



STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
RIGHT-OF-WAY PLANS  
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1	MOBIL OIL CORPORATION	3	187+32 RT	187+32 RT			INSTALL & MAINT. (P) (1800 SE+)	WDOE	12/10/86	RICHMOND	55	160-61	UNDERGROUND CONDUIT

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	2,3	PARCEL NO. 1 MOBIL, ADDED AREA & WIDTH TO EASEMENT, PER C.O. 6705	3-24-86	D.E.M.	<i>Lub</i>
2	1,2,3	PARCEL NO. 1 MOBIL, REVISED EASEMENT STA. & AREA PER C.O. 6713	4-3-86	D.E.M.	<i>Lub</i>
3	2,3	PARCEL NO. 1 MOBIL, DELETED LESSEE PER C.O. 6724	4-21-86	D.E.M.	<i>Lub</i>

MADE BY: D.E.M. DATE 3-6-86  
CHECKED BY: E.A.E. DATE 3-6-86

DR. RT. — DRAINAGE RIGHT  
DIT. RT. — DITCHING RIGHT  
CH. RT. — CHANNEL RIGHT  
DRIVE RT. — DRIVE RIGHT  
CUL. RT. — CULVERT RIGHT  
ⓓ — DEMOLITION OR REMOVAL  
[W] — WATER SOURCES

————— PRESENT R.O.W.  
- - - - - TAKING WITHOUT ACCESS  
- - - - - TAKING WITHOUT ACCESS ALONG PROPERTY LINES  
————— TAKING WITH ACCESS  
(P) — PERMANENT EASEMENT  
(T) — TEMPORARY EASEMENT

LEGEND  
- - - - - CONSL. EASE. ——— CONST. EASEMENT  
SR — SR — SLOPE RIGHTS  
P — P — PROPERTY LINE  
— Δ — Δ — Δ — TOP OF CUT  
— ○ — ○ — ○ — TOP OF SLOPE

APPROVED *Lawrence Blin* DATE 3-6-86  
CHIEF OF PLANS & TITLES

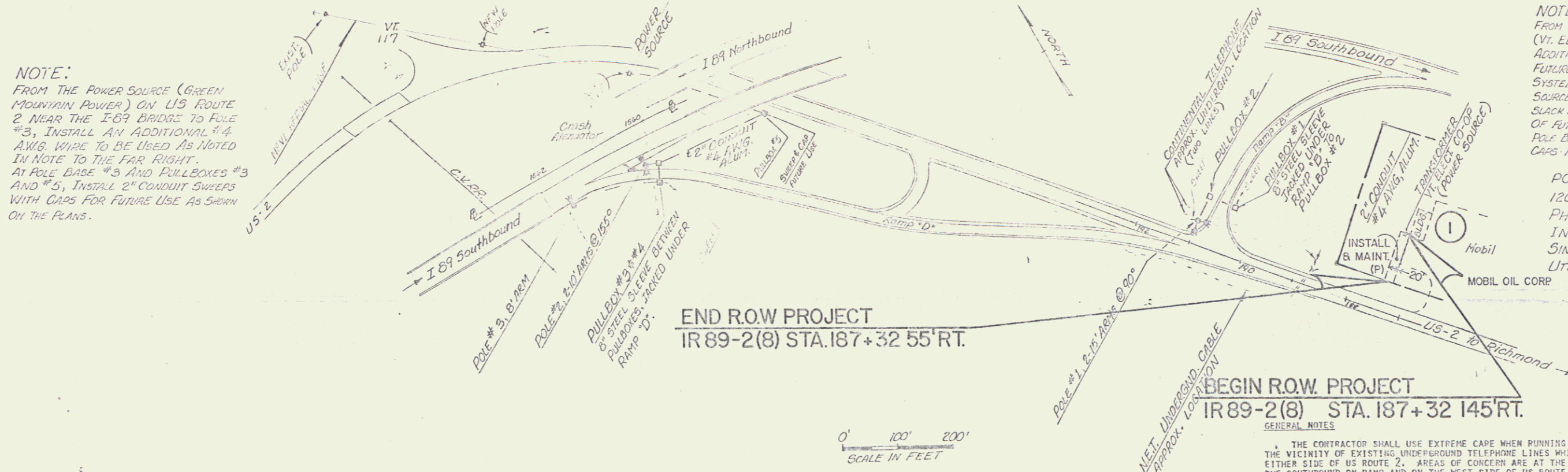
PROJECT RICHMOND  
NO. IR 89-2(8)  
SHEET 2 OF 3

ROW

**NOTE:**  
FROM THE POWER SOURCE (GREEN MOUNTAIN POWER) ON US ROUTE 2 NEAR THE I-89 BRIDGE TO POLE #3, INSTALL AN ADDITIONAL #4 AWG. WIRE TO BE USED AS NOTED IN NOTE TO THE FAR RIGHT. AT POLE BASE #3 AND PULLBOXES #3 AND #5, INSTALL 2" CONDUIT SLEEVES WITH CAPS FOR FUTURE USE AS SHOWN ON THE PLANS.

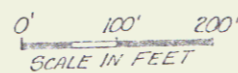
**NOTE:**  
FROM THE POWER SOURCE AT THE MOBIL STATION, (VT. ELECTRIC CO-OP) TO POLE #1, INSTALL AN ADDITIONAL #4 AWG. WIRE TO BE USED FOR FUTURE EXPANSION TO A 3-WIRE DISTRIBUTION SYSTEM. DO NOT CONNECT THIS WIRE TO A POWER SOURCE. AT PULLBOXES AND POLE BASES, SUFFICIENT SLACK SHALL BE LEFT IN THE WIRES FOR CONNECTION OF FUTURE LIGHT CIRCUITS. AT PULLBOX #1 AND POLE BASE #1, INSTALL 2" CONDUIT SLEEVES WITH CAPS FOR FUTURE USE AS SHOWN ON THE PLANS.

**POWER SOURCE**  
120/240 VOLT, 3-WIRE, SINGLE PHASE CIRCUIT.  
INITIALLY A 120 VOLT, 2 WIRE, SINGLE PHASE CIRCUIT WILL BE UTILIZED AT BOTH POWER SOURCES.



**END R.O.W. PROJECT**  
IR 89-2(8) STA. 187+32 55' RT.

**BEGIN R.O.W. PROJECT**  
IR 89-2(8) STA. 187+32 145' RT.



POLE NO.	LOCATION OFF-SET	LENGTH OF POLE ARM	LUMINAIRE WATTS TYPE	MOUNTING HEIGHT	REMARKS	WALL THICKNESS
1	190+95 RT. 42'	28'	150 W. III	30'	BRACKET ARMS @ 90°	.250"
2	186+64 LT. 71'	28'	150 W. III	30'	BRACKET ARMS @ 155°	.219"
3	156+68 LT. 70'	28'	150 W. III	30'	ACTUAL POLE LENGTH TO BE 0'6" SHORTER IN THE FIELD; 4" BACK OF FACE OF RAIL TO NEAR EDGE OF POLE.	.185"

**STREET LIGHTING - GENERAL NOTES**

**CONCRETE BASES**  
THE OFFSET FOR BASES WILL BE AS INDICATED ON THE PLANS. WHEN BASES ARE INSTALLED IN SLOPING GROUND, THE GREATEST EXPOSED HEIGHT TO KEEP ALL OF THE TOP ABOVE GROUND MUST BE DETERMINED AND THEN ADDED TO THE MINIMUM DEPTH FOR THE TOTAL BASE HEIGHT. THE BASE SIZE SHALL BE 2'x5' FOR 4' TO 8' ARMS AND 2'x4' 8" FOR ARMS LOWER THAN 8'. CARE SHOULD BE TAKEN WHERE BASES, DRAINAGE STRUCTURES, OR UTILITIES ARE CLOSE TOGETHER.

**CONDUIT**  
2" INCH CONDUIT SHALL BE USED FOR ROAD CROSSINGS. 2" MINIMUM CONDUIT SHALL BE USED AT ALL OTHER LOCATIONS UNLESS OTHERWISE NOTED. ALL CONDUIT SHALL BE AT LEAST SCHEDULE 40 GALVANIZED STEEL ELECTRICAL CONDUIT. THE MINIMUM DEPTH OF CONDUIT SHALL BE 2 FEET EXCEPT UNDER ROADWAYS WHERE 5 FOOT DEPTH IS MINIMUM OR AS DIRECTED BY THE ENGINEER. A 6" WIDE YELLOW MARKING TAPE (PLASTIC) SHALL BE INSTALLED 6" TO 12" BELOW FINISH GRADE OVER THE CONDUIT RUNS.

**CONDUIT SLEEVE**  
MINIMUM WALL THICKNESS FOR AN 8" DIAMETER STEEL PIPE SLEEVE SHALL BE 3/8" WHEN USED FOR ASSESSING AND/OR JACKING UNDER A ROADWAY. ELECTRICAL CONDUIT RUNS UNDER ROADWAYS SHALL BE ENCLOSED IN A STEEL SLEEVE. THE SLEEVE SHALL EXTEND TO WITHIN 2' OF THE SIDE OF A BASE OR PULL BOX. ACTUAL LENGTH OF SLEEVE AND LOCATION OF PULLBOXES TO BE DETERMINED BY THE RESIDENT ENGINEER IN THE FIELD.

**GROUNDING**  
IN ADDITION TO A GROUND ROD AT POLE BASE, A CONTINUOUS GROUNDING CIRCUIT SHALL BE RUN BACK TO A CIRCUIT PROTECTIVE DEVICE AT THE TRANSFORMER. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.

**POLES, ANCHOR BASES AND ARMS**  
NO POLE SHAFT WALL THICKNESS SHALL BE LESS THAN 0.188" AND SHALL HAVE A MINIMUM 8" O.D. BOTTOM DIMENSION.

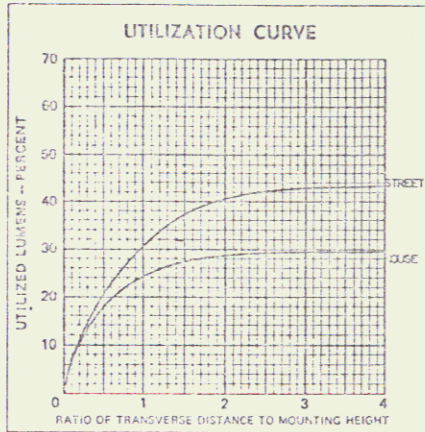
**POLES #1 & #2 SHALL HAVE A BREAKAWAY FEATURE ADDED.**

**POLES**  
ALL NEW STREET LIGHT POLES AND LUMINAIRE ARMS SHALL BE ALUMINUM IN ACCORDANCE WITH SUBSECTION 753.01 (8). ALL WIRING BETWEEN THE METER AND THE FIRST POLE OR PULLBOX AND BETWEEN PULLBOXES AND/OR PULLBOXES SHALL BE ALUMINUM, SIZE AS INDICATED ON THE PLANS. USE #10 A.W.G. STRANDED COPPER WIRES IN EACH POLE BETWEEN THE POLE BASE AND THE LUMINAIRE. ALL CONDUIT MUST INCLUDE A GROUND CONDUCTOR AND ACT AS ONE. VOLTAGE LOSSES GREATER THAN 3% IN THE SECONDARY CIRCUIT REQUIRE LARGER WIRE. ALL WIRING SHALL HAVE TYPE 2000 INSULATION OR EQUIVALENT.

**PULLBOXES**  
FOR DETAILS SEE STANDARD SHEET E-39.

**LUMINAIRES**  
LUMINAIRES SHALL BE DESIGNED FOR STREET LIGHTING AND THE INDICATED LIGHT DISTRIBUTION. THEY SHALL INCLUDE AN ALUMINUM HOUSING WITH EASY ACCESS TO THE BALLAST ASSEMBLY, A PHOTO-ELECTRIC CONTROL, FILTERED OPTICAL ASSEMBLY, MEDIUM CUTOFF DISTRIBUTION PHOSPHOR BALLAST FOR 120 VOLT HIGH PRESSURE SODIUM LAMP.

**LEGEND**  
- PROPOSED NEW POLE & LUMINAIRE  
- PROPOSED PULLBOX  
- EXISTING TRANSFORMER @ MOBIL STA.  
- PROPOSED CONDUIT  
- EXISTING UNDERGROUND UTILITIES



**GENERAL ELECTRIC PHOTOMETRIC DATA**  
LIGHTING SYSTEMS DEPARTMENT  
MIDDLETOWN, N.C. U.S.A. 28759

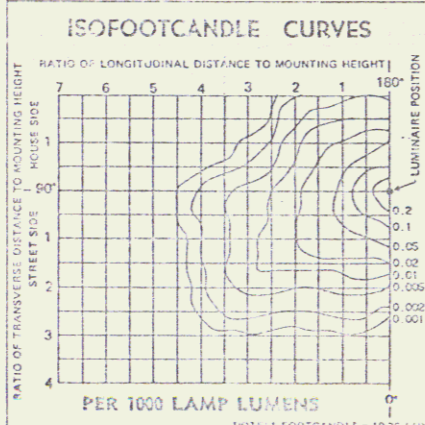
**PER 1000 LAMP LUMENS**

LUMINAIRE  
H-25042 CUTOFF  
REFLECTOR 35-232433-01  
CLEAR FLAT GLASS  
SOCKET POSITION 1 1/2 B

LAMP  
150-150 WATT HPS  
GE NO. LU70, LU100 OR LU150  
ANSI NO. S62, S54 OR S55

ANSI TYPE  
MEDIUM CUTOFF III

CIE TYPE  
CUT-OFF



**GENERAL INFORMATION**

TEST DISTANCE 7.0 METERS  
MAX CANDELA 337.3  
MAX CONE 72.5  
MAX VERTICAL PLANE 57.5 / 302.5  
MAX CANDELA AT 90° 1.2  
MAX CANDELA AT 80° 18.5  
RADIANT FOOTCANDLES 0.2700  
RADIANT CANDELA 250.3

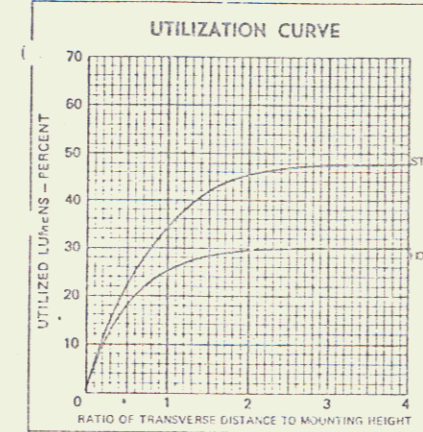
MULTIPLY ALL LUMEN, CANDELA, AND FOOTCANDLE VALUES BY THIS RATIO  
RATIO - ACTUAL LAMP LUMENS  
1000

PHOTOMETRIC TEST IN ACCORDANCE WITH IES GUIDE

**LIGHT FLUX VALUES**

DIAMETER OF STREET SIDE	LUMENS	PERCENT OF LAMP
413	41.3	0.0
0	0.0	0.0
205	20.5	0.0
0	0.0	0.0
TOTAL	299	29.9

TESTED DATE 1-22-82  
APPROVED DATE 1-22-82  
35-177235



**GENERAL ELECTRIC PHOTOMETRIC DATA**  
LIGHTING SYSTEMS DEPARTMENT  
MIDDLETOWN, N.C. U.S.A. 28759

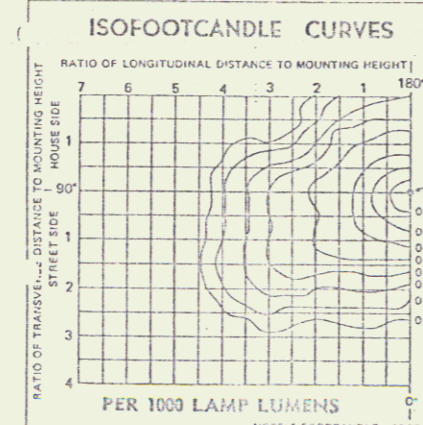
**PER 1000 LAMP LUMENS**

LUMINAIRE  
H-25042 CUTOFF  
REFLECTOR 35-232433-03  
REFRACTOR FLAT GLASS  
SOCKET POSITION 1

LAMP  
250 - 250 WATT HPS  
LU200 OR LU250  
590 OR 550

ANSI TYPE  
MEDIUM CUTOFF III

CIE TYPE  
CUT-OFF



**GENERAL INFORMATION**

TEST DISTANCE 7.0 METERS  
MAX CANDELA 410.3  
MAX CONE 72.5  
MAX VERTICAL PLANE 62.5 / 297.5  
MAX CANDELA AT 90° 0.0  
MAX CANDELA AT 80° 8.5  
RADIANT FOOTCANDLES 0.2792  
RADIANT CANDELA 251.3

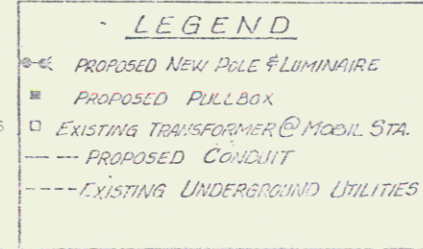
MULTIPLY ALL LUMEN, CANDELA, AND FOOTCANDLE VALUES BY THIS RATIO  
RATIO - ACTUAL LAMP LUMENS  
1000

PHOTOMETRIC TEST IN ACCORDANCE WITH IES GUIDE

**LIGHT FLUX VALUES**

DIAMETER OF STREET SIDE	LUMENS	PERCENT OF LAMP
457	45.7	16.7
0	0.0	0.0
231	23.1	28.1
0	0.0	0.0
TOTAL	78.8	28.8

TESTED DATE 1-22-82  
APPROVED DATE 1-22-82  
35-177304



**LEGEND**

**RICHMOND INTERCHANGE R.O.W. PLANS**

**STREET LIGHTING DESIGN CRITERIA AND GENERAL NOTES**

SURVEYED BY: B. Davis DATE: 6-85

DRAWN BY: B. Davis DATE: 6-85

TRACED BY: B. Davis DATE: 6-85

**RICHMOND**  
IR 89-2(8)

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