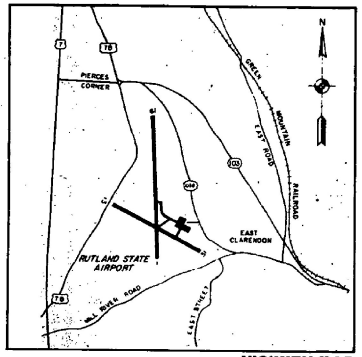
PLANS FOR

AIRPORT IMPROVEMENTS

TO INCLUDE: (1) RECONSTRUCT/REHABILITATE, MARK, AND LIGHT RUNWAY 13-31 (75' X 3260') (2) INSTALL REILS AND PAPI ON RUNWAY 13



LOCATION MAP



VICINITY MAP

Date NOV 6 1987

J. A. McDonald, Inc.
Contractor

James McDonald
Signature

President
Title

ACTING Walter B. Lovett
Transportation Secretary's Signature

CONTRACT PLANS

THESE PLANS DO NOT REFLECT CHANGES MADE ON THE PROJECT.

RUTLAND STATE AIRPORT
CLARENDON, VERMONT

A.I.P. PROJECT NO. 3-50-0015-04

A.I.R. 03-2043

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	PLAN & PROFILE-STA. 8+50 TO STA. 22+00
4	PLAN & PROFILE -STA. 22+00 TO STA. 33+50
5,5A	PLAN & PROFILE-STA. 33+50 TO STA. 45+00
6	TYPICAL SECTIONS
7	LIGHTING PLAN
8	ELECTRICAL DETAILS
9	VAULT LAYOUT
10	DRAINAGE DETAILS
11	MARKING DIAGRAM
12	APPROACH AIDS
13	CROSS SECTIONS STA. -0+50 TO STA. 12+00
14	CROSS SECTIONS STA. -12+50 TO STA. 15+00
15	CROSS SECTIONS STA. -15+50 TO STA 18+50
16	CROSS SECTIONS STA. -19+00 TO STA. 22+00
17	CROSS SECTIONS STA. -22+50 TO STA. 25+00
18	CROSS SECTION STA. -25+50 TO STA. 28+50
19	CROSS SECTIONS STA. - 29+00 TO STA. 31+50
20	CROSS SECTIONS STA. - 32+00 TO STA. 34+50
21	CROSS SECTION STA. - 35+00 TO STA. 37+50
22	CROSS SECTIONS STA. - 38+00 TO STA. 40+50
23	CROSS SECTIONS STA. - 41+00 TO STA. 43+00
24	CROSS SECTIONS STA. - 43+50 TO STA. 45+00
25-28	CROSS SECTIONS- STA. 45+50 TO STA. 50+00
29	PROFILE
30	EARTHWORK SHEET
D-6	VT. STANDARDS REINFORCED CONCRETE DROP INLET WITH GRATE (4/73R)
D-11	VT. STANDARDS CAST IRON GRATE AND COVER (8-81R)

ITEM NO.	DESCRIPTION	QUANTITY
201.10	Clearing and Grubbing	Lump Sum
203.26	Excavation of Surfaces and Pavements	3,100 c.y.
203.17	Unclassified Excavation	11,162 c.y.
203.30	Earth Borrow	3,615 c.y.
203.32	Granular Borrow	11,120 c.y.
203.40	Fine Grading Subgrade	19,080 s.y.
204.20	Trench Excavation, Earth	3,360 c.y.
204.21	Trench Excavation, Rock	332 c.y.
404.55	Cutback Asphalt	91 cwt.
501.25	Concrete, Class B	2.1 c.y.
507.15	Reinforcing steel	193.lbs.
601.0626	24" dia. CSP (0.79")	160 l.f.
	BEGIN OPTION ITEMS	
601.0225	24" CAAP .060	380 l.f.
601.0425	24" PCCSP .064	380 l.f.
601.0825	24" RCP Cl. III	380 l.f.
	END OPTION ITEMS	
604.40	Changing Elevations of Drop Inlets	20 each
604.45	Cast Iron Grate w/Frame Type A	1 each
605.10	6" dia. Underdrain	2,250 l.f.
605.20	6" dia. Carrier Pipe	200 l.f.
605.95	Underdrain Flushing Basins	10 each
608.25	All Purpose Excavator Rental T.I.	24 hours
613.10	Stone Fill I	5 c.y.
613.11	Stone Fill, Type II	115 c.y.
631.10	Engineer's Field Office	Lump Sum
635.10	Mobilization	Lump Sum
651.15	Seed	565 lbs.
651.18	Fertilizer	4715 lb.
651.20	Agricultural Limestone	19 tons
651.25	Hay Mulch	19 tons
651.35	Topsoil	2205 c.y.

ITEM NO.	DESCRIPTION	QUANTITY
864.01	Cold Mixed Recycled Base Course	6820 c.y.
864.02	Bituminous Concrete Pavement (P-401)	4,400 tons
864.03	Runway and Taxiway Painting	11,010 s.f.
864.04	Cable Trench (L-108)	7,800 l.f.
864.05	1/c #8 L-824 'c' SEV (L-108)	17,600 l.f.
864.06	#8 Bare Counterpoise (L-108)	8,800 l.f.
864.07	Installation of Airport Transformer Vault Equipment (L-109)	Lump Sum
864.08	2 Way x 4" dia., Duct (L-110)	497 l.f.
864.09	4 Way x 4" dia., Duct (L-110)	61 l.f.
864.10	Medium Intensity Runway Lights, Base Mounted (L-125)	46 each
864.11	Medium Intensity Taxiway Lights, Base Mounted (L-125)	8 each
864.12	Precision Approach Path Indicator, (PAPI) Style A Class 2 (L-881)	1 each
864.13	Runway End Identifier Lights, REILS (L-125)	1 each
864.14	Taxiway Guidance Sign, 5 Panel, Size 1, Style 2, Class 2 (L-125)	2 each

QUANTITIES

JULY-1985

REVISED BY VAOT
MAY 1987

VERMONT AGENCY OF TRANSPORTATION

APPROVED Frank E. Ward July 23 1985
DIRECTOR OF ENGINEERING AND CONSTRUCTION

DATE

FEDERAL AVIATION ADMINISTRATION

APPROVED
CHIEF, AIRPORT ENGINEERING AND SAFETY BRANCH

DATE

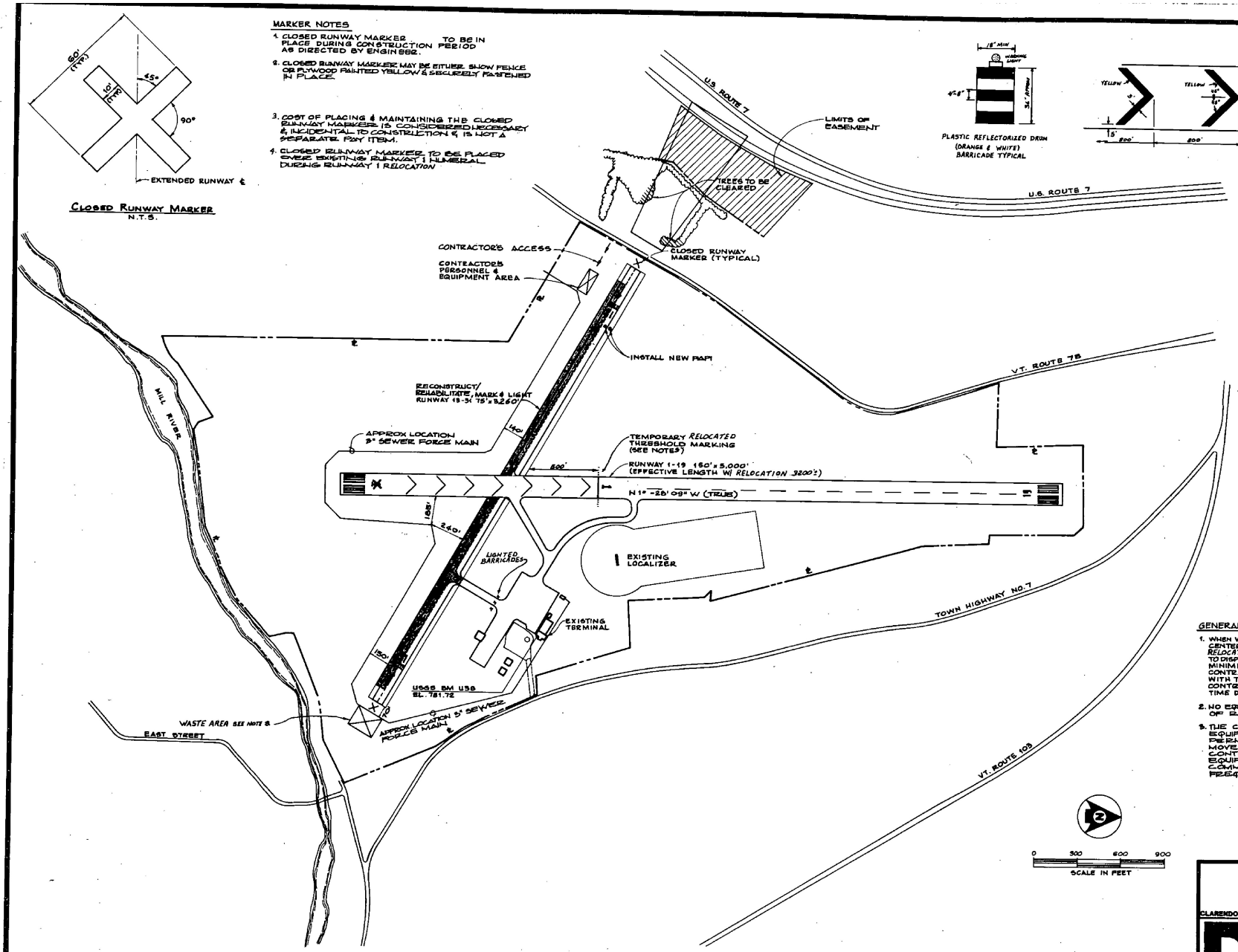
STATE OF VERMONT — DONALD W. EVANS — No. 3873 — REGISTERED PROFESSIONAL ENGINEER

Consulting Engineers

Dufresne-Henry

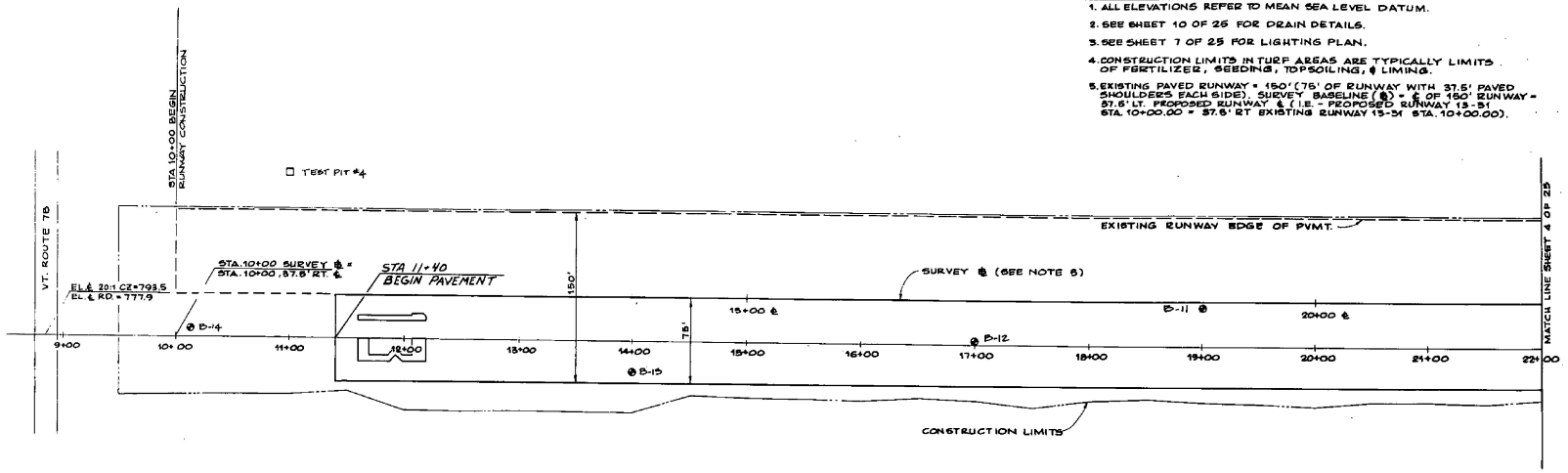
Dufresne-Henry, Inc. certifies that the plans and specifications for the project were prepared in accordance with criteria contained in the current edition of F.A.A. Advisory Circulars.

Gerald W. Dumas
for Walter B. Lovett, Jr., P.E. Director of Aviation Services

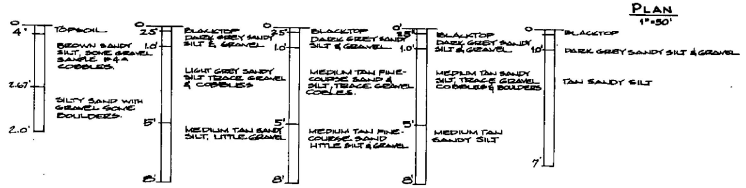

MARKER NOTES
4. CLOSED RUNWAY MARKER TO BE IN PLACE DURING CONSTRUCTION PERIOD AS DIRECTED BY ENGINEER.
2. CLOSED RUNWAY MARKER MAY BE EITHER SNOW FENCE OR PLYWOOD PAINTED YELLOW & SECURELY FASTENED IN PLACE.
3. COST OF PLACING & MAINTAINING THE CLOSED RUNWAY MARKERS IS CONSIDERED NECESSARY & INCIDENTAL TO CONSTRUCTION & IS NOT A SEPARATE PAY ITEM.
4. CLOSED RUNWAY MARKERS TO BE PLACED OVER EXISTING RUNWAY 1 NUMERAL DURING RUNWAY 1 RELOCATION
60' (TYP.)
45°
10' MIN.
90°
EXTENDED RUNWAY ℄
CLOSED RUNWAY MARKER
N.T.S.
18" MIN
WARNING LIGHT
4'-8"
34" APPROX
PLASTIC REFLECTORIZED DRUM (ORANGE & WHITE) BARRICADE TYPICAL
YELLOW
WHITE
5'
800'
90'
180° GREEN (TYP.)
180° RED (TYP.)
TEMPORARY RELOCATED THRESHOLD DETAIL
N.T.S.
NOTES:
1. EIGHT TEMPORARY THRESHOLD LIGHTS ARE TO BE INSTALLED AS SHOWN.
2. EACH LIGHT TO BE BATTERY OPERATED, STEADY BURNING W/ 180° RED/180° GREEN LENS AS MANUF. BY WHELAN ENGINEERING (DEEP RIVER, CT.) OR EQUAL.
3. THE CONTRACTOR SHALL FURNISH ALL BATTERIES TO BE USED DURING THE CONSTRUCTION PERIOD.
4. THE CARE & MAINTENANCE OF THE TEMPORARY LIGHTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE MAINTENANCE DIVISION OF THE VAOT SHALL OBTAIN POSSESSION OF THE LIGHTS AFTER COMPLETION OF CONSTRUCTION.
6. THE COST OF THE TEMPORARY LIGHTS & BATTERIES IS NOT INCLUDED AS A SEPARATE PAY ITEM. THIS WORK IS NECESSARY & INCIDENTAL TO THE COST OF THE PROJECT.
7. CONTRACTOR MAY AT HIS OPTION, INSTALL A MEDIUM INTENSITY THRESHOLD LIGHTS CONFORMING TO FAA SPEC L-861E IN LIEU OF BATTERY OPERATED LIGHTS.
8. WASTE AREA TO BE GRADED, TOPSOILED, SEEDED & MULCHED AS ORDERED BY THE ENGINEER. THE USE OF THIS WASTE AREA WILL REQUIRE THAT A 24"ø PIPE (.079 THICKNESS) ITEM 604.1825 BE PLACED IN THE EXISTING DRAINAGE SWALE, AS ORDERED BY THE ENGINEER.
9. ALL MARKINGS IN THE RELOCATED THRESHOLD AREA ARE YELLOW EXCEPT THE THRESHOLD BAR WHICH IS WHITE.
U.S. ROUTE 7
LIMITS OF EASEMENT
TREES TO BE CLEARED
CLOSED RUNWAY MARKER (TYPICAL)
CONTRACTOR'S ACCESS
CONTRACTOR'S PERSONNEL & EQUIPMENT AREA
INSTALL NEW PAPI
RECONSTRUCT/ REHABILITATE, MARK & LIGHT RUNWAY 19-34 75'x3,260'
APPROX LOCATION 8" SEWER FORCE MAIN
TEMPORARY RELOCATED THRESHOLD MARKING (SEE NOTES)
RUNWAY 1-19 150'x5,000' (EFFECTIVE LENGTH W/ RELOCATION 3200')
N 1° -28' 09" W (TRUE)
800'
1000'
240'
150'
LIGHTED BARRICADES
EXISTING LOCALIZER
EXISTING TERMINAL
USGS BM #138 EL. 781.72
APPROX LOCATION 8" SEWER FORCE MAIN
WASTE AREA SEE NOTE 8
EAST STREET
MILL RIVER
VT. ROUTE 7B
TOWN HIGHWAY NO. 7
VT. ROUTE 103
0 300 600 900
SCALE IN FEET
GENERAL NOTES:
1. WHEN WORKING WITHIN 200' OF RUNWAY 1-19 CENTERLINE, THE RUNWAY 1 THRESHOLD MUST BE RELOCATED. CONTRACTOR WILL ONLY BE ALLOWED TO DISPLACE THRESHOLD FOR 7 DAYS (MAXIMUM) TO MINIMIZE THE IMPACT TO SCHEDULED SERVICE. THE CONTRACTOR WILL COORDINATE THIS RELOCATION WITH THE AIRPORT MANAGER AND INSPECTOR. THE CONTRACTOR MAY RELOCATE THE THRESHOLD ONE TIME DURING THIS CONTRACT.
2. NO EQUIPMENT SHALL BE PARKED WITHIN 250' OF R/W 1-19 DURING NON-WORKING HOURS.
3. THE CONTRACTOR WILL NOT BE ALLOWED TO MOVE EQUIPMENT ACROSS RUNWAY 1-19 WITHOUT THE PERMISSION OF THE ENGINEER. IN ORDER TO MOVE EQUIPMENT ACROSS THIS RUNWAY THE CONTRACTOR WILL HAVE TO PROVIDE A FLAGMAN, EQUIPPED WITH A RADIO CAPABLE OF COMMUNICATING WITH AIRCRAFT ON UNICOM FREQUENCY OF 122.8 MHZ.
A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
SITE PLAN
CLARENDON, VERMONT
Rev. Description By Date
DuBreuil-Henry Inc.
Client No. 80-0162
Proj. Manager G.W. D'AMICO
Proj. Designer E.E. DAWES
Drawn By C.W. MILLS
Checked By G.W. D'AMICO
Scale AS SHOWN
Approved
Date
STATE OF VERMONT DONALD W. D'AMICO No. 3813 REGISTERED PROFESSIONAL ENGINEER
Sheet 2 of 30
D

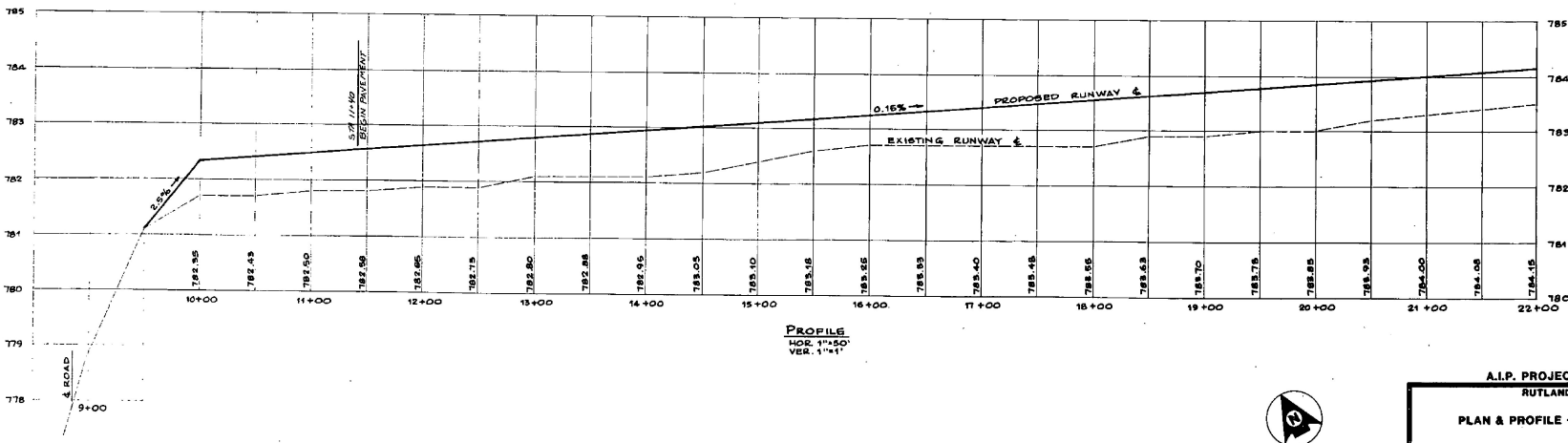
PLAN & PROFILE NOTES:

1. ALL ELEVATIONS REFER TO MEAN SEA LEVEL DATUM.
2. SEE SHEET 10 OF 25 FOR DRAIN DETAILS.
3. SEE SHEET 7 OF 25 FOR LIGHTING PLAN.
4. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF FERTILIZER, SEEDING, TOPSOILING, & LIMING.
5. EXISTING PAVED RUNWAY = 150' (75' OF RUNWAY WITH 37.5' PAVED SHOULDERS EACH SIDE). SURVEY BASELINE (℄) = ℄ OF 150' RUNWAY = 37.6' LT. PROPOSED RUNWAY ℄ (I.E. - PROPOSED RUNWAY 15-51 STA. 10+00.00 = 37.6' RT EXISTING RUNWAY 15-51 STA. 10+00.00).



PLAN
1"=50'





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

0 50 100 150
SCALE IN FEET

Rev.	Description	By	Date

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

PLAN & PROFILE - STA. 8+50 TO STA. 22+00

CLARENDON, VERMONT

Dufresne-Henry Inc.

Client No.	90-0152
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAVIES
Drawn By	C.W. SELLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

STATE OF VERMONT — GERALD W. D'AMICO — No. 3073 — REGISTERED PROFESSIONAL ENGINEER

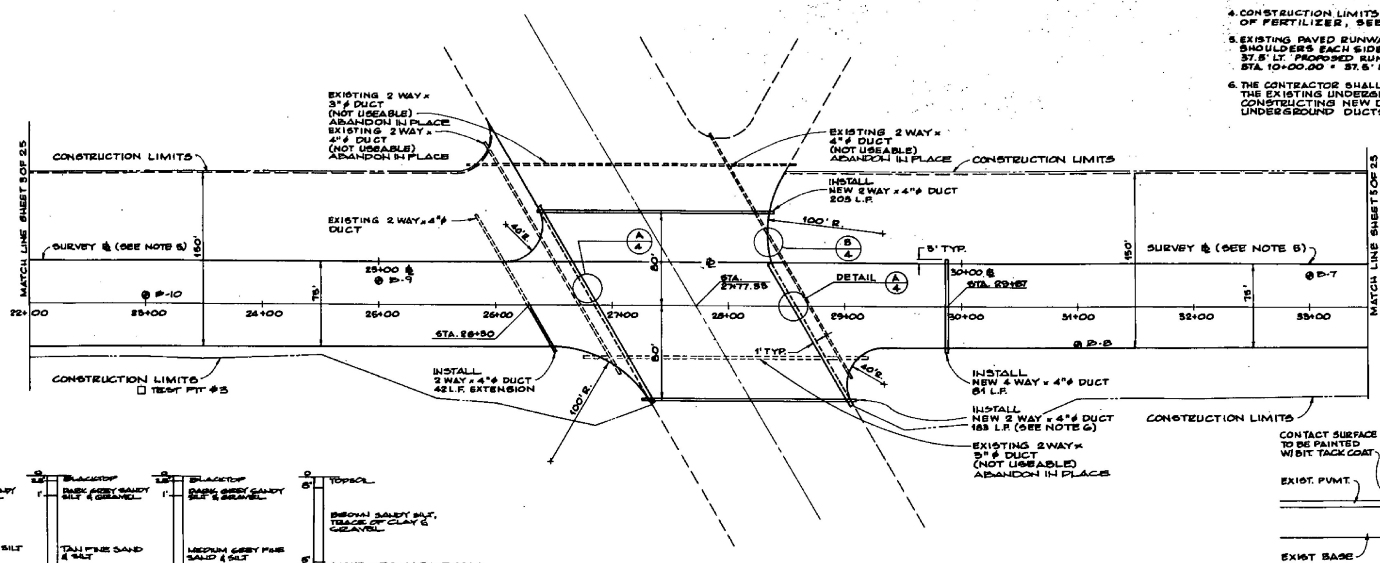
Sheet 3 of 30

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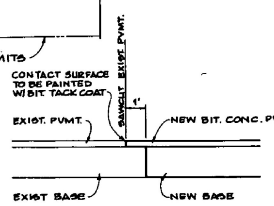
BRUNING 44-132 42337-3

PLAN & PROFILE NOTES:

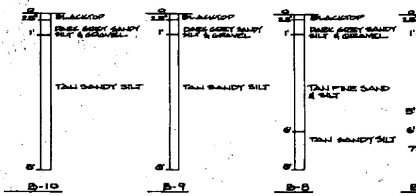
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3. SEE SHEET 7 OF 25 FOR LIGHTING PLAN.
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5. EXISTING PAVED RUNWAY = 150' (75' OF RUNWAY WITH 37.5' PAVED SHOULDERS EACH SIDE) SURVEY BASELINE (℄) = ℄ OF 150' RUNWAY = 37.5' LT. (PROPOSED RUNWAY 4 / L.B. - PROPOSED RUNWAY 15-31 STA. 10+00.00 = 37.5' RT. EXISTING RUNWAY 13-31 STA. 10+00.00).
6. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION & CONDITION OF THE EXISTING UNDERGROUND DUCTS IN THE FIELD, PRIOR TO CONSTRUCTING NEW DUCTS. THE CONSTRUCTION OF NEW UNDERGROUND DUCTS SHALL BE DETERMINED BY THE ENGINEER.
7. PAVING ON RUNWAY 15-31 TO TERMINATE @ STA. 26+59.3 AND 28+68.5 AT WHICH POINTS THE PAVEMENT WILL ABUT EXISTING PAVEMENT ON RUNWAY 1-19.

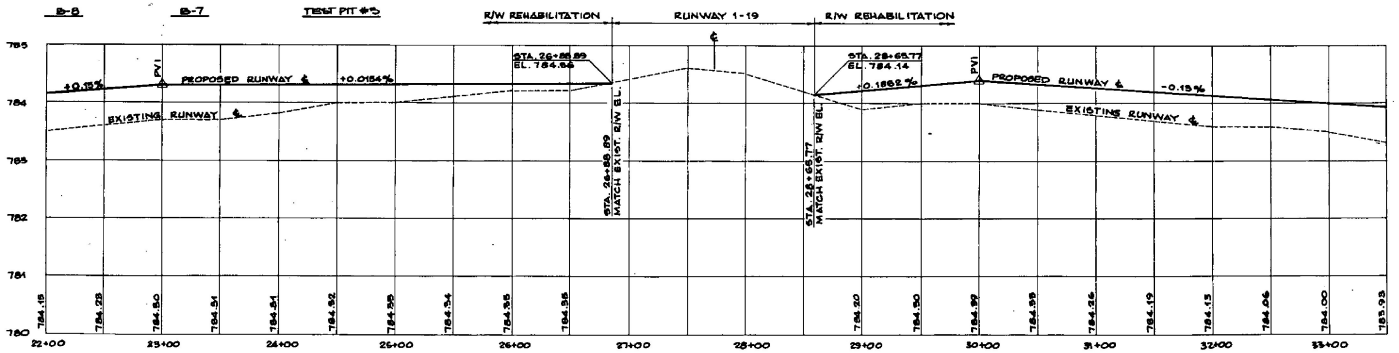


PLAN
1"=50'

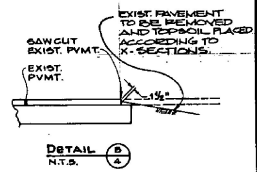


DETAIL A/4
N.T.S.





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



DETAIL B/4
N.T.S.



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

RUTLAND STATE AIRPORT

PLAN & PROFILE - STA. 22+00 TO STA. 33+50

CLARENDON

Client No.	50-0163
Proj. Manager	G.W. D'AMICO
Proj. Designer	R.B. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

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

STATE OF VERMONT — LEMUEL B. PAINE — No. 3873 — REGISTERED PROFESSIONAL ENGINEER

Sheet 4 of 30

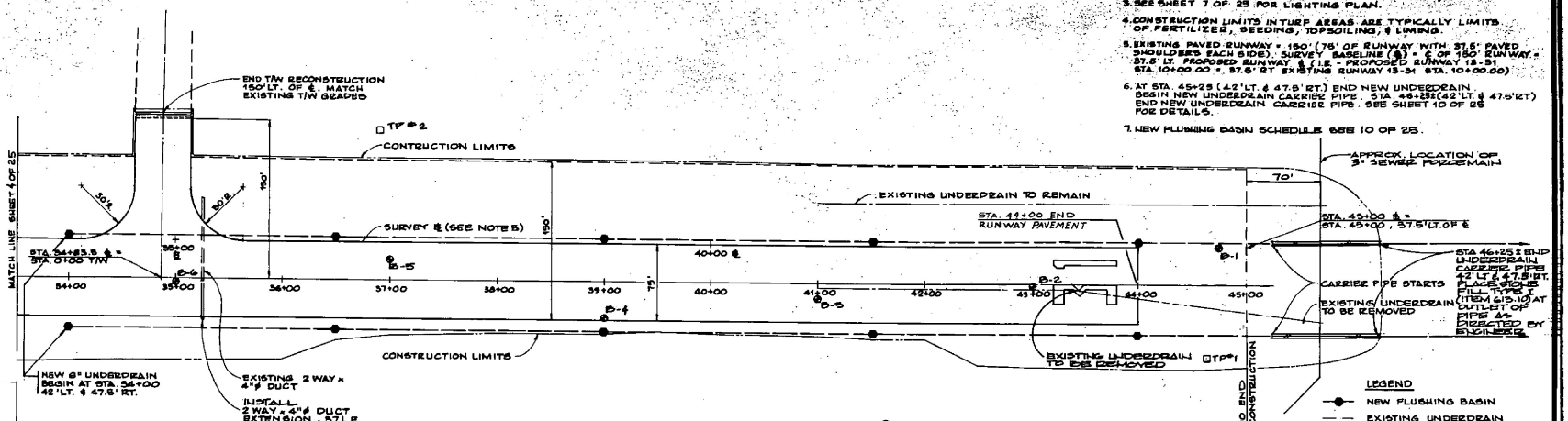
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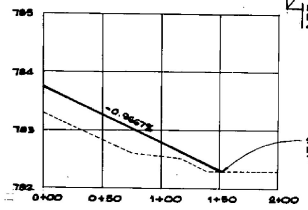
Rev.	Description	By	Date

DRAWING 44-132 45327

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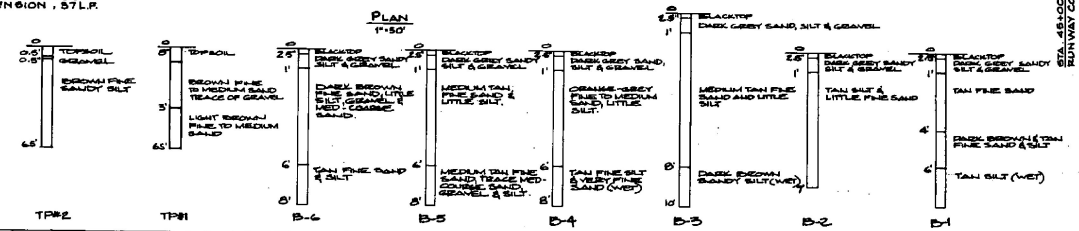
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3. SEE SHEET 7 OF 25 FOR LIGHTING PLAN.
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6. AT STA. 45+25 (42' LT. & 47.5' RT.) END NEW UNDERDRAIN. BEGIN NEW UNDERDRAIN CARRIER PIPE. STA. 46+25± (42' LT. & 47.5' RT.) END NEW UNDERDRAIN CARRIER PIPE. SEE SHEET 10 OF 25 FOR DETAILS.
7. NEW PLUSHING BASIN SCHEDULE SEE 10 OF 25.

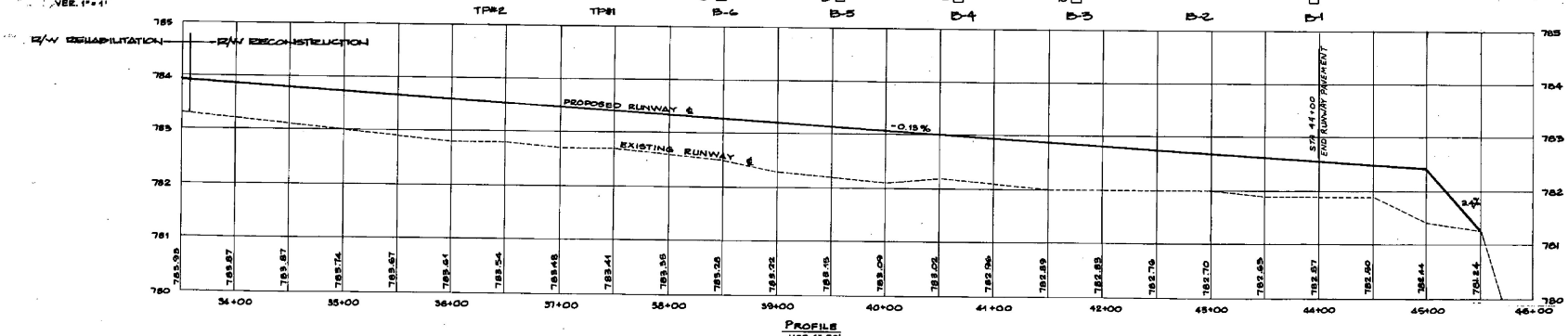




STA 1+50
TAXIWAY PROFILE
HOR. 1"=50'
VER. 1"=4'

PLAN
1"=50'





PROFILE
HOR. 1"=50'
VER. 1"=4'

0 50 100 150
SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
PLAN & PROFILE - STA. 33+50 TO STA. 45+00.

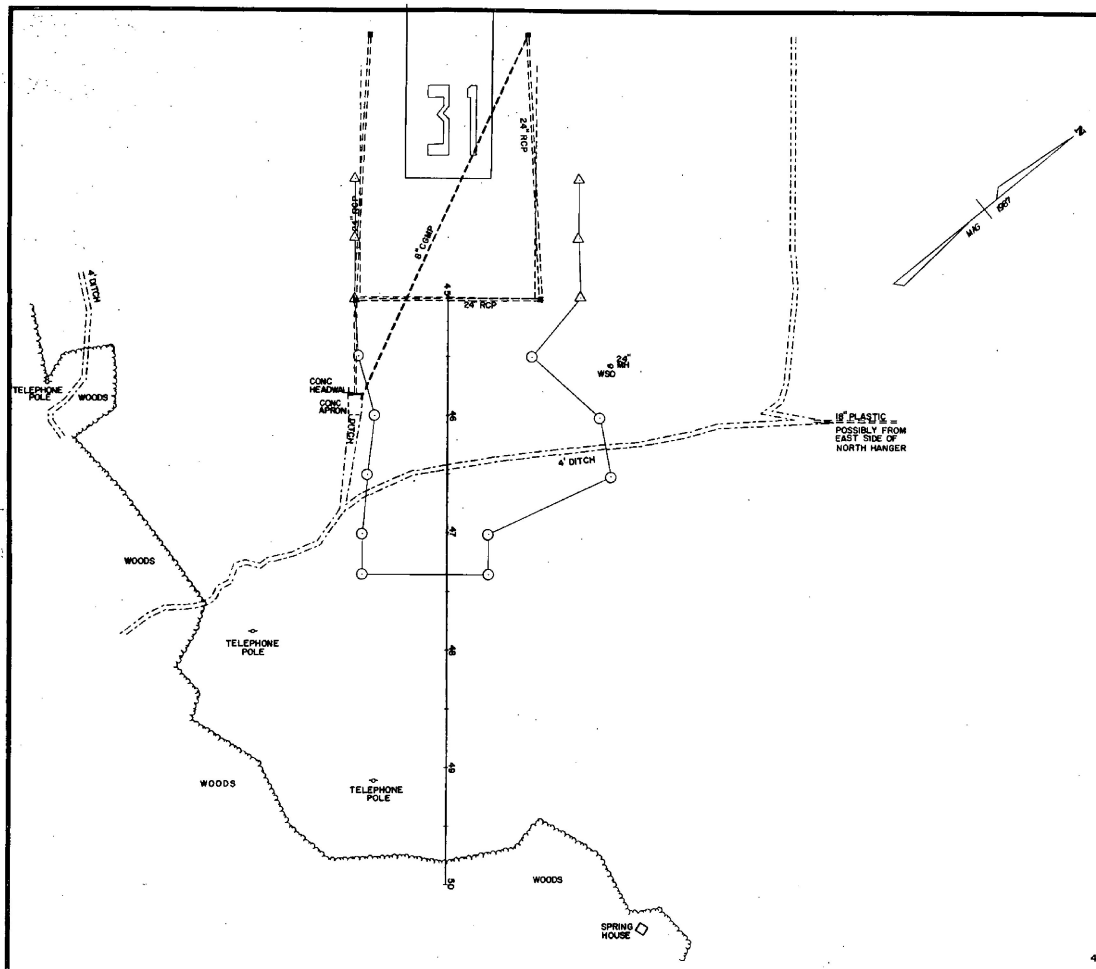
D.Dufresne Henry Inc.
GLADSTONE, VERMONT

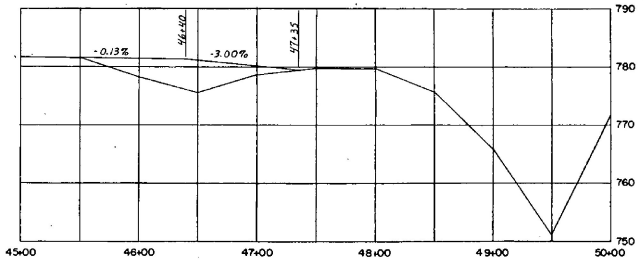
Client No.	80-0102
Proj. Manager	G.W. D'AMICO
Proj. Designer	S.A. DAVIS
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

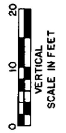
STATE OF VERMONT — DONALD W. D'AMICO — No. 3023 — REGISTERED PROFESSIONAL ENGINEER

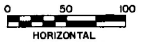
Sheet # of 30

Rev.	Description	By	Date





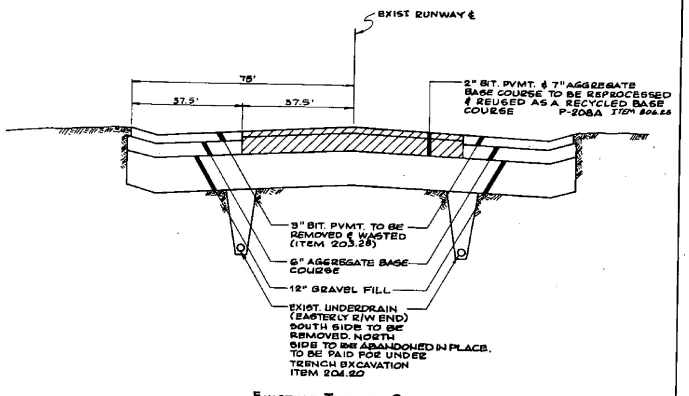




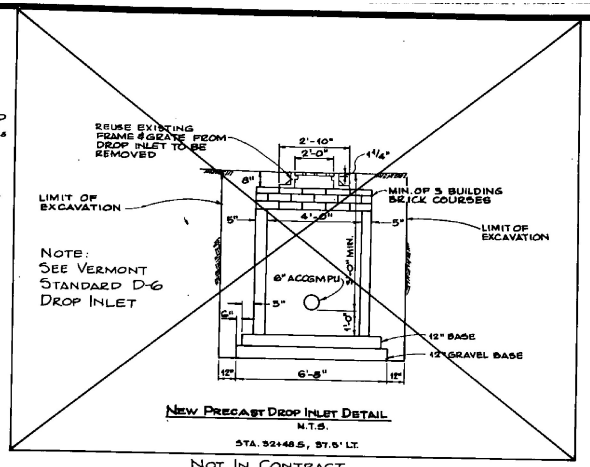
DATUM
VERTICAL
HORIZONTAL

SURVEYED BY REED DATE 6-87
DRAWN BY DAYE DATE 6-87
TRACED BY MURDOCK DATE 6-87

PROJ. AIR NO. 03-2043
SHEET 5A OF 30

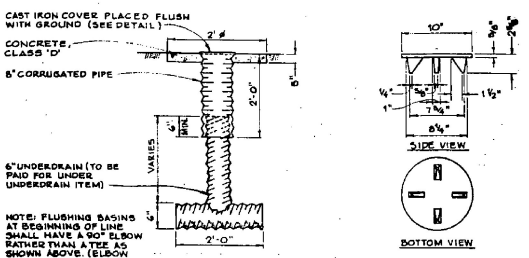


EXISTING TYPICAL SECTION
N.T.S.

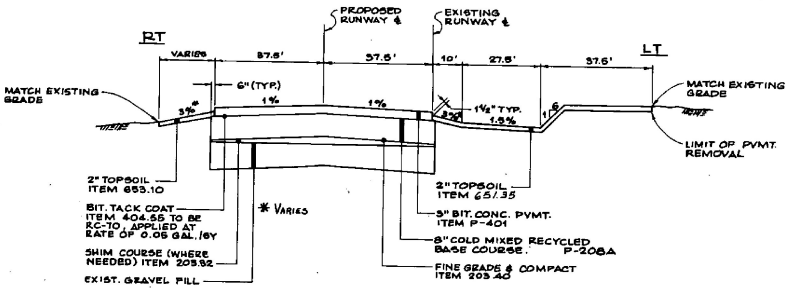


NEW PRECAST DROP INLET DETAIL
N.T.S.
STA. 32+48.5, 57.5' LT.

NOT IN CONTRACT

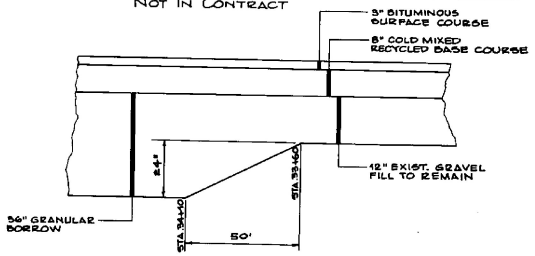


UNDERDRAIN FLUSHING BASIN
NOT TO SCALE
ITEM 605.95

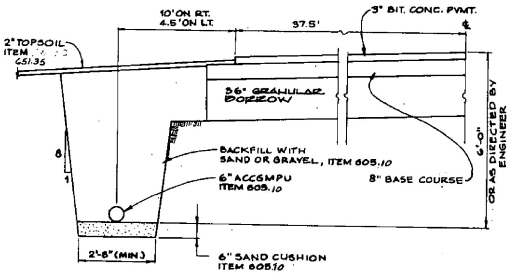


TYPICAL SECTION - STA. 11+40 TO 35+60
N.T.S.

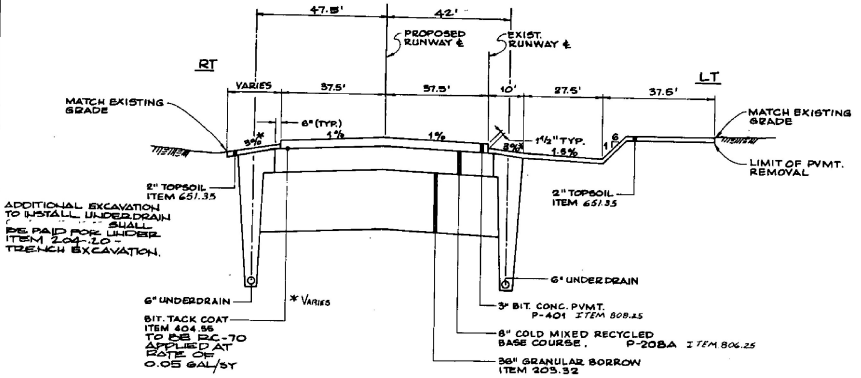
NOTE: TRANSITION SECTION FROM STATION 35+60 TO 84+10



SUBGRADE TRANSITION SECTION
N.T.S.



UNDERDRAIN DETAIL
NOT TO SCALE



TYPICAL CROSS SECTION - STA. 34+10 TO 44+00
N.T.S.

GENERAL NOTES
Seed, Item 651.16 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 651.10, as directed by the Engineer.

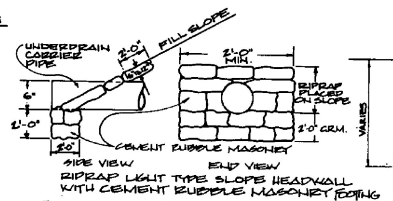
Allowable thickness tolerances

Subbase	± 1"
Controlled Material	± 1"
Pavement	± 1"
Base Course	± 1"

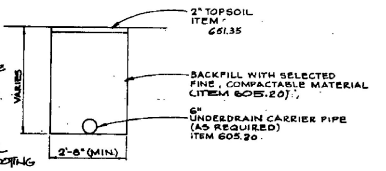
1. Sub-grade under areas to be paved to be compacted to 100% density as per FAA T-611 (AASHTO T-99).

2. Bituminous tack coat to be applied as per Item 404, Subsection 404.06, Type I first Application using RC-250.

3. Top of ~~subbase~~ GRANULAR BORROW under runway pavement to be fine graded and compacted to 100% density as per FAA T-611 (AASHTO 99).



ITEM 613.10 STONE FILL I



UNDERDRAIN CARRIER PIPE
NOT TO SCALE

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

TYPICAL SECTIONS

CLARENDON, VERMONT

Rev.	Description	By	Date

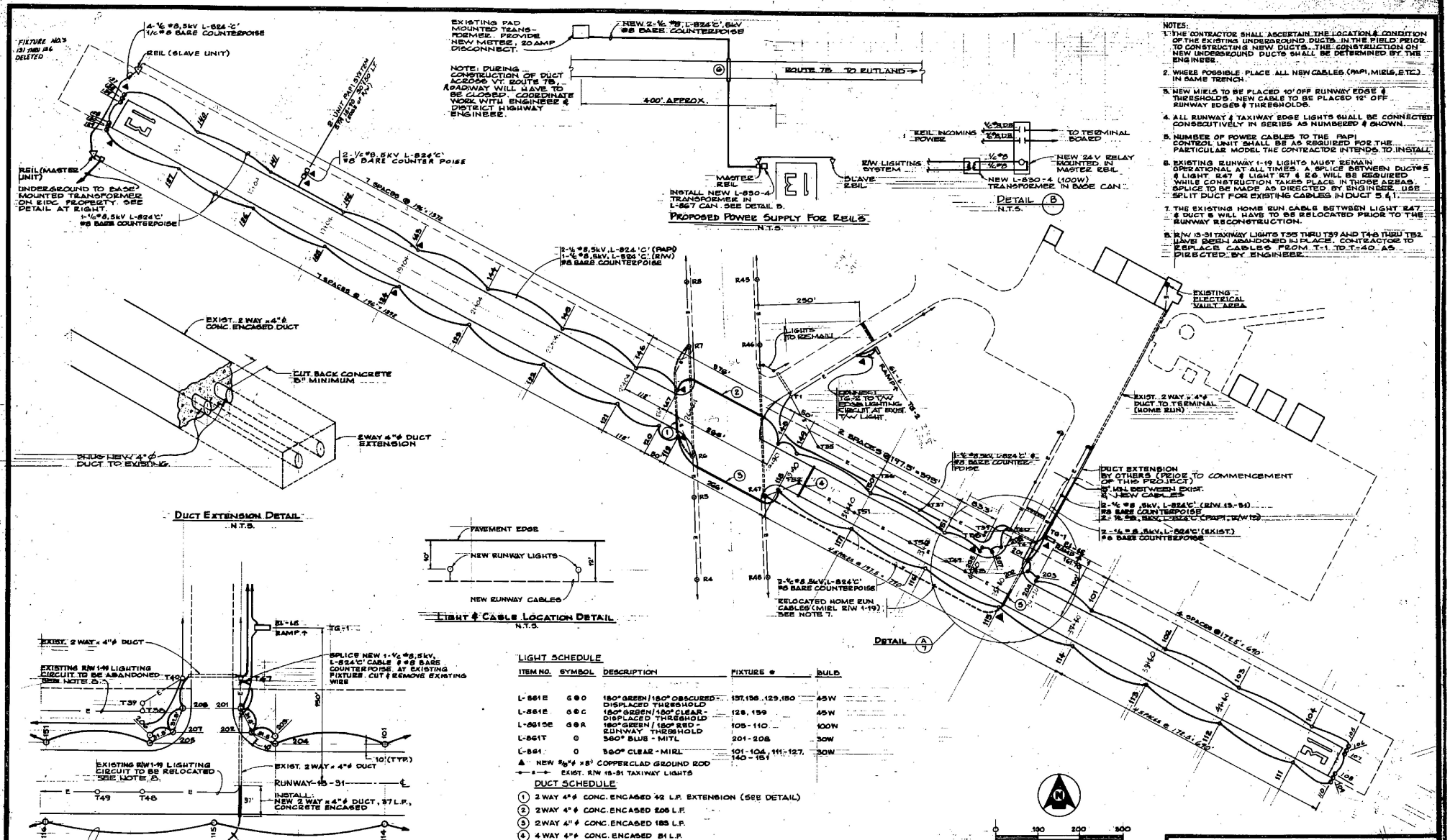
Dufresne-Henry Inc.
1321 Washington Ave.
Portland, Maine 04103

Client No.	20-0102
Proj. Manager	G.W. D'AMICO
Proj. Designer	S.S. DAVIES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

STATE OF VERMONT — RANDALL P. PUTNEY — No. 3013 — REGISTERED PROFESSIONAL ENGINEER

Sheet 8 of 30
D

DRAWING 44-132-453373



LIGHT SCHEDULE

ITEM NO.	SYMBOL	DESCRIPTION	FIXTURE #	BULB
L-861E	G⊕⊖	180° GREEN / 180° OBSCURED - DISPLACED THRESHOLD	157, 158, 129, 130	45W
L-861E	G⊖C	180° GREEN / 180° CLEAR - DISPLACED THRESHOLD	128, 159	45W
L-861SE	G⊕R	180° GREEN / 180° RED - RUNWAY THRESHOLD	105 - 110	100W
L-861T	⊖	360° BLUE - MITL	201 - 208	30W
L-841	⊖	360° CLEAR - MIRL	101 - 104, 111 - 127, 140 - 151	30W

▲ NEW ⅝"ϕ x 8' COPPERCLAD GROUND ROD
⟷ EXIST. R/W 15-31 TAXIWAY LIGHTS

DUCT SCHEDULE

(1) 2 WAY 4" ϕ CONC. ENCASED 42 L.F. EXTENSION (SEE DETAIL)
(2) 2 WAY 4" ϕ CONC. ENCASED 206 L.F.
(3) 2 WAY 4" ϕ CONC. ENCASED 185 L.F.
(4) 4 WAY 4" ϕ CONC. ENCASED 81 L.F.
(5) 2 WAY 4" ϕ CONC. ENCASED 37 L.F. EXTENSION (SEE DETAIL)
(6) 2 WAY 4" ϕ CONC. ENCASED 501 L.F.

TAXIWAY GUIDANCE SIGN SCHEDULE

NO.	TYPE	LOCATION	FRONT	REAR
TG-1	5 PANEL, L-858 R/Y	STA. 55+38.5, 150' LT OF & - T/W STA. 14+15.5, 50' RT.	8 1 - 1 3	R A M P ↑
TG-2	5 PANEL, L-858R/Y	50' RT. OF T/W &	1 - 1 9	R A M P ↑

TAXIWAY SIGNS TO BE SIZE 1, CLASS 2, STYLE 2.

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

Rev.	Description	By	Date
2	DELETE VASI, INSERT PAPI	DSC	6-14-99
1	ADD REIL POWER VIA E LOC	GWD	7-15-98

Dufresne-Henry Inc. 321 Washington Ave. North Berwick, Maine 03906

RUTLAND STATE AIRPORT

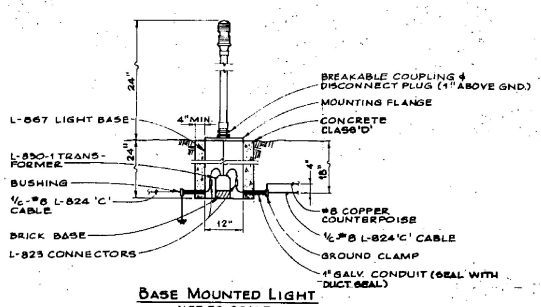
LIGHTING PLAN

Client No.	96-0016
Proj. Manager	A.W. Hamlin
Proj. Designer	R.A. Smith
Drawn By	A.W. Hamlin
Checked By	R.W. Cochran
Scale	1" = 100'
Approved	
Date	Sept. 1998

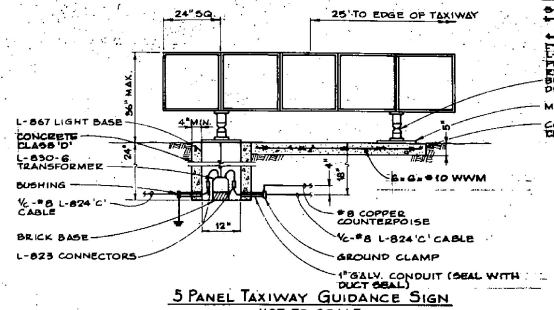
STATE OF VERMONT AGENCY OF TRANSPORTATION — R.A. SMITH 5871 REGISTERED PROFESSIONAL ENGINEER

D

DRAWING 44-157-4537-3

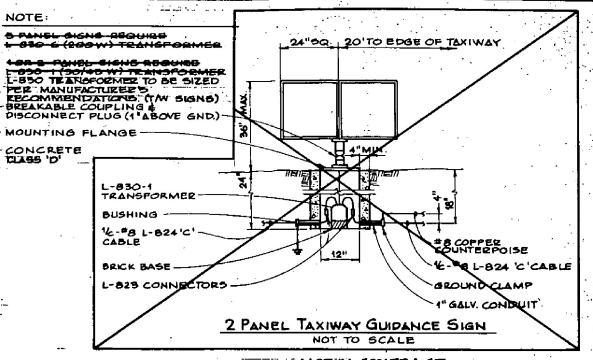


BASE MOUNTED LIGHT
NOT TO SCALE



5 PANEL TAXIWAY GUIDANCE SIGN
NOT TO SCALE

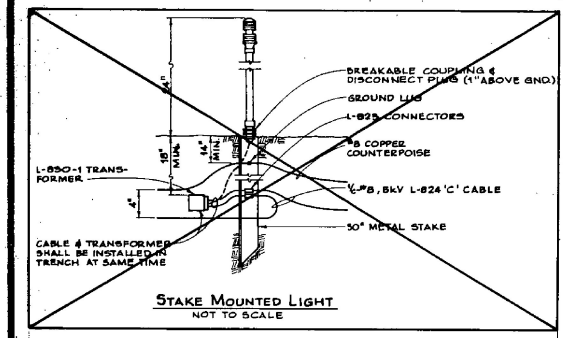
NOTE:
~~5 PANEL SIGNS REQUIRE L-830-6 (200W) TRANSFORMER~~
~~4 OR 3 PANEL SIGNS REQUIRE L-830-1 (50/60W) TRANSFORMER~~
L-830 TRANSFORMER TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. (T/W SIGNS)



2 PANEL TAXIWAY GUIDANCE SIGN
NOT TO SCALE

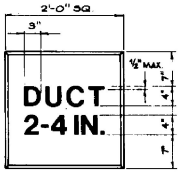
NOT IN CONTRACT

NOTE:
PROVIDE A 3' LOOP OF CABLE AT ALL TRANSFORMER LOCATIONS.

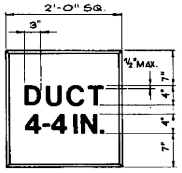


STAKE MOUNTED LIGHT
NOT TO SCALE

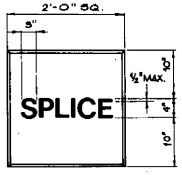
NOT IN CONTRACT



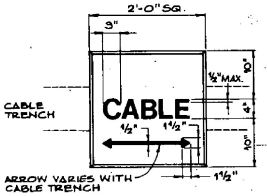
2-WAY DUCT MARKER
NOT TO SCALE



4-WAY DUCT MARKER
NOT TO SCALE

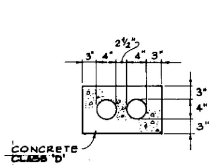


SPLICE MARKER
NOT TO SCALE

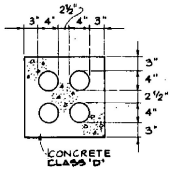


CABLE MARKER
NOT TO SCALE

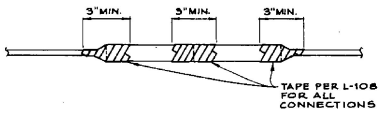
MARKER NOTES:
1. HAND LETTERING NOT ALLOWED ON MARKERS. LETTERING IS TO BE IMPRESSED.
2. ARROW ON CABLE MARKER TO INDICATE DIRECTION OF CABLES.
3. PAYMENT FOR CABLE, SPLICE OR DUCT MARKERS TO BE SUBSIDIARY TO OTHER PAY ITEMS.



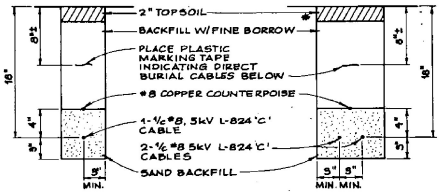
2 WAY ELECTRICAL DUCT
NOT TO SCALE



4 WAY ELECTRICAL DUCT
NOT TO SCALE

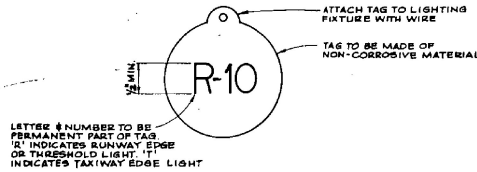


L-823 CABLE CONNECTOR
NOT TO SCALE



DIRECT BURIAL CABLE TRENCH DETAILS
NOT TO SCALE

@ FINE BORROW = MATERIAL REASONABLY FREE FROM LOAM, CLAY OR ORGANIC MATERIAL, MAXIMUM SIZE = ¼"

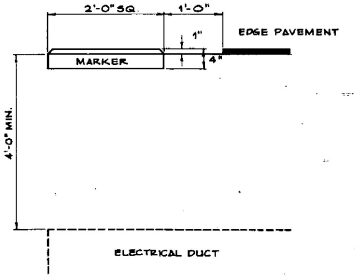


LIGHT IDENTIFICATION TAG
NOT TO SCALE

LIGHT LOCATION SCHEDULE

STATION	NO.	OFFSET(Ft)
	126-136	DELETED
11+20	128	47.5R
	129	57.5R
	130	27.5R
	137	27.5R
	138	57.5R
	139	47.5L
13+28	127	47.5R
	140	47.5L
15+22	126	47.5R
	141	47.5L
17+18	125	47.5R
	142	47.5L
19+16	124	47.5R
	143	47.5L
21+10	123	47.5R
	144	47.5L
23+08	122	47.5R
	145	47.5L
25+02	121	47.5R
	146	47.5L
26+14	120	47.5R
	147	47.5L
26+64	119	47.5R
28+80	148	47.5L

STATION	NO.	OFFSET(Ft)
29+30	118	47.5R
	149	47.5L
31+27.5	117	47.5R
	150	47.5L
33+25.0	116	47.5R
	151	47.5L
34+08.5	205	47.5L
	206	30.5L
34+22.3	207	61.5L
34+48.3	208	87.5L
35+18.3	201	87.5L
35+22.5	115	47.5R
35+52.3	202	61.5L
35+58.3	204	47.5L
	203	30.5L
37+20	101	47.5L
	114	47.5R
38+82.5	103	47.5L
	113	47.5R
40+85	103	47.5L
	112	47.5R
42+82.5	104	47.5L
	111	47.5R
44+10	105	47.5L
	106	37.5L
	107	27.5L
	108	37.5R
	109	37.5R
	110	47.5R



DUCT & MARKER INSTALLATION
NOT TO SCALE

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

ELECTRICAL DETAILS

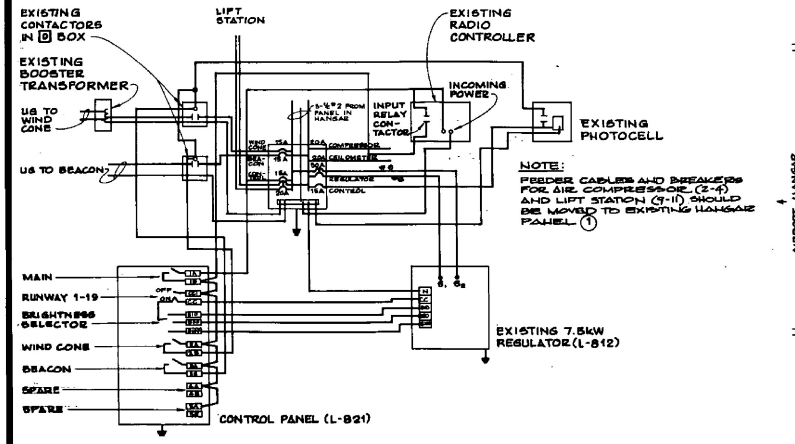
DuBreuil & Henry Inc.
1321 Washington Ave.
Portland, Maine 04103

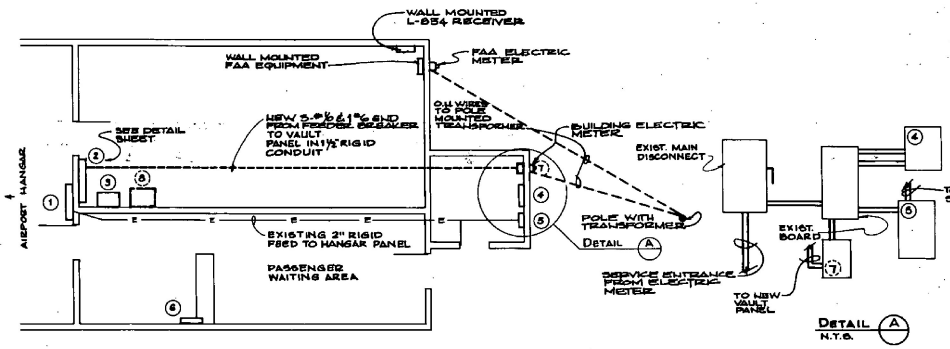
Rev.	Description	By	Date

Client No. 88-0148
Proj. Manager R.M. [illegible]
Proj. Designer R.D. BAKER
Drawn By [illegible]
Checked By [illegible]
Scale [illegible]
Approved [illegible]
Date [illegible]

STATE OF VERMONT
DONALD W. [illegible]
No. 3071
REGISTERED PROFESSIONAL ENGINEER

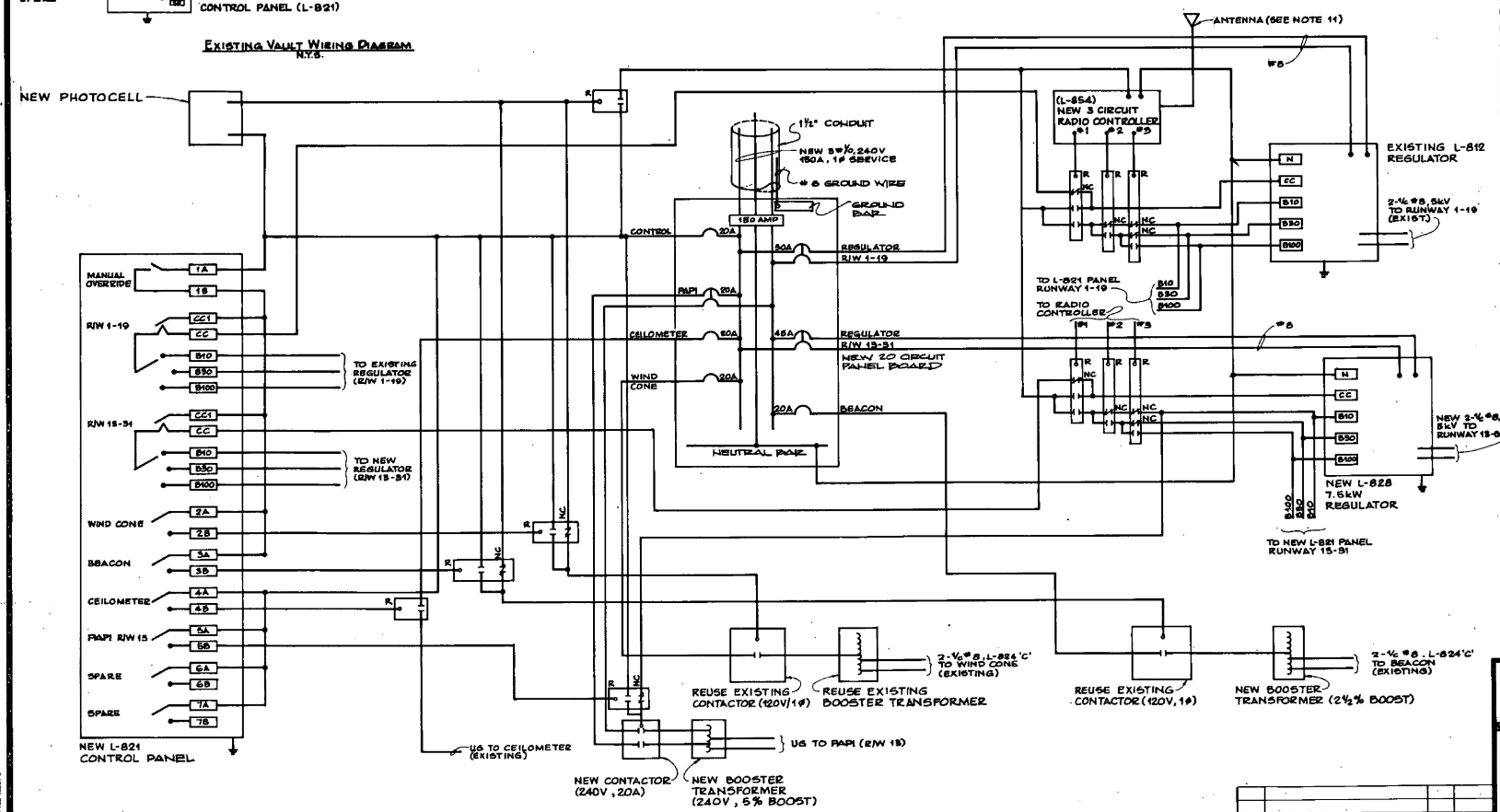
Sheet No. 20





TERMINAL AREA/VAULT FLOOR PLAN
N.T.S.

EXISTING VAULT WIRING DIAGRAM
N.T.S.



EQUIPMENT SCHEDULE

1. EXIST. HANGAR PANEL (100A - HANGAR/VAULT)
2. EXIST. VAULT PANEL (VAULT ONLY)
3. EXIST. 7.5kW REGULATOR (R/W 1-19)
4. EXIST. PANEL (HEATING SYSTEM, WELL, OFFICE) (50AMP)
5. EXIST. 100A FEEDER BREAKER (HANGAR/VAULT)
6. EXIST. L-821 PANEL TO BE REMOVED, REPLACE WITH NEW.
7. NEW 150A FEEDER BREAKER (VAULT SERVICE ONLY)
8. NEW 7.5kW REGULATOR (R/W 13-31) L-828

GENERAL NOTES:

1. RUNWAY 1-19 LIGHTING TO REMAIN IN SERVICE (NIGHTTIME) DURING CONSTRUCTION.
2. ALL WIRING #12 UNLESS OTHERWISE NOTED.
3. R = 120VAC RELAY WITH NEON INDICATING LIGHT. USE SQUARE 'D', KP 13 OR EQUAL.
4. PHOTOCELL - USE CROUSE-HINDS MODEL PEC-4 OR EQUAL. MOUNT ON NORTH SIDE OF BUILDING, OR AS DIRECTED BY THE ENGINEER.
5. WIND CONE & BEACON ARE TO OPERATE ON PHOTOCELL FOR CONTINUOUS NIGHTTIME OPERATION.
6. NORMAL OPERATIONS OF MIRLS TO BE VIA RADIO CONTROL.
7. ALL CONTACTORS, RELAYS, ETC. TO BE MOUNTED IN NEMA-4 ENCLOSURE.
8. NEUTRAL CONDUCTORS NOT SHOWN.
9. RADIO CONTROL OPERATION - FREQUENCY: 122.8 MHz
   CIRCUIT #1 MIRLS 10% (3 CLICKS)
   CIRCUIT #2 MIRLS 50% (5 CLICKS)
   CIRCUIT #3 MIRLS 100% (7 CLICKS)
10. NEW BOOSTER TRANSFORMERS - 120×240 PRIMARY, 120V SECONDARY @ 8.5A, 100VA RATING. USE ACME ELECTRIC CAT. NO. T-81048 OR EQUAL. CONNECT FOR INPUT VOLTAGE & PERCENT BOOST AS LISTED ABOVE.
11. RADIO ANTENNA, MOUNT ON ROOF OF TERMINAL BUILDING.
12. EXISTING ELECTRICAL EQUIPMENT NOT BEING REUSED TO BE STORED ON AIRPORT PROPERTY AS ORDERED BY THE ENGINEER.
13. ALL WIRING SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

VAULT LAYOUT

CLARENDON, VERMONT

Dufresne-Henry Inc.

Client No.	80-8163
Proj. Manager	G.W. D'AMICO
Prod. Designer	R.B. BAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

STATE OF VERMONT — DONALD E. BEAN — No. 3032 — REGISTERED PROFESSIONAL ENGINEER

Sheet 9 of 30

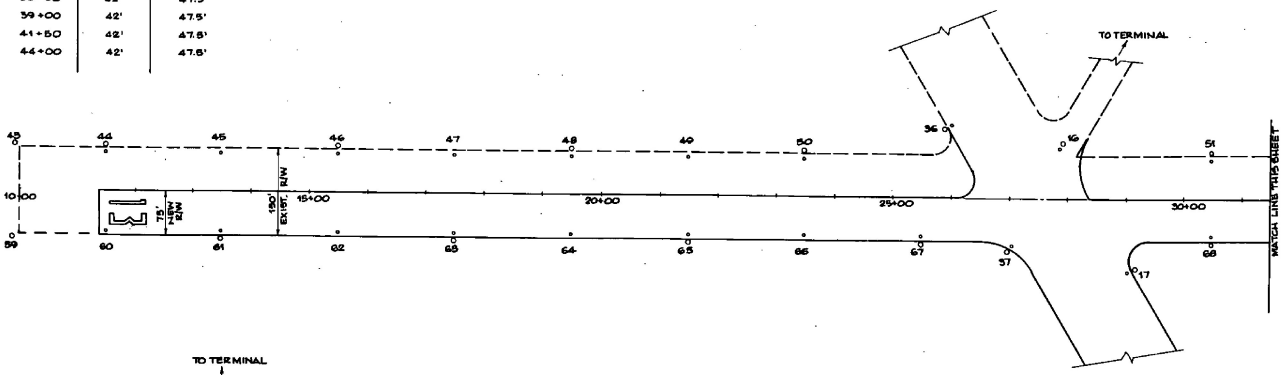
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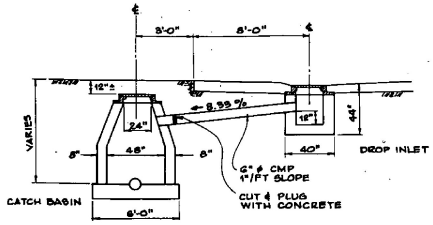
Rev.	Description	By	Date

BRUNING 44-132-43373

NEW FLUSHING BASIN SCHEDULE

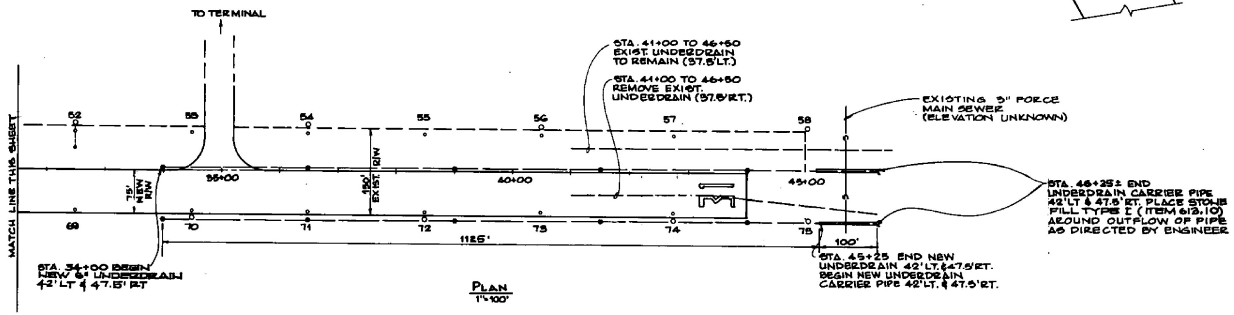
STATION	OFFSET LT.	OFFSET RT.
34+00	42'	47.5'
36+50	42'	47.5'
39+00	42'	47.5'
41+50	42'	47.5'
44+00	42'	47.5'



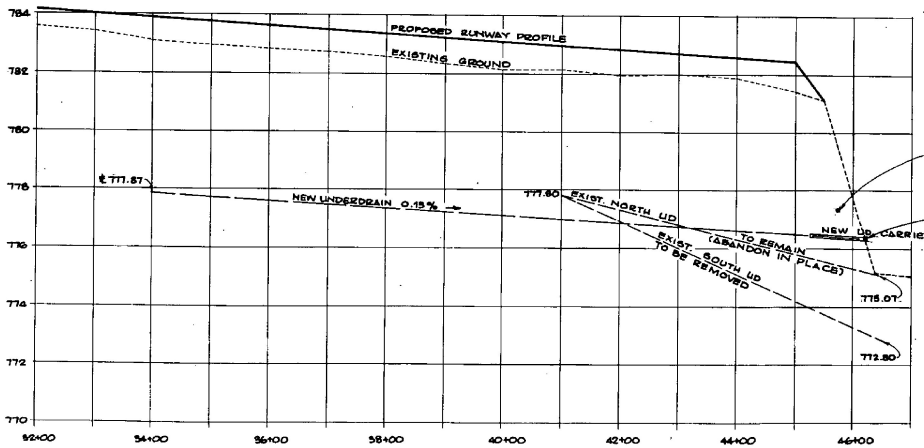


EXIST. CATCH BASIN & DROP INLET DETAIL
N.T.S

NOTE:
IF DROP INLET 16 TO BE REMOVED, THE CONTRACTOR WILL CUT AND PLUG THE 6"ϕ METAL PIPE AS CLOSE TO THE CATCH BASIN AS POSSIBLE. THE PLUG SHALL BE CONCRETE.



PLAN
1"=100'



PROFILE
HOR. 1"=100'
VER. 1"=2'

LEGEND

- EXIST. CATCH BASIN
- EXIST. DROP INLET
- EXIST. UNDERDRAIN
- NEW FLUSHING BASIN
- NEW DROP INLET
- NEW UNDERDRAIN
- NEW UNDERDRAIN CARRIER PIPE

NO.	TYPE	R/L OFFSET	EXISTING T.C. EL.	FINAL T.C. EL.	REMARKS
16	CB	27+98.5±, 95' LT	784.22	784.22	To remain
	DI	27+98.5±, 95' LT			To remain
17	CB	29+08.5±, 120' RT	785.75	785.75	To remain
	DI	29+08.5±, 120' RT			To remain
36	CB	25+98.5±, 120' LT	784.26	784.74	To remain
	DI	25+98.5±, 120' LT			To remain
37	CB	26+98.5±, 90' RT	783.81	783.81	To remain
	DI	26+98.5±, 90' RT			To remain
43	CB	9+93.	781.11	781.11	Adjust Frame and Grate
44	CB	11+48.5, 78' LT	781.30	781.45	Adjust Frame and Grate
	DI	11+48.5, 67' LT			Remove DI
45	DI	13+48.5, 67' LT			Remove DI
46	CB	15+48.5, 78' LT	781.85	781.98	Adjust Frame and Grate
	DI	15+48.5, 67' LT			Remove DI
47	DI	17+48.5, 67' LT			Remove DI
48	CB	19+48.5, 78' LT	782.66	783.00	Adjust Frame and Grate
	DI	19+47.5, 67' LT			Remove DI
49	DI	21+48.5, 67' LT			Remove DI
50	CB	23+48.5, 78' LT	783.82	784.06	Adjust Frame and Grate
	DI	23+48.5, 67' LT			Remove DI
51	CB	30+48.5, 78' LT	783.81	783.85	Adjust Frame and Grate
	DI	30+48.5, 67' LT			Remove DI
52	CB	32+48.5, 78' LT	783.20	783.34	Adjust Frame and Grate
	DI	32+48.5, 67' LT			Remove DI and Install new DI 37.5'LT
53	DI	34+48.5, 67' LT			Remove DI
54	CB	36+48.5, 78' LT	782.26	782.42	Adjust Frame and Grate
	DI	36+48.5, 67' LT			Remove DI
55	DI	38+48.5, 67' LT			Remove DI
56	CB	40+48.5, 78' LT	781.71	781.88	Adjust Frame and Grate
	DI	40+48.5, 67' LT			Remove DI
57	DI	42+75.5, 67' LT			Remove DI
58	CB	45+02, 78' LT	781.11	781.40	Adjust Frame and Grate
59	CB	9+93.	781.02	781.76	Adjust Frame and Grate
60	DI	11+48.5, 67' RT	781.30		Remove DI
61	CB	13+48.5, 78' RT	781.58	782.28	Adjust Frame and Grate
	DI	13+48.5, 67' RT			Remove DI
62	DI	15+48.5, 67' RT			Remove DI
63	CB	17+48.5, 78' RT	782.13	782.85	Adjust Frame and Grate
	DI	17+48.5, 67' RT			Remove DI
64	DI	19+48.5, 67' RT			Remove DI
65	CB	21+48.5, 78' RT	782.84	783.42	Adjust Frame and Grate
	DI	21+48.5, 67' RT			Remove DI
66	DI	23+48.5, 67' RT			Remove DI
67	CB	25+48.5, 78' RT	783.72	783.81	Adjust Frame and Grate
	DI	23+48.5, 67' RT			Remove DI
68	CB	30+48.5, 78' RT	783.67	783.74	Adjust Frame and Grate
	DI	30+48.5, 67' RT			Remove DI
69	DI	32+48.5, 67' RT			Remove
70	CB	34+48.5, 78' RT	782.68	785.23	Adjust Frame and Grate
	DI	34+48.5, 67' RT			Remove DI
71	DI	36+48.5, 67' RT			Remove DI
72	CB	38+48.5, 78' RT	782.00	782.64	Adjust Frame and Grate
	DI	38+48.5, 67' RT			Remove DI
73	DI	40+98.5, 67' RT			Remove DI
74	CB	43+75.5, 78' RT	781.40	782.14	Adjust Frame and Grate
	DI	43+75.5, 67' RT			Remove DI
75	CB	45+02, 78' RT	781.12	781.82	Adjust Frame and Grate

0 100 200 500
SCALE IN FEET

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

Rev.	Description	By	Date

RUTLAND STATE AIRPORT

DRAINAGE DETAILS

CLARENDON, VERMONT

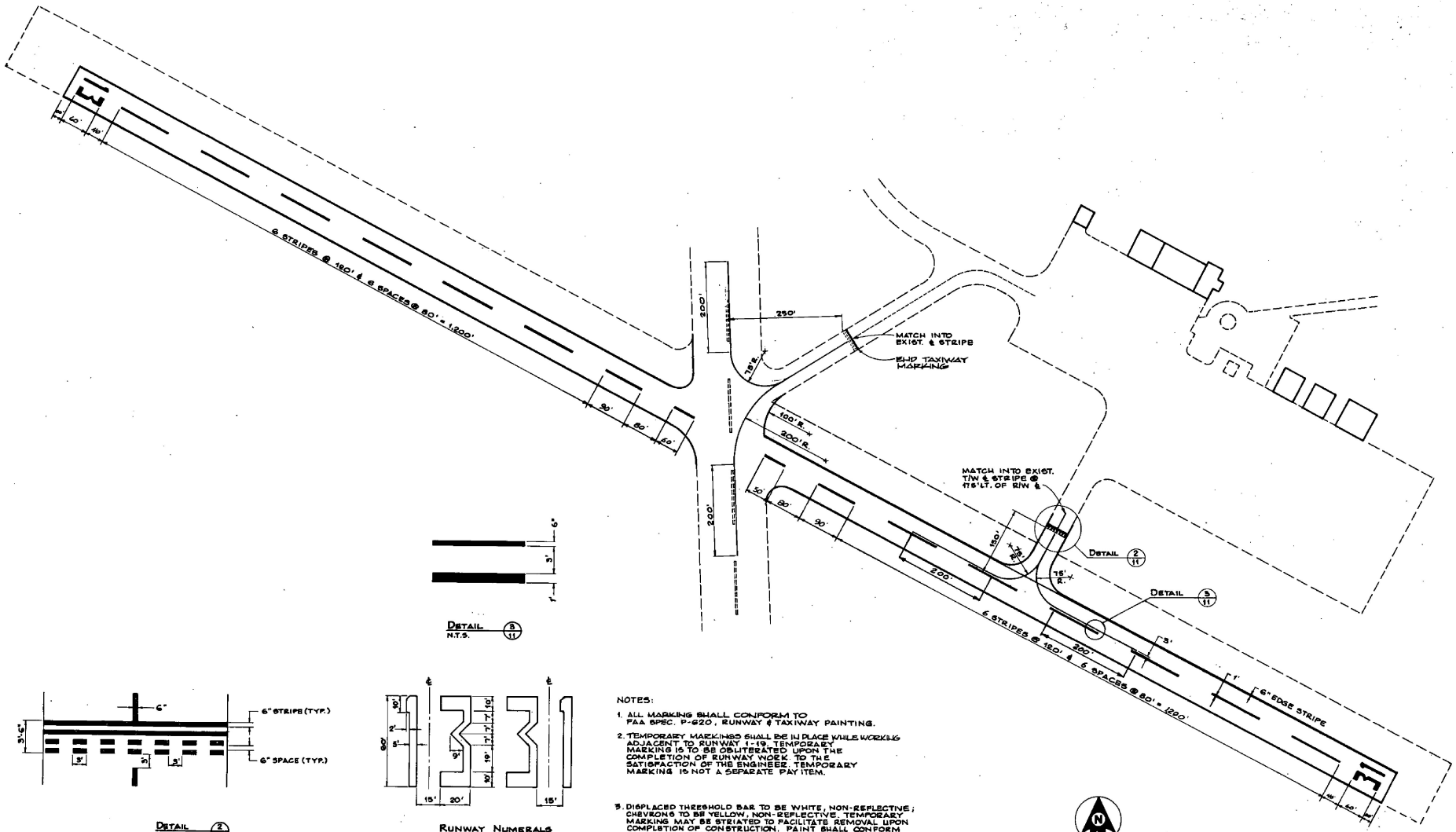
DuBrueil-Henry Inc.
1281 Washington Ave.
Portland, Maine 04103

Client No. 80-0102
Proj. Manager G.W. D'AMICO
Proj. Designer E.S. DAWES
Drawn By D.W. HILLS
Checked By G.W. D'AMICO
Scale 1" = 100'
Approved
Date

STATE OF VERMONT
ADAM W. P. DAWES
No. 3873
REGISTERED PROFESSIONAL ENGINEER

Sheet 19 of 30
D

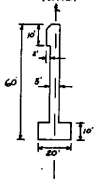
BRUNING 44-132 45337-3



DETAIL 5/11
N.T.S.

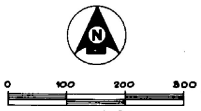
DETAIL 2/11
N.T.S.

RUNWAY NUMERALS
N.T.S.



NOTES:

1. ALL MARKING SHALL CONFORM TO FAA SPEC. P-620, RUNWAY & TAXIWAY PAINTING.
2. TEMPORARY MARKINGS SHALL BE IN PLACE WHILE WORKING ADJACENT TO RUNWAY 1-19. TEMPORARY MARKING IS TO BE OBLITERATED UPON THE COMPLETION OF RUNWAY WORK TO THE SATISFACTION OF THE ENGINEER. TEMPORARY MARKING IS NOT A SEPARATE PAY ITEM.
3. DISPLACED THRESHOLD BAR TO BE WHITE, NON-REFLECTIVE; CHEVRONS TO BE YELLOW, NON-REFLECTIVE. TEMPORARY MARKING MAY BE STRIATED TO FACILITATE REMOVAL UPON COMPLETION OF CONSTRUCTION. PAINT SHALL CONFORM TO FAA SPEC. TT-P-85 (NON-REFLECTIVE).
4. TEMPORARY MARKING MAY BE SNOW FENCE, LIMESTONE, TARPAULEN OR OTHER MEANS SATISFACTORY TO THE ENGINEER.
5. RUNWAY CENTERLINE & NUMERALS ARE TO BE WHITE. TAXIWAY CENTERLINE & HOLDLINE ARE TO BE AVIATION YELLOW, CONFORMING TO FEDERAL SPEC. TT-P-85 (NON REFLECTIVE)
6. THE NUMERAL ONE, WHEN USED ALONE, CONTAINS A 20'w x 10'w HORIZONTAL BAR TO DIFFERENTIATE IT FROM THE RUNWAY CENTERLINE MARKINGS.



RUTLAND STATE AIRPORT

MARKING DIAGRAM

CLARENDON, VERMONT

A.I.P. PROJECT NO. 3-50-0015-04

Rev.	Description	By	Date

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

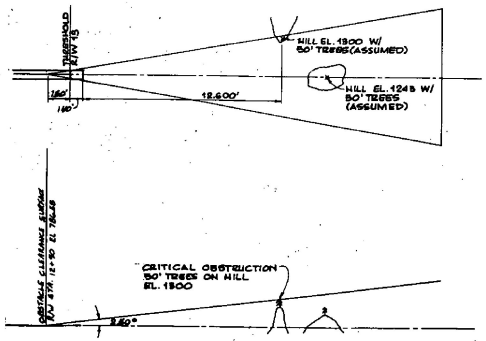
Client No.	80-0102
Proj. Manager	G.W. D'AMICO
Proj. Designer	R.B. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

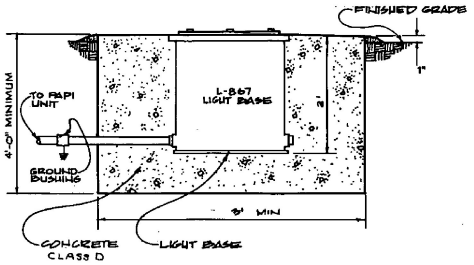
STATE OF VERMONT — DAVID W. DAWES — NO. 3873 — REGISTERED PROFESSIONAL ENGINEER

Sheet 11 of 30

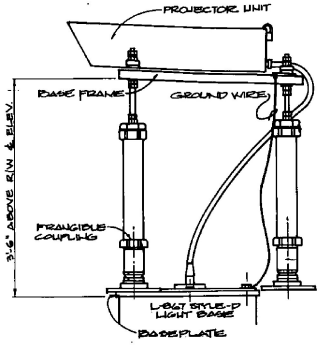
D

DRAWING 44-132-45373 3





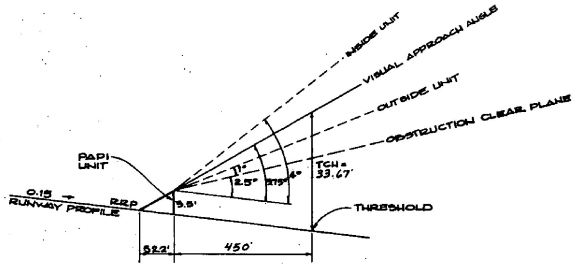
PAPI CAN INSTALLATION
N.T.S.



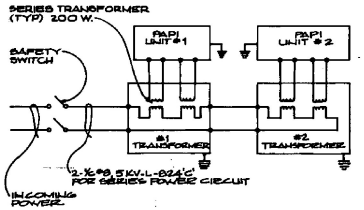
2 WAY PAPI MOUNTING DETAIL
N.T.S.

PAPI NOTES

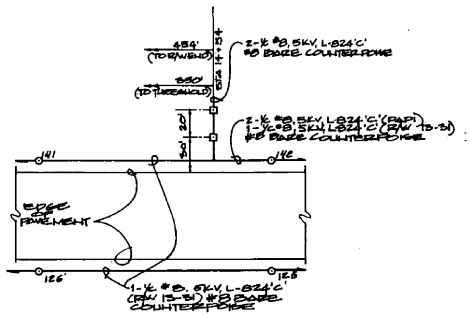
1. CONTRACTOR TO STENCIL THE AIMING ANGLES ON THE PROJECTOR UNITS.
2. PAPI TO CONFORM TO FAA SPEC L-880, STYLE A (VOLTAGE POWERED) CLASS 2 (OPERATION TO -55°C)
3. REFER TO MANUFACTURER'S SPECIFICATIONS FOR DIMENSIONS AND FOUNDATION SPACING



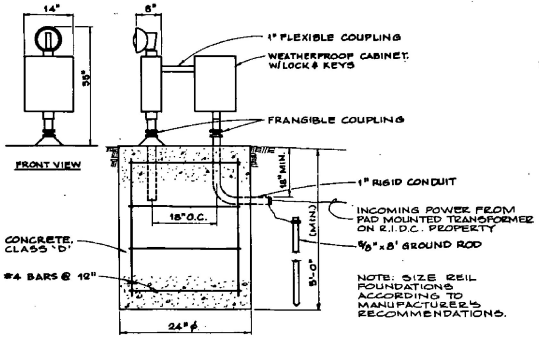
PAPI AIMING ANGLE
N.T.S.



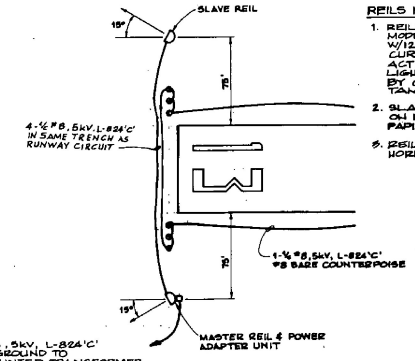
PAPI WIRING DIAGRAM
N.T.S.



PAPI SITING & WIRING DIAGRAM
1" = 50'



MASTER REIL UNIT
N.T.S.



REILS SITING & WIRING DIAGRAM
N.T.S.

REILS NOTES

1. REILS TO BE AMBASSADOR MODEL NO. 68A 2.0-100 OR EQUAL W/120V, 6.6A POWER ADAPTER & CURRENT SENSING TO BE ACTIVATED OFF RUNWAY LIGHTING CIRCUIT AS VALID BY GODFREY ENGINEERING, TAMPA, FL.
2. SLAVE REIL TO BE MOUNTED ON FOUNDATION SIMILAR TO PAPI FOUNDATION SHOWN ABOVE
3. REILS SHALL BE AIMED 15° HORIZONTAL & 10° VERTICAL

Rev.	Description	By	Date
2	DELETE VASI, INSERT PAPI	SWD	6-14-85
1	ADD REILS POWER VIA R.I.D.C.	GWD	7-12-85

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

APPROACH AIDS

CLARENDON, VERMONT

Dufresne-Henry Inc.

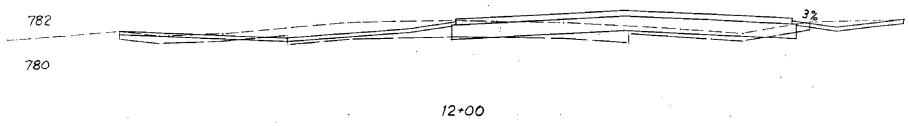
Client No.	80-0102
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAVIES
Drawn By	C.W. SELLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

STATE OF VERMONT — DONALD W. PAIGE — No. 3873 — REGISTERED PROFESSIONAL ENGINEER

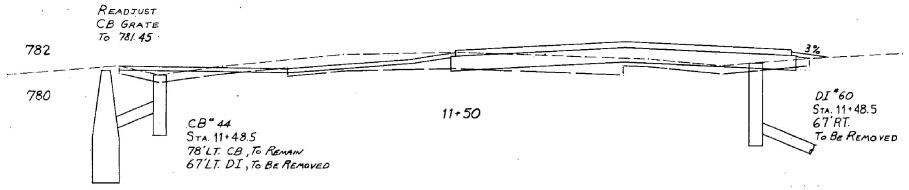
Sheet 12 of 30

D

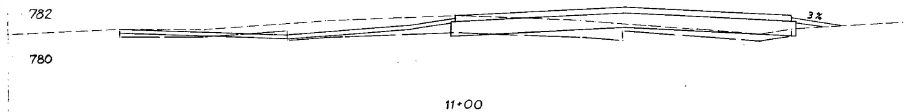
DRAWING 44-122 42537-3



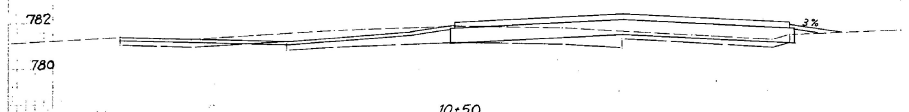
12+00



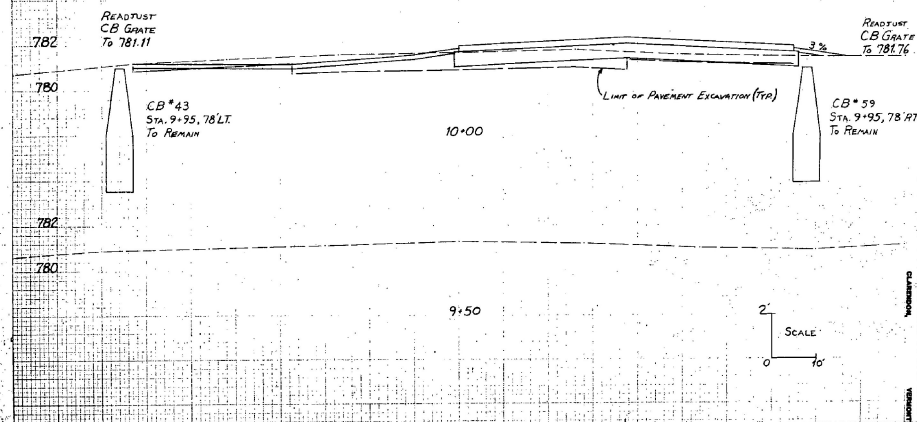
11+50



11+00



10+50

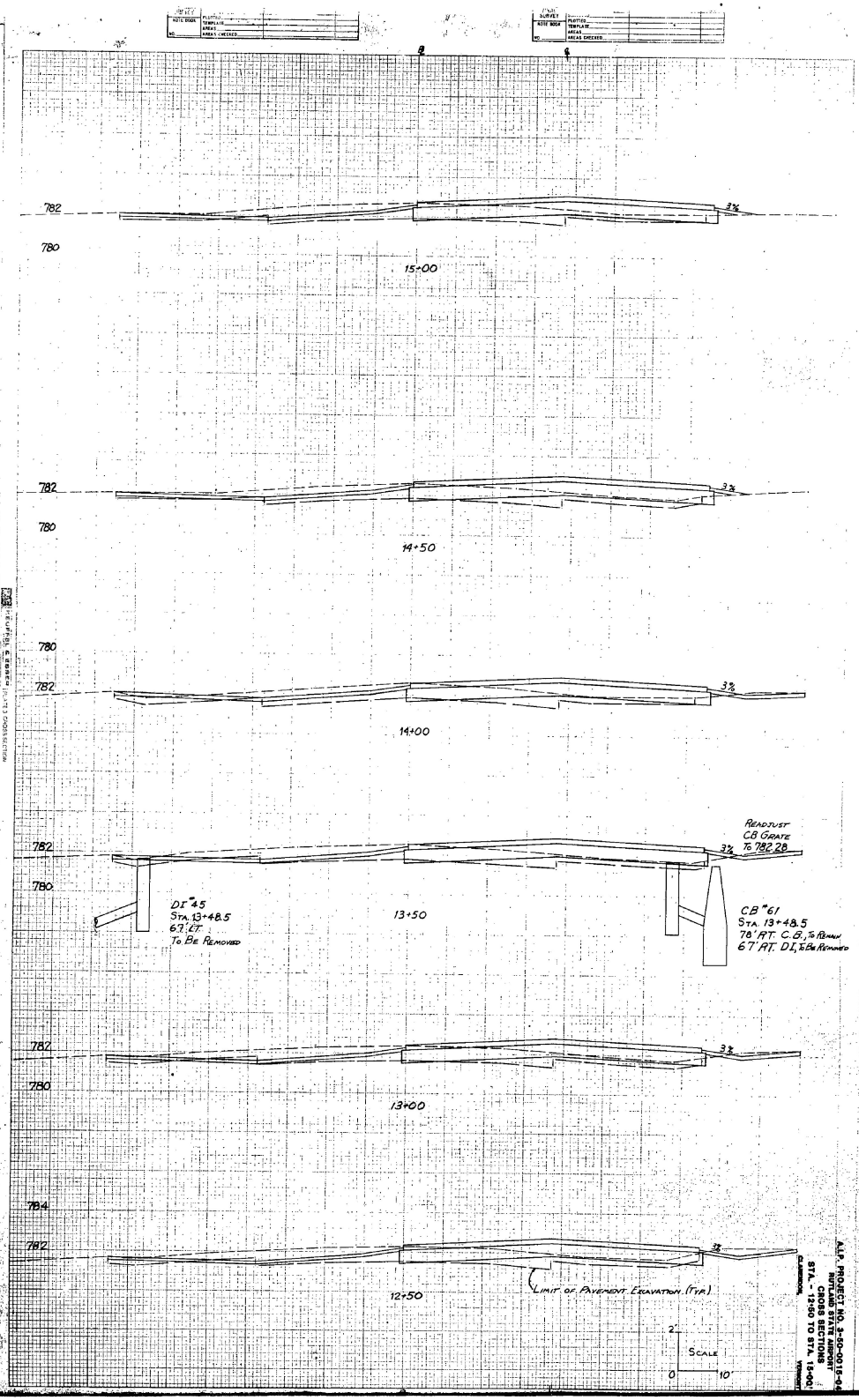


10+00

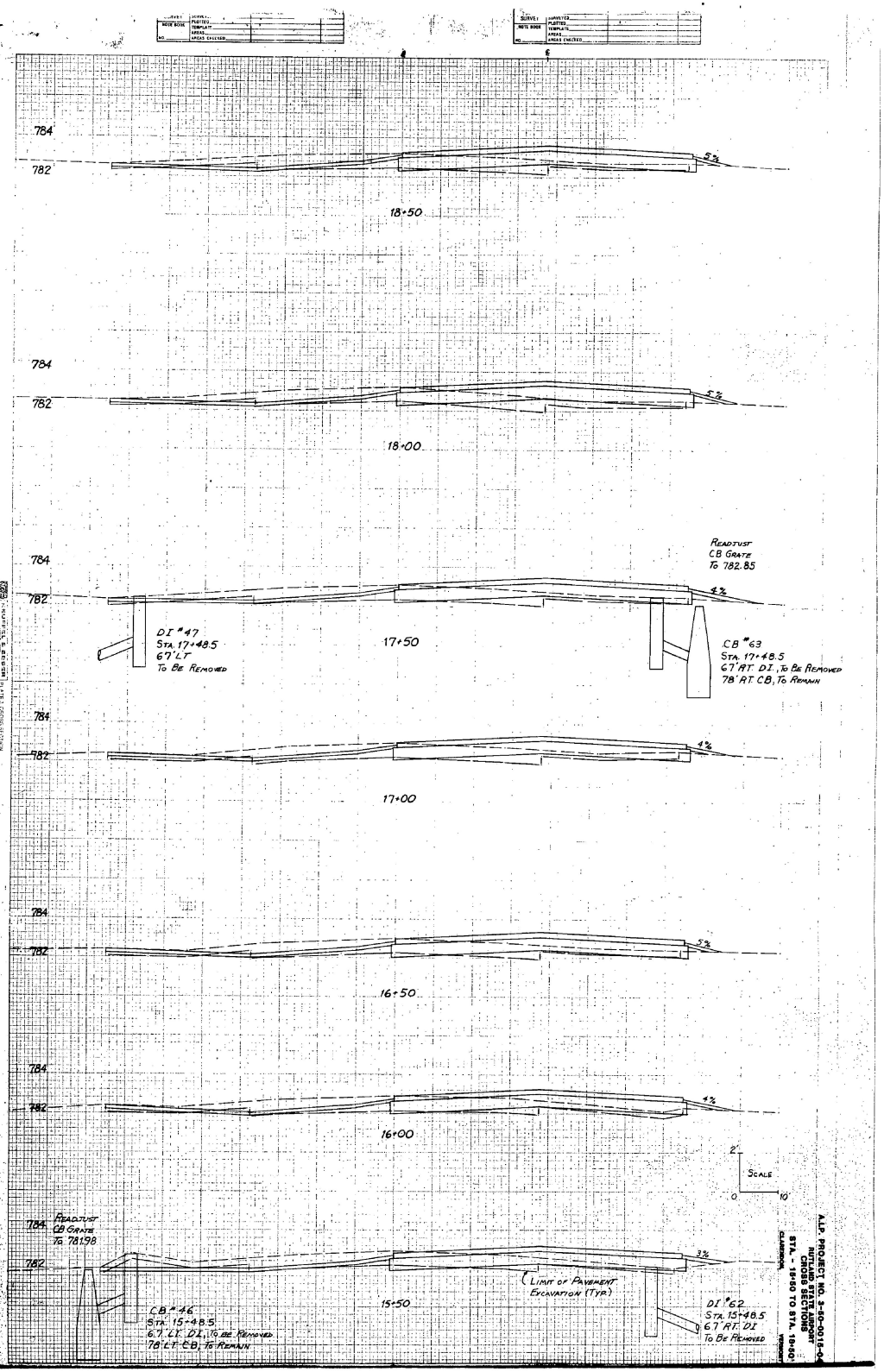
9+50

A.I.P. PROJECT NO. 3-50-0011-05
INTERSTATE 91 RESURFACE
CROSS SECTIONS
STA. - 9+50 TO STA. 12+00
CLARENDON, VERMONT

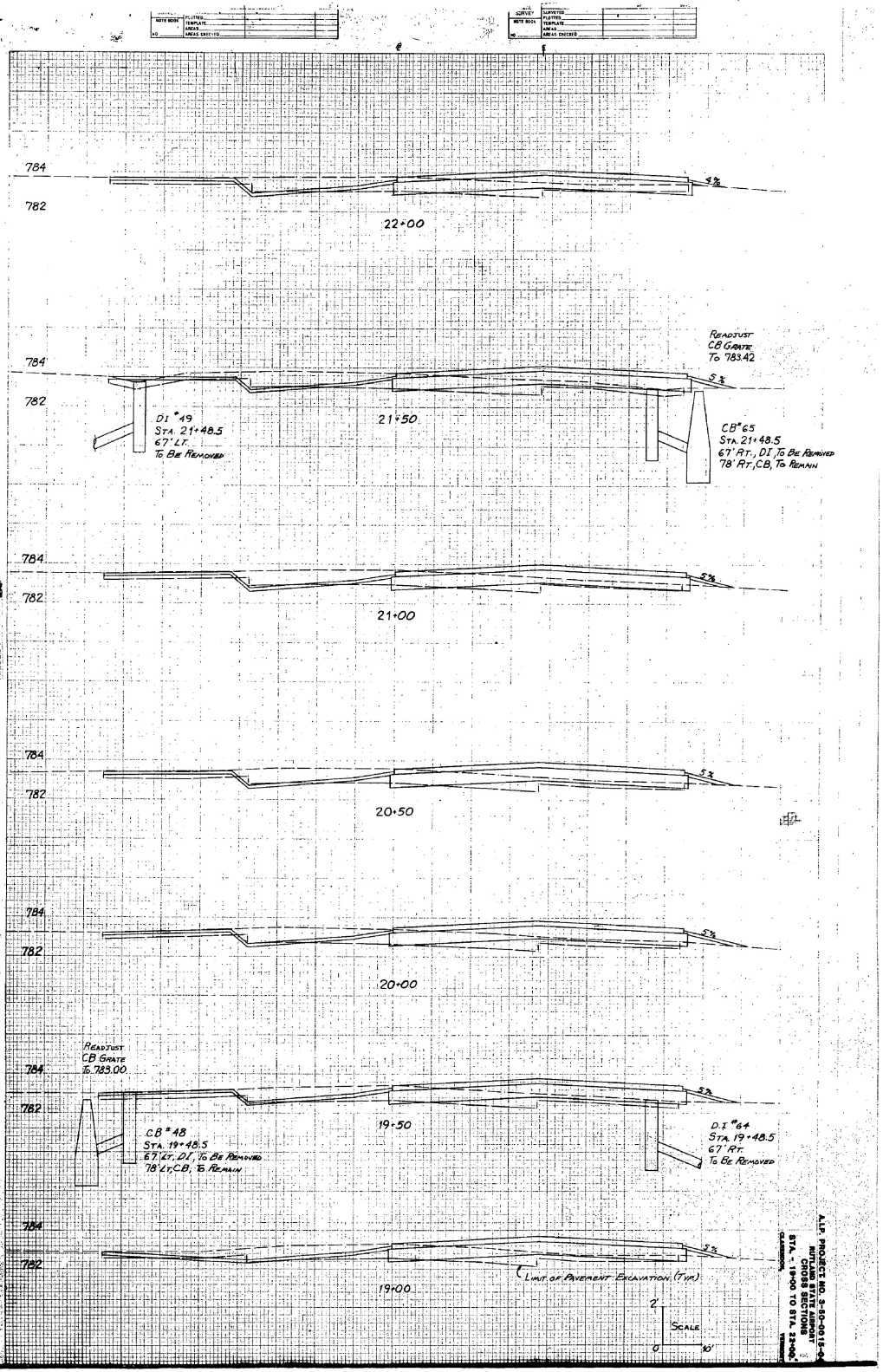
SHEET 15 OF 50



A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. 12+50 TO STA. 15+00
CLARENDON



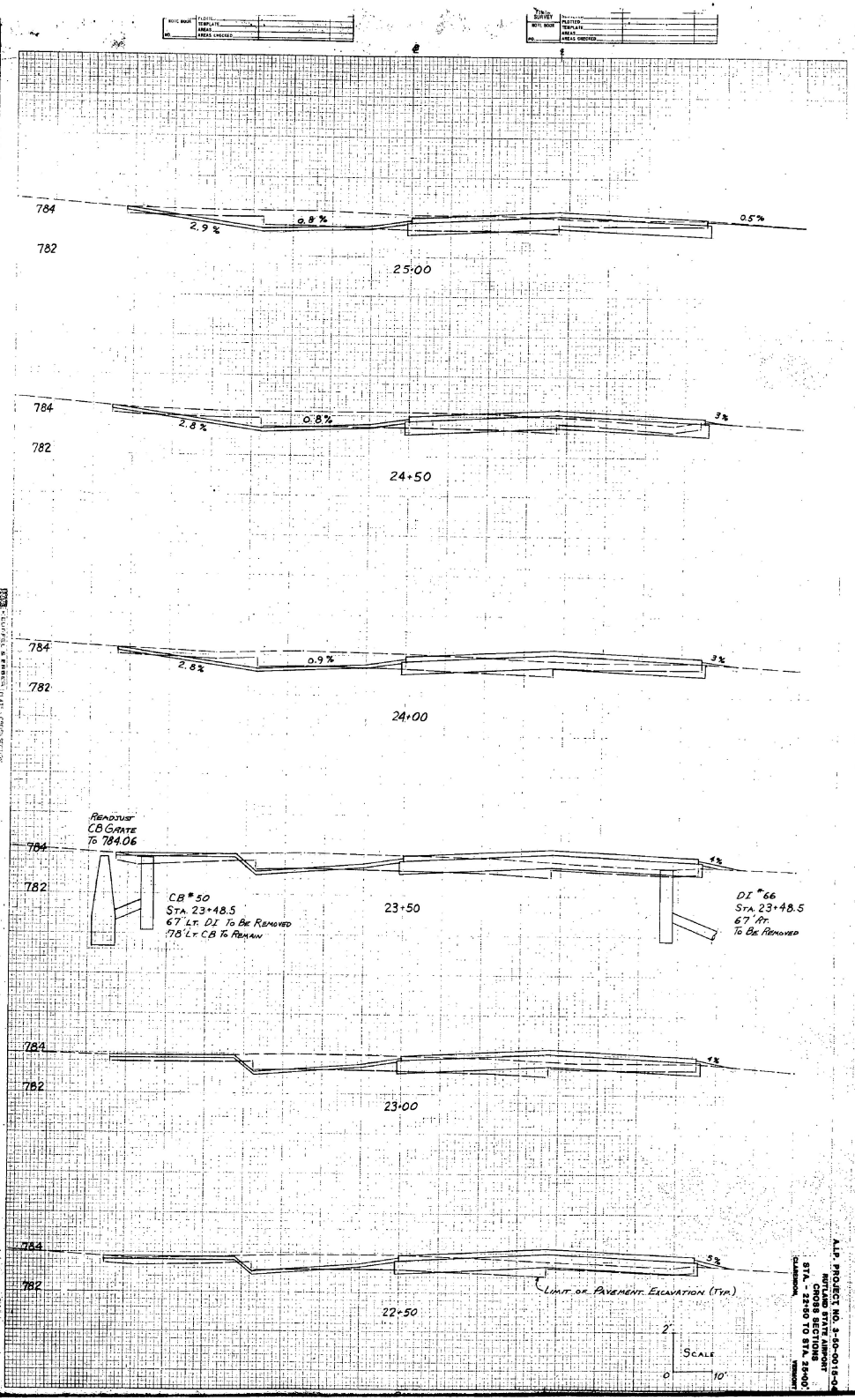
A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
RUTLAND, VERMONT
STA. 15+50 TO STA. 19+50
CLARENDON



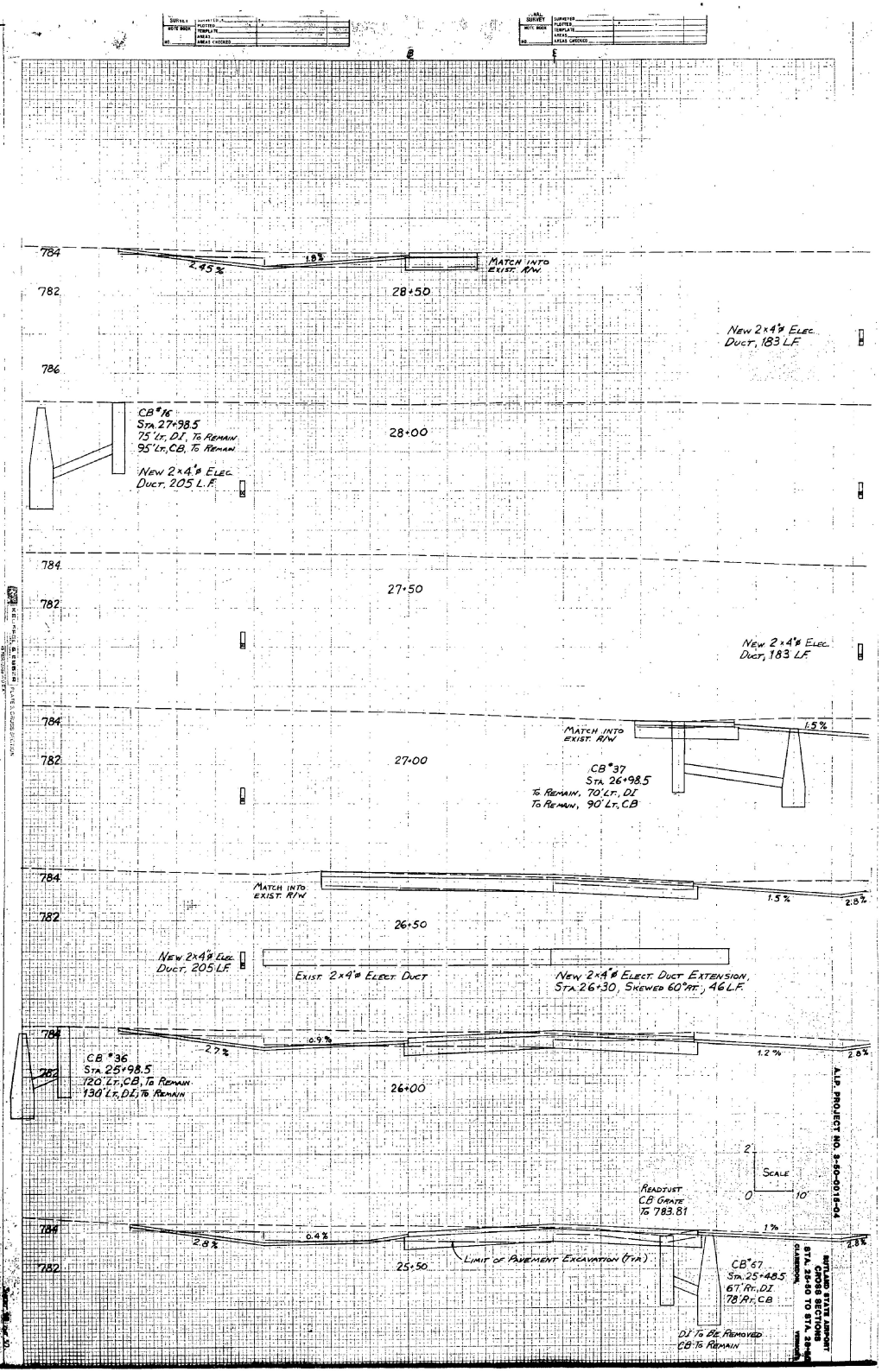
KRUPPEL & KNOBEL CONSULTING ENGINEERS MONTPELIER, VERMONT

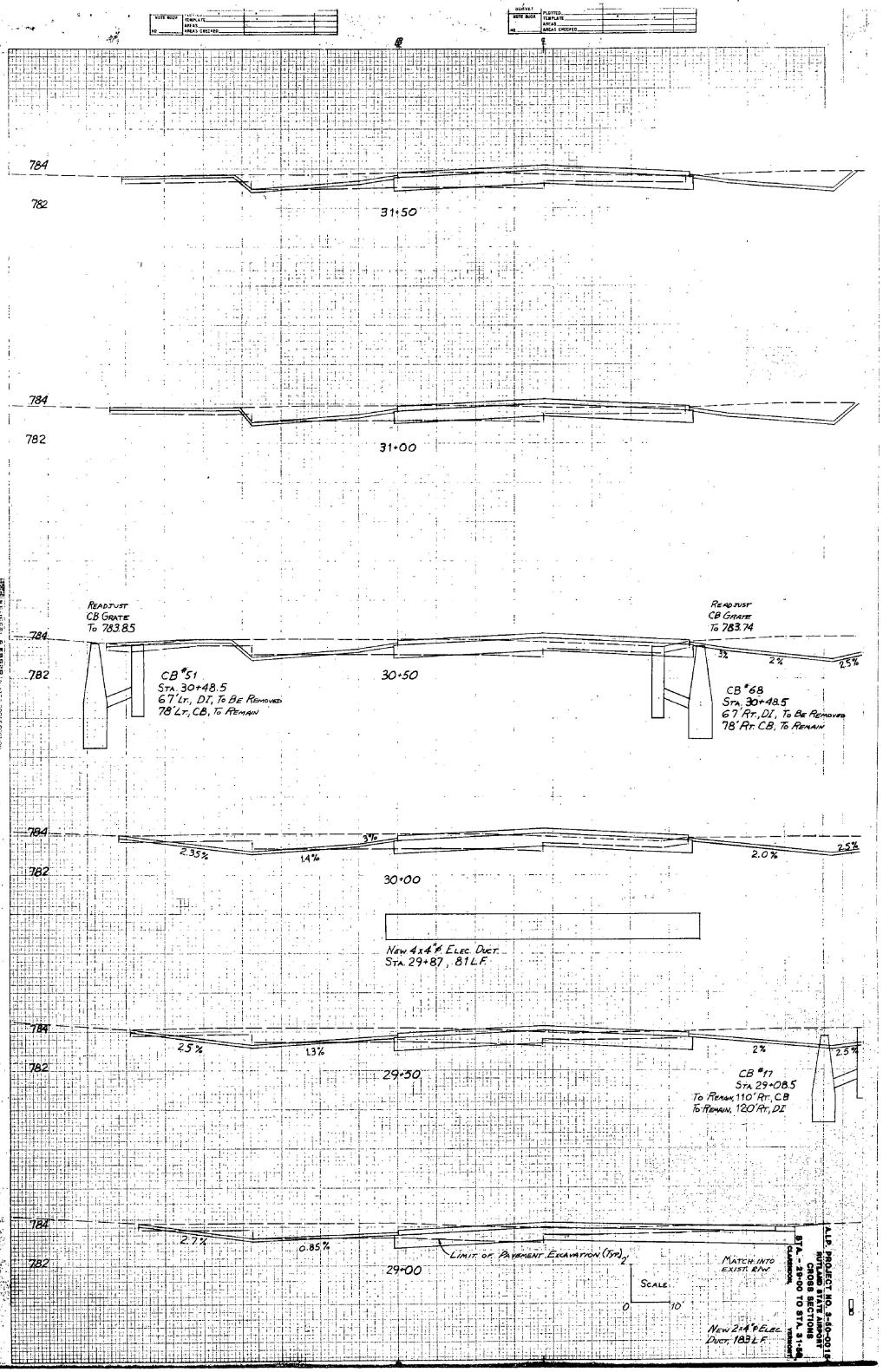
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RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. 19+00 TO STA. 22+00

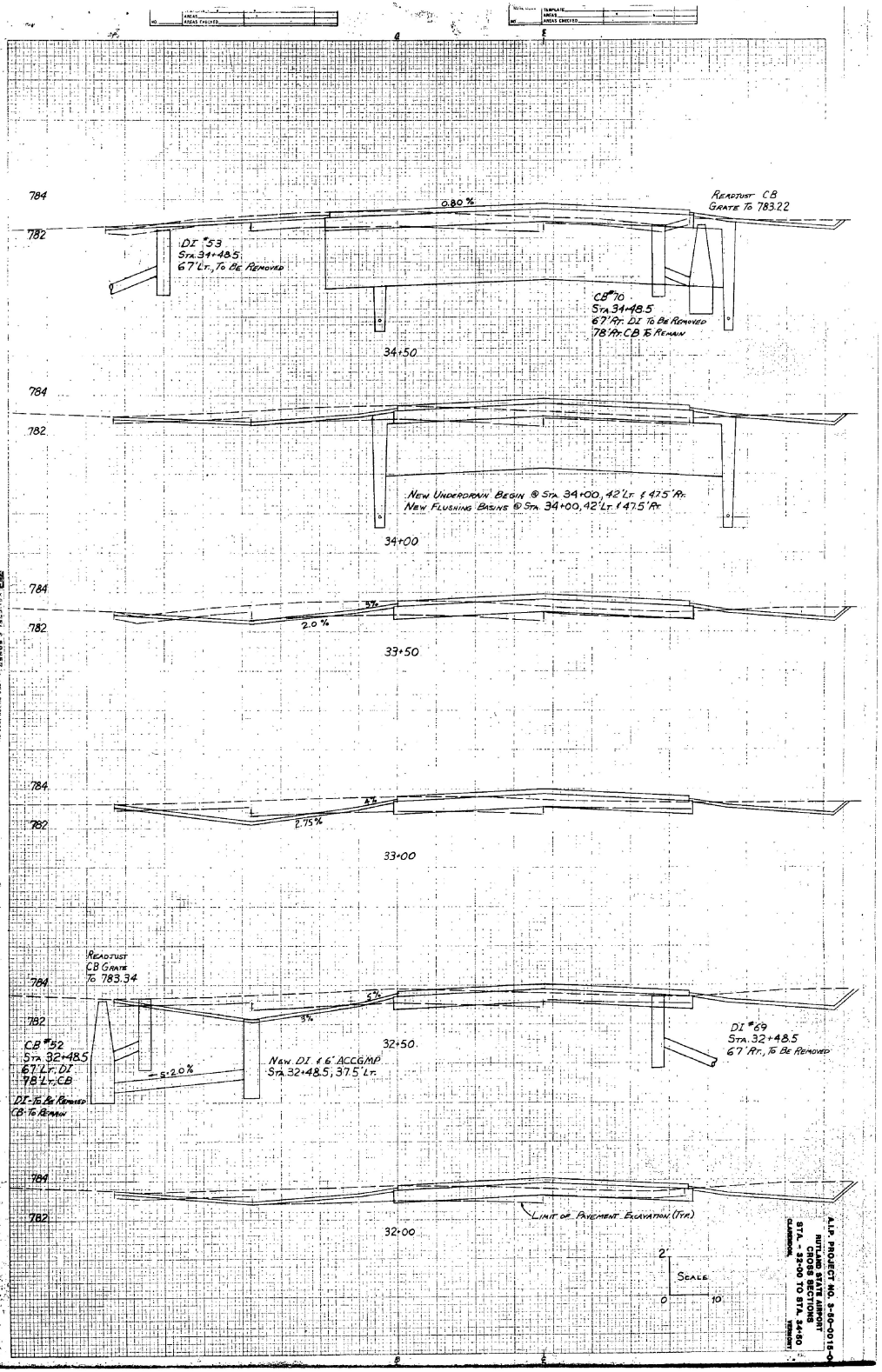
Scale 1" = 10'



A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. 22+50 TO STA. 25+00

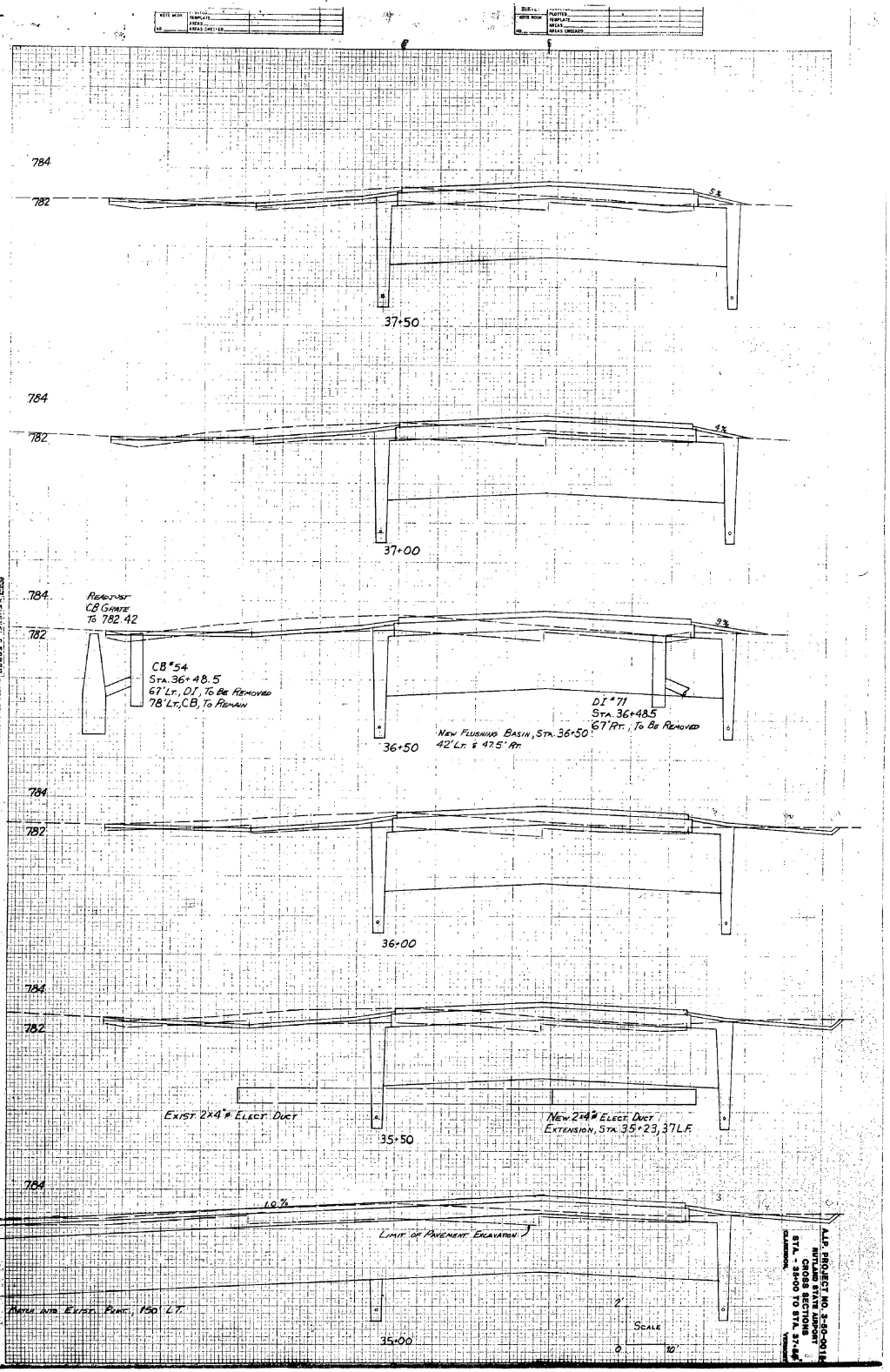

784
782
786
2.45%
1.8%
MATCH INTO EXIST. R/W
28+50
NEW 2x4'ø ELEC. DUCT, 183 L.F.
CB #16
STA. 27+98.5
75' LT., DI, TO REMAIN
95' LT., CB, TO REMAIN
NEW 2x4'ø ELEC. DUCT, 205 L.F.
28+00
27+50
NEW 2x4'ø ELEC. DUCT, 183 L.F.
27+00
MATCH INTO EXIST. R/W
1.5%
CB #37
STA. 26+98.5
TO REMAIN, 70' LT., DI
TO REMAIN, 90' LT., CB
2.8%
26+50
NEW 2x4'ø ELEC. DUCT, 205 L.F.
EXIST. 2x9'ø ELECT. DUCT
NEW 2x4'ø ELECT. DUCT EXTENSION, STA. 26+30, SKEWED 60° RT., 46 L.F.
2.7%
0.9%
1.2%
CB #36
STA. 25+98.5
120' LT., CB, TO REMAIN
130' LT., DI, TO REMAIN
26+00
SCALE
0
10'
20'
READJUST CB GRATE TO 783.81
2.8%
0.4%
1%
25+50
LIMIT OF PAVEMENT EXCAVATION (TYP.)
CB #67
STA. 25+48.5
67' RT., DI
78' RT., CB
DI TO BE REMOVED
CB TO REMAIN
A.I.P. PROJECT NO. 3-50-0018-04
RUTLAND STATE AIRPORT
CLARENDON
STA. 25+40 TO STA. 28+00


784
782
31+50
784
782
31+00
READJUST
CB GRATE
TO 783.85
READJUST
CB GRATE
TO 783.74
784
782
CB #51
STA. 30+48.5
67' LT., DI, TO BE REMOVED
78' LT., CB, TO REMAIN
30+50
3%
2%
2.5%
CB #68
STA. 30+48.5
67' RT., DI, TO BE REMOVED
78' RT. CB, TO REMAIN
784
782
2.35%
1.4%
3%
2.0%
2.5%
30+00
NEW 4x4" ø ELEC. DUCT.
STA. 29+87, 81 L.F.
784
782
2.5%
1.3%
29+50
2%
2.5%
CB #77
STA. 29+08.5
TO REMAIN, 110' RT., CB
TO REMAIN, 120' RT., DI
784
782
2.7%
0.85%
29+00
LIMIT OF PAVEMENT EXCAVATION (TYP.)
MATCH INTO
EXIST. R/W
SCALE:
0
10'
NEW 2-4" ø ELEC.
DUCT, 183 L.F.
A.I.P. PROJECT NO. X-0400(1)E
HIGHWAY STATE HIGHWAY
CROSS SECTIONS
STA. - 29+00 TO STA. 31+50
CLARENDON
VERMONT



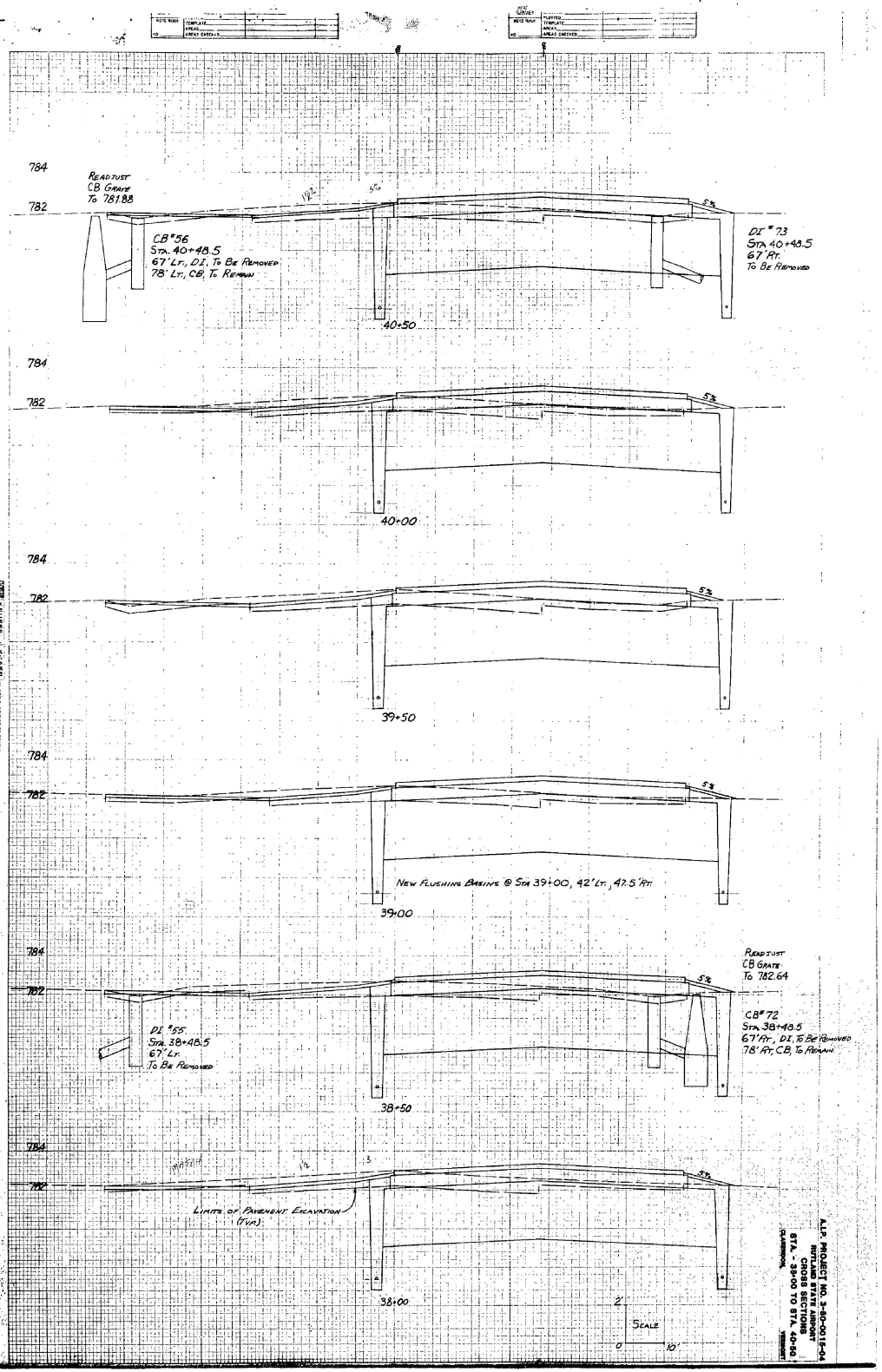
A.I.P. PROJECT NO. 3-50-0015-0
AUTOMATED WEATHER OBSERVING SYSTEM
AUTOMATED STATE AIRPORT
CROSS SECTIONS
STA. - 32+00 TO STA. 34+50
CLAREMONT
NEW HAMPSHIRE

Sheet 6 of 10

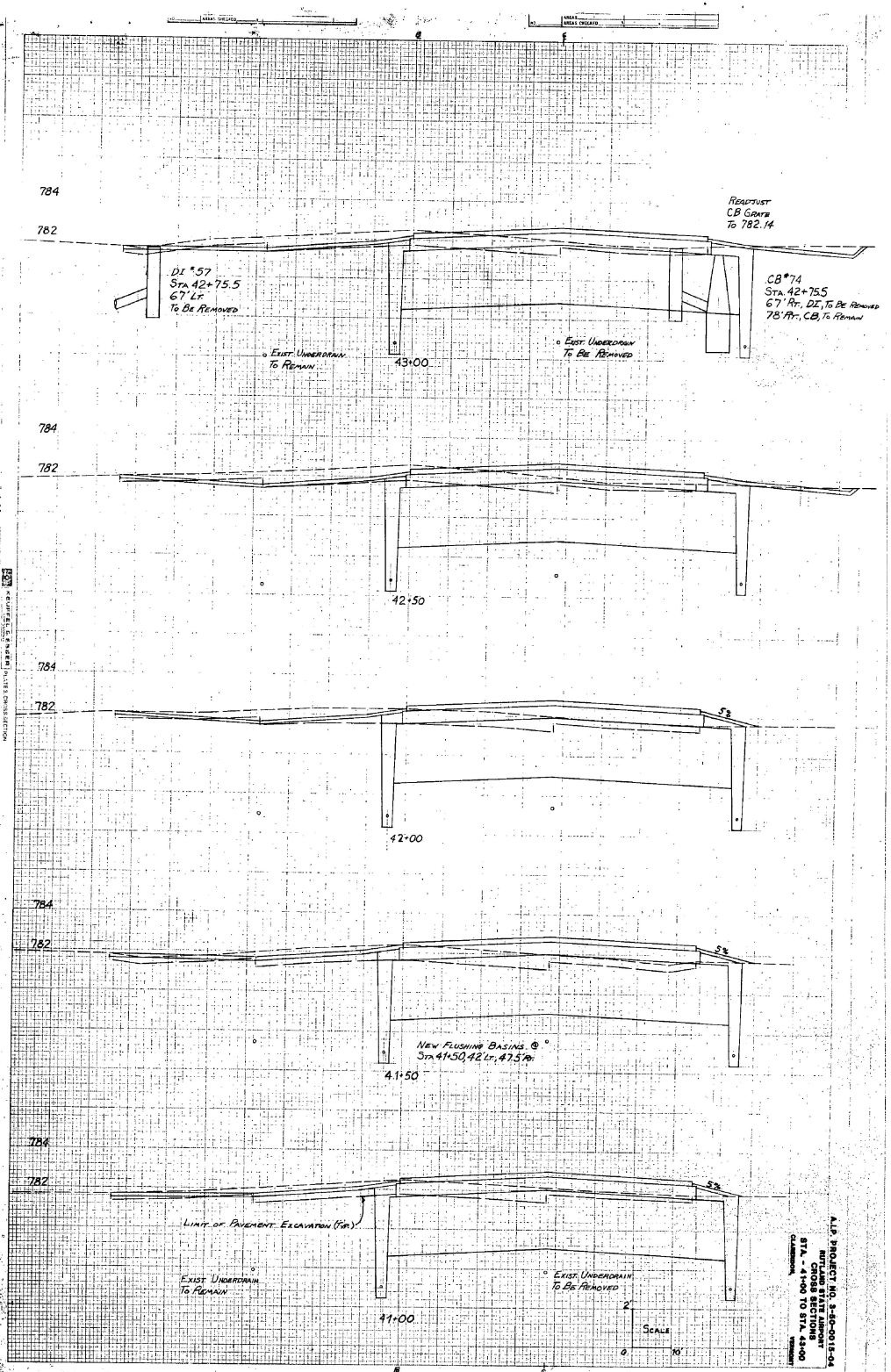


SCHUPPEL & FORBES PLTG. CROSS SECTION

A.I.P. PROJECT NO. 3-50-0018
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 35+00 TO STA. 37+50
RUTLAND, VERMONT



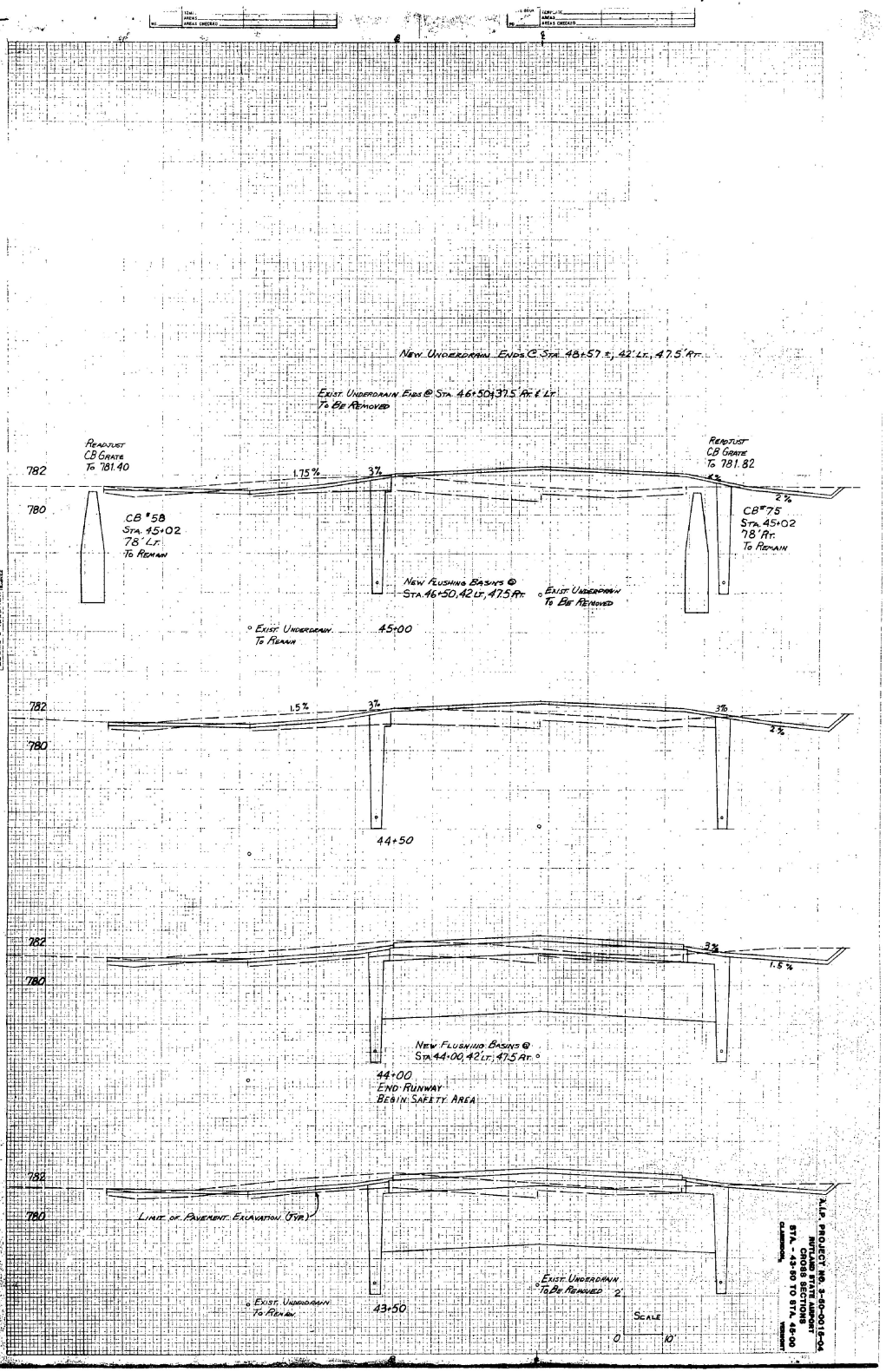
A.I.P. PROJECT NO. 3-50-0011-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 39+00 TO STA. 40+50
CLARENDON VERMONT

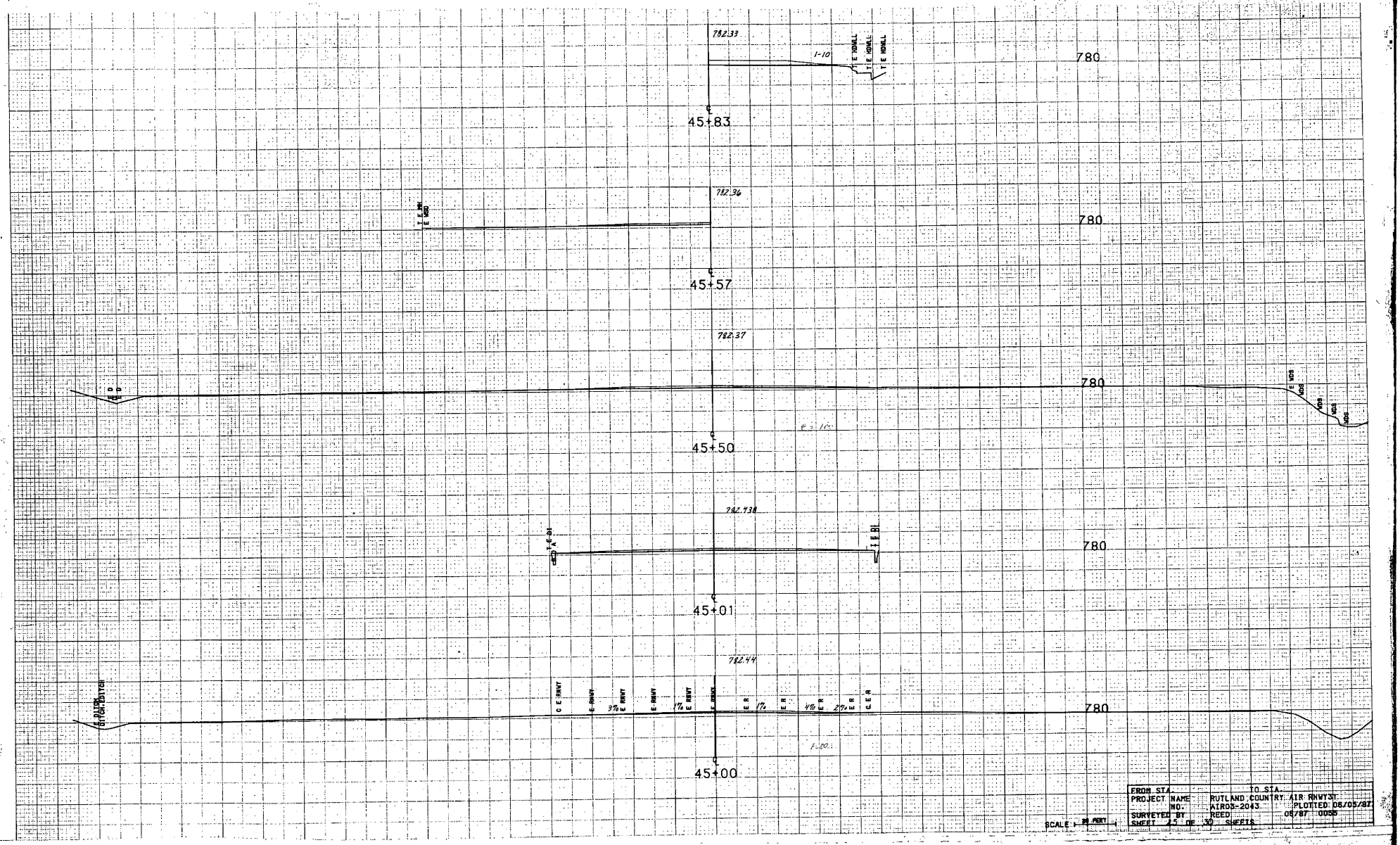


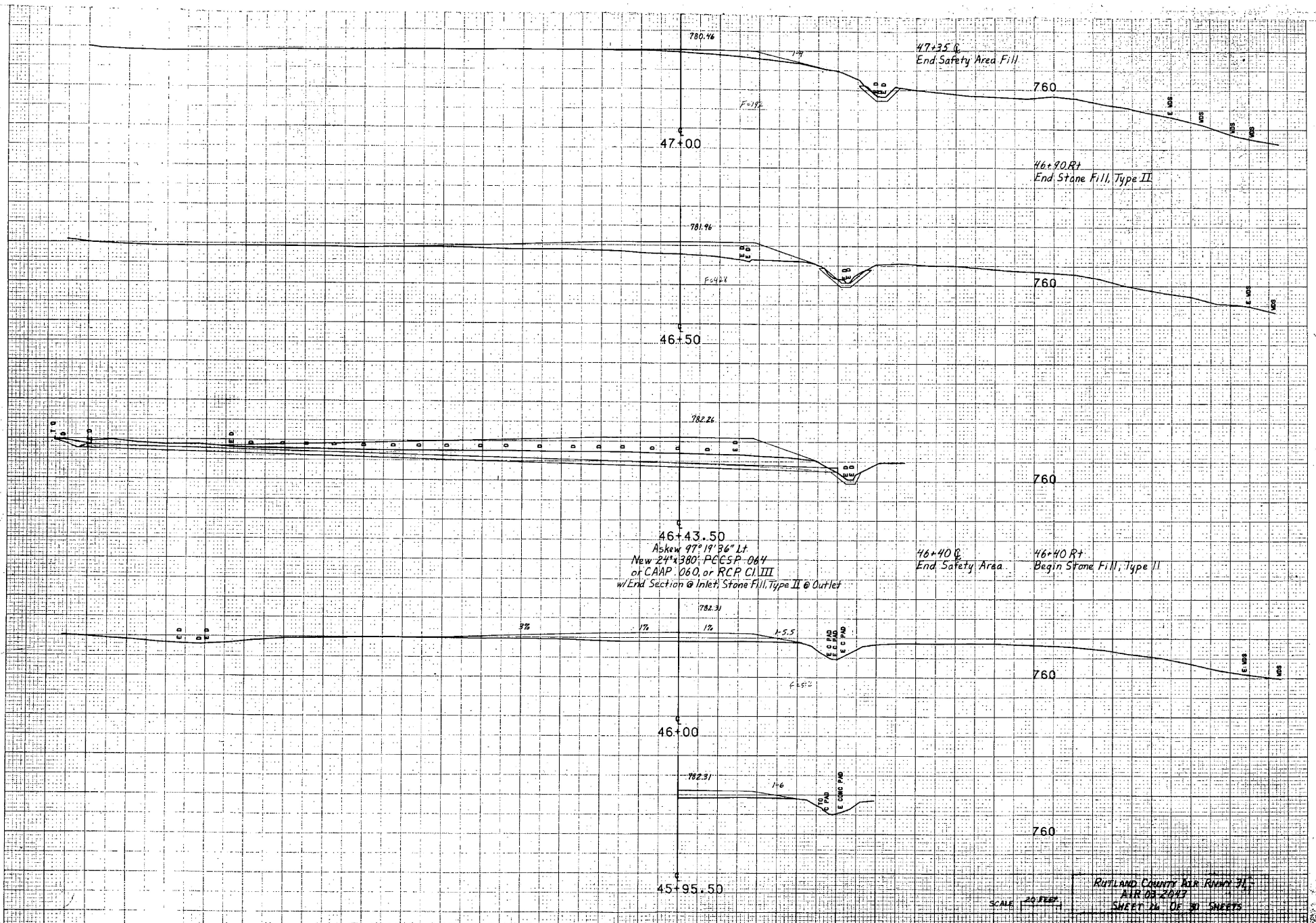
A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. 41+00 TO STA. 43+00
RUTLAND, VERMONT

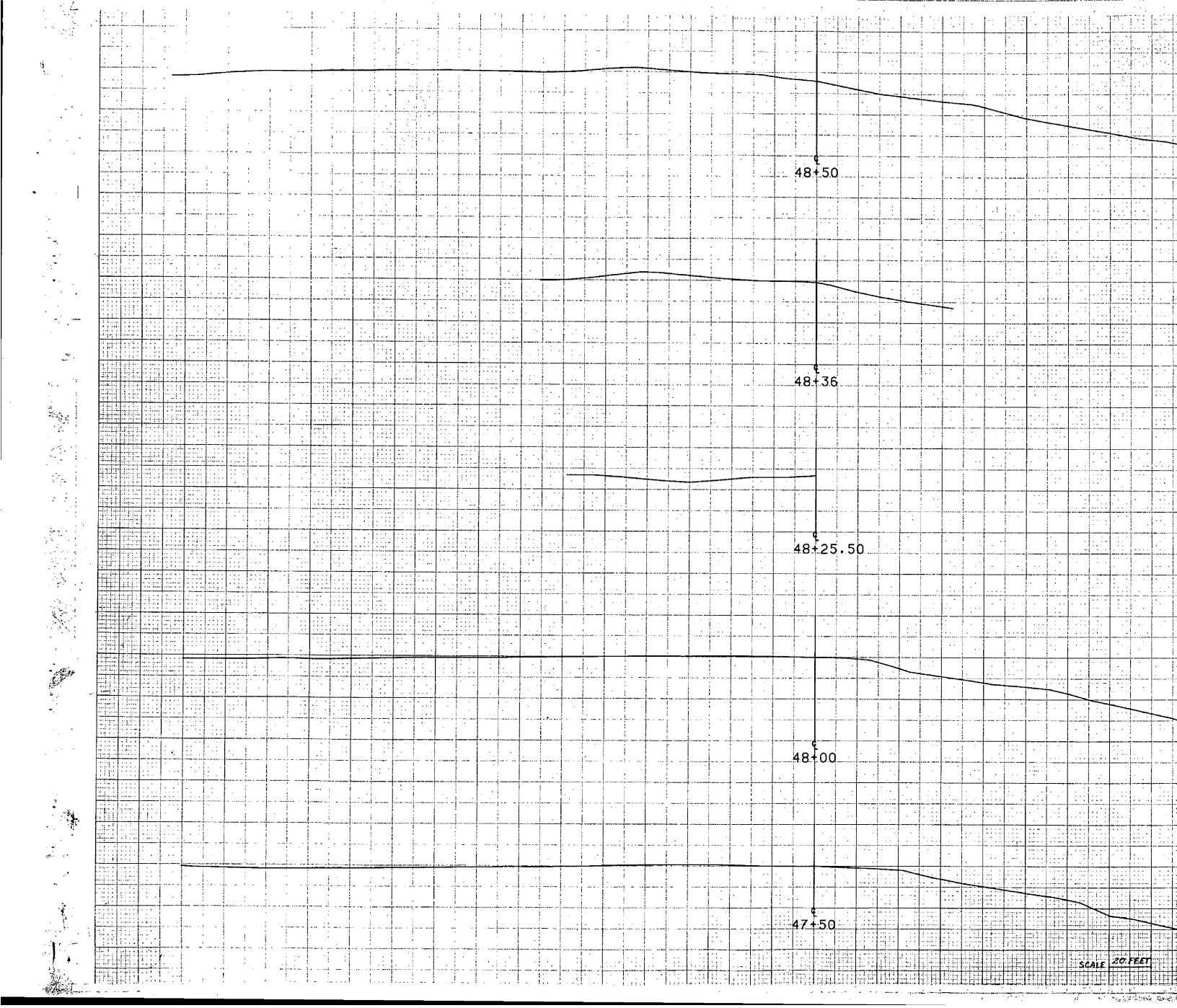
KRUTTER ENGINEERING
PLATES CONSOLIDATED

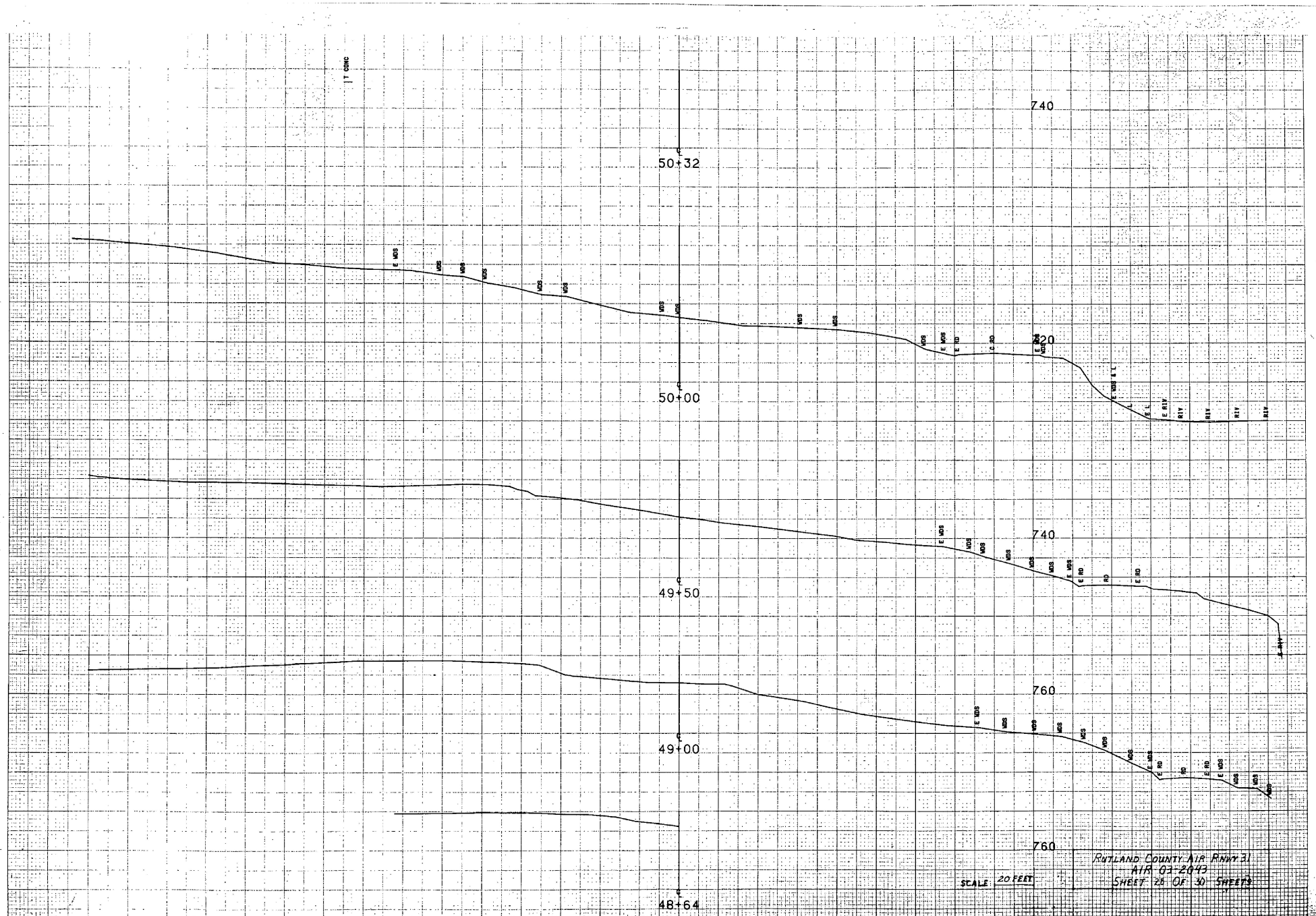
SHEET NO. 6 OF 10

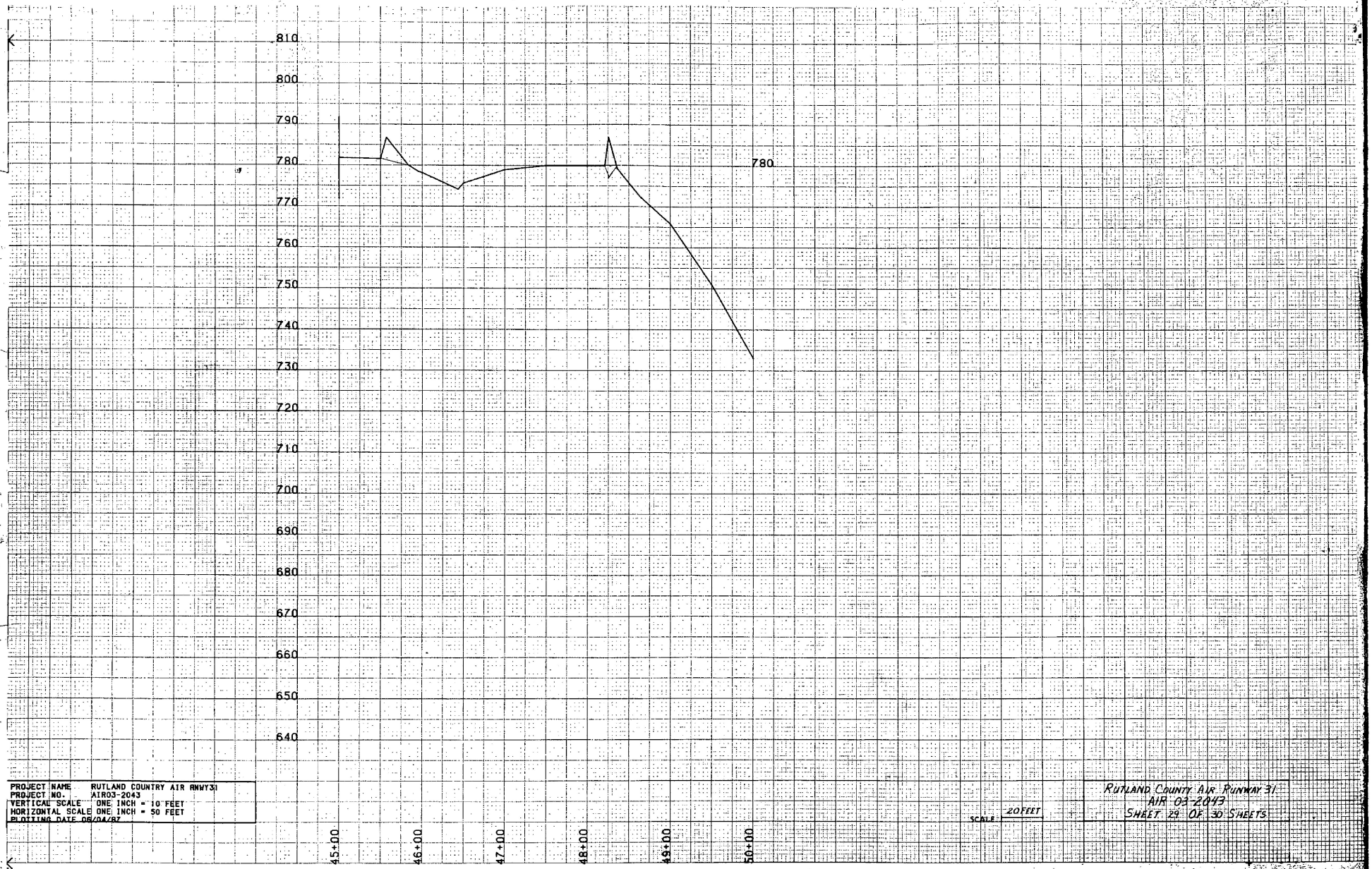

NEW UNDERDRAIN ENDS @ STA. 48+57.±, 42' LT., 47.5' RT.
EXIST. UNDERDRAIN ENDS @ STA. 46+50 37.5' RT. & LT. TO BE REMOVED
READJUST CB GRATE TO 781.40
READJUST CB GRATE TO 781.82
782
780
1.75%
3%
4%
2%
CB #58 STA. 45+02 78' LT. TO REMAIN
CB #75 STA. 45+02 78' RT. TO REMAIN
NEW FLUSHING BASINS @ STA. 46+50, 42' LT., 47.5 RT.
EXIST. UNDERDRAIN TO BE REMOVED
EXIST. UNDERDRAIN TO REMAIN
45+00
1.5%
3%
44+50
NEW FLUSHING BASINS @ STA. 44+00, 42' LT., 47.5 RT.
44+00
END RUNWAY
BEGIN SAFETY AREA
LIMIT OF PAVEMENT EXCAVATION (TYP.)
EXIST. UNDERDRAIN TO BE REMOVED
EXIST. UNDERDRAIN TO REMAIN
43+50
SCALE
0
10'
A.I.P. PROJECT NO. 3-50-0011-04
RUNWAY 1-19 REHABILITATION
CROSS SECTIONS
STA. - 43+50 TO STA. 45+00
CLARENDON, VERMONT
SHEET NO. 10


782.33
I-10
T.E. WALL
T.E. WALL
T.E. WALL
780
45+83
782.36
T.E.WALL
780
45+57
782.37
780
45+50
782.438
T.E.B1
780
45+01
782.44
780
45+00
FROM STA.
TO STA.
PROJECT NAME
RUTLAND COUNTRY AIR RNWY 31
NO.
AIR05-2043
PLOTTED: 06/05/87
SURVEYED BY
REED
06/87 0055
SHEET 45 OF 30 SHEETS
SCALE: 20 FEET


780.46
1:4
47+35 ℄
End Safety Area Fill
760
F=19'
℄
47+00
46+90 Rt
End Stone Fill, Type II
781.96
F=42'
760
46+50
782.26
760
46+43.50
Askew 97°19'36" Lt.
New 24"x38'; PCCSP 064
or CAAP 060, or RCP Cl III
w/End Section @ Inlet, Stone Fill, Type II @ Outlet
46+40 ℄
End Safety Area
46+40 Rt
Begin Stone Fill, Type II
782.31
9%
1%
1%
1:5.5
E.C. PAD
F=51'
760
46+00
782.31
1:6
TO E. PAD
E. CONC. PAD
760
45+95.50
SCALE 20 FEET
RUTLAND COUNTY RTE. RIVER FL.
AIR 03-2(47)
SHEET 24 OF 30 SHEETS


48+50
48+36
48+25.50
48+00
47+50
SCALE 20 FEET


1" CONC
740
50+32
720
50+00
740
49+50
760
49+00
760
48+64
SCALE 20 FEET
RUTLAND COUNTY AIR RNWY 31
AIR 03-2043
SHEET 28 OF 30 SHEETS



PROJECT NAME	RUTLAND COUNTRY AIR RNWY31
PROJECT NO.	AIR03-2043
VERTICAL SCALE	ONE INCH = 10 FEET
HORIZONTAL SCALE	ONE INCH = 50 FEET
PLOTTING DATE	05/04/07

SCALE 20 FEET

RUTLAND COUNTY AIR RUNWAY 31
AIR 03-2043
SHEET 29 OF 30 SHEETS

EARTHWORK SHEET

STATE OF VERMONT

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

VC	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V CURVES	CORR V.C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA PT²	TOTAL EXCAVATION EARTH AND ROCK CU YDS	TOPSOIL AREA PT²	TOPSOIL CU YDS	BORROW EMBANKMENT AREA PT²	BORROW EMBANKMENT CU YDS	SUBBASE AREA PT²	SUBBASE CU YDS
	+0.15%	10+00	782.35				3		14		17		12	
		+50	782.43			50'	1	4	14	26	17	31	17	27
		11+00	782.50			50'	0	6	14	26	17	23	17	31
		+50	782.58			50'	2	6	14	26	17	23	16	30
		12+00	782.65			50'	11	12	17	29	17	31	13	27
		+50	782.73			50'	13	22	17	31	9	24	17	28
		13+00	782.80			50'	10	21	17	31	11	19	14	29
		+50	782.88			50'	10	19	17	31	11	20	20	31
		14+00	782.96			50'	8	17	17	31	17	26	14	31
		+50	783.03			50'	3	10	17	29	17	29	14	30
		15+00	783.10			50'	4	6	14	29	14	26	18	30
		+50	783.18			50'	17	19	14	26	14	17	14	20
		16+00	783.28			50'	4	19	14	26	4	11	8	18
		+50	783.35			50'	5	8	14	24	8	16	11	23
		17+00	783.40			50'	2	6	14	26	9	20	14	26
		+50	783.48			50'	5	9	15	27	13	21	14	19
		18+00	783.55			50'	5	13	14	27	10	16	6	22
		+50	783.65			50'	9	15	14	26	7	15	18	28
		19+00	783.70			50'	3	13	14	26	7	12	12	25
		+50	783.78			50'	3	7	14	27	6	19	15	27
		20+00	783.85			50'	3	6	15	28	14	26	14	30
		+50	783.93			50'	6	8	15	27	15	19	18	30
		21+00	784.00			50'	8	13	14	26	7	15	14	20
		+50	784.08			50'	7	14	14	26	9	19	8	23
		22+00	784.15			50'	8	14	14	26	11	19	17	25
		+50	784.23			50'	6	13	13	25	7	17	10	25
X		23+00	784.30			50'	7	12	14	25	10	16	8	17
		+50	784.31			50'	8	14	13	25	9	18	8	15
		24+00	784.31			50'	22	28	15	24	12	19	9	16
		+50	784.32			50'	24	43	13	24	2	13	5	13
		25+00	784.33			50'	52	52	13	24	1	3	2	6
		+50	784.54			50'	50	76	12	23	1	2	2	4
		26+00	784.35			50'	74	116	19	29	1	2	0	2
		+50	784.35			50'	55	119	20	36	1	2	0	0
X		+88.89 MATCH	784.36			38.89	51	76	8	11	0	0	0	0
		COLUMN TOTAL						826		902		568		703
	+0.1862%	MATCH												
		28+65.77	784.14				12		12		9		0	
		29+00	784.20			34.23	51	40	11	15	2	7	1	1
		+50	784.30			50'	78	119	20	29	2	4	1	2
X		30+00	784.39			50'	60	128	21	38	2	5	1	2
		+50	784.33			50'	65	116	22	40	3	15	1	4
		31+00	784.26			50'	48	105	20	39	11	18	3	5
		+50	784.19			50'	47	82	20	36	8	20	2	5
		32+00	784.13			50'	37	78	19	35	14	21	3	8
		+50	784.06			50'	68	97	19	35	9	8	6	7
		33+00	784.00			50'	47	106	19	35	1	5	2	6
		+50	783.93			50'	27	68	19	35	4	10	4	11
		34+00	783.87			50'	216	225	19	35	7	10	8	7
		+50	783.80			50'	203	462	16	32	4	16	0	0
		35+00	783.74			50'	662	875	7	21	13	13	0	0
		+50	783.67			50'	234	830	19	24	3	4	0	0
		36+00	783.61			50'	235	434	19	35	7	14	0	0
		+50	783.54			50'	229	450	16	32	8	13	0	0
		37+00	783.48			50'	224	419	14	28	6	15	0	0
		+50	783.41			50'	225	416	14	26	10	21	0	0
		38+00	783.35			50'	223	415	14	26	15	22	0	0
		+50	783.28			50'	218	408	14	26	11	25	0	0
		39+00	783.22			50'	213	399	14	26	16	28	0	0
		+50	783.15			50'	217	398	14	26	14	28	0	0
		40+00	783.09			50'	209	394	14	26	16	29	0	0
		+50	783.02			50'	215	392	14	26	15	31	0	0
		41+00	782.96			50'	223	406	14	26	18	30	0	0
		+50	782.89			50'	208	399	14	26	14	27	0	0
		42+00	782.83			50'	215	392	14	26	15	24	0	0
		+50	782.76			50'	234	416	14	30	11	13	0	0
		43+00	782.70			50'	230	430	19	35	3	8	0	0
		+50	782.63			50'	226	422	19	35	6	17	0	0
		44+00	782.57			50'	230	422	19	35	12	21	0	0
		+50	782.50			50'	232	428	19	35	11	20	0	0
		45+00	782.44				217	416	19	35	11	22	0	0
		COLUMN TOTAL						11,167		1009		569		58
		GRAND TOTAL						11,993		1911		1137		761

VC	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V CURVES	CORR V.C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.

CARRIED FORWARD

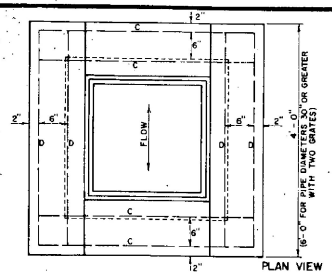
COLUMN FOOTINGS

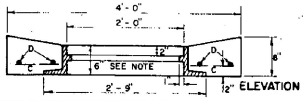
PROJECT RUTLAND STATE AIRPORT GREENROW - VERMONT

PROJECT NO. BRO-0182

DESIGNED 5/30/85 SHEET 30 OF 30 SHEETS

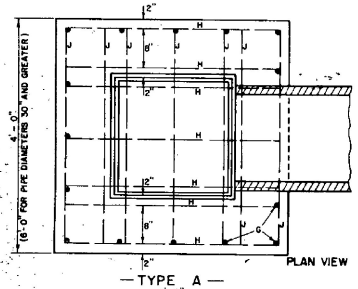
STATE OF VERMONT REGISTERED PROFESSIONAL ENGINEER No. 3073



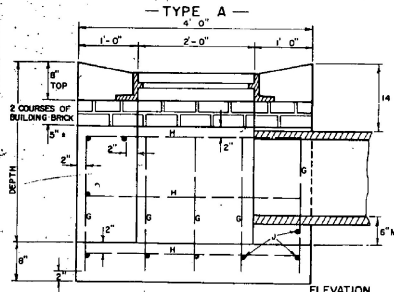


NOTE—FRAME SHOWN IS FOR TYPE A GRATE, SEE SHEET D-11. FOR TYPE B GRATE AND FRAME, SEE SHEET D-16 (EXCEPT THE FRAME DEPTH DIMENSION SHALL BE 6").

TOP FOR REINFORCED CONCRETE
DROP INLET WITH GRATE
FOR USE IN DITCHES



—TYPE A—



REINFORCED CONCRETE DROP INLET
FOR USE IN DITCHES

STEEL SCHEDULE

4'x4' DROP INLET TYPE A							4'x6' DROP INLET WITH TWO GRATES TYPE B										4'x6' DROP INLET WITH ONE GRATE TYPE C								4'x6' DROP INLET WITH ONE GRATE WITH 4'x6' TOP TYPE D								
		12", 15", 18", 24"					30", 36"										30", 36"								30", 36"								
DEPTH	G	LENGTH	H,J	LENGTH	C,D	LENGTH	G	LENGTH	H	LENGTH	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH	G	LENGTH	H	LENGTH	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH
3'-0"	15	2'-3"	22	3'-8"	8	3'-8"											3'-0"											
3'-6"	15	2'-9"	22	3'-8"	8	3'-8"											3'-6"											
4'-0"	15	3'-3"	29	3'-8"	8	3'-8"																						
4'-6"	15	3'-9"	29	3'-8"	8	3'-8"	17	3'-3"	19	3'-8"	10	5'-8"	4	3'-8"	4	5'-8"	4'-0"	17	3'-8"	19	3'-8"	10	5'-8"	6	3'-8"	4	5'-8"	4'-0"
5'-0"	15	4'-3"	35	3'-8"	8	3'-8"	17	3'-9"	19	3'-8"	10	5'-8"	4	3'-8"	4	5'-8"	4'-6"	17	4'-2"	19	3'-8"	10	5'-8"	6	3'-8"	4	5'-8"	4'-6"
5'-6"	15	4'-9"	35	3'-8"	8	3'-8"	17	4'-3"	23	3'-8"	13	5'-8"	4	3'-8"	4	5'-8"	5'-0"	17	4'-8"	23	3'-8"	13	5'-8"	6	3'-8"	4	5'-8"	5'-0"
6'-0"	15	5'-3"	41	3'-8"	8	3'-8"	17	4'-9"	23	3'-8"	13	5'-8"	4	3'-8"	4	5'-8"	5'-6"	17	5'-2"	23	3'-8"	13	5'-8"	6	3'-8"	4	5'-8"	5'-6"
6'-6"	15	5'-9"	41	3'-8"	8	3'-8"	17	5'-3"	27	3'-8"	15	5'-8"	4	3'-8"	4	5'-8"	6'-0"	17	5'-8"	27	3'-8"	15	5'-8"	6	3'-8"	4	5'-8"	6'-0"
7'-0"	15	6'-3"	47	3'-8"	8	3'-8"	17	5'-9"	31	3'-8"	15	5'-8"	4	3'-8"	4	5'-8"	6'-6"	17	6'-2"	31	3'-8"	15	5'-8"	6	3'-8"	4	5'-8"	6'-6"
7'-6"	15	6'-9"	47	3'-8"	8	3'-8"	17	6'-3"	35	3'-8"	17	5'-8"	4	3'-8"	4	5'-8"	7'-0"	17	6'-8"	35	3'-8"	17	5'-8"	6	3'-8"	4	5'-8"	7'-0"
8'-0"	15	7'-3"	53	3'-8"	8	3'-8"	17	6'-9"	35	3'-8"	17	5'-8"	4	3'-8"	4	5'-8"	7'-6"	17	7'-2"	35	3'-8"	17	5'-8"	6	3'-8"	4	5'-8"	7'-6"
							17	7'-3"	39	3'-8"	19	5'-8"	4	3'-8"	4	5'-8"	8'-0"	17	7'-8"	39	3'-8"	19	5'-8"	6	3'-8"	4	5'-8"	8'-0"

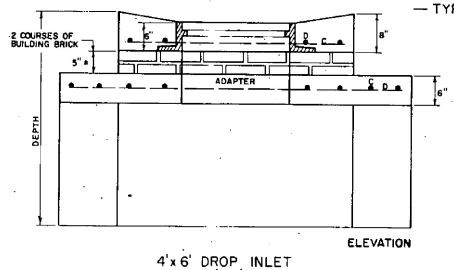
STEEL AND CONCRETE QUANTITIES

DEPTH	4'x4' DROP INLET TYPE A 12"-15"-18"-24" CONCRETE C.Y.	STEEL LBS.	4'x6' DROP INLET WITH TWO GRATES TYPE B 30" CONCRETE C.Y.	STEEL LBS.	36" CONCRETE C.Y.	STEEL LBS.	DEPTH	4'x6' DROP INLET WITH ONE GRATE WITH 4'x6' TOP TYPE C 30" CONCRETE C.Y.	STEEL LBS.	36" CONCRETE C.Y.	STEEL LBS.	DEPTH
3'-0"	1.7	150					3'-0"					
3'-6"	1.9	158					3'-6"					
4'-0"	2.1	193	2.7	228			4'-0"	2.8	244			
4'-6"	2.3	200	3.0	237	2.9	237	4'-6"	3.1	252	3.0	252	4'-6"
5'-0"	2.6	231	3.3	279	3.2	279	5'-0"	3.4	294	3.3	294	5'-0"
5'-6"	2.8	239	3.6	288	3.5	288	5'-6"	3.7	303	3.6	303	5'-6"
6'-0"	3.0	270	3.9	324	3.8	324	6'-0"	4.0	339	3.9	339	6'-0"
6'-6"	3.2	278	4.2	348	4.1	348	6'-6"	4.3	363	4.2	363	6'-6"
7'-0"	3.5	308	4.5	384	4.4	384	7'-0"	4.6	399	4.5	399	7'-0"
7'-6"	3.7	316	4.8	393	4.7	393	7'-6"	4.9	406	4.8	408	7'-6"
8'-0"	3.9	347	5.1	429	5.0	429	8'-0"	5.2	444	5.1	444	8'-0"

FOR 2nd 30" PIPE DEDUCT 0.18 C.Y. FOR 2nd 36" PIPE DEDUCT 0.26 C.Y.

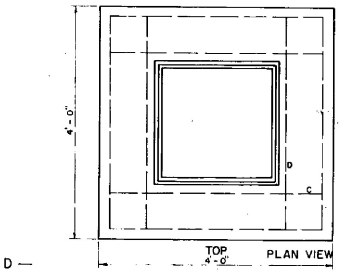
FOR 2nd 42" PIPE DEDUCT 0.36 C.Y. OR 0.18 FOR 1 PIPE
FOR 2nd 48" PIPE DEDUCT 0.47 C.Y. OR 0.24 FOR 1 PIPE

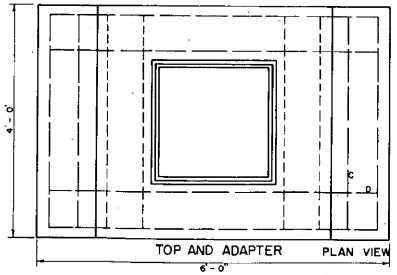
ALL REINFORCING STEEL TO BE NO. 5 DEFORMED BARS, EVENLY SPACED WITH A MAXIMUM SPACING OF 12" C/C.
ALL STEEL TO HAVE 2 INCH MIN. COVER.
DROP INLET TO BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501.
GRATES TO CONFORM TO DROP INLETS, CATCH BASINS, AND MANHOLES, SECTION 604.
FURNISHING AND LAYING OF BRICKS FOR ADJUSTING ELEVATION OF GRATE SHALL BE INCLUDED IN UNIT BID PRICE FOR CONCRETE, CLASS B, PAY ITEM 501.25, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES
MORTAR, TYPE II, TO BE USED AS JOINT FILLER AND LAYING OF BRICK.
FOR PIPES OF 30" OR MORE IN DIAMETER, ALLOWANCE SHALL BE MADE FOR THE OPENING IN COMPUTING CONCRETE VOLUMES. THIS DEDUCTION WILL BE BASED ON THE RATED DIAMETER OF THE PIPE USED, WITH THE SAME DEDUCTION FOR CONCRETE AND METAL PIPE. ABOVE TABLES INDICATE DEDUCTION FOR ONE PIPE.



4'x6' DROP INLET
WITH 4'x4' TOP
TOP WITH ONE CAST IRON GRATE

—TYPE D—





STEEL AND CONCRETE QUANTITIES

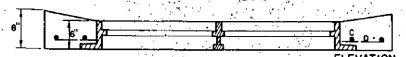
4'x6' DROP INLET WITH ONE GRATE WITH 4'x4' TOP TYPE D

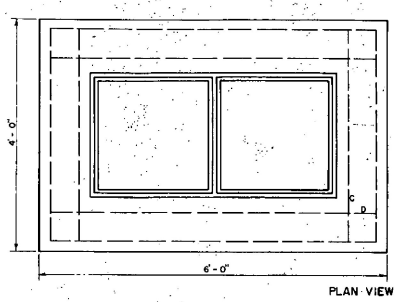
DEPTH	30" CONCRETE C.Y.	30" STEEL LBS	36" CONCRETE C.Y.	36" STEEL LBS.
5'-0"	3.2	313	3.1	313
5'-6"	3.5	322	3.4	322
6'-0"	3.8	358	3.7	358
6'-6"	4.1	382	4.0	382
7'-0"	4.4	418	4.3	418
7'-6"	4.7	427	4.6	427
8'-0"	5.0	463	4.9	463

STEEL SCHEDULE TYPE D

4'x6' DROP INLET WITH ONE GRATE WITH 4'x4' TOP 30", 36"										
G	LENGTH	H	LENGTH	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH
17	3'-7"	23	3'-8"	13	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	5'-0"
17	4'-1"	23	3'-8"	13	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	5'-6"
17	4'-7"	27	3'-8"	15	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	6'-0"
17	5'-1"	31	3'-8"	15	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	6'-6"
17	5'-7"	35	3'-8"	17	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	7'-0"
17	6'-1"	35	3'-8"	17	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	7'-6"
17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	8'-0"

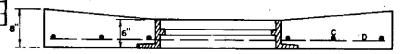
—TYPE B—

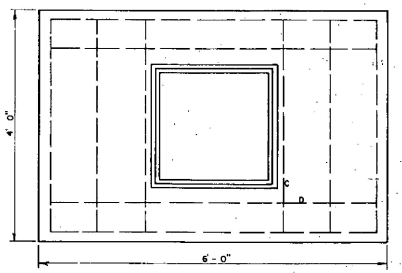




4'x6' DROP INLET
TOP WITH TWO CAST IRON GRATES

—TYPE C—





4'x6' DROP INLET
TOP WITH ONE CAST IRON GRATE

REVISIONS AND CORRECTIONS
APR. 2, 1973 - ORIGINAL D-6 REDRAWN.

APPROVED
April 4, 1973
DATE

R. H. Arnold
CHIEF ENGINEER

E. H. Stevens, Jr.
ASST. CHIEF ENGINEER

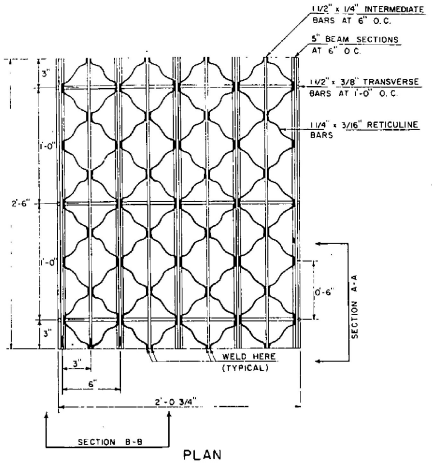
J. M. Law
HIGHWAY ENGINEER

REINFORCED CONCRETE DROP INLET WITH GRATE
FOR USE IN DITCHES

VERMONT AGENCY OF TRANSPORTATION

STANDARD
D-6

STEEL GRATE



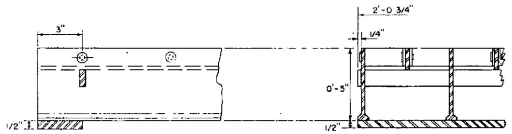
PLAN

GRATE SIZE SINGLE 24 3/4" x 30"
DOUBLE 24 3/4" x 54"

WEIGHT 95 LBS OR MORE

GRATES SHALL BE CAPABLE OF SUPPORTING H-20 (32,000 LB. AXLE LOAD) INCLUDING 30% IMPACT.

UNIT STRESSES (LBS PER SQ. IN.)		18,000	20,000
MAIN BAR PARALLEL TO TRAFFIC	H-20	49"	55"
MAIN BAR PERPENDICULAR TO TRAFFIC	H-20	39"	42"

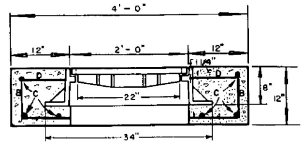


3" x 1/2" x 2'-0 3/4" STEEL BEARING BAR'S WELDED TO BOTTOM OF GRATING

SECTION A-A SECTION B-B

CAST IRON COVER WITH FRAME

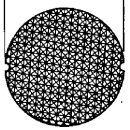
BAR	NO.	LENGTH	
B	4		3'-8"
C	6	3'-8"	STRAIGHT
D	4	3'-8"	STRAIGHT



ELEVATION

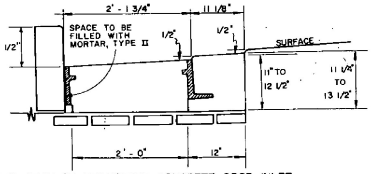
ALL REINFORCING STEEL TO BE No. 5 DEFORMED BARS

GENERAL NOTES:
WEIGHT OF FRAME AND COVER = 425 LBS



PLAN

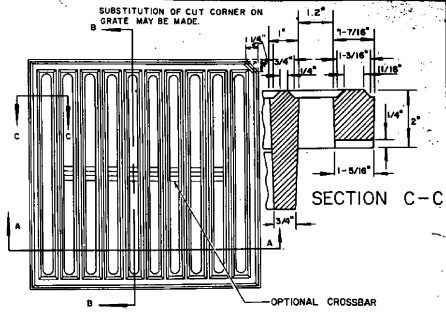
CAST IRON GRATE WITH FRAME



ELEVATION OF REINFORCED CONCRETE DROP INLET WITH VERTICAL GRANITE CURB AND 3 FLANGE CAST IRON FRAME FOR CAST IRON GRATE.

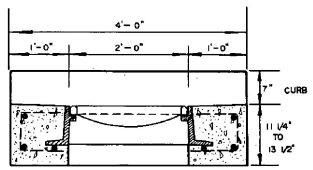
SEE STANDARD D-9 FOR CONCRETE VOLUME, REINFORCING STEEL SCHEDULE AND CURB JOINT DETAIL.

SUBSTITUTION OF CUT CORNER ON GRATE MAY BE MADE.

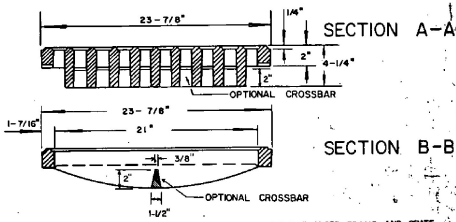


PLAN

SECTION C-C



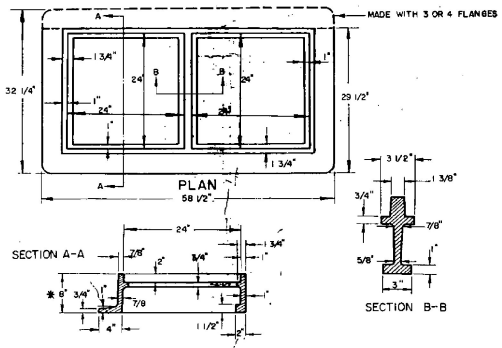
ELEVATION



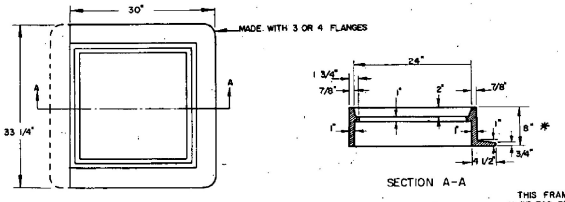
WEIGHT OF 3 FLANGED FRAME AND GRATE	
GRATE	220 LBS
FRAME	260 LBS
TOTAL	480 LBS

CAST IRON GRATE, TYPE A

USE OF THE TYPE A GRATE IS PROHIBITED WHERE BICYCLE TRAFFIC IS EXPECTED.



RECTANGULAR CAST IRON FRAME FOR TWO 24" SQUARE CAST IRON GRATES



SQUARE CAST IRON FRAME FOR CAST IRON GRATE TYPE A

* NOTE: FRAME DEPTH TO BE "6" WHEN USED IN CONJUNCTION WITH DROP INLET DETAILED ON STANDARD D-6.

THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED.

4 FLANGES UNLESS OTHERWISE INDICATED. FRAMES TO BE FURNISHED WITH 3 FLANGES WHEN USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.

REVISIONS AND CORRECTIONS

APRIL 25, 1972 CAST IRON COVER CHANGED FROM SQUARE TO CIRCULAR
SEPT. 4, 1980 OPTIONAL CROSSBAR ADDED TO "A" GRATE.
NOTE ADDED TO "A" GRATE FROW DETAIL.
AUG 24, 1981 NOTE ADDED RESTRICTING USE OF TYPE A GRATE

APPROVED DATE Dec 6, 1971

R.W. Arnold
CHIEF ENGINEER

E.H. Stuchney
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

DRAWN: G. AJA
TRACED: A.J.A.

STEEL GRATE
CAST IRON GRATE TYPE A
CAST IRON COVER

VERMONT AGENCY OF TRANSPORTATION

STANDARD

D-11