00 to 16+50

TOWN MIDDLEBURY, VT.

PROJECT AIR NO 03-2042

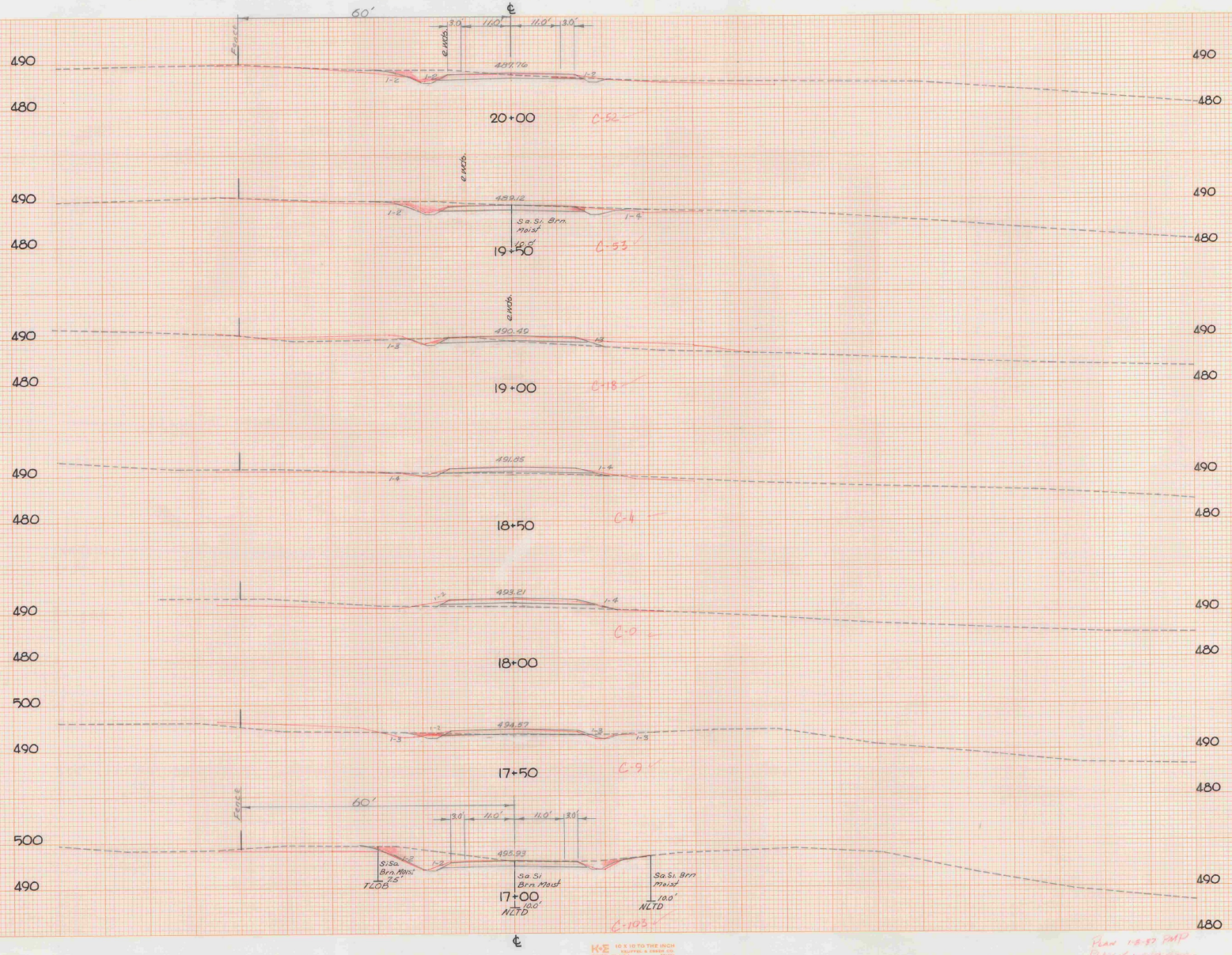
SHEET 9 OF 16 SHEETS

HORIZ. AND VERT. SCALE

0 10 20

SURVEYED BY: D-H DATE 3-25-85

Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150



AS-BUILT PLANS

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

By _____ Resident Engineer

Date _____

STATE OF VERMONT PETER A. MARTIN No. 3109 REGISTERED PROFESSIONAL ENGINEER

MIDDLEBURY STATE AIRPORT

STA. 17+00 STA. 20+00

TOWN MIDDLEBURY, VT

PROJECT AIR NO 03-2042(

SHEET 10 OF 16 SHEETS

HORIZ. AND VERT. SCALE

0 10 20

SURVEYED BY: D-H. DATE 3-25-85

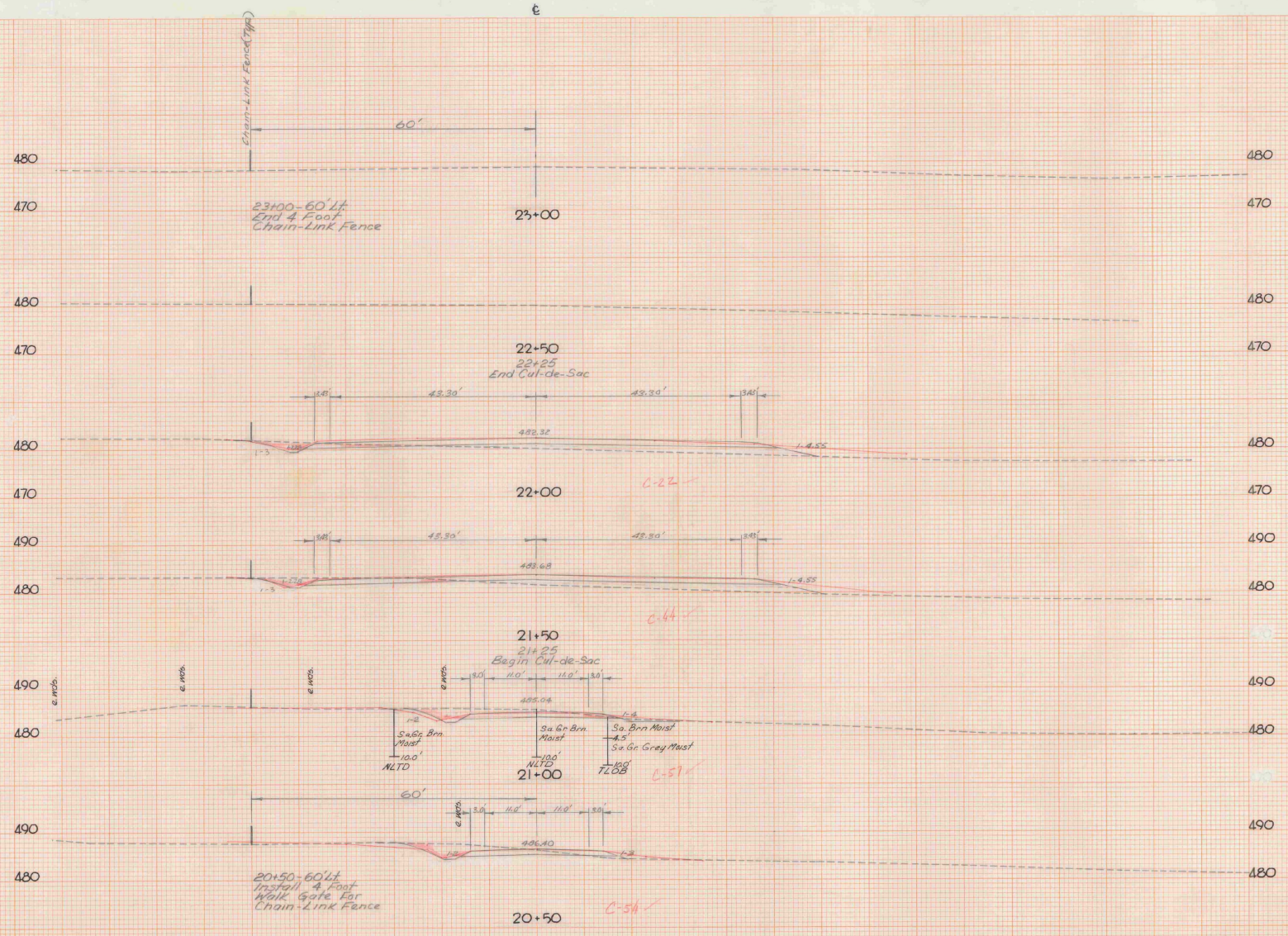
Dufresne-Henry, Inc.

PRECISION PARK,

NO. SPRINGFIELD, VT 05150

K+E 10 X 10 TO THE INCH KEUFFEL & ESSER CO. MADE IN U.S.A.

PLAN 1-8-87 PMP



AS BUILT PLANS

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

By: _____ President Engineer

Date: _____

STATE OF VERMONT
No. 3109
REGISTERED PROFESSIONAL ENGINEER

MIDDLEBURY STATE AIRPORT

STA. 20+50 STA. 23+00

TOWN MIDDLEBURY, VT.

PROJECT AIR NO. 03-2042

SHEET 11 OF 16 SHEETS

HORIZ. AND VERT. SCALE

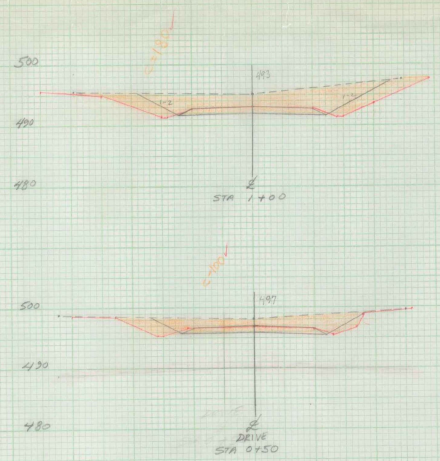
0 10 20

SURVEYED BY: D-H DATE 3-25-85

Dufresne-Henry, Inc.
PRECISION PARK,
NO. SPRINGFIELD, VT 05150

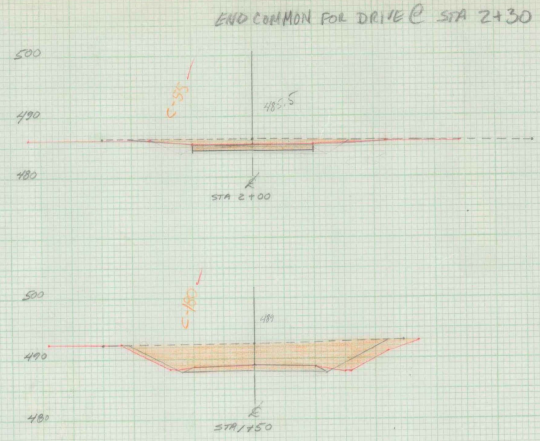
K-E 10 X 10 TO THE INCH KEUFFEL & ESSER CO. PRINTED IN U.S.A.

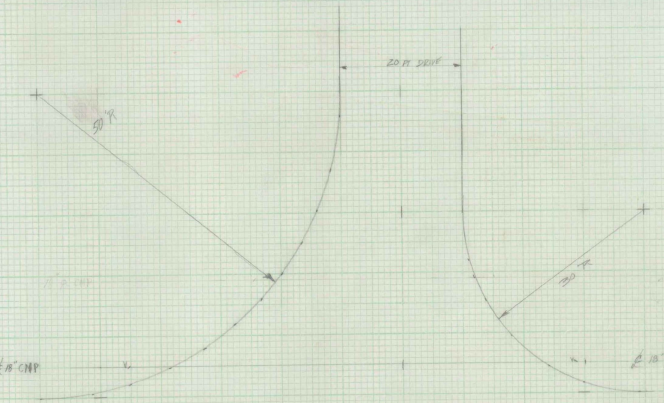
K-E 10 X 10 TO THE INCH KEUFFEL & ESSER CO. PRINTED IN U.S.A.



BEGIN COMMON FOR DRIVE @ STA 0+19
SEE DRAINAGE SHEET # FOR AREA

END COMMON FOR DRIVE @ STA 2+30





1-4-87 CMP

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 _____

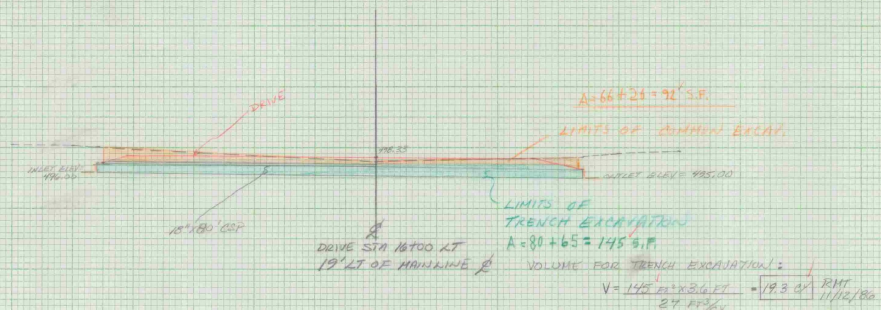
NEW DRIVE @ STA 16+00 LT.

DRAWN BY: R. TETREAULT

MIDDLEBURY STATE AIRPORT

PROJ. NO. A.I.R. 03-2042

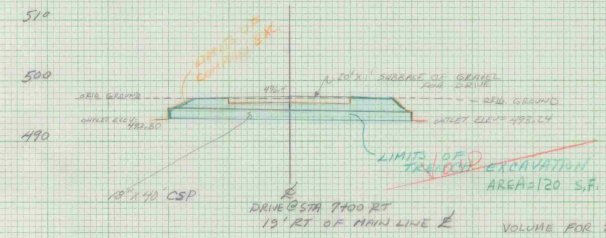
SHEET A-1



VOLUME FOR TRENCH EXCAVATION:

$V = \frac{145\ ft^2 \times 3.6\ FT}{27\ FT^3/CY} = \boxed{19.3\ CY}$ RMT 11/12/86

1-16-87 PMP



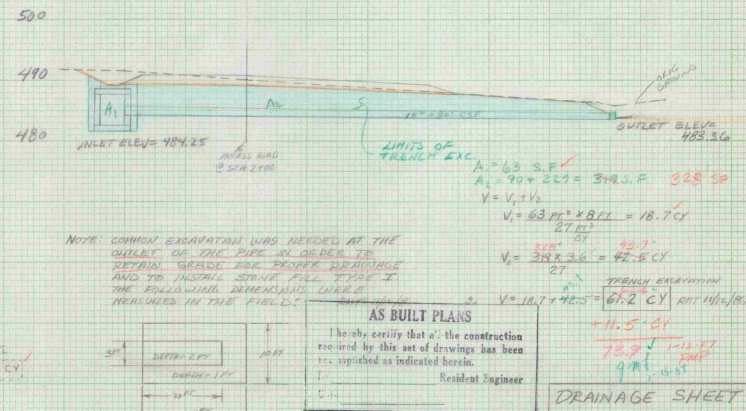
NOTE: NO TRENCH EARTH: PIPE IS IN COMMON EXCAVATION

VOLUME FOR TRENCH EXCAVATION:

$V = \frac{120\ FT^2 \times 3.6\ FT}{27\ FT^3/CY} = \boxed{16\ CY}$ RMT 11/12/86

STONE FILL, TYPE I

VOLUME = $\frac{15 \times 20 \times 1}{27} = 11.2\ CY$



$A_1 = 6.3\ S.F.$ ✓

$A_2 = 70 + 269 = 339\ S.F.$ 328 S.F.

$V = V_1 + V_2$

$V_1 = \frac{63\ ft^2 \times 8\ FT}{27\ ft^3} = 18.7\ CY$ ✓

$V_2 = \frac{328 \times 3.6}{27} = 42.5\ CY$ 42.7

NOTE: COMMON EXCAVATION WAS NEEDED AT THE OUTLET OF THE PIPE IN ORDER TO OBTAIN GRADE FOR PROPER DRAINAGE AND TO INSTALL STONE FILL TYPE I. THE FOLLOWING DIMENSIONS WERE MEASURED IN THE FIELD:

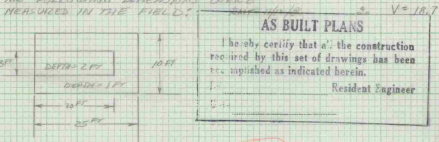
$V = 18.7 + 42.5 = \boxed{61.2\ CY}$ RMT 11/12/86

TRENCH EXCAVATION

+11.5 CY

72.7 CY

9 FT. 15 FT.



AS BUILT PLANS

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

Resident Engineer

Date

VOLUME = $\frac{(25 \times 10 \times 1) + (3 \times 20 \times 1)}{27} = \boxed{11.5\ CY}$ RMT 11/12/86

DRIVE EXCAV.

FOR NOTE THIS SHOULD BE TRENCH EARTH 1-16-87 PMP

DRAINAGE SHEET - 1

DRAWN BY - R TETREAULT

MIDDLEBURY ST. AIRPORT

PROJ. # 03-2072

SHEET - D-1