

RECORDS CENTER MEMO

DE 963-0851 3-60CS (GF 1)

TO Barbara Fulston DATE 4-4-88

THE ACCOMPANYING FILE HAS BEEN SENT TO YOU BY THE RECORDS CENTER FOR THE REASON CHECKED BELOW:

FOR YOUR INFORMATION - NEW MATERIAL HAS BEEN ADDED TO FILE

PLEASE NOTE AND RETURN IT TO RECORDS CENTER AS SOON AS POSSIBLE

AT YOUR REQUEST Is agreement to be renewed?

INDICATE BELOW IF AND WHEN IT SHOULD BE REFERRED TO YOU AGAIN

REFER TO Real Estate + R/W ON 4-1-2013 DATE

OR INDICATE DISPOSITION OF AGREEMENT (PLEASE CHECK)

RENEWED EXTENDED TERMINATED

SIGNED Barbara Fulston

Account No.	Location	Use	Annual Rental	Date Due	Agreement Date	Due To	Credit From
1. 30-90161	Melvindale, Mich.	Wire Line	\$173.00	7-1	6-30-64	-	\$72.10
2. 98-00060	Detroit, Mich.	"	911.00	10-1	6-14-22	-	607.33
3. 98-00340	Detroit, Mich.	"	64.28	10-1	4-30-25	-	42.88
4. 98-00340	"	"	5.00	1-1	9-11-25	\$0.42	-
5. 98-00150	Lincoln Pk., Mich.	"	5.00	8-1	9-28-25	-	2.50
6. 98-02050	Detroit, Mich.	"	5.00	11-1	1-14-26	-	3.75
7. 98-02070	Lincoln Pk., Mich.	"	5.00	10-15	2-24-26	-	3.57
8. 98-03950	Detroit, Mich.	"	10.00	5-1	8-18-38	-	2.50
9. 98-04130	"	"	5.00	2-1	2-5-40	-	-
10. 98-05840	"	"	10.00	2-1	10-1-51	-	-
11. 98-05130	"	"	77.50	2-1	9-1-45	-	-
12. 98-05160	"	"	10.00	2-1	4-1-46	-	-
13. 98-06180	"	"	6.00	2-1	9-1-46	-	-
14. 98-06190	"	"	3.00	2-1	9-1-46	-	-
15. 98-06220	"	"	10.00	2-1	9-1-46	-	-
16. 98-06230	"	"	3.00	2-1	12-1-46	-	-
17. 98-06260	"	"	10.00	2-1	4-1-47	-	-
18. 98-06250	Carleton, Mich. Not Paid 1988	"	11.50	2-1	7-1-47	-	-
19. 98-06320	Detroit, Mich.	"	7.50	2-1	2-29-49	-	-
20. 98-06340	Carleton, Mich. Not Paid	"	15.00	2-1	2-17-50	-	-
21. 98-06950	Detroit, Mich. Not Paid 1988	"	119.50	2-1	8-31-50	-	-
22. 98-07040	"	"	13.00	2-1	8-6-52	-	-
23. 98-07090	"	"	18.50	2-1	2-12-53	-	-
24. 98-07180	"	"	12.00	2-1	3-2-53	-	-
25. 98-07520	"	"	3.00	3-1	7-15-53	-	-
26. 98-09100	Flat Rock, Mich.	"	10.00	8-1	6-1-54	-	0.25
27. 98-09380	Searborn, Mich.	"	21.00	2-1	8-15-56	-	5.00
28. 98-09520	Detroit, Mich. Not Paid 1988	"	16.50	9-12	5-6-57	-	-
29. 98-09540	"	"	24.00	1-1	11-18-57	-	9.95
30. 98-09810	"	"	15.00	6-15	3-3-58	2.00	5.63
31. 98-09820	"	"	20.00	7-6	8-18-59	-	8.69
32. 98-12610	"	"	7.50	9-1	8-19-59	-	4.41
33. 98-12960	Killen Pk., Mich.	"	50.00	8-1	10-5-60	-	25.00
34. 98-13050	Detroit, Mich. Not Paid	"	30.00	2-1	8-30-62	-	-
35. 98-13240	"	"	20.00	11-1	12-31-62	-	-
36. 98-13270	"	"	7,676.00	2-1	12-31-63	-	15.00

261800

Accounts given credit from date paid to - - - - - \$808.56
 Accounts due to February 1, 1966 - - - - - 2.42
 Credit on all accounts to February 1, 1965 - - - - - \$806.11
 Amount due on all accounts February 1, 1966 - - - - - \$9,402.78
 - - - - - 806.11
 Amount to be billed February 1 1966 - - - - - \$8,596.64

* To be included, however, to be handled separately by
 Supplemental Agreement Prepared by Operating Dept. of
 P.R.R. Co.

\$2.42
 \$808.56

ITEM 4

Detroit
Edison

REAL ESTATE AND RIGHTS OF WAY

Project No. XD 7238

Date: April 28, 1988
To: Vicki C. Sullivan
Supervisor
Records Center
From: Brenda L. Golson
Subject: Additional Papers for Records Center File

Attached are papers related to the renewal of a 25 year agreement, originally between The Pennsylvania Railroad Company and Detroit Edison Company, dated June 29, 1964. The property is presently owned by Consolidated Rail Corporation.

The purpose of this lease is to grant Detroit Edison occupancy for a 120 kV Warren-Evergreen Second Circuit in the Cities of Dearborn and Detroit, from Warren to Fullerton Avenues.

Please incorporate these papers into Right of Way File No. 22877 and return to RE & R/W, 448 G.O., on April 1, 2013.

Approved:

Barbara A. Fulton
Barbara A. Fulton
Supervisor, Real Estate Services

/BLG

attachments

cc: E. J. Garrison
R. A. Gloger
J. Howe

Serving Customers

We're all a part of it!

RECORDED RIGHT OF WAY NO. 22877

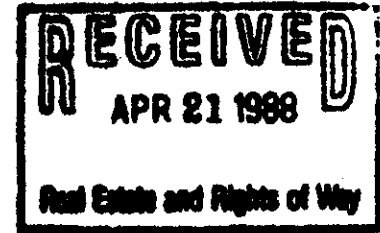
Detroit
Edison

Date: April 19, 1988

To: Thomas Wilson
Real Estate Associate
Real Estate and Rights of Way

From: Jason Howe *JH*
Supervising Engineer
Transmission Projects

Subject: Lease Renewal for Portion of 120 kV Warren-Evergreen
Second Circuit



In response to your subject memo of April 18, this occupation of railroad right-of-way north from Warren Station is required. If this renewal follows the same pattern as others in the past, we can expect a huge increase in the annual fee.

RECORDED RIGHT OF WAY NO. 22877

JH/lm

Detroit
Edison

REAL ESTATE AND RIGHTS OF WAY

Date: April 18, 1988

To: J. Howe
518 G.O.

From: Thomas Wilson
Real Estate Associate
448 G.O.

Subject: Lease Renewal for Portion of 120 kV Warren-
Evergreen Second Circuit Between Warren and
Fullerton, in Deaborn and Detroit

A lease was signed, dated August 1, 1964, for an occupation of land then owned by "The Connecting Railway Company" and leased to "The Pennsylvania Railroad Company". This Railroad land is now owned and operated by Consolidated Rail Corporation. This lease was for a 25 year period ending July 31, 1989, with an option to renew for another 25 year period. The second 25 year period will automatically begin on July 31, 1989, unless we notify the railroad of our wish to cancel our use by July 31, 1988.

Please tell me if you still require this occupation.

TW/blg

RECORDED RIGHT OF WAY NO. 22877

Serving Customers

We're all a part of it!

RC 22877



THE PENNSYLVANIA RAILROAD COMPANY

PURCHASES AND REAL ESTATE

261864

December 22, 1965

Real Estate Department
Chicago Union Station
Chicago, Illinois 60606

VARIOUS LOCATIONS - Leases with Detroit Edison Company.

Mr. I. W. Gamble
Supervisor of Right of Way
Properties and Right of Way Department
Detroit Edison Company
2000 Second Avenue
Detroit, Michigan 48226

Dear Mr. Gamble:

This will refer to your letter of November 11, 1965 in answer to ours of October 29, 1965 concerning consolidation of rental payments on all your accounts under one payment period.

You will note on the enclosed synopsis sheet that we have listed all the agreements your Company has with the Railroad and have prorated the annual rental payments to February 1, 1966. This date seems to be the most reasonable since a greater number of your accounts are paid at that time. A sum of \$808.56 has been given to your credit for agreements paid beyond that date, and \$2.42 has been charged for agreements not yet paid to February 1st. We have subtracted the amount due from the amount of credit, leaving a balance of \$806.14.

When this letter is signed and returned, it will become a part of each agreement, and the \$806.14 overpayment will at that time be given to your credit.

Please advise if the accounts listed agree with your records, and if this meets with your satisfaction, please sign the original of

RECORDED RIGHT OF WAY 22877

Mr. I. W. Gamble

-2-

December 22, 1965

261864

this letter, keeping the carbon copy for your files, and return it to us in the enclosed stamped envelope. Upon receipt we will progress the necessary arrangements with our Accounting Department.

Sincerely yours,

E. E. Kinzel

E. E. Kinzel
General Manager, Real Estate

rm
enc.

RECEIVED AND ACCEPTED

By: *Ivan W. Gamble*
IVAN W. GAMBLE

Date: JAN 4 1966

RECORDED RIGHT OF WAY 22877

INTERDEPARTMENT CORRESPONDENCE

Properties and Rights of Way Department

March 25, 1965

MEMORANDUM TO:

MR. ELDRED H. SCOTT
Vice President and Controller
520 General Offices

Re: Pennsylvania Railroad Company agreement dated June 29, 1964, Right of Way #22877, for occupancy of their right of way in the Cities of Dearborn and Detroit, from Warren to Fullerton Avenues, 120 KV Warren-Evergreen Second Circuit.

This agreement is for a 25 year period ending July 31, 1989, subject to renewal for an additional 25 years upon 12 months prior notice.

Please refer file to this office on April 1, 1988.

5-24-77
E

I. W. Gamble
I. W. Gamble
Supervisor of Rights of Way

LGH/gd

RECEIVED TO

RECORDS CENTER

RECEIVED APR 5 1965

4-1-88

INTERDEPARTMENT CORRESPONDENCE

November 5, 1964

TO RECORDS CENTER:

Attached is fully executed copy of agreement/~~permit~~ from:

The Pennsylvania Railroad Company

Facilities Covered:

120 KV Warren-Evergreen Second Circuit.

Specific Location:

Along the Pennsylvania Railroad right of way from Warren Avenue in the City of Dearborn to The Chesapeake and Ohio Railroad right of way, south of Fullerton in the City of Detroit.

GEN'L ACCTG DEPT.
ENTERED 11-16-64
CONTRACT BOOK NO. <u>22877</u>
DATE <u>11-16-64</u>
BY <u>Paul H. [Signature]</u>
CHECKED BY <u>[Signature]</u>

R.R. Valuation Station _____ Mile Post _____

City/~~Village~~ Dearborn & Detroit Township _____

County Wayne Detroit Edison Plan No. _____

Agreement/~~Permit~~ Date June 29, 1964 R.R. Plan No. Revised July 1, 1964 Exhibit A, Sheets 1, 2, 3 & 4, 5 dated June 23, 1964

Preparation Fee \$1,000.00 Annual Rental \$7,676.00 for the first 5 years, payable quarterly* *and less than that amount*

Supersedes and Cancels Agreement dated _____ R/W No. _____

REFERRED This is a Supplemental Agreement and is to be made a part of R/W _____

Attached Grand Trunk Western Railroad Permit No. _____ to be made a part of R/W No. 9064.

*The preparation fee and the first quarterly payment has been made. The second quarterly payment is due November 1, 1964.

ELWB
Penn. R.R. R/W, along; bet. Warren
& Tireman

cc. Ray Kenry
I. W. Gamble, Supervisor of Rights of Way Properties and Rights of Way Dept.

LGH/gd *Tireman + Fullerton*
cc. Ray Kenry

RECORDED RIGHT OF WAY NO. 22877

REQUEST FOR CHECK

DE FORM TR 3 2-54

THE DETROIT EDISON COMPANY

PAY TO (NAME AND ADDRESS) The Pennsylvania Railroad Company 532 Union Station Building Chicago, Illinois - 60606	DATE PAID September 28, 1964
	DATE DUE September 29, 1964
	AMOUNT \$2,919.00

STATE WHAT PAYMENT IS FOR

Agreement preparation fee of \$1,000.00 and rental for the first quarter period from August 1, 1964, through October 31, 1964, of \$1,919.00 for occupancy of The Pennsylvania Railroad Company property with 120-KV transmission line in the Cities of Dearborn and Detroit, Wayne County, Michigan. Check for this first payment being submitted with executed agreement in accordance with The Pennsylvania Railroad Company request.

DISTRIBUTION

ACCOUNT NAME	ACCOUNT NO. OR WORK ORDER	AMOUNT	PREPARED BY
	767 AC 638	\$2,919.00	L. G. Hedden:mt <i>L. G. Hedden</i>
			APPROVED <i>J. W. Samuels</i>
			APPROVED FOR PAYMENT <i>C. J. Korman</i>
			RECORDED <i>W. Pease</i>
			AUDITED

CHECK TO BE MAILED

SEND CHECK TO

L. G. HEDDEN - 310 General Offices

828947
 10/1/64

THE PENNSYLVANIA



RAILROAD COMPANY

532 Union Station Building
Chicago, Illinois 60606
September 15, 1964

REPLY TO

Mr. I. W. Gamble
Supervisor of Rights of Way
Properties & Rights of Way Department
The Detroit Edison Company
2000 Second Avenue
Detroit 26, Michigan

ls
WGH
js

Dear Sir:-

Enclosed are the original, duplicate and triplicate copies of an agreement covering your 120 KV transmission line occupancy of our West Belt Branch right of way between Warren Avenue in Dearborn and the Chesapeake & Ohio Railway right of way (south of Fullerton Avenue) in Detroit.

Will you kindly arrange for the execution of all three copies of the agreement on the part of your Company, as indicated, and return all three copies to me for securing execution on the part of the Railroad Companies. Fully executed copy will then be returned to you for your records and file.

When returning the agreement to me, it would be appreciated if you would enclose your Company's check in the amount of \$2,919.00 to cover the preparation of papers fee and the rental for the first quarter period from August 1, 1964 through October 31, 1964.

Inasmuch as the rental formulae is not spelled out in the agreement, we attach a copy of same for your records and use in determining any increase in annual rental at the time of the five year review all as provided for in the agreement.

Also, if you will advise the number of copies of the agreement that you will need for your various interested departments, I shall be very glad to furnish same.

Yours very truly,

K. J. Silvey
K. J. Silvey,
Area Engineer.

RECORDED RIGHT OF WAY NO. 22877

RENTAL CALCULATIONS

Based on Association of American Railroads Formulae.
The Detroit Edison Company's Warren-Evergreen 120KV
line occupancy of West Belt Right-of-way.

Length of occupancy = 12,888 feet x 28.95 feet width
= 373,108 square feet.

373,108 sq. ft. x .50 (land value per sq. ft.) =
\$186,554 total land value.

\$186,554 x 50% of use (1 circuit) = \$93,277

\$ 93,277 x 6% return = \$5,597 (partial rental)

120 KV (1 circuit) x .83 load factor = 99.6KW
1200 wire capacity x 99.6KW = 119,520 KW
50 KW @ \$ 2.00 = \$100
250 KW @ 0.20 = 50
9700 KW @ 0.02 = 194
109520 KW @ 0.002 = 218
\$562

\$562 x 2.44 miles = \$1,371 (partial rental)

\$580.18 (1964 Michigan tax per mile) x 2.44 miles (length
of occupancy) = \$1,416

\$1,416 x 50% = \$708 taxes (partial rental)

SUMMARY:

\$ 5,597	
1,371	
708	
<u>\$ 7,676</u>	total annual rental

Office of Area Engineer
Chicago, Illinois
July 10, 1964

RECORDED FROM PAY NO.

22877

The Pennsylvania Railroad Company
SCHEDULE OF
FEEES AND RENTALS
FOR
WIRE, CABLE CONDUIT, PIPELINE AND SEWER
CROSSINGS, LONGITUDINAL OCCUPATIONS,
AND ATTACHMENTS AND OCCUPATIONS OF
RAILROAD COMPANY PROPERTY

(IN EFFECT FEBRUARY 15, 1962)

(Amending Schedules prepared by Railroads co-ordinating Committee, October 21-23, 1930, and in effect May 1, 1931; the amendments herein having been prepared October 26, 1961, by a Subcommittee of the Eastern Operating Committee of the Eastern Railroad Presidents Conference, and superseding amendments of February 20, 1958).

SCOPE

1. The following is a schedule of fees and rentals for wires, cables, poles and electrical conduits and for pipe and sewer crossings, including longitudinal occupation, on, over or under the Railroad Company's right-of-way and property and for attachments to or occupation of railroad facilities.
2. The schedules of fees and rentals named herein are suggested minimum charges for occupations and attachments.
3. Note of exception: The fees and rentals in this schedule are not intended to extend to operating agreements covering use of joint facilities.

The Railroad Company shall be reimbursed in all cases for:

1. All labor and material furnished by it in connection with the construction, reconstruction, repair or removal of any overhead or undergrade crossing, or any occupation of its property.
2. The services of such watchmen, flagmen, or any other employees, as may, in the opinion of the Railroad Company be necessary to safeguard its interests or to maintain traffic.
3. The cost of all drawings and engineering furnished at the request of the applicant.
4. The cost of all insurance which may be deemed necessary by the Railroad Company.

NOTE: The above costs shall include the usual percentages for overhead and fringe benefits.

II

FEEES FOR PREPARATION OF AGREEMENT

The following fees are intended to cover the cost of preparation of papers and other incidental expenses incurred by the Railroad Company, and are in addition to the rentals shown hereafter in this schedule.

PUBLIC HIGHWAYS—No charge will be made for the preparation of agreement for any overhead or undergrade crossing of the right-of-way of the Railroad Company within the limits of any public highway. (See Item I as to incidental charges).

RAILROAD RIGHT-OF-WAY AND PROPERTY: Charges will be made as follows:

1. Wire and Cable Crossings and Longitudinal Occupations over or under Railroad Company right of way and property:

- (a) Not exceeding 300 volts \$ 25.00
- (b) Over 300 volts but not exceeding 5,000 volts 50.00
- (c) Over 5,000 volts but not exceeding 7,500 volts 75.00
- (d) Over 7,500 volts, and any agreement regardless of voltage NOT prepared on standard printed form, subject to negotiation but not less than 100.00

NOTE: Where more than one voltage is involved the highest voltage shall govern the fee. For purposes of determining voltage, guy wires, messengers, and grounded conductors shall be considered as zero voltage. All other conductors shall be rated at voltage to ground, or voltage to other conductors, whichever is the higher.

2. Pipe and Sewer Crossings and Longitudinal Occupations over or under Railroad Company right-of-way and property:

- (a) Pipe not exceeding 3" inside diameter \$ 25.00
- (b) Pipe over 3" but not exceeding 12" inside diameter 50.00
- (c) Pipe over 12" but not exceeding 24" inside diameter 75.00
- (d) Pipe over 24" inside diameter, and any agreement regardless of size of pipe not prepared on standard printed form, subject to negotiation but not less than 100.00

NOTE: Where more than one size of pipe is involved the useable pipe having the largest diameter shall govern the fee.

III

ANNUAL RENTALS

The minimum annual rental under any agreement where a rental is involved shall be \$10.00.

CROSSINGS

SECTION A — AERIAL AND UNDERGROUND WIRES

(COMMUNICATION AND POWER)

- 1. **PUBLIC HIGHWAYS**—Crossings wholly within the limits of a public highway and not supported by or attached to poles or structures of the Railroad Company **No Rental**

RECORDED RIGHT OF WAY NO. 228777

2. RAILROAD RIGHT-OF-WAY PROPERTY — Crossings not exceeding 200 ft. in length.

Annual rentals will be charged as follows:

- (a) Not exceeding 300 volts per crossing \$ 10.00
- (b) Over 300 volts but not exceeding 5,000 volts per crossing 20.00
- (c) Over 5,000 volts but not exceeding 7,500 volts per crossing 30.00
- (d) Over 7,500 volts but not exceeding 30,000 volts per crossing 50.00
- (e) Over 30,000 volts per crossing 100.00

NOTE: A proportionate additional rental calculated to the nearest dollar shall be made for any crossing in excess of 200 feet in length. For purpose of determining voltage, guy wires, messengers, and grounded conductors shall be considered as zero voltage. All other conductors shall be rated at voltage to ground, or voltage to other conductors, whichever is the higher. Where more than one voltage is involved, the highest voltage shall govern the rental.

SECTION B — AERIAL AND UNDERGROUND CABLES

1. PUBLIC HIGHWAYS—Crossings wholly within the limits of a public highway and not supported by or attached to poles or structures of the Railroad Company No Rental

2. RAILROAD RIGHT-OF-WAY AND PROPERTY — Crossings not exceeding 200 feet in length.

Annual rentals will be charged as follows:

- (a) Communication Cables (not including composite coaxial cables) and power cables not exceeding 1,000 volts per conductor \$ 15.00 per cable
- (b) Cables over 1,000 volts and not exceeding 7,500 volts per conductor 30.00 per cable
- (c) Cables over 7,500 volts and not exceeding 30,000 volts per conductor 50.00 per cable
- (d) Cables over 30,000 volts per conductor 100.00 per cable
- (e) Composite Coaxial Cables — \$1.00 per conductor with a minimum of \$50.00 per crossing.
- (f) Crossing of right-of-way by pipe type cable consisting of one or more high voltage cables encased in a steel pipe under inert oil pressure, and/or further encased in a larger steel pipe and the space between the pipes filled with compacted sand should be subject to special consideration and each case handled individually.
- (g) Spare or unoccupied ducts or pipes, each 50 cents
(When the duct shall be occupied in the future by a cable, the annual rental charge for the cable shall govern and the 50-cent charge cease).
- (h) Ducts or pipes carrying conductors No charge
- (i) Manholes \$10.00

NOTES: (1) Attachments of wires, cables, etc., to bridges, buildings, poles or structures of Railroad Company subject to a special consideration in each case.

(2) A proportionate additional rental calculated to the nearest dollar shall be made for any crossing in excess of 200 feet in length.

RECORDED RIGHT OF WAY NO. 22877

SECTION C — POLES, TOWERS, GUYS AND ANCHORS

- 1. Single wooden, concrete, or steel poles, per pole \$ 5.00
- 2. "A" or "H" frames 7.50
- 3. Metal Towers 15.00
- 4. Each brace, stub pole or anchor 5.00
- 5. Each guy wire anchored on or crossing railroad property 1.00
- 6. Guys, stubs, anchors and push or pull braces not definitely required by specifications for the support of a crossing pole, placed on railroad right-of-way at the request of the Railroad Company, shall be considered as a part of the crossing pole and no charge made therefor.

NOTE: The above charges are in addition to the wire or cable occupation charges provided for in Sections "A" and "B."

SECTION D — PIPES AND SEWERS

PUBLIC HIGHWAYS—Crossings wholly within the limits of a public highway No Charge

RAILROAD RIGHT-OF-WAY AND PROPERTY—Crossings not exceeding 200 feet in length.

Annual rental will be charged as follows:

- (1) Circular lines carrying no pressure:
 \$1.00 per inch of inside diameter or fraction thereof minimum charge for any one crossing \$10.00
- (2) Circular lines under pressure and carrying non-flammable and non-explosive materials, except coal and water slurry; \$1.50 per inch of inside diameter or fraction thereof minimum charge for any one crossing 10.00
- (3) Circular lines under pressure and carrying flammable or explosive materials, and coal and water slurry; \$3.00 per inch of inside diameter or fraction thereof minimum charge—up to 3" inside diameter pipe.... 10.00
 - over 3" but not exceeding 12" inside diameter pipe 30.00
 - over 12" inside diameter pipe ... 100.00
- (4) Rental for non-circular pipes shall be determined by the diameter of a circular pipe having an equivalent cross-sectional area.
- (5) Rental for pipe tunnels or other special underground construction shall be subject to special consideration.
- (6) Pipe line carried over Railroad Company's property on bridges or other supports subject to special consideration in each case.
- (7) Manholes, each 10.00
- (8) Charges for attachments of pipes to bridges, buildings or structures of the Railroad Company subject to special consideration in each case.
- (9) Where pipe or pipes are encased in a protective pipe or larger diameter no charge shall be made for the protective encasement.

NOTE: A proportionate additional rental calculated to the nearest dollar shall be made for any crossing in excess of 200 feet in length.

RECORDED - RIGHT OF WAY NO. 228777

LONGITUDINAL OCCUPATIONS

SECTION A — AERIAL AND UNDERGROUND WIRES AND CABLES (COMMUNICATIONS AND POWER)

AERIAL WIRES:

Annual rentals will be charged as follows:

- (a) Pole line, highest voltage not exceeding 300 volts, per mile\$ 260.00
- (b) Pole line, over 300 volts but not exceeding 5,000 volts, per mile 520.00
- (c) Pole line, over 5,000 volts but not exceeding 7,500 volts per mile 780.00
- (d) Pole line, over 7,500 volts, subject to special negotiation the use of Formula 1 appearing in Section 15—Chapter 2 — Part 1 — Electrical Section — Association of American Railroads is recommended.

NOTE: The above charges cover the complete pole line occupation and additional charges are not to be made unless there are attachments to Railroad Company facilities. For purpose of determining voltage, guy wires, messengers, and grounded conductors shall be considered as zero voltage. All other conductors shall be rated at voltage to ground, or to other conductors, whichever the higher.

AERIAL AND UNDERGROUND CABLES:

Annual rentals will be charged as follows:

- (a) Highest voltage not exceeding 300 volts, per mile, per cable\$ 260.00
- (b) Over 300 volts but not exceeding 5,000 volts per mile per cable 520.00
- (c) Over 5,000 volts but not exceeding 7,500 volts, per mile per cable 780.00
- (d) Over 7,500 volts, subject to special negotiation. The use of Formula 1 appearing in Section 15 — Chapter 2 — Part 1 — Electrical Section — Association of American Railroads is recommended.
- (e) Composite Coaxial Cable subject to negotiation by not less per mile than 1,300.00
- (f) Longitudinal occupation of Railroad Company property by pipe-type cable consisting of one or more high voltage cables encased in a steel pipe under inert oil pressure, and/or further encased in a larger steel pipe and the space between the pipes filled with compacted sand should be subject to special consideration and each case handled individually.
- (g) Spare or unoccupied ducts or pipes, each, per mile 25.00
- (h) Manholes, splicing chambers or pull boxes, each 10.00
- (i) An additional charge shall be made for use of Railroad duct lines based on the value of the facility.

NOTE: Charges shown under (g), (h) and (i) are in addition to the charges shown under (a) to (f), inclusive.

NOTE: For occupations less than one mile in length, the rental shall be a proportionate amount of the above rates calculated to the nearest dollar but no rental for any cable, duct or pipe occupation shall be less than the charge for one-quarter mile of such occupation.

MANUAL OF RAILROAD ENGINEERING
22877

SECTION B — ATTACHMENTS

Annual rentals will be charged as follows when higher rates are not fixed:

- 1. Attachments of aerial wires and cables to poles or other structures of the Railroad Company used in wire line construction.
 - (a) Not exceeding 7,500 volts for each wire or cable attached to Railroad Company's cross-arm or bracket \$ 0.50
 - (b) Not exceeding 7,500 volts for each wire or cable attached to Licensee's cross-arm or bracket \$ 0.40
 - (c) For each spare pin space on Licensee's cross-arm or bracket \$ 0.20
 - (d) Wires in excess of 7,500 volts subject to Formula 2 appearing in Section 15 — Chapter 2 — Electrical Section — Association of American Railroads.
- 2. Attachments of aerial wires and cables to buildings or other structures.
 - (a) Each wire or cable attached to Railroad Company's building or structure, not including railroad or highway bridges, per attachment.... \$ 1.00

NOTE: Where attachments are made at closer intervals than 50 feet, the above charge applies to the initial attachment and an additional charge shall be made at the rate of \$1.00 for each 50 feet or fraction thereof.

- 3. Attachments of all kinds to any railroad bridge.
 - (a) Wires and cables of all classifications attached to highway bridges, railroad bridges over highways, or other bridges of the Railroad Company subject to special consideration in each case.
- 4. Attachments of cable terminals to poles, buildings, or structures including highway bridges, railroad bridges over highways or other bridges of the Railroad Company.
 - (a) Each cable terminal, loading coil, transformer or like device subject to special consideration in each case, but not less than \$10.00

NOTE: The above charges are to be made in addition to those under section "A."

SECTION C — GUY WIRE CROSSINGS AND OVERHANGING CROSS-ARMS OF POLE LINES OUTSIDE OF RAILROAD RIGHT-OF-WAY

- 1. Each guy wire crossing railroad property but not anchored thereon \$ 1.00
- 2. Cross-arms overhanging railroad property from poles located outside thereof, one or more cross-arms on any pole 0.50

SECTION D — PIPES AND SEWERS

Annual rentals will be charged as follows:

- (1) Circular lines carrying no pressure:
 - \$1.00 per inch of inside diameter or fraction thereof per 100 feet of occupation or fraction thereof.
- (2) Circular lines under pressure and carrying non-flammable and non-explosive materials, except coal and water slurry:
 - \$1.50 per inch of inside diameter or fraction thereof per 100 feet of occupation or fraction thereof.

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- (3) Circular lines under pressure and carrying flammable or explosive materials, and coal and water slurry:
\$2.00 per inch of inside diameter or fraction thereof per 100 feet of occupation or fraction thereof, plus a negotiated figure based on volume and value of product transported.
- (4) Rental for non-circular pipes shall be determined by the diameter of a circular pipe having an equivalent cross-sectional area.
- (5) Rental for pipe tunnels or other special underground construction shall be subject to special consideration.
- (6) Pipelines carried along Railroad Company's property on bridges or other supports subject to special consideration in each case.
- (7) Manholes — each \$10.00
- (8) Charges for attachments of pipes to bridges, buildings or structures of the Railroad Company subject to special consideration in each case.
- (9) Where pipe or pipes are encased in a protective type of larger diameter no charge shall be made for the protective encasement.

SPECIAL CONSIDERATION

In special cases where the Railroad Company receives a direct and exclusive benefit from the crossing or longitudinal occupation involved, or where the nature of the privilege is out of the ordinary, or the property occupied of exceptional value, or where other special considerations are involved, the Railroad Company reserves the right to reduce, waive or increase the rental in proportion to the benefits derived or the value of the privilege.

DEFINITIONS

For the purpose of this schedule the following definitions shall apply:

- 1. A WIRE is a solid or stranded single conductor, either bare or insulated.
- 2. COMMUNICATION WIRES include wires used for telegraph, telephone, fire alarm, police and signal circuits, for public or private communication or signal service, and which operate at not exceeding 400 volts to ground or 750 volts between any two points of the circuit and the transmitted power of which does not exceed 150 watts.
- 3. POWER WIRES include all wires used for transmitting a supply of electrical energy except those defined as communication wires under Item 2.
- 4. MESSENGER WIRES shall be considered as part of the wires or cables supported and no rental shall be assessed therefor.
- 5. A CABLE consists of two or more conductors insulated from each other, with or without a protective covering, either self supporting or having a common support.
- 6. A CROSSING is that part of any overhead or undergrade line spanning a track or tracks of the Railroad Company within the limits of that portion of its right-of-way used for railroad purposes.
- 7. LONGITUDINAL OCCUPATION is any occupation of railroad property other than a direct crossing over or under railroad tracks and right-of-way as defined under Item 6.
- 8. A COMPOSITE COAXIAL CABLE is a cable made up of one or more transmission lines in which one conductor is centered inside a metallic tube that serves as the second conductor with other standard insulated conductors included in the same overall sheath.

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**ASSOCIATION OF AMERICAN RAILROADS
OPERATIONS AND MAINTENANCE DEPARTMENT
ELECTRICAL SECTION
ENGINEERING AND MECHANICAL DIVISIONS**

Manual of Standard and Recommended Practices

Section 15

Relations with Public Utilities

1960

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SECTION 15 — RELATIONS WITH PUBLIC UTILITIES 2-1-1

Chapter 2

FEES AND RENTALS FOR OCCUPANCY OF
RAILROAD PROPERTY

PART 1

SCHEDULE OF FEES AND RENTALS FOR LONGITUDINAL
OCCUPATION OF RAILROAD RIGHT-OF-WAY BY
AERIAL TRANSMISSION LINES OF
7500 VOLTS AND OVER

The purpose of these recommendations is to give the railroads a uniform basis for negotiating with the public utilities a rental fair to both parties that is somewhat less than the cost would be to the utilities if they located their lines off of railroad right-of-way.

a. In general, it is recommended that the present policy and schedule of fees of the Eastern Railroad Presidents Conference be followed, except as modified below, in the area covered by the Eastern Railroad Presidents Conference. The schedule of fees may be obtained from the Eastern Railroad Presidents Conference, 143 Liberty Street, New York 6, N. Y.

b. For all occupations of 7500 volts or less, and in situations where the formulae under (c) below yield a lower rental, the use of the fees and rentals of the Eastern Presidents Conference is recommended.

c. For all occupations over 7500 volts, the following formulae are recommended as a basis of negotiation with public utilities.

FORMULA 1

For Rental Where Line(s) Is On Utility Structures.
Annual Right-of-Way Rental Per Mile = $(N \times V \times R \times U) + (P \text{ at } S \text{ rates})$.
Where N = Number of acres subtended by power circuit

$$\text{per mile} = \frac{5280}{43560} (A + 2C)$$

A = Distance between outside conductors in feet.

C = NESC (Fifth Edition) building clearance in feet.
(Where there are two or more circuits of different or same voltages on the same structures, use A and C for circuit requiring greatest width).

V = Value of right-of-way land in dollars per acre based upon value of land adjacent to right-of-way inflated for increased value of cleared right-of-way.

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AAR ELECTRICAL MANUAL

R = Rental rate of 6 percent in States with no land taxes and 8 percent in States with land taxes.

U = Utility percent usage of right-of-way.
For one circuit per structure = 50% (0.5), two circuits = 66-2/3% (0.67), three circuits = 75% (0.75), etc.

S = Scheduled power rate per mile of circuit.
First 50 kw = \$2. per kw.
Next 250 kw = \$0.20 per kw.
Next 9700 kw = \$0.02 per kw.
Balance = \$0.002 to \$0.01 per kw.

P = Power capacity of line in kilowatts.
For single phase = $0.48 \times \text{kilovolts} \times \text{current}$ (ampere capacity per conductor).
($0.48 = 0.8$ (power factor) $\times 0.6$ (utilization or load factor)).
For three phase = $0.83 \times \text{kilovolts} \times \text{current}$ (ampere capacity per conductor).
($0.83 = 1.73 \times 0.8 \times 0.6$).

FORMULA 2

For Rental Where Line(s) Is On Railroad Structures.

The annual rental shall be the rental as determined by Formula 1 for use of right-of-way plus rental as determined below for use of structures.

The first part of rental should be figured as above except that U would equal

$\frac{P}{E}$ — where P = number of utility circuits on structures involved and E = number of railroad high-voltage circuits plus number of utility circuits (P) plus, in electrified area, the catenary system counted as one, or in non-electrified territory the tracks or land counted as one.

Annual Structure Rental Per Mile = $F \times B \times D \times G$

Where F = fixed charges = 12 percent (0.12) as follows:

Maintenance	1.5%
Depreciation	1.0%
Taxes and Insurance	2.5%
Interest on 1/2 Money at 5%	2.5%
Return on 1/2 Money at 8%	4.0%
Administration	0.5%

B = Present day replacement value of structures per mile = $L \times M \times T$.
Where L = Original installed ledger value per mile.

M = ICC multiplier (latest ICC index for 31 Account less ICC index on date of installation).

T = Multiplier to increase ($L \times M$) figure to calculated present day replacement value.

D = Depreciated value of structure based on 100-year life in percent. (If 32 years old $D = 0.68$).

G = Percent of entire structure used by utility based upon moments. (Sum of moments of utility wires divided by sum of moments of all wires on structure).

TRIPPLICATE

THIS AGREEMENT, made as of this twenty-ninth day of June, 1964, by and between THE CONNECTING RAILWAY COMPANY, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, party of the first part, THE PENNSYLVANIA RAILROAD COMPANY, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania (Lessee of and operating the railroad of The Connecting Railway Company), party of the second part, said first party and said second party being hereinafter collectively referred to as Railroad Companies, and THE DETROIT EDISON COMPANY, a corporation organized and existing under the laws of the State of New York, having its principal office at 2000 Second Avenue, Detroit 26, Michigan, hereinafter called Utility Company, party of the third part:

WITNESSETH:

I. PREAMBLE OF OCCUPATION:

WHEREAS, the Railroad Companies, under and by virtue of various ordinances, grants, franchises, and other rights, operates and maintains certain railroad tracks, appurtenances, and facilities upon rights-of-ways owned by them and upon part of the Public Streets, alleys, and highways of the Township of Greenfield, in the City of Dearborn and the City of Detroit, County of Wayne, State of Michigan, and

WHEREAS, the Utility Company owns, maintains and operates certain electric energy producing and transmission facilities located throughout the southeastern part of the State of Michigan, and

WHEREAS, the Utility Company is expanding certain of its electric transmission facilities some of which shall be located in the Township of Greenfield, City of Dearborn and the City of Detroit, County of Wayne, State of Michigan, and

WHEREAS, the Utility Company desires to construct, operate and maintain certain wires and transmission towers and steel poles (such wires and transmission towers and steel poles as are herein described, together with their appurtenances, are hereinafter for convenience referred to as "wires and appurtenances") upon, over and across the West Belt Branch of the Railroad Companies, and

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WHEREAS, the Railroad Companies have space available upon the right-of-way of said West Belt Branch for the erection of the Utility Company's said "wires and appurtenances" as shown on the attached Exhibit "A", and

WHEREAS, the Railroad Companies are willing to grant to the Utility Company the right to erect and so use the said "wires and appurtenances" for the purposes aforesaid which are described in general terms and expressed in purpose as follows:

(a) Location: Between Valuation Station 27 + 98 at Warren Avenue, in the City of Dearborn, Michigan, northwardly to Valuation Station 160 + 88 at the south right-of-way line of The Chesapeake and Ohio Railway Company (south of Fullerton Avenue), in the City of Detroit, Michigan.

(b) Purpose: Electric Power Transmission.

(c) Description: Longitudinal occupancy by three (3) 1,272,000 cm aluminum conductors and one (1) 7/16 inch steel ground wire for transmission of electric energy at 120,000 volts potential supported on twenty-five (25) steel towers and four (4) steel poles to be located on the Railroad Companies' right-of-way.

II. TERMS:

NOW, THEREFORE, the Railroad Companies, in consideration of the payments and privileges herein named, hereby grants to the Utility Company, insofar as their respective titles may enable them so to do, the right and privilege to construct, operate, maintain and use on the right-of-way of the Railroad Companies the said "wires and appurtenances" between Valuation Station 27 + 98, at Warren Avenue, in the City of Dearborn, Michigan, northwardly to Valuation Station 160 + 88, at the south right-of-way line of The Chesapeake and Ohio Railway Company (south of Fullerton Avenue), in the City of Detroit, Michigan, upon the following terms and conditions, to wit:

FIRST: The location of the "wires and appurtenances" shall be as set forth and shown on Plans (5 sheets) revised July 1, 1964, marked Exhibit "A", hereto annexed and made a part hereof.

SECOND: The "wires and appurtenances" shall be constructed, maintained, renewed and operated in accordance with the exclusive purpose stated in Section I, "Preamble of Occupation", excepting only when modifications thereof or departures therefrom have been subsequently agreed to in

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writing by the parties hereto; which plans and the construction and maintenance of the structures shall be in conformity with the specifications and protection requirements of each class of structure following; provided that if any commission or other regulatory body duly constituted and appointed in compliance with the laws of the State of Michigan, and having jurisdiction in the premises, has by ruling or other general order determined and fixed the manner and means of construction, maintenance, operation, renewal or subsequent removal thereof, then said ruling or general order shall prevail for the facilities herein mentioned.

THIRD: The Railroad Companies reserve the right to use their right-of-way, beneath the Utility Company's "wires and appurtenances", in any manner not inconsistent with the rights and privileges hereby granted to the Utility Company, it being intended that the Railroad Companies' present tracks and facilities as now located or as hereafter relocated shall not be interfered with, and that the Railroad Companies shall have the right to construct and maintain such additional tracks across such right-of-way as they may require at any future date. If any such construction and maintenance of additional tracks shall necessitate any change in the location of any tower or pole which constitutes a part of the facility, the Utility Company shall upon demand of the Railroad Companies raise and/or relocate such tower or pole longitudinally along the transmission line of which they may be a part, or reimburse the Railroad Companies for any additional expense incurred by them because of the necessity of relocating such additional tracks to avoid interference with such tower or pole.

FOURTH: If the Utility Company desires or is required, as herein provided, to revise, renew, add to or alter in any manner whatsoever the above mentioned "wires and appurtenances", it shall submit plans to the Railroad Companies and procure the written approval of the Railroad Companies thereto before any work or alteration of the structures is performed. Thereafter upon proper notice given by the Utility Company to the Area Engineer of the Railroad Companies, the Utility Company may proceed with such work, which work and facilities shall be subject to the terms and conditions of this agreement covering the original construction, except as to rentals which shall be mutually agreed upon.

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FIFTH: The Utility Company shall at all times be obligated promptly to maintain, repair and renew the said "wires and appurtenances" and shall do so in such manner and at such time or times, in all respects, as shall be satisfactory to the Area Engineer of the Railroad Companies. In the event the Utility Company should fail to make any repairs or renewals as may be requested from time to time by the Railroad Companies, the Railroad Companies may, in order to protect and safeguard their property, traffic, patrons, or employes from damage or injury, at any time, with or without notice to the Utility Company, make such repairs or renewals and furnish such material therefor as they deem adequate and necessary, at the sole cost and expense of the Utility Company, which cost and expense the Utility Company agrees to pay to the Railroad Companies on demand. Brushing, weeding and control of vegetation under the "wires and appurtenances", or structures, shall be performed by the Utility Company at its expense.

SIXTH: The Utility Company shall, as long as its "wires and appurtenances" remain upon the right-of-way of the Railroad Companies, remedy at its sole cost and expense any inductive interference growing out of or resulting from the presence of its circuits. In the event the Utility Company should fail to correct inductive interference within a reasonable time, the Railroad Companies may do so, and the Utility Company hereby agrees to pay to the Railroad Companies, on demand, the cost and expense thereof. It is further agreed that any remedial measures proposed to mitigate inductive interference to the facilities of the Railroad Companies, be determined by the best engineering solution as worked out cooperatively by the engineers of the Utility Company and the Railroad Companies. The Utility Company shall also pay to the Railroad Companies, on demand, any additional cost that may from time to time arise from or grow out of any change, revision, strengthening, improvement, repair, renewal or relocation of the facilities, property, or right-of-way of the Railroad Companies or any part thereof, as it or they may now or hereafter exist, where such additional cost would not have been incurred except for the presence of the "wires and appurtenances" of the Utility Company including costs incurred by the Railroad Companies in having to use commercial wires.

SEVENTH: The Utility Company shall, upon notice from the Railroad Companies given twenty-four (24) hours in advance, de-energize its circuits, as required, in order to facilitate any work of the Railroad Companies which

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may require such de-energization. In an emergency the parties hereto shall cooperate and shall take such immediate action as may be necessary. The Utility Company shall hold harmless the Railroad Companies from suits, claims, demands, losses and damages suffered by third parties by reason of such de-energization.

EIGHTH: All work herein contemplated, of whatever nature and for whatever purpose, shall be done and performed by the Utility Company, and at such time and in such manner as may be approved by the Area Engineer of the Railroad Companies, or, the Railroad Companies may from time to time perform all or any part of such work as shall be included within the limits of their right-of-way and property.

NINTH: (a) The supervision of the work performed and approval of the material used in construction, maintenance, repairs and renewals, alterations or adjustments of the facilities covered by this Agreement shall be within the jurisdictional rights of the Railroad Companies.

(b) The right of supervision over the construction work and inspection of structures from time to time thereafter by the Railroad Companies, shall extend for such distance on each side of the Railroad Companies' property as the method of construction and materials used may have an important bearing upon the strength and stability of the structures over, upon or in the Railroad Companies' property.

TENTH: If the Railroad Companies deem it advisable during the progress of any work of construction or maintenance or for repairs, renewals, alterations, adjustments or removal of the "wires and appurtenances" of the Utility Company, to place watchmen or flagmen for the protection of the property owned or in possession or control of the Railroad Companies, or their employes, patrons or licensees, the Railroad Companies shall have the right so to do, and the Utility Company shall, upon bill being rendered, pay or refund the cost and expense thereof plus fifteen (15%) per centum for supervision; but failure of the Railroad Companies so to do or failure or neglect of such watchmen or flagmen shall in no event be construed as in any manner or degree affecting any obligations of the Utility Company as provided for in Clause Eleventh (a) and (b).

ELEVENTH: (a) It is understood between the parties hereto that the operations of the Railroad Companies adjacent to or near said occupancy

involves some risk, and the Utility Company as part of the consideration for this grant hereby releases and waives any right to ask for or demand damages for or on account of loss or injury to the "wires and appurtenances" of the Utility Company that are over, upon or in the property and facilities of the Railroad Companies.

(b) And the Utility Company also covenants and agrees to indemnify, protect and save harmless the Railroad Companies from and against all cost or expense resulting from any and all loss of or damage to the property of the Railroad Companies and from any and all loss of life or property or injury or damage to the person or property of any third person, firm or corporation (including the officers, agents and employes of each of the parties hereto), and from and against any and all claims, demands or actions for such loss, injury or damage caused by or growing out of the presence or use or the construction, maintenance, renewal, change or relocation and subsequent removal of the said "wires and appurtenances" of the Utility Company or injury or damage thereto or thereby, when not solely attributable to the fault, failure, or negligence of the Railroad Companies, except that if such loss, injury or damage shall be caused by the joint or concurring negligence of the parties hereto the same shall be borne by them equally.

TWELFTH: The Utility Company shall, upon execution hereof, pay to the Railroad Companies as compensation for the preparation of papers, engineering, travel and other expenses incidental to this Agreement - \$1,000.00.

THIRTEENTH: The annual rental for the use of the right-of-way by the Utility Company is \$7,676.00 a year for the first five years. Thereafter, the annual rental shall be reviewed every fifth year for each ensuing five year period, such review shall be limited to any changes in land value or taxes. However, \$7,676.00 shall be considered a minimum annual rental to be paid by the Utility Company.

The annual rental to be paid by the Utility Company to the Railroad Companies shall be payable in advance in equal, quarterly installments, without prior demand, at the office of The Pennsylvania Railroad Company's Real Estate Department, Room 1406 Transportation Building, 6 Penn Center Plaza, Philadelphia, Pennsylvania, or at such other place as the Railroad Companies may designate.

FOURTEENTH: (a) This Agreement shall take effect as of the first day of August, A.D. 1964, and shall continue in full force and effect from

said date for a period of twenty-five (25) years, or until midnight July 31, 1989, and unless the Utility Company shall give notice to the Railroad Companies of its desire to terminate the Agreement at the end of said term by at least twelve (12) months' prior notice in writing, this Agreement shall continue in force and effect for a further term of twenty-five (25) years, or until midnight, July 31, 2014, and unless the Agreement is terminated by any of the parties by giving at least twelve (12) months' notice in writing before the expiration of the second 25-year term, the Agreement shall continue from year to year until terminated by one of the parties.

(b) Despite anything herein to the contrary provided, the Utility Company is hereby given the right to terminate this Agreement at any time by giving the Railroad Companies twelve (12) months written notice of its intention to terminate said Agreement. In the event of such termination the Utility Company must remove its "wires and appurtenances" within said twelve (12) month period, in which event this Agreement is null and void as of the effective date of such termination.

FIFTEENTH: In case of non-payment of the stipulated quarterly payments, provided hereinbefore, or of any other money payable by the Utility Company to the Railroad Companies under any of the terms hereof for one hundred twenty (120) days after it becomes due, or in case of default by the Utility Company in any of the other covenants or agreements of the Utility Company herein contained and the continuance of such default for a period of one hundred twenty (120) days after notice in writing thereof is given by the Railroad Companies to the Utility Company, the Railroad Company may terminate this Agreement instanter by giving the Utility Company written notice of the Railroad Companies' election so to do, and immediately upon the giving of such notice this Agreement shall terminate. In the event of termination of this Agreement, as provided for in this article prior to the end of any period for which the quarterly payment as provided for in Article Thirteenth hereof has been made, no part of any such payment will be refunded by the Railroad Companies.

SIXTEENTH: The rights conferred hereby shall be the privilege of the Utility Company only, and no assignment or transfer thereof except to any Mortgagee of the Utility Company or to a utility which takes over all, or substantially all of the assets of the Utility Company, shall be made or other use be permitted than for the purpose stated in the Preamble without the consent and agreement in writing of the Railroad Companies being first had and obtained.

SEVENTEENTH: Upon termination of this Agreement or upon the removal or abandonment of the facilities covered hereby, all the rights, title and interest of the Utility Company hereunder shall cease and determine, and this instrument shall thereupon and without charge formally cancel this Agreement, and the Utility Company shall remove its said "wires and appurtenances" from the Railroad Companies' property, and the right-of-way and all property of the Railroad Companies shall be restored in good condition and to the satisfaction of the Railroad Companies. If the Utility Company fails or refuses to remove its "wires and appurtenances" under the foregoing conditions, the Railroad Companies shall be privileged to do so at the cost and expense of the Utility Company, and the Railroad Companies shall not be liable in any manner to the Utility Company for said removal.

EIGHTEENTH: The rights conferred and obligations imposed by this Agreement shall extend to the successors and assigns of the parties hereto, subject to the provisions of Article Sixteenth hereof.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, in triplicate, the day and year first hereinbefore written.

ATTEST:

J. J. Brittingham
Asst. Secretary

THE CONNECTING RAILWAY COMPANY
P.O.C.

By J. A. Fox
Vice President

ATTEST:

R. W. Parcell
Asst. to Secretary

THE PENNSYLVANIA RAILROAD COMPANY

By H. M. Sullivan
Vice President & General Manager

ATTEST:

J. E. Blufford
Asst. Secretary

THE DETROIT EDISON COMPANY

By W. B. Rose
Vice President

Approved as to form:

ERL
Assistant General Solicitor
Pennsylvania Railroad

	APPROVED	DATE
LEGAL	<u>H. J. ...</u>	9-17-64
PLANT ACCOUNTING		
PROPERTIES AND RIGHTS OF WAY	<u>J. H. ...</u>	9/25/64
ENGINEERING	<u>J. H. ...</u>	9/24/64
O.H.L.	<u>J. H. ...</u>	9/24/64
	<u>...</u>	9/24/64

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DATA SHEET

The Detroit Edison Company

Warren-Evergreen #2 120 kv
Transmission Line

Circuits

One 120,000 volt, 60 cycle, 3 wire, 3 phase transmission circuit with one ground wire.

Towers & Crossarms

Steel towers and crossarms per attached AB Co. drawings T-3175, T-7815, T-10677, and T-2429. Union Metal steel poles per DE Co. spec. ED-5578.

Conductors

3 - 1272 Mcm 61 strand aluminum (Narcissus)
Ultimate strength - 22,000 lbs.
1 - 7/16" Bethanized steel ground wire
Ultimate strength - 18,000 lbs.

Insulators

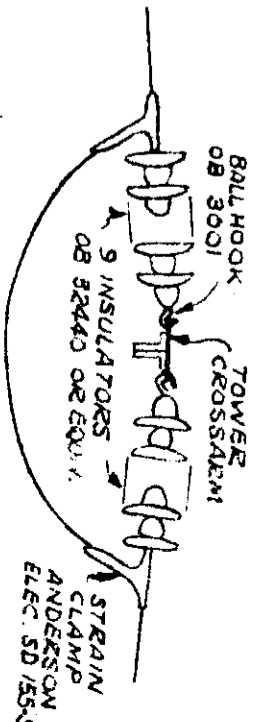
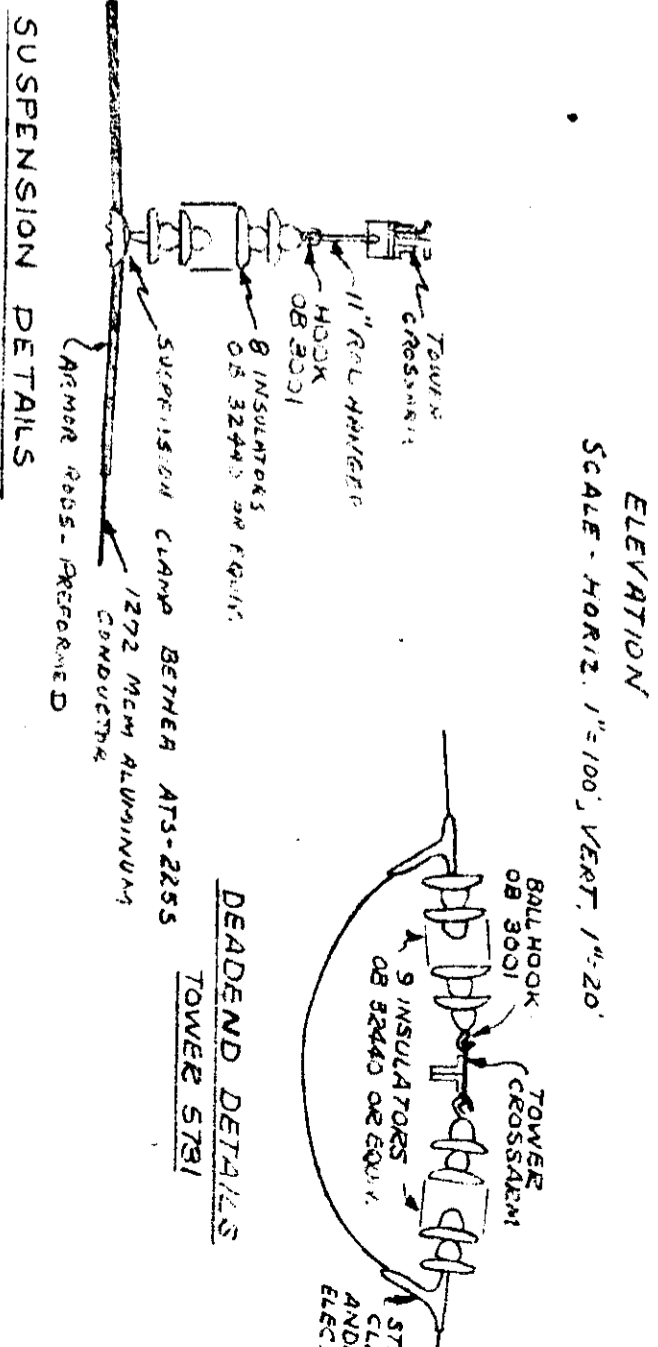
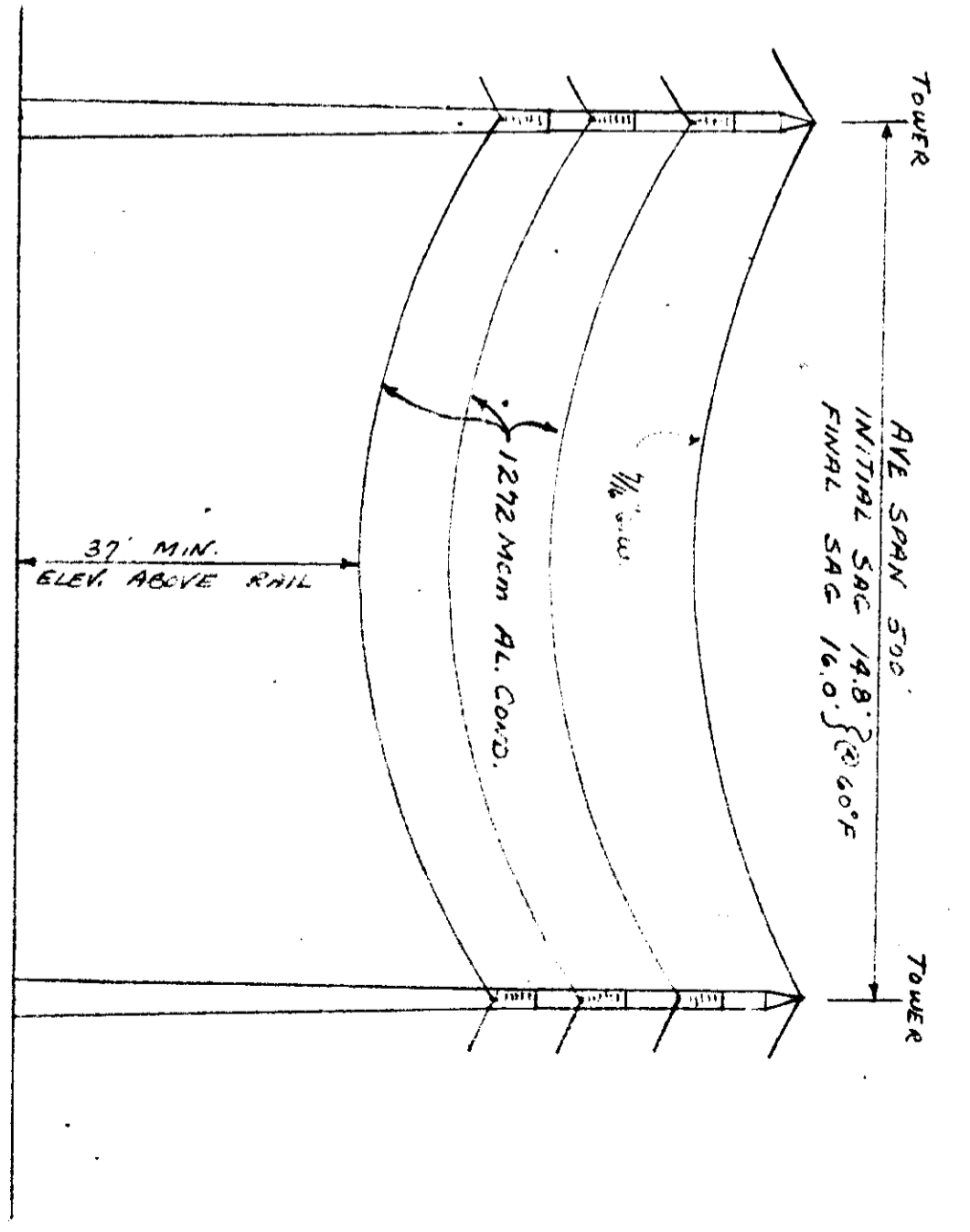
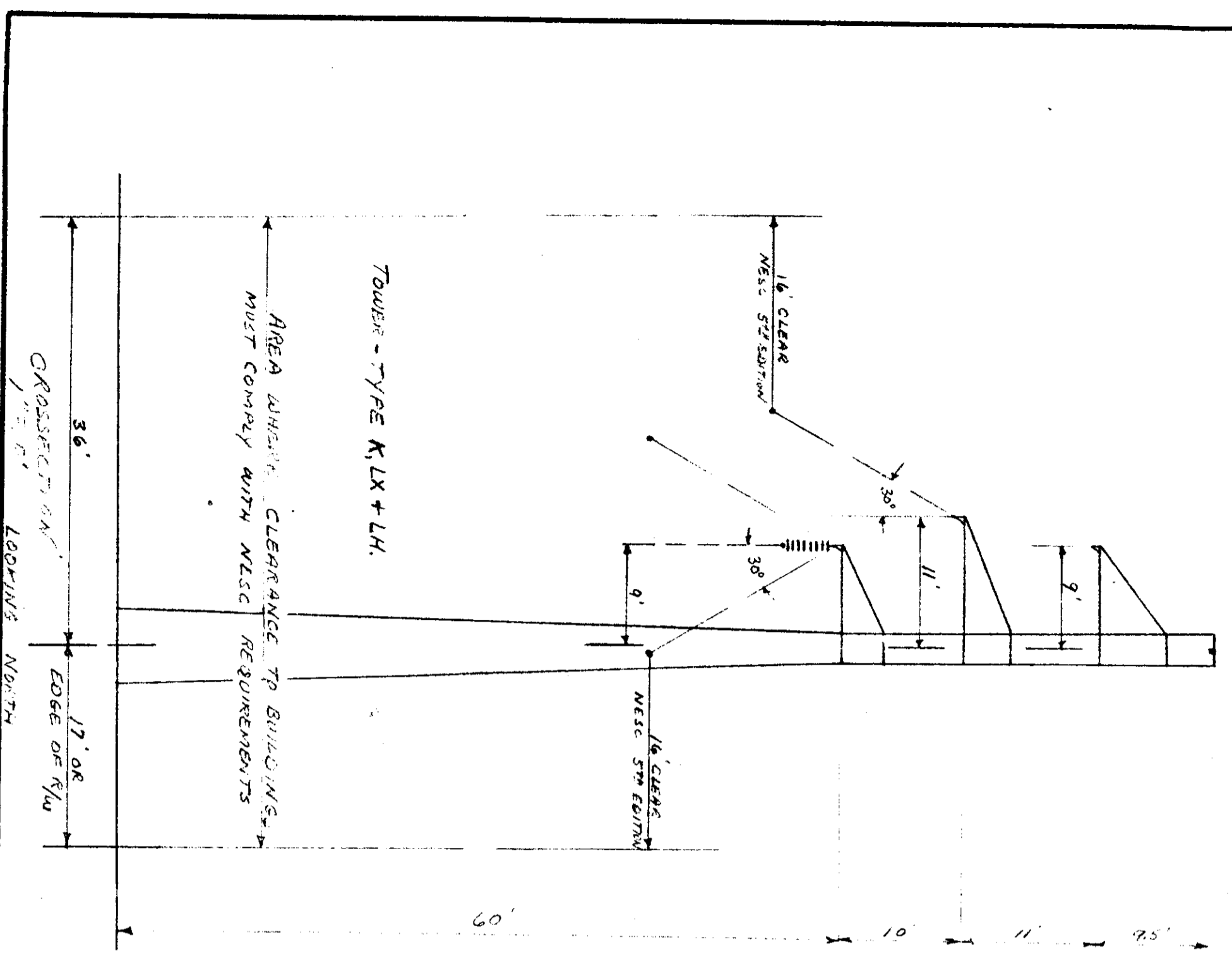
8 - 5 3/4 x 10" insulators OB 32440 or equivalent. 9 in deadend.

Suspension Details

Suspension details per ED-5582 and 5583.

General Engineering Dept.
JSW/evb 12-26-63

RECORDED RIGHT OF WAY NO. 22877



PENNSYLVANIA RAILROAD RIGHT OF WAY - TYPICAL CONSTRUCTION BETWEEN WARREN AVE & RAYBROOK AVE CITIES OF DETROIT AND WARREN

APPROVED: *JEM*

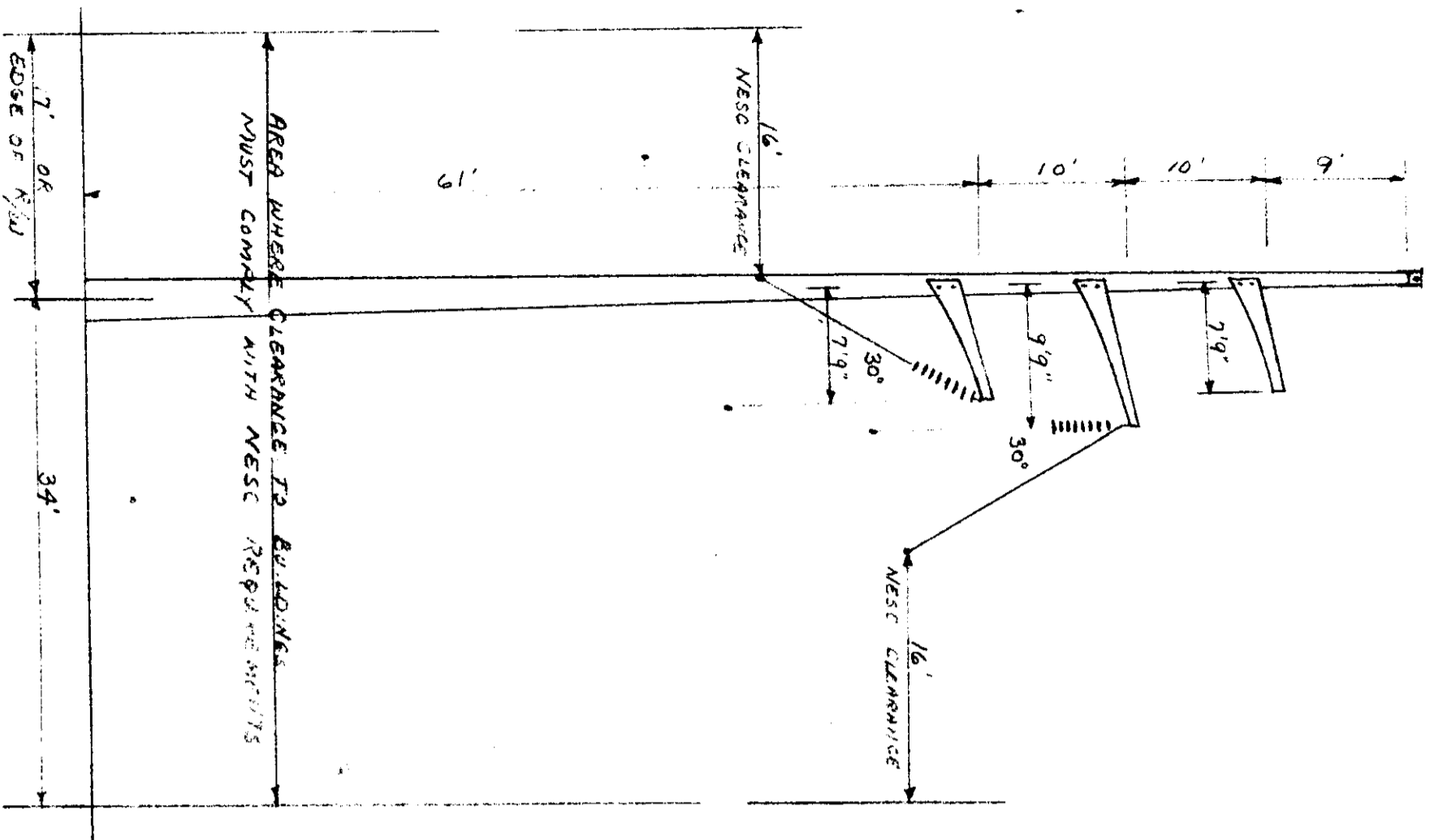
THE DETROIT EDISON COMPANY
GENERAL ENGINEERING DEPARTMENT

LAYOUT BY: *J.S. ANDERSON*

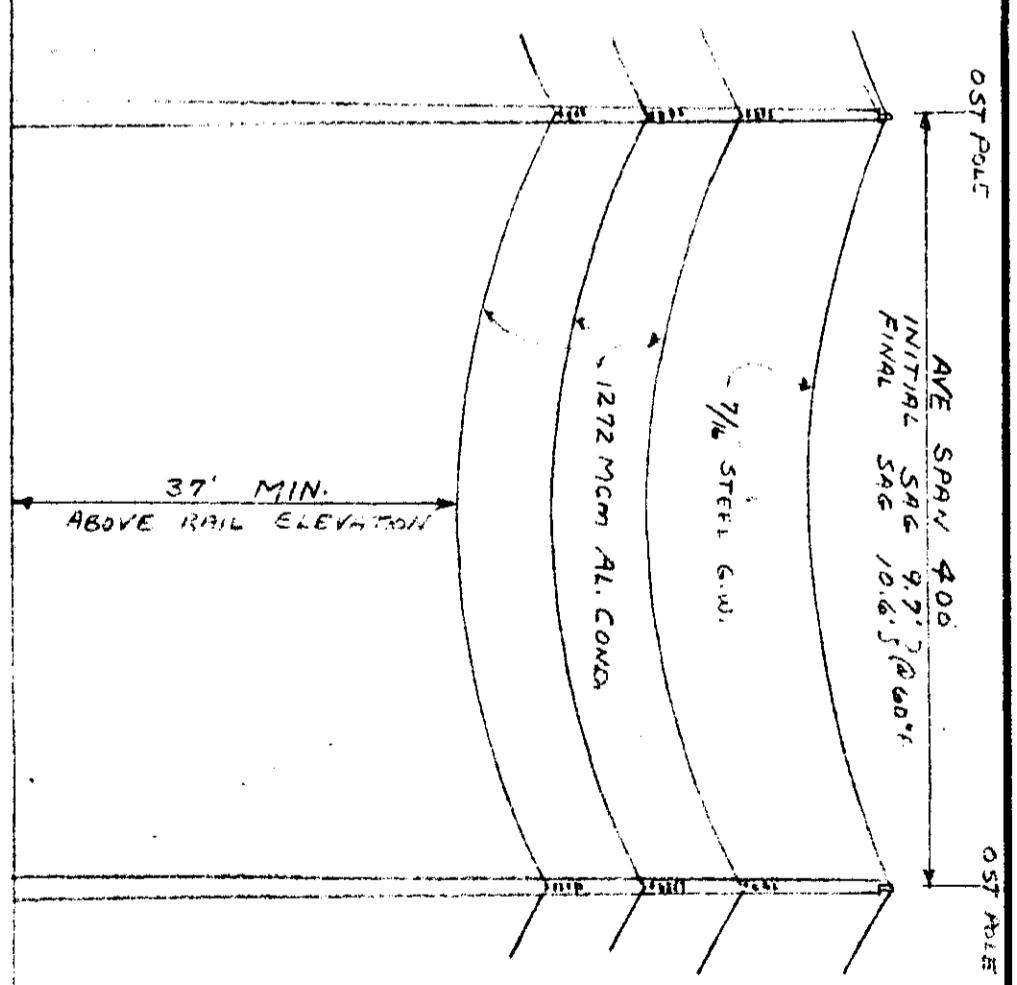
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SCALE: AS NOTED

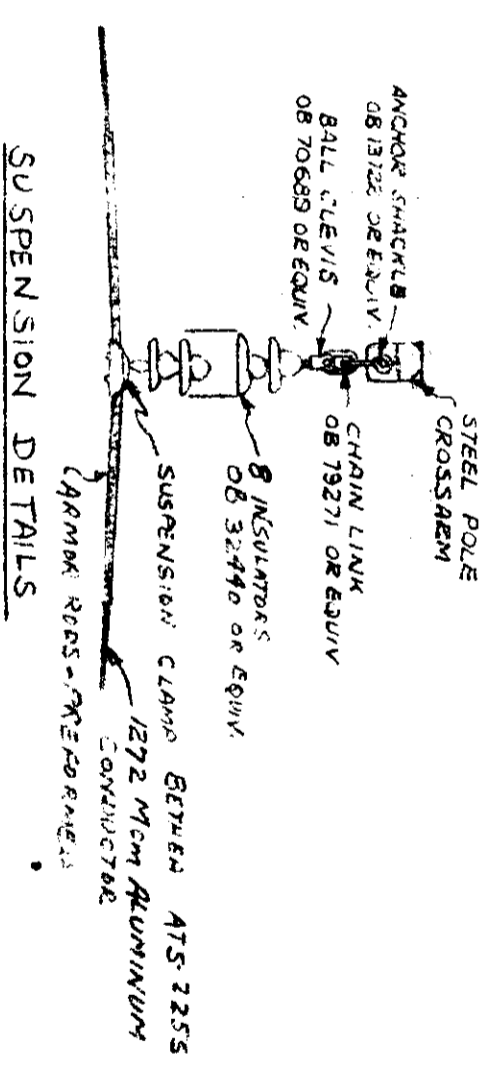
DRAWING NUMBER: ED-5579



CROSSSECTION
1" = 10'
LOOKING NORTH



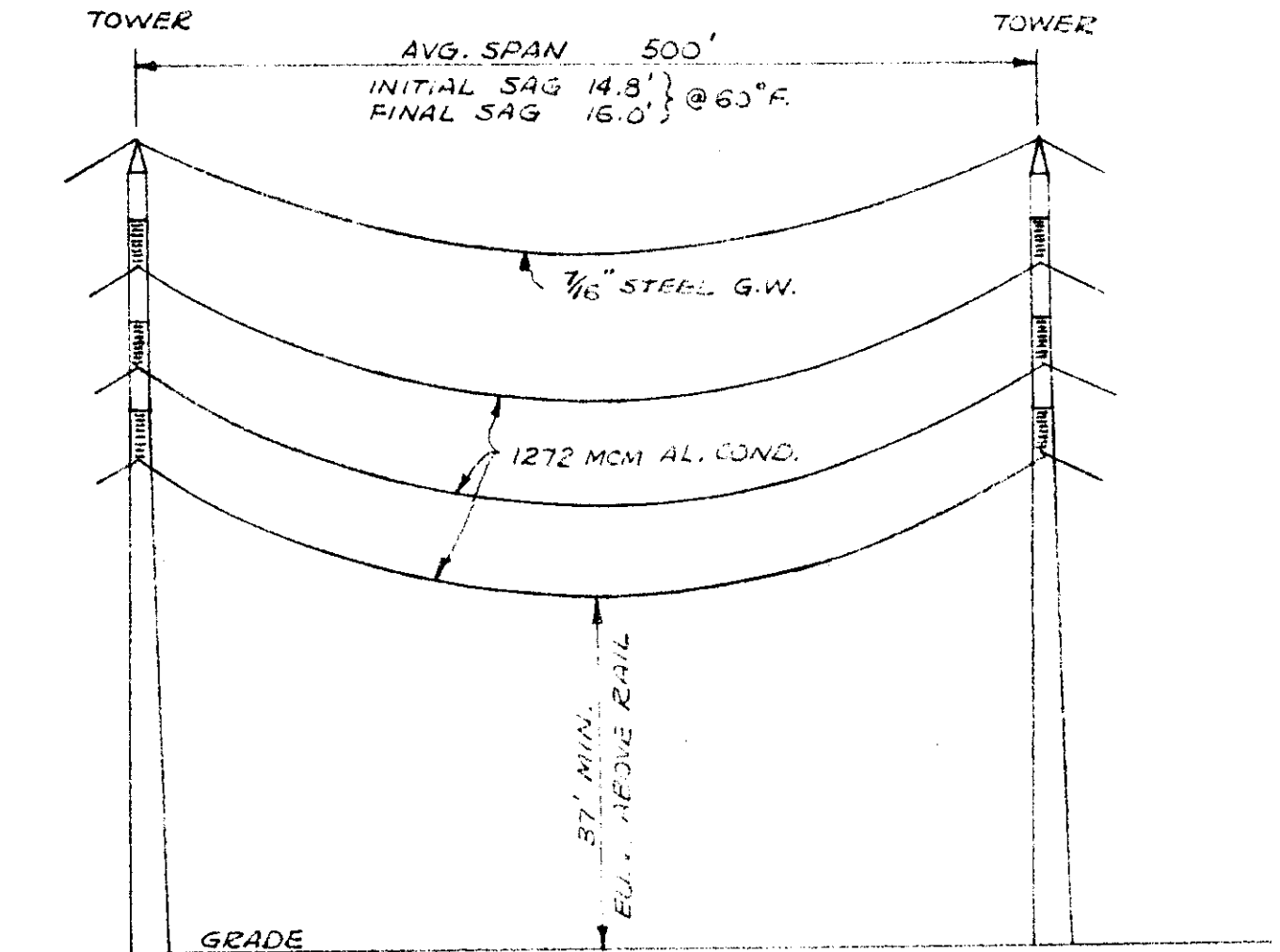
ELEVATION
SCALE - HORIZ. 1" = 100', VERT. 1" = 20'



SUSPENSION DETAILS

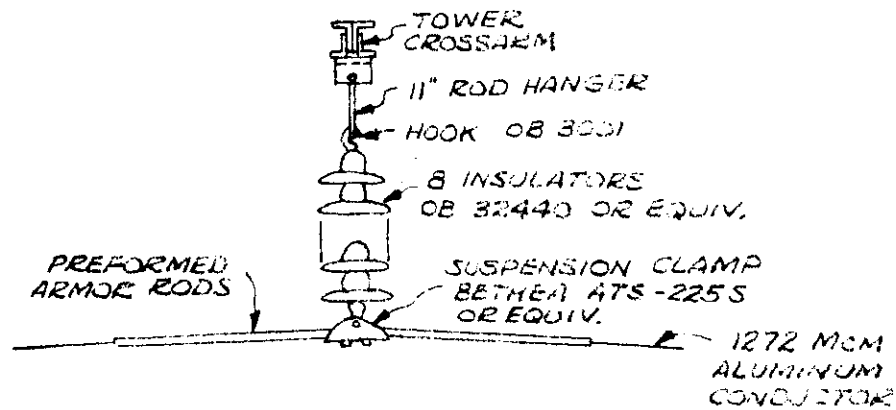
PENNSYLVANIA RAILROAD RIGHT OF WAY TYPICAL CONSTRUCTION BETWEEN RAYMOUTH & FULLERTON AVE. CITY OF DETROIT MICHIGAN

APPROVED	THE DETROIT EDISON COMPANY GENERAL ENGINEERING DEPARTMENT	
<i>J.S.W.</i>	LAYOUT BY	DRAWN BY
	<i>J.S.W.</i>	
DATE	SCALE	DRAWING NUMBER
2-23-63	AS NOTED	ED-5580



ELEVATION

1" = 100' HORIZ.
1" = 20' VERT.

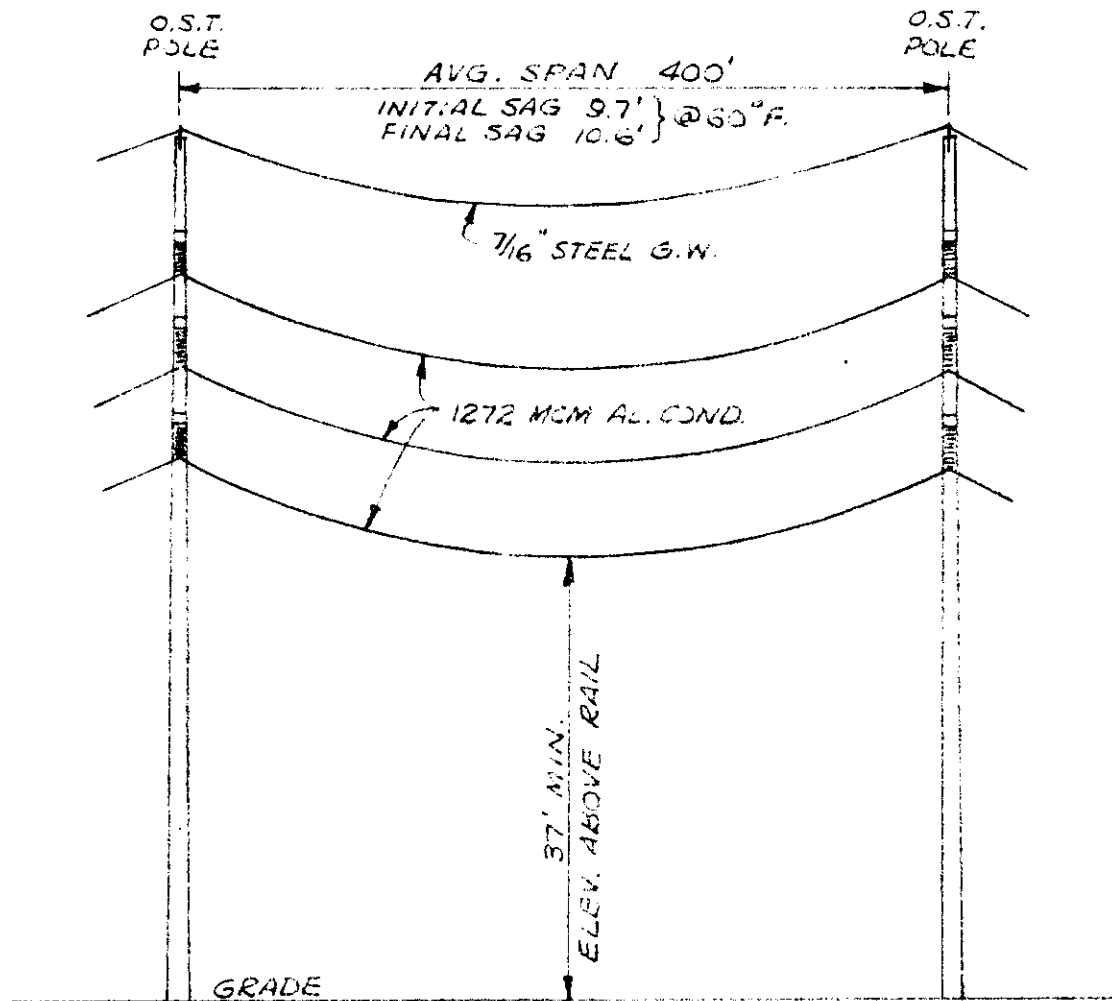


SUSPENSION DETAILS

RECORDED RIGHT OF WAY NO. 22877

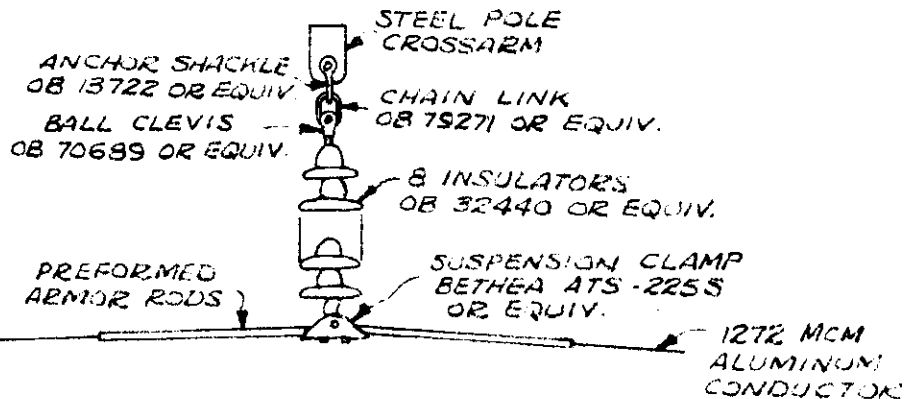
PROPOSED 120 KV LINE ON RR R/W.
TYPICAL CONSTRUCTION ON 6-FT.
SQUARE TOWERS BETWEEN WARREN
AND EVERGREEN STATIONS

APPROVED	THE DETROIT EDISON COMPANY GENERAL ENGINEERING DEPARTMENT	
JAV	LAYOUT BY	DRAWN BY JH
	DATE 12/30/63	
	SCALE AS SHOWN	DRAWING NUMBER ED-5582



ELEVATION

1" = 100' HORIZ.
1" = 20' VERT.



SUSPENSION DETAILS

RECORDED TICKET OF WAY NO. 22877

PROPOSED 120 KV LINE ON RR R/W.
TYPICAL CONSTRUCTION ON 2-FT.
DIA. ORNAMENTAL STEEL TUBULAR
POLES BETWEEN WARREN AND
EVERGREEN STATIONS.

APPROVED <i>JSTW</i>	THE DETROIT EDISON COMPANY GENERAL ENGINEERING DEPARTMENT	
	LAYOUT BY	DRAWN BY JH
	DATE 12/30/63	
	SCALE AS SHOWN	DRAWING NUMBER ED-5533

DEADEND TOWER TYPE E

AB Co. Dwg. T-2429 dated 1-2-26

Revised Design Loads

Tower modified. To carry 3 - 1272 Mcm aluminum conductors and 1 - 7/16" steel ground wire - 600' span, 60° angle or complete deadend.

Maximum conductor tension of 6000# each with steel ground wire at 3000# under heavy loaded conditions - NESC Grade B construction.

1. Vertical
1 ground wire @500# = 500#
3 conductors @1400# = 4200# 4700#

- 2a. Transverse - wind on wires
1 ground wire @275# = 275#
3 conductors @460# = 1380# 1655#

- 2b. Transverse 60° angle in line or complete deadend.
1 ground wire @3000# = 3000#
3 conductors @6000# = 18000# 21000#

3. Longitudinal 6000# at any one conductor support.

4. Wind on tower of 6.5# per sq. ft., on 1½ times the projected area of one face.

5. Dead load of tower -

Combine

1.27 x 1, 2.54 x 2a, 1.65 x 2b, 1 x 3, 2.54 x 4, 1.27 x 5

Ultimate Unit Stresses

Tension on net section 33,000# per sq. in.

Comp. on gross section $\frac{L}{R} < 150, 33000 - 130 L/R$

$\frac{L}{R} > 150, 24000 - 70 L/R$

Shear on bolts 30000# per sq. in.

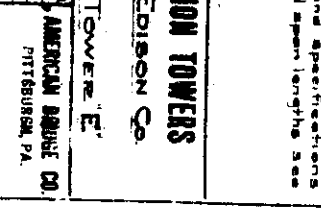
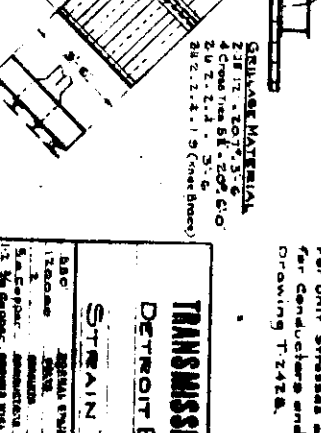
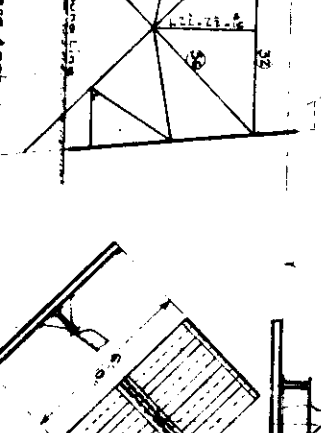
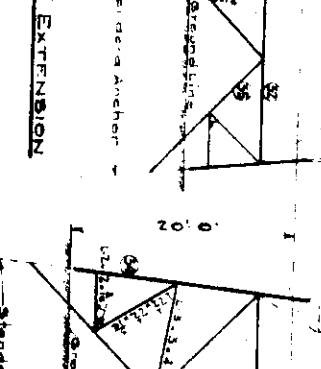
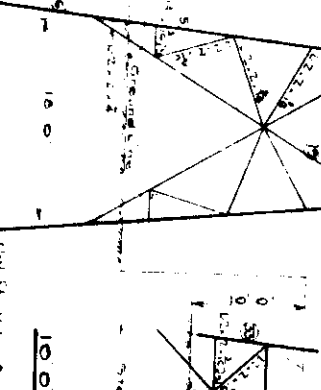
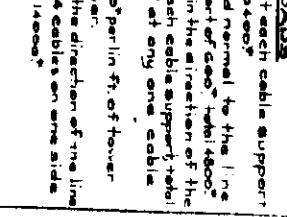
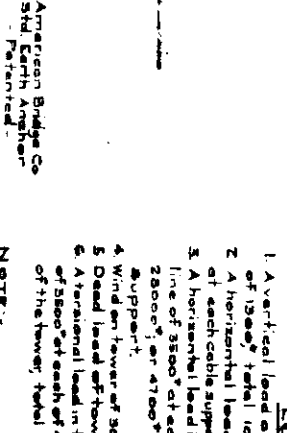
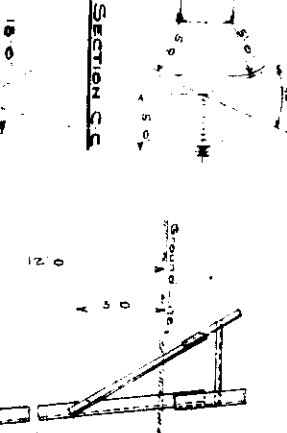
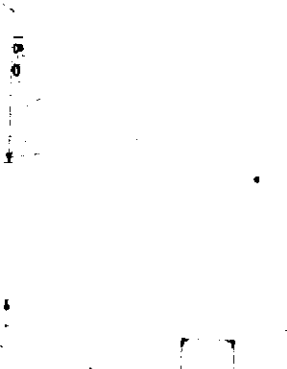
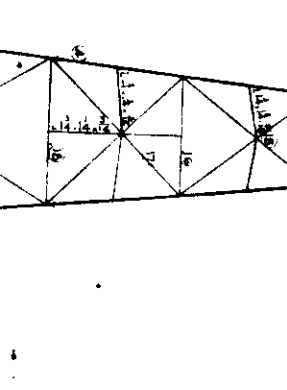
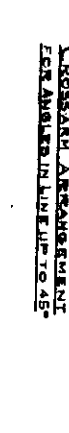
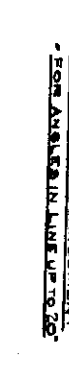
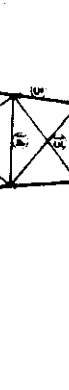
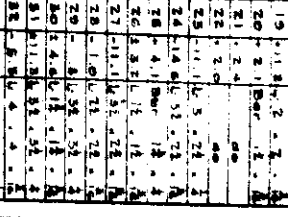
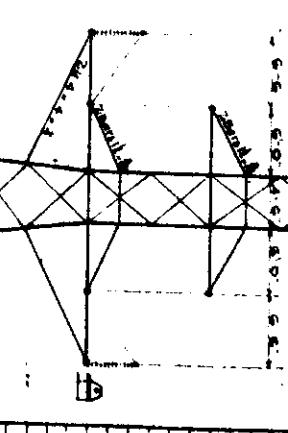
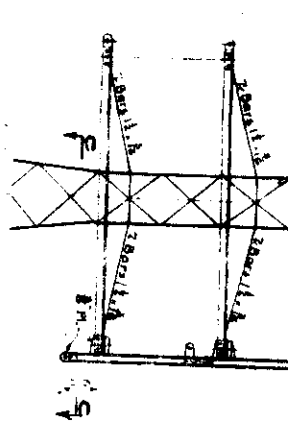
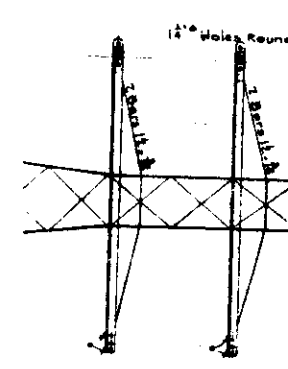
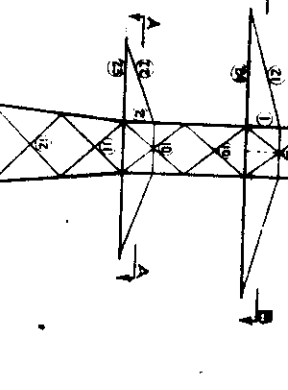
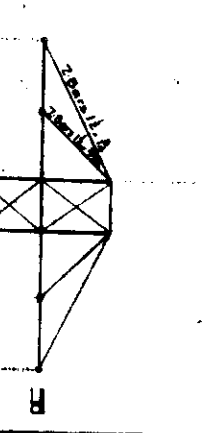
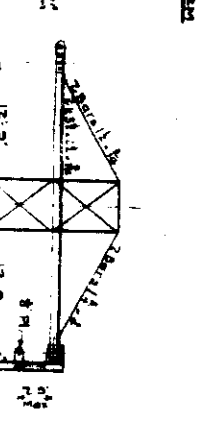
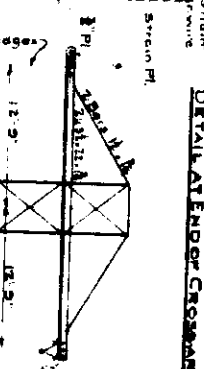
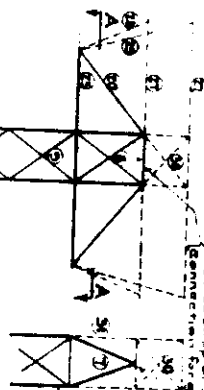
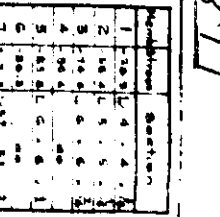
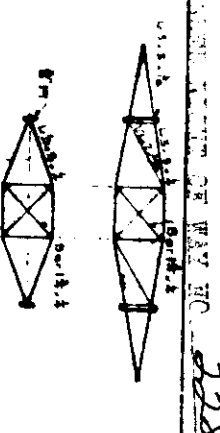
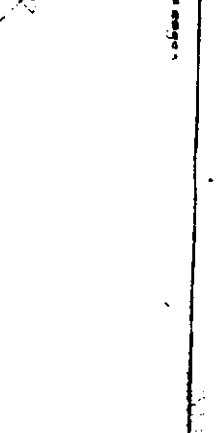
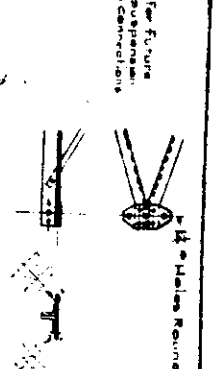
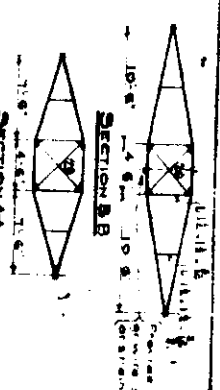
Bearing on bolts 60000# per sq. in.

Material - ASTM A36 Steel H.D. Galv.
per ASTM A123 .5/8" galv. bolts

REVISION NUMBER OF DWG. NO.

22877

22877

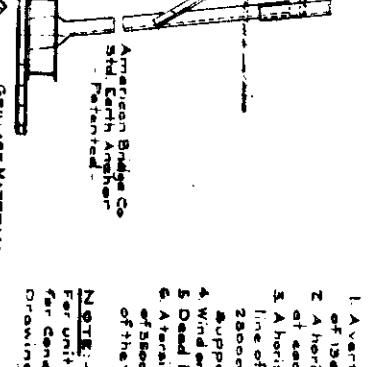
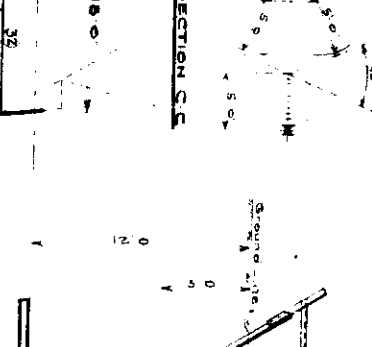
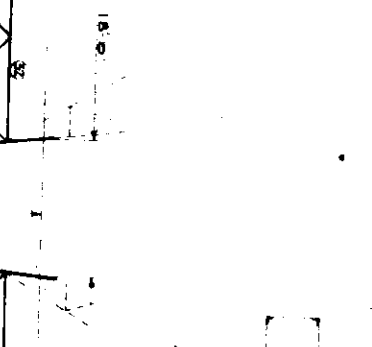


CROSSARM ARRANGEMENT FOR ANGLE IN LINE UP TO 20°

CROSSARM ARRANGEMENT FOR ANGLE IN LINE UP TO 45°

TRANSMISSION TOWER PART NUMBER: 20000000000000000000

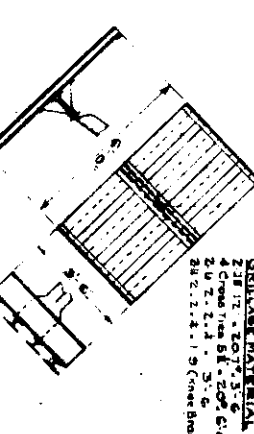
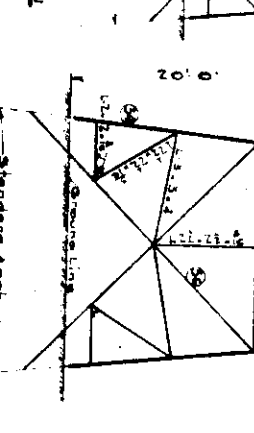
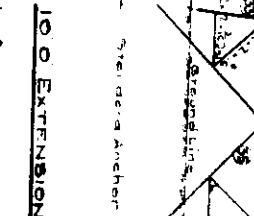
LOADS



Section	Section
1	10-0
2	10-0
3	10-0
4	10-0
5	10-0
6	10-0
7	10-0
8	10-0
9	10-0
10	10-0
11	10-0
12	10-0
13	10-0
14	10-0
15	10-0
16	10-0
17	10-0
18	10-0
19	10-0
20	10-0
21	10-0
22	10-0
23	10-0
24	10-0
25	10-0
26	10-0
27	10-0
28	10-0
29	10-0
30	10-0
31	10-0
32	10-0
33	10-0
34	10-0
35	10-0
36	10-0
37	10-0
38	10-0
39	10-0
40	10-0

1. A vertical lead at each cable support of 1300" total 1000"
2. A horizontal lead normal to the line at each cable support of 600" total 1400"
3. A horizontal lead in the direction of the line of 3500" at each cable support total 28000" or 4700" at any one cable support.
4. Wind on tower of 30" per lin. ft. of tower.
5. Dead load of tower.
6. A torsional lead in the direction of the line of 3500" at each of 4 cables on one side of the tower, total 14000"

NOTE: For unit stresses and specifications for conductors and span lengths see Drawing T-242A.



STRAIN TOWER 'E'
DETROIT EDISON CO.

TRANSMISSION TOWERS
DETROIT EDISON CO.

AMERICAN BRIDGE CO.
PITTSBURGH, PA.

INQUIRE TO P 24513
ORDER NO. F3507-8-9
DRAWING T-242D
9711 U.S. 333014

SUSPENSION TOWER TYPE K

AB Co. Dwg. T-3175 dated 2-21-28

Revised Design Loads

Tower modified. To carry 3 - 1272 Mcm aluminum conductors and 1 - 7/16" steel ground wire - 600' span, 4° angle.

Maximum conductor tension of 6000# each with steel ground wire at 3000# under heavy loaded conditions - NESC Grade B construction.

1. Vertical

1 ground wire @500#	=	500#	
3 conductors @1400#	=	4200#	4700#

2a. Transverse - wind on wires

1 ground wire @275#	=	275#	
3 conductors @460#	=	1380#	1655#

2b. Transverse 4° angle in line

1 ground wire @210#	=	210#	
3 conductors @420#	=	1260#	1470#

- 3. Longitudinal 4000# at any one conductor support.
- 4. Wind on tower of 6.5# per sq. ft., on 1½ times the projected area of one face.
- 5. Dead load of tower -

Combine

1.27 x 1, 2.54 x 2a, 1.65 x 2b, 1 x 3, 2.54 x 4, 1.27 x 5

Ultimate Unit Stresses

Tension on net section 33,000# per sq. in.

Comp. on gross section $\frac{L}{R} < 150$, 33000 - 130 L/R

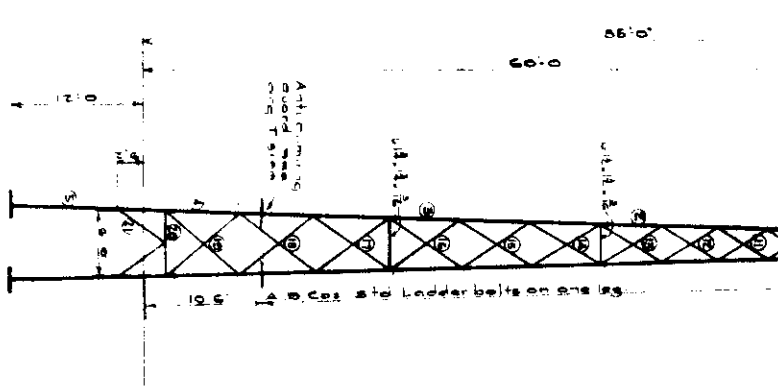
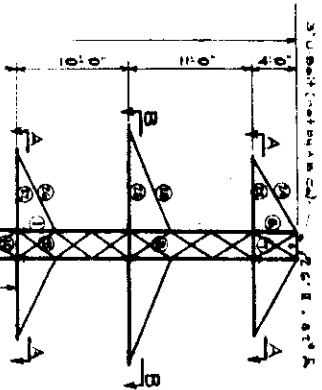
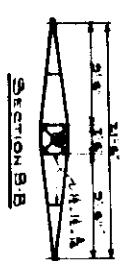
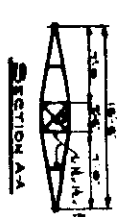
$\frac{L}{R} > 150$, 24000 - 70 L/R

Shear on bolts 30000# per sq. in.

Bearing on bolts 60000# per sq. in.

Material - ASTM A36 Steel H.D. Galv.
per ASTM A123 .5/8" Galv. bolts

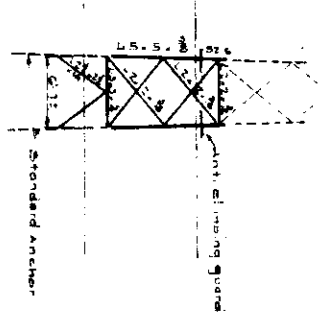
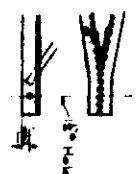
22877



DETAIL AT END OF CROSSING



DETAIL OF SAVING CONNECTION

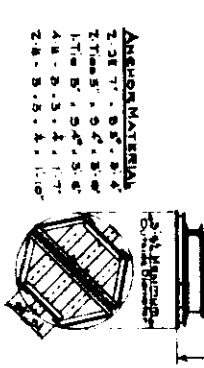


100' EXTENSION

No.	Spec.	Description
1	2 1/2 x 1/2 x 1/2	Angle Iron
2	2 1/2 x 1/2 x 1/2	Angle Iron
3	2 1/2 x 1/2 x 1/2	Angle Iron
4	2 1/2 x 1/2 x 1/2	Angle Iron
5	2 1/2 x 1/2 x 1/2	Angle Iron
6	2 1/2 x 1/2 x 1/2	Angle Iron
7	2 1/2 x 1/2 x 1/2	Angle Iron
8	2 1/2 x 1/2 x 1/2	Angle Iron
9	2 1/2 x 1/2 x 1/2	Angle Iron
10	2 1/2 x 1/2 x 1/2	Angle Iron
11	2 1/2 x 1/2 x 1/2	Angle Iron
12	2 1/2 x 1/2 x 1/2	Angle Iron
13	2 1/2 x 1/2 x 1/2	Angle Iron
14	2 1/2 x 1/2 x 1/2	Angle Iron
15	2 1/2 x 1/2 x 1/2	Angle Iron
16	2 1/2 x 1/2 x 1/2	Angle Iron
17	2 1/2 x 1/2 x 1/2	Angle Iron
18	2 1/2 x 1/2 x 1/2	Angle Iron
19	2 1/2 x 1/2 x 1/2	Angle Iron
20	2 1/2 x 1/2 x 1/2	Angle Iron
21	2 1/2 x 1/2 x 1/2	Angle Iron
22	2 1/2 x 1/2 x 1/2	Angle Iron
23	2 1/2 x 1/2 x 1/2	Angle Iron
24	2 1/2 x 1/2 x 1/2	Angle Iron
25	2 1/2 x 1/2 x 1/2	Angle Iron
26	2 1/2 x 1/2 x 1/2	Angle Iron
27	2 1/2 x 1/2 x 1/2	Angle Iron
28	2 1/2 x 1/2 x 1/2	Angle Iron

American Bridges Co.
and Earth Anchor
Patented

CIRCULAR GRILLAGE
ANCHOR DETAIL



ANCHOR MATERIAL
2 x 3/4" x 1/2" x 1/2"
2 1/2" x 1/2" x 1/2"
1 1/2" x 1/2" x 1/2"
1 1/2" x 1/2" x 1/2"
2 x 3/4" x 1/2" x 1/2"

Copyright American Bridge Co. 1928

This tower is designed to carry the support specified loads and 1.5M extensions in static spans.
The wires are supported by the following chief the reduction tension under static loading (of which each wire is 1/2" thick) and second order.

1. A vertical load of 1000' at each cable support, total 7000'
2. A transverse load of 250' at each cable support, total 1750'
3. A long radial load of 2000' at every cable support.
4. Wind on tower of 20' per ft. of height.
5. Weight of tower.
6. Corrosion 1.25 x 4.5.

LIMIT STRESSING
Tension on steel members 20000' per sq. in.
Compression on steel members 15000' per sq. in.
Shear on bolts 11250' per sq. in.
Bearing on bolts 11250' per sq. in.

MATERIAL: A. H. steel for slugs ASTM steel
spiral sections.
COATING: All material galvanized
CONNECTIONS: Bolted, 95% bolts.
ACCURACY: All Co. and specifications for Transmission Towers.

TRANSMISSION TOWERS
DETROIT EDISON CO.

DESIGNED BY	AMERICAN BRIDGE CO.
CONSTRUCTED BY	PITTSBURGH, PA.
APPROVED BY	DETROIT EDISON CO.
DATE	NOV. 10, 1928
PROJECT NO.	P.E. 2078-31
ISSUED TO	DETROIT EDISON CO.
BY	T.S. 178
CHECKED BY	DETROIT EDISON CO.

SUSPENSION ANGLE TOWER TYPE LX

AB Co. Dwg. T-7815 dated 5-17-48

Revised Design Loads

Tower modified. To carry 3 - 1272 Mcm aluminum conductors and 1 - 7/16" steel ground wire - 600' span, 15° angle.

Maximum conductor tension of 6000# each with steel ground wire at 3000# under heavy loaded conditions - NESC Grade B construction.

- 1. Vertical
 - 1 ground wire @500# = 500#
 - 3 conductors @1400# = 4200#
 - 4700#
- 2a. Transverse - wind on wires
 - 1 ground wire @275# = 275#
 - 3 conductors @460# = 1380#
 - 1655#
- 2b. Transverse 15° angle in line
 - 1 ground wire @785# = 785#
 - 3 conductors #1550# = 4650#
 - 5435#
- 3. Longitudinal 4000# at any one conductor support.
- 4. Wind on tower of 6.5# per sq. ft., on 1½ times the projected area of one face.
- 5. Dead load of tower -

Combine

1.27 x 1, 2.54 x 2a, 1.65 x 2b, 1 x 3, 2.54 x 4, 1.27 x 5

Ultimate Unit Stresses

Tension on net section 33000# per sq. in.

Comp. on gross section $\frac{L}{R} < 150, 33000 - 130 L/R$

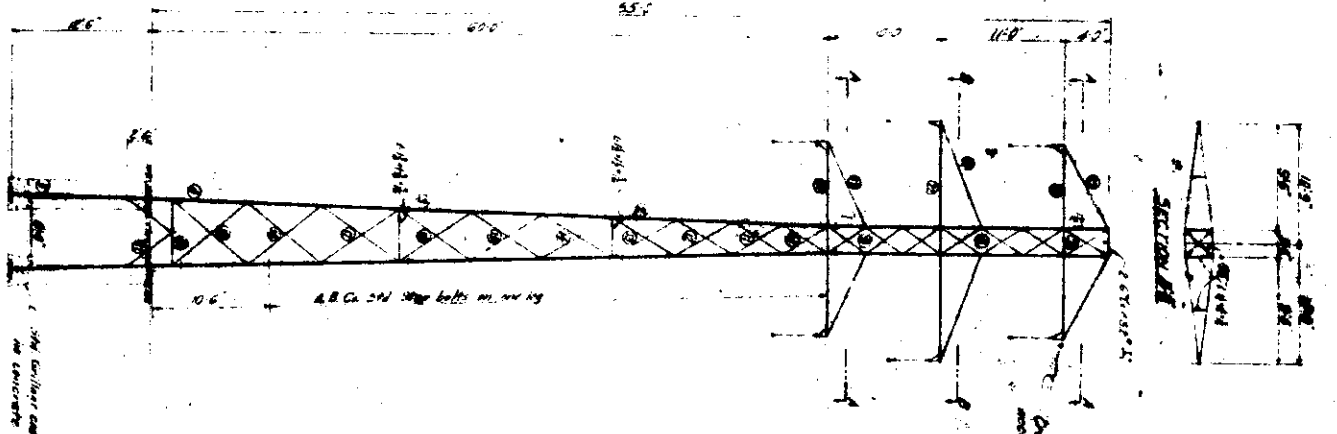
$\frac{L}{R} > 150, 24000 - 70 L/R$

Shear on bolts 30000# per sq. in.

Bearing on bolts 60000# per sq. in.

Material - ASTM A36 Steel H.D. Galv.
per ASTM A123 .5/8" galv. bolts

RECORDED RIGHT OF WAY NO. 22877



AMERICAN TOWER CO.

See Engineer's report
on enclosure

NOTE: Tower angle as on Drawing F-3178.
Order No. F-35004 with same description.

Dimensions to be checked as to
accuracy, 1/4" or 1/2" inside lengths

MEMBER	SIZE	SECTION
1	4" x 4"	4" x 4"
2	4" x 4"	4" x 4"
3	4" x 4"	4" x 4"
4	4" x 4"	4" x 4"
5	4" x 4"	4" x 4"
6	4" x 4"	4" x 4"
7	4" x 4"	4" x 4"
8	4" x 4"	4" x 4"
9	4" x 4"	4" x 4"
10	4" x 4"	4" x 4"
11	4" x 4"	4" x 4"
12	4" x 4"	4" x 4"
13	4" x 4"	4" x 4"
14	4" x 4"	4" x 4"
15	4" x 4"	4" x 4"
16	4" x 4"	4" x 4"
17	4" x 4"	4" x 4"
18	4" x 4"	4" x 4"
19	4" x 4"	4" x 4"
20	4" x 4"	4" x 4"
21	4" x 4"	4" x 4"
22	4" x 4"	4" x 4"
23	4" x 4"	4" x 4"
24	4" x 4"	4" x 4"
25	4" x 4"	4" x 4"
26	4" x 4"	4" x 4"
27	4" x 4"	4" x 4"

AMERICAN TOWER CO.

The tower is designed to support 1,875 lbs.
Cable 5/16" Strand Wire and 6-477000 cm ALCS
conductors in a maximum span of 200' with 5'
angle to line.
The cables are to be so strung that the maxi-
mum tension under a load of 6 lbs. per
cable will not exceed 17,000 lbs. the ground wire
and 2000' by the conductors.

LOADS:
1. Horizontal 1,000 lbs. @ 30° - 350'
2. Conductor 6,350' - 450'
3. Transverse wire 100 lbs. - 400'
4. 1/4" x 1/2" @ 60° - 70°
5. Transverse wire to line 10' - 100'
6. 1/2" x 1/2" @ 30° - 350'
7. 1/2" x 1/2" @ 30° - 350'

2. Longitudinal wire and conductors @ 30°
3. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
4. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
5. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire

6. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
7. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
8. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
9. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
10. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
11. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
12. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
13. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
14. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
15. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
16. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
17. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
18. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
19. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
20. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
21. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
22. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
23. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
24. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
25. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
26. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire
27. Wind pressure on tower 1/2" @ 20' above the
projected cable and wire

AMERICAN TOWER CO.

See Engineer's report
on enclosure

ANGLE TOWER TYPE Q

AB Co. Dwg. T-9164 Dated 3-30-53

Revised Design Leads

Tower modified. To carry 3 - 1272 Mcm aluminum conductors and 1 - 7/16" steel ground wire - 600' span, 30° angle.

Maximum conductor tension of 6000# each with steel ground wire at 3000# under heavy loaded conditions - NESC Grade B construction.

1. Vertical

1 ground wire @500# = 500#
3 conductors @1400# = 4200#
4700#

2a. Transverse - wind on wires

1 ground wire @275# = 275#
3 conductors @ 460# = 1380#
1655#

2b. Transverse - 30° angle in line

1 ground wire @1550# = 1550#
3 conductors @3100# = 9300#
10850#

3. Longitudinal 6000# at any one conductor support.
4. Wind on tower of 6.5# per sq. ft. on 1½ times the projected area of one face.
5. Dead load of tower -

Combine

1.27 x 1, 2.54 x 2a, 1.65 x 2b, 1x3, 2.54 x 4, 1.27 x 5

Ultimate Unit Stresses

Tension on net section 33000# per sq. in.

Comp. on gross section $\frac{L}{R} < 150$, 33000 - 130 L/R

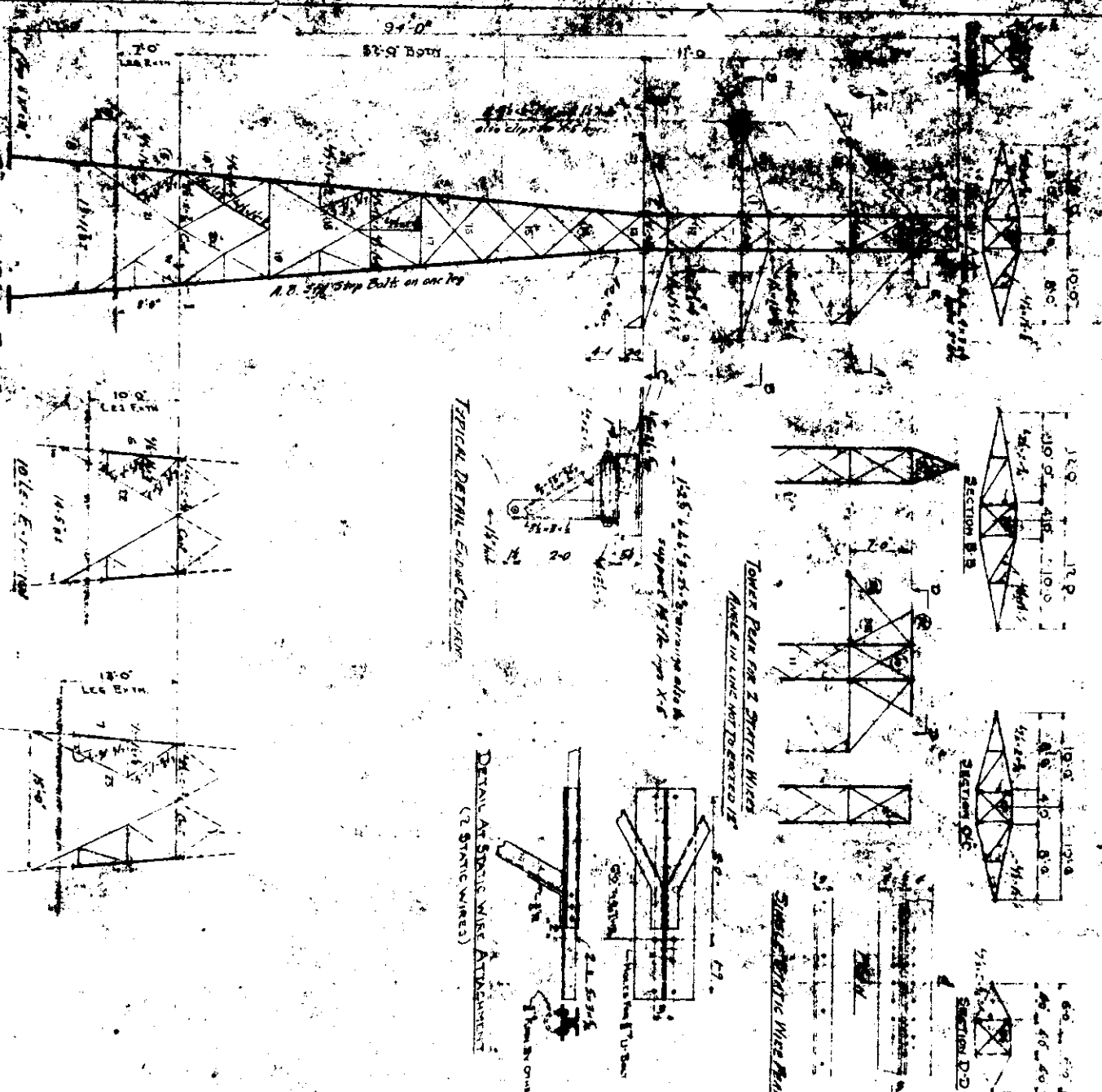
$\frac{L}{R} > 150$, 29000 - 70 L/R

Shear on bolts - 30000# per sq. in.

Bearing on bolts - 60000# per sq. in.

Material - ASTM A36 Steel H.D. Galv.
per ASTM A123 .5/8" galv. bolts

RECORDED RIGHT OF WAY NO. 22877



ULT	SECTION
1	1'-0" x 1'-0" x 1'-0"
2	1'-0" x 1'-0" x 1'-0"
3	1'-0" x 1'-0" x 1'-0"
4	1'-0" x 1'-0" x 1'-0"
5	1'-0" x 1'-0" x 1'-0"
6	1'-0" x 1'-0" x 1'-0"
7	1'-0" x 1'-0" x 1'-0"
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98	1'-0" x 1'-0" x 1'-0"
99	1'-0" x 1'-0" x 1'-0"
100	1'-0" x 1'-0" x 1'-0"

* make 2 inch connection

SUBSECTION 15 ANGLE TOWER

THE TOWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
 1. GALV STEEL GROUP 1-17-73
 195000 (5) ACCR. CONDUCTOR ON A SPAN OF 650' WITH AN ANGLE IN THE 15° ADJUTANT TENSION AND 9000' IN THE GEOMETRIC AND 9000' IN THE CONDUCTOR.
 THE LOAD SHALL BE WIND ON ICE CORNER WIRES.

LOADS:

- (1) VERTICAL
 - 1. G.WIRE @ 350' @ 250'
 - 2. CONDUCTOR @ 1500' @ 1000'
 - 3. TOWER @ 1500' @ 1000'
- (2) TOWER WIND DUE TO WIND ON WIRE
 - 1. G.WIRE @ 312' @ 315'
 - 2. CONDUCTOR @ 487' @ 285' @ 3195'
- (3) TRANSMISSION DUE TO 5 ANGLE TOWER
 - 1. G.WIRE @ 1700' @ 1100'
 - 2. CONDUCTOR @ 2350' @ 14100' @ 15800'
- (4) LONGITUDINAL DUE TO GROUND WIRE BROKEN AT 550' ON AN ANGLE CONDUCTOR BROKEN AT 1700' (900' @ 2000')
- (5) WIND ON TOWER AT 0.5' @ 50' @ 50' ON 12 TIMES THE PROTECTED AREA OF ONE FACE OF TOWER.
- (6) DEAD LOAD ON TOWER.

CONCRETE:

CONCRETE SHALL BE 2800 PSI (28 MPa) WITH A MINIMUM OF 12% STEEL FIBER REINFORCED CONCRETE (FRCC) WITH 12% FIBER.

STEEL CONNECTIONS DESIGNED FOR 9000' AND HANGERS FOR DOUBLE VERTICAL LOADS

ULTIMATE UNIT STRESS

TENSION MEMBER SECTION: 35000 PPS AT COMP ON GRID SECTION K150 35000 PPS @ K150 24350-70K
 SHEAR ON BOLTS: 30000 PPS @ 2 IN. SPACING ON BOLTS 60000 PPS @ 2 IN.

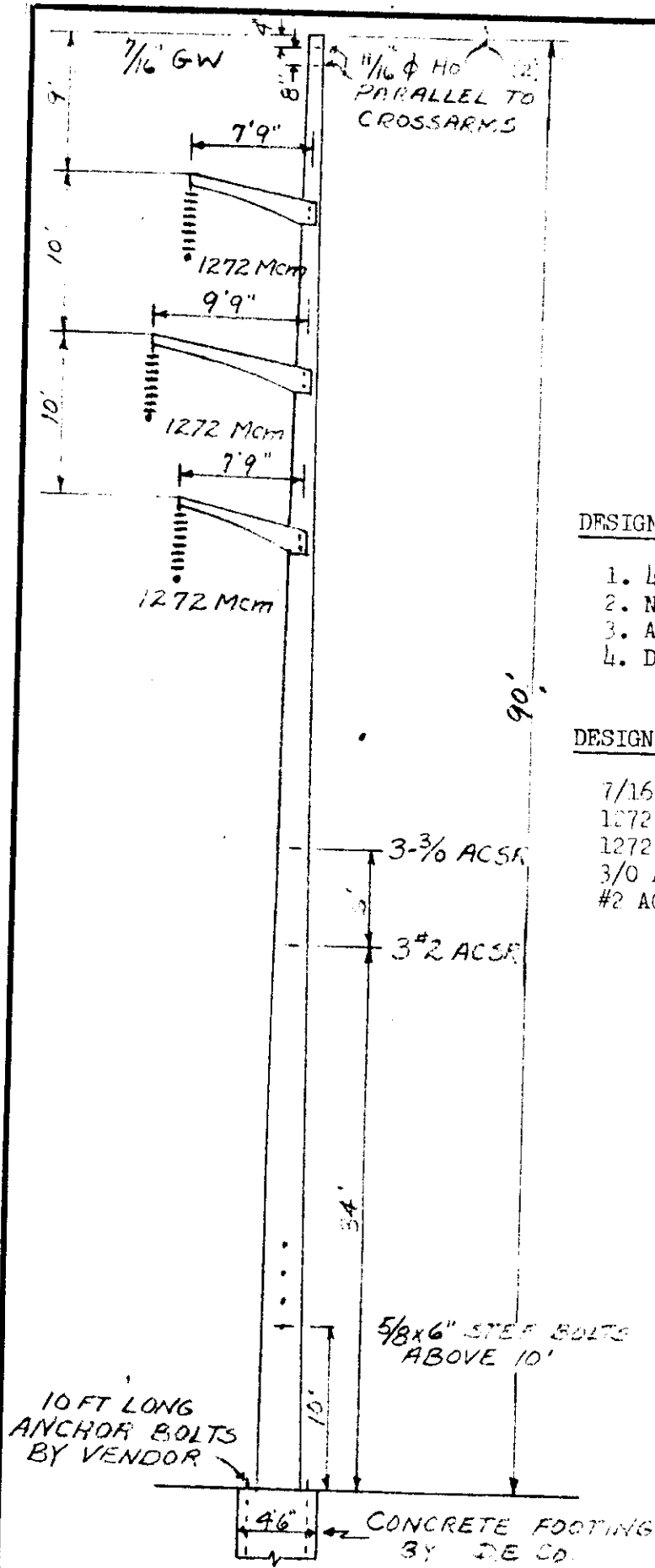
MATERIAL: ON-SITE ASTM SPEC AT LATEST REVISION

COATING: ALL PARTS GALVANIZED
 CONNECTIONS: BOLTS @ 3 IN. SPACING
 PENETRATIONS: 2 IN. @ 3 IN. SPACING FROM TRANSMISSION TOWERS

THE DESIGN ENGINEER'S CONTRACTOR
 DETROIT
 21500 WOODLAND TOWER
 AMERICAN BRIDGE

TOWER DESIGNER
 DRAWING NO. T 9134
 IN THE OFFICE T 71250
 CENTER MAIL ROOM
 CHARLOTTE, N.C. 28215

NOTE: When angle is the correct & space gullage is correct



**120 KV SINGLE CIRCUIT
STRUCTURE**

DESIGN - SPECIFICATIONS

1. 450' span 0° angle
2. NESC - Heavy loading - Grade B
3. All parts H.D. Galv. ASTM A123
4. Design based on Y.P. Steel

DESIGN LOADS (Per Wire Incl. O.F. per NESC)

- 7/16" Steel G.W. Trans. 550 Vert. 560
- 1272 Mcm Aluminum (Narcissus) Trans. 875 Vert. 1325
- 1272 Mcm Aluminum (Narcissus) *Heavy Vert. 1875
- 3/0 ACSR Cond. Trans. 575 Vert. 500
- #2 ACSR Cons. Trans. 500 Vert. 350

*Heavy Vertical 1" radial ice
No Wind - Independent Load.

22897

DESIGN SPECIFICATIONS
ORNAMENTAL STEEL TUBULAR POLE
Type OST Pole

APPROVED	THE DETROIT EDISON COMPANY GENERAL ENGINEERING DEPARTMENT	
<i>J.S.W.</i>	LAYOUT BY J.S.W.	DRAWN BY
<i>M.F.W.</i>	DATE 12-20-63	
	SCALE 1" = 10'	DRAWING NUMBER ED-5578

WAYNE COUNTY MICH.

CITY OF (SPRINGWELLS) AND (GREENFIELD TWP.) T 2. S. R. 11. E.
(FORDSON) CITY OF DETROIT
DEARBORN

CITY PARK AND PLAYGROUND

AREA = 24.67 SQFT (0.056 AC ±)
R = 340.26
ARC = 94.53

MICHIGAN TANK & HEATER CORP (formerly)
Now VEGA INDUSTRIES, INC.

HOUSE MATERIALS INC.

(SPRINGWELLS) (FORDSON) DEARBORN

TWP.) T 2. S. R. 11. E.
DETROIT

Detroit Tube & Steel Co.

53+1301 P.T.

CITY OF (GREENFIELD CITY OF

FRIGIDARE

BURROUGHS

WESTFIELD AVE

ROBSON AVE

DECATUR ST. 40 FT.

GENERAL MOTORS PARTS DIVISION
CHEVROLET MOTOR DIV.
WAREHOUSE

No. 82
Mercier - Brandon Co

C. H. Weedon
Johnson Coal Cubing Co.

HUBBELL AVE.

MAC KENZIE

BLTYHE

HANSEN WHOLESALE
LUMBER COMPANY

MEADOWDALE AVE

FOOD WAREHOUSE INC.

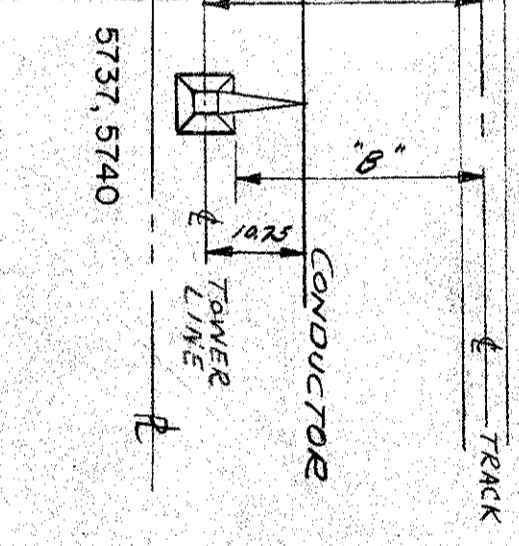
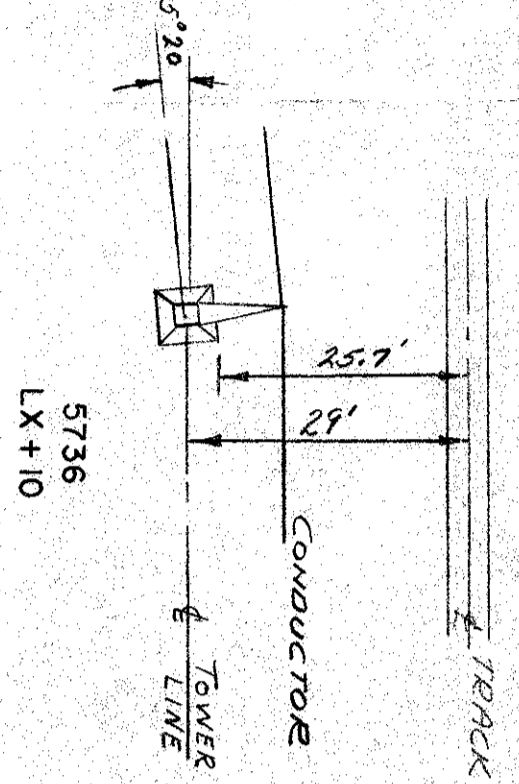
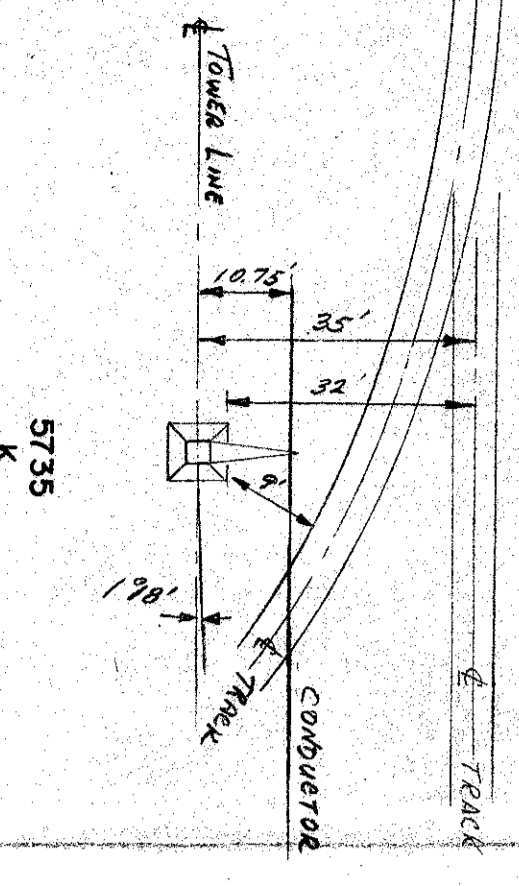
CLOVERDALE AVE.

50 FT.

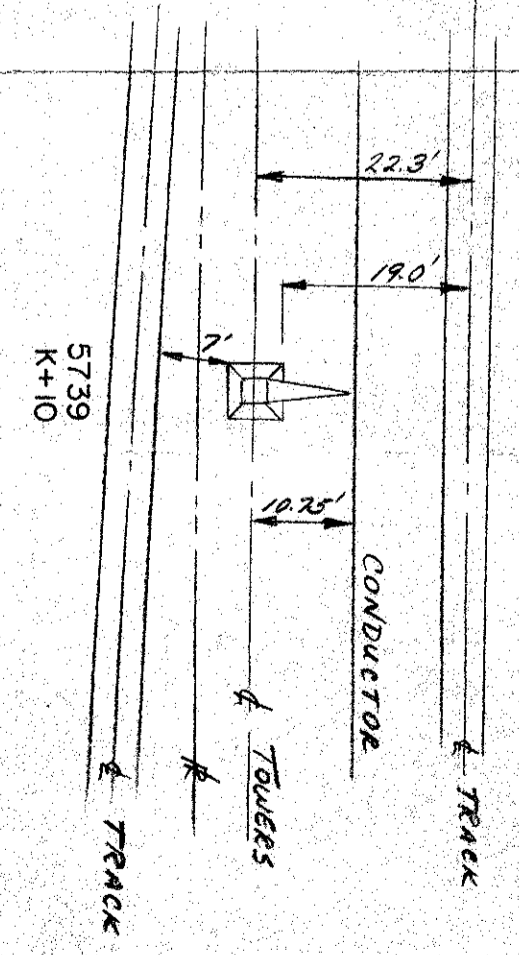
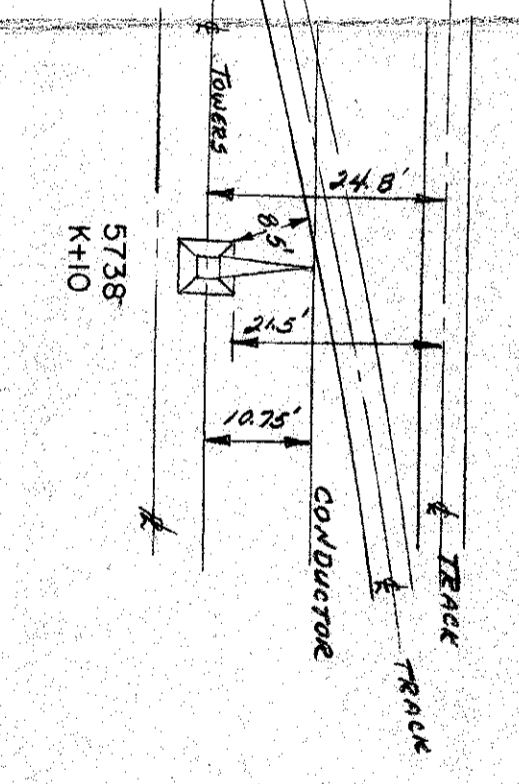
RECORDED RIGHT OF WAY
R22877

P.S. 71+80
80

SCALE - 1" = 20'



TOWER TYPE "A" "B"
No. 5737 K+10 273' 540'
5740 K 198' 16.8'



STATION MAP - TRACKS AND STRUCTURES
 PENNSYLVANIA - DETROIT RAILROAD
 OPERATED BY
THE PENNSYLVANIA RAILROAD COMPANY

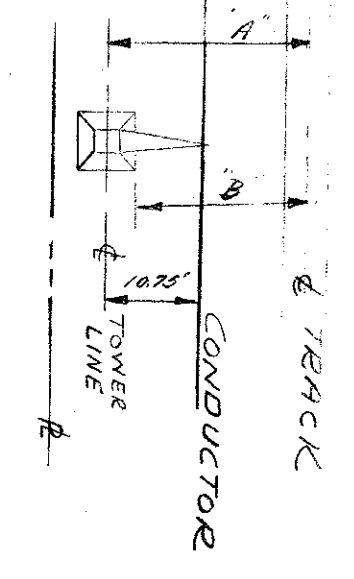
STATION 42+52.7 TO STATION 95+32.7
 SCALE 1 INCH = 100 FEET
 OFFICE OF CHIEF ENGINEER
 DETROIT MICH.
 DEC. 31, 1923.

PLAN No D-94

PENNSYLVANIA RAILROAD CO. SPARED WITH
 OTHER OPERATIONS OF THE PENNSYLVANIA
 AND A DETROIT RAILROAD COMPANY JAN. 1, 1924

Stick #	Location	Class	Length - Dec 31, 1923	Total	Remarks
40	Locust Detroit	Y	438	438	Original 6-30-28
41	"	Y	474	912	Added 6-30-28
42	"	Y	154	1066	Added 6-30-28
43	"	Y	134	1200	Added 6-30-28
44	"	Y	60	1260	Added 6-30-28
45	"	Y	164	1424	6-30-26
46	"	Y	111	1535	6-30-26
47	"	Y	111	1646	6-30-26
48	"	Y	162	1808	6-30-26
49	"	Y	181	1989	6-30-26
50	"	Y	231	2220	6-30-26
51	"	Y	305	2525	6-30-26
52	"	Y	510	3035	6-30-26
53	"	Y	510	3545	6-30-26
54	"	Y	510	4055	6-30-26
55	"	Y	510	4565	6-30-26
56	"	Y	510	5075	6-30-26
57	"	Y	510	5585	6-30-26
58	"	Y	510	6095	6-30-26
59	"	Y	510	6605	6-30-26
60	"	Y	510	7115	6-30-26
61	"	Y	510	7625	6-30-26
62	"	Y	510	8135	6-30-26
63	"	Y	510	8645	6-30-26
64	"	Y	510	9155	6-30-26
65	"	Y	510	9665	6-30-26
66	"	Y	510	10175	6-30-26
67	"	Y	510	10685	6-30-26
68	"	Y	510	11195	6-30-26
69	"	Y	510	11705	6-30-26
70	"	Y	510	12215	6-30-26
71	"	Y	510	12725	6-30-26
72	"	Y	510	13235	6-30-26
73	"	Y	510	13745	6-30-26
74	"	Y	510	14255	6-30-26
75	"	Y	510	14765	6-30-26
76	"	Y	510	15275	6-30-26
77	"	Y	510	15785	6-30-26
78	"	Y	510	16295	6-30-26
79	"	Y	510	16805	6-30-26
80	"	Y	510	17315	6-30-26
81	"	Y	510	17825	6-30-26
82	"	Y	510	18335	6-30-26
83	"	Y	510	18845	6-30-26
84	"	Y	510	19355	6-30-26
85	"	Y	510	19865	6-30-26
86	"	Y	510	20375	6-30-26
87	"	Y	510	20885	6-30-26
88	"	Y	510	21395	6-30-26
89	"	Y	510	21905	6-30-26
90	"	Y	510	22415	6-30-26
91	"	Y	510	22925	6-30-26
92	"	Y	510	23435	6-30-26
93	"	Y	510	23945	6-30-26
94	"	Y	510	24455	6-30-26
95	"	Y	510	24965	6-30-26
96	"	Y	510	25475	6-30-26
97	"	Y	510	25985	6-30-26
98	"	Y	510	26495	6-30-26
99	"	Y	510	27005	6-30-26
100	"	Y	510	27515	6-30-26

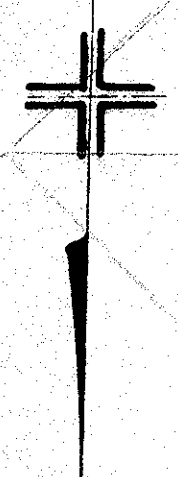
RECORDED RIGHT OF WAY
 R22877



TOWER NO.

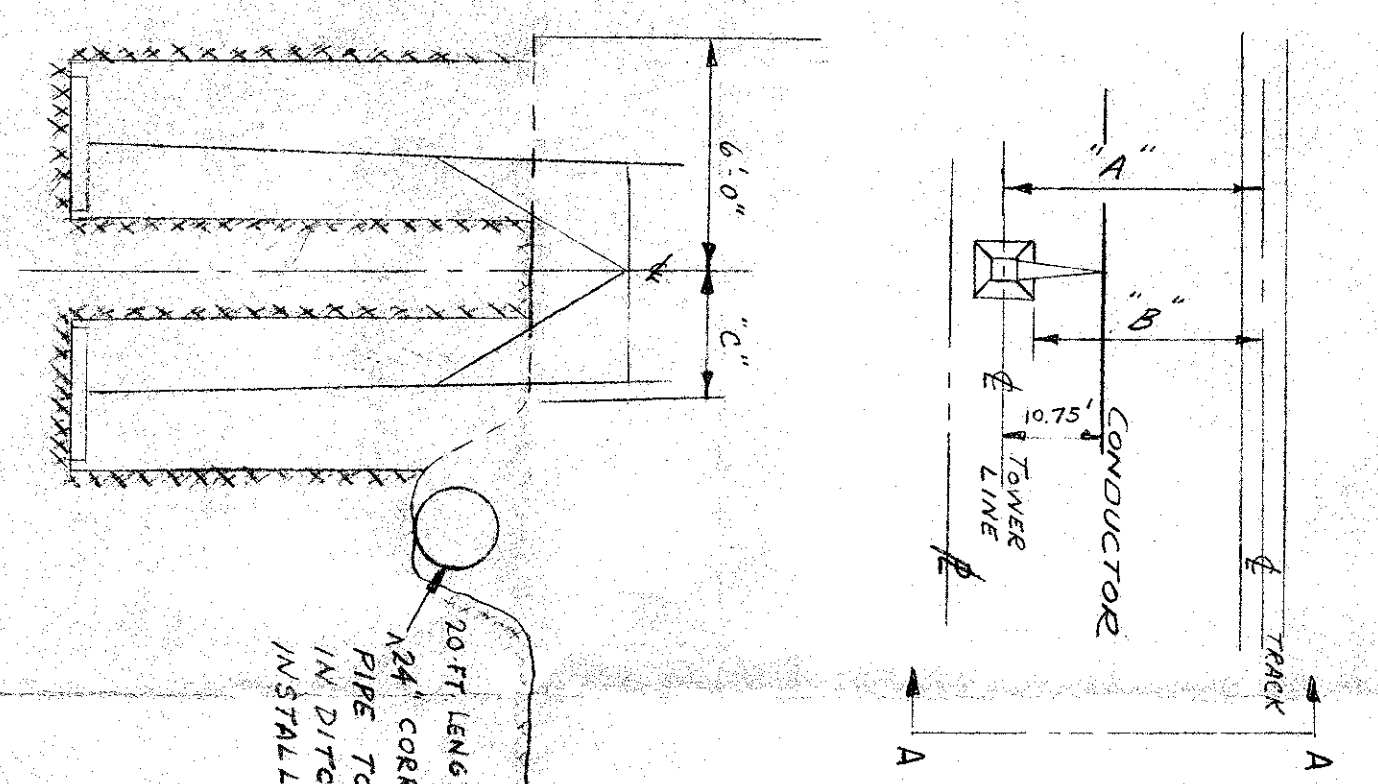
TOWER NO.	TYPE	'A'	'B'
5741	K+10	18.4'	15.1'
5742	K+10	18.3'	15.0'
5743	K+10	19.5'	16.5'
5744	K+10	20.5'	17.2'
5745	K+10	21.0'	18.0'
5746	K	21.5'	18.5'

WAYNE COUNTY MICH.
(GREENFIELD TWP) CITY OF DETROIT
T.I.S.R.I.E.

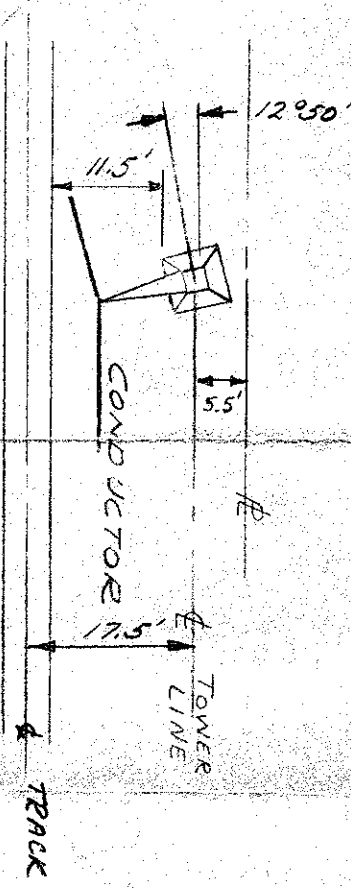
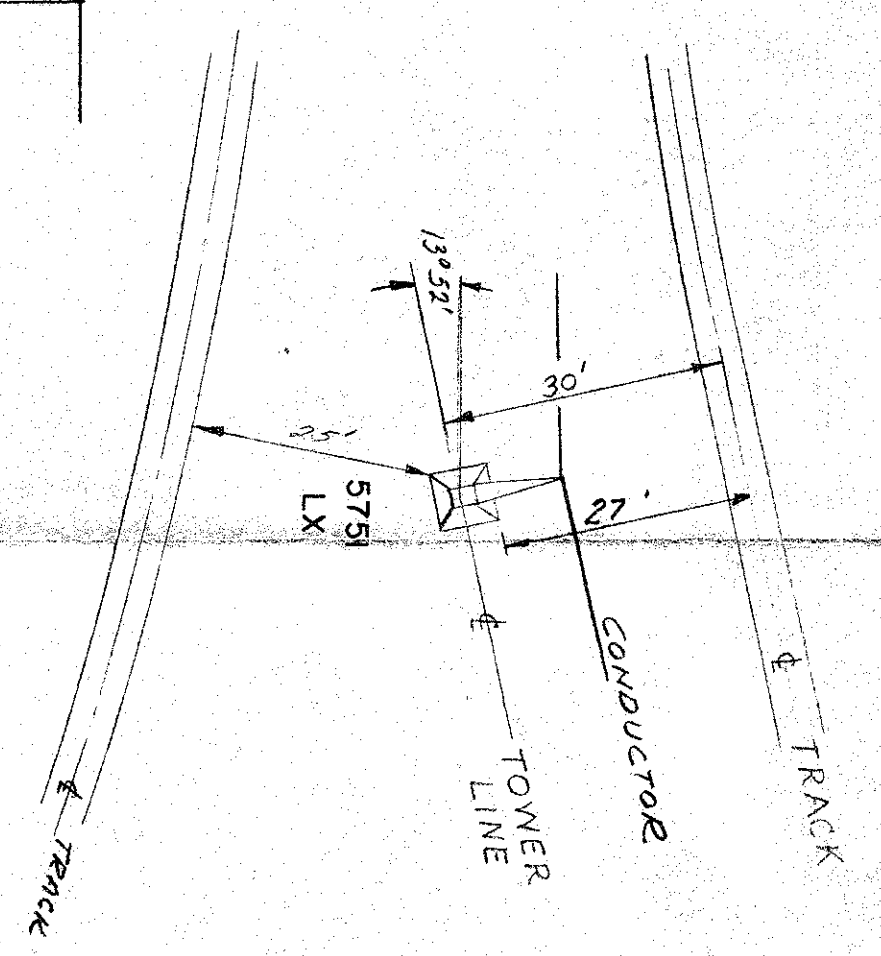
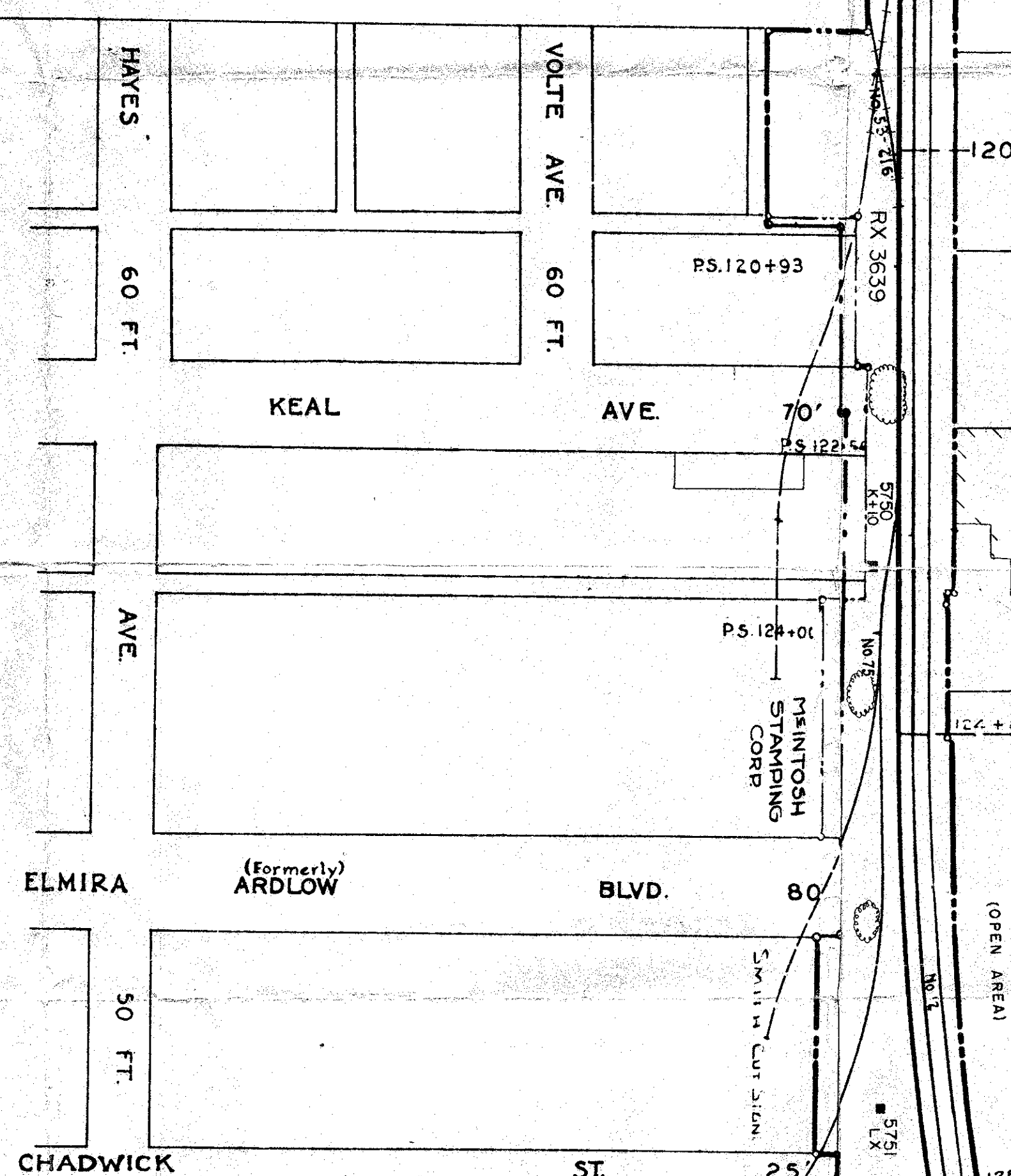
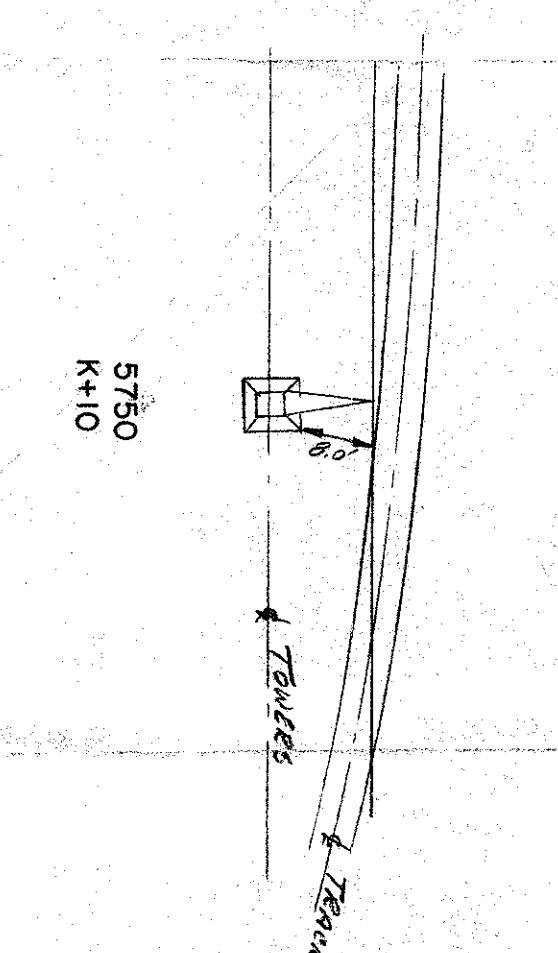
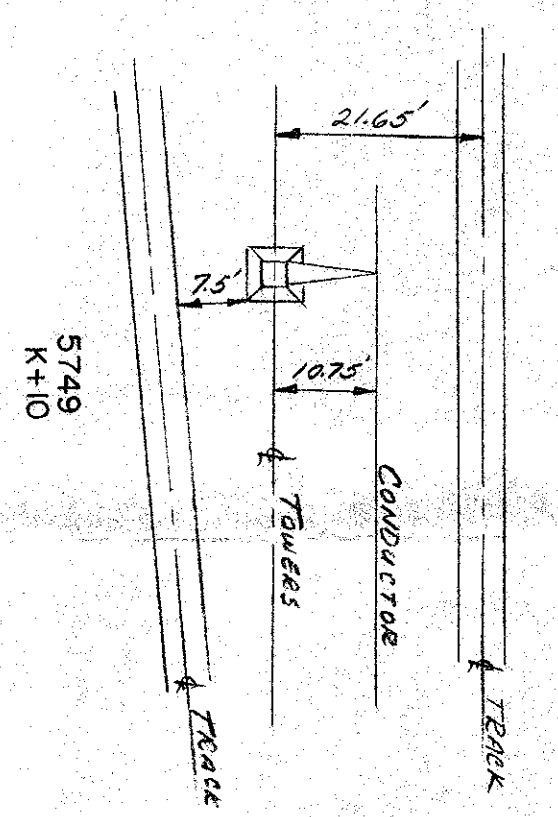


SCALE - 1" = 20'

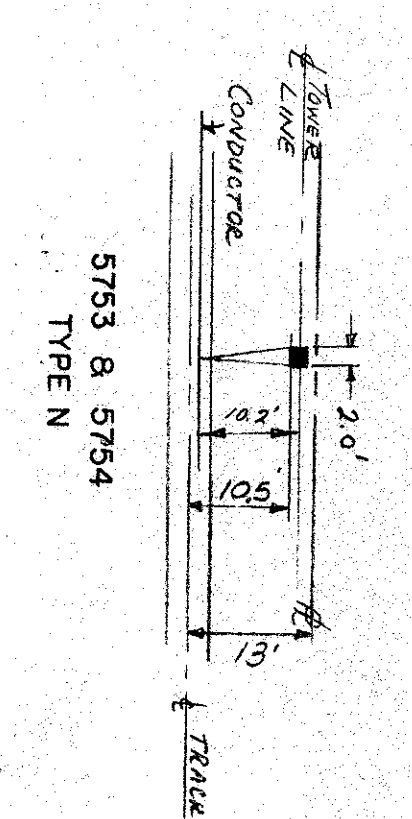
106+60 24" V.C.P.
106+95 24" V.C.P.
W. CHICAGO Flashing Lights
Asphalt Paving
BLVD. (ROAD) 66 FT.



TOWER NO.	TYPE	A	B	C
5747	K+10	2125'	180'	2.3'
5745	K	2171'	187'	4.0'
5749	K+10	2165'	184'	4.7'



RECORDED RIGHT OF WAY
R22877



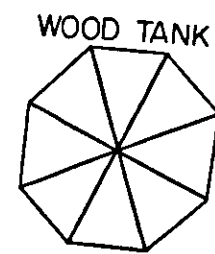
MARK TWAIN AVE.

Electric Refrigeration Corporation
Factory Bldg
KELVINATOR SALES
AMERICAN MOTORS

Power House

AMERICAN MOTORS

Electric Refrigeration Corp
Kelvinator Sales



PENN. R.R. 5755

RX 3641

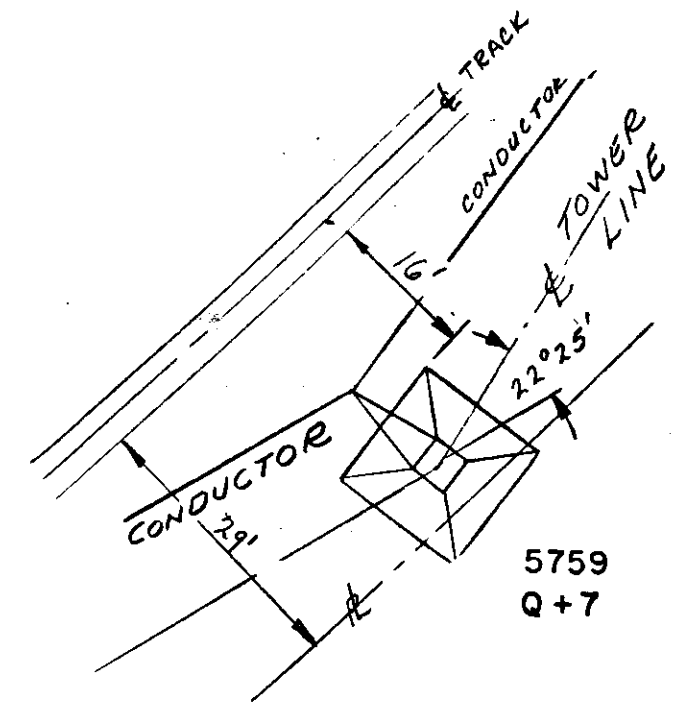
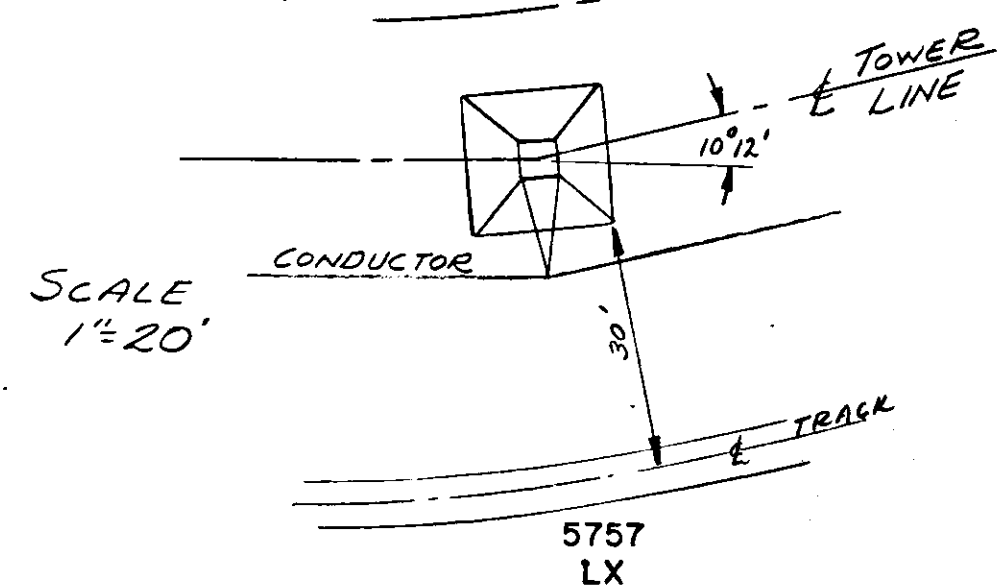
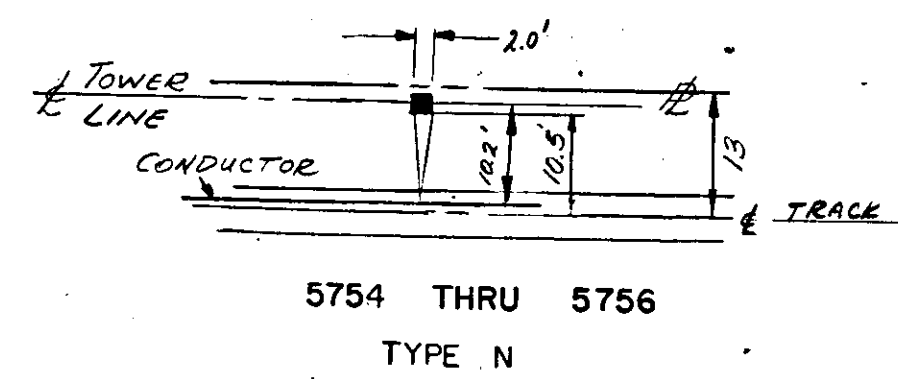
5754
No. 11
No. 35

5756

5757

5758

5759



SCALE 1"=20'

STATION MAP - TRACKS AND STRUCTURES
PENNSYLVANIA - DETROIT RAILROAD
OPERATED BY
THE PENNSYLVANIA RAILROAD COMPANY

STATION 95 + 32.7 TO STATION 145 + 12.7
SCALE 1 INCH = 100 FEET
OFFICE OF CHIEF ENGINEER

DEC. 31, 1923.
DETROIT, MICH.

PLAN NO D-94
PENNSYLVANIA-DETROIT RAILROAD CO. MERGED WITH
OTHER CORPORATIONS TO FORM THE PENNSYLVANIA,
OHIO & DETROIT RAILROAD COMPANY JULY 1, 1924

V2b
Mich.
ST-5

RECORDED RIGHT OF WAY
R22817

(GREENFIELD) CITY OF DETROIT (CONTAINED IN V.2 d Mich.)
FULLERTON CITY

66 FT
158 + 05.1
159 + 49
160 + 05
160 + 05 R.3.

160 + 05
160 + 05 R.3.
160 + 05
160 + 05 R.3.

60 FT
160 + 05
160 + 05 R.3.

SHIRLEY AVE.

AVE.

BUENA VISTA AVE.
60 FT.

FREELAND

ARDMORE

MANOR REAL ESTATE

Otis Cement Construction Co.

Copco Steel & Engineering Co.

Hurd Lumber & Woodwork Co.

EXHIBIT "A"
DETROIT EDISON COMPANY
TOWER LOCATIONS
REV 7-1-64
5
6-23-64

REPRODUCED RIGHT COPY MAX NO. 22877