SPECIFICATIONS

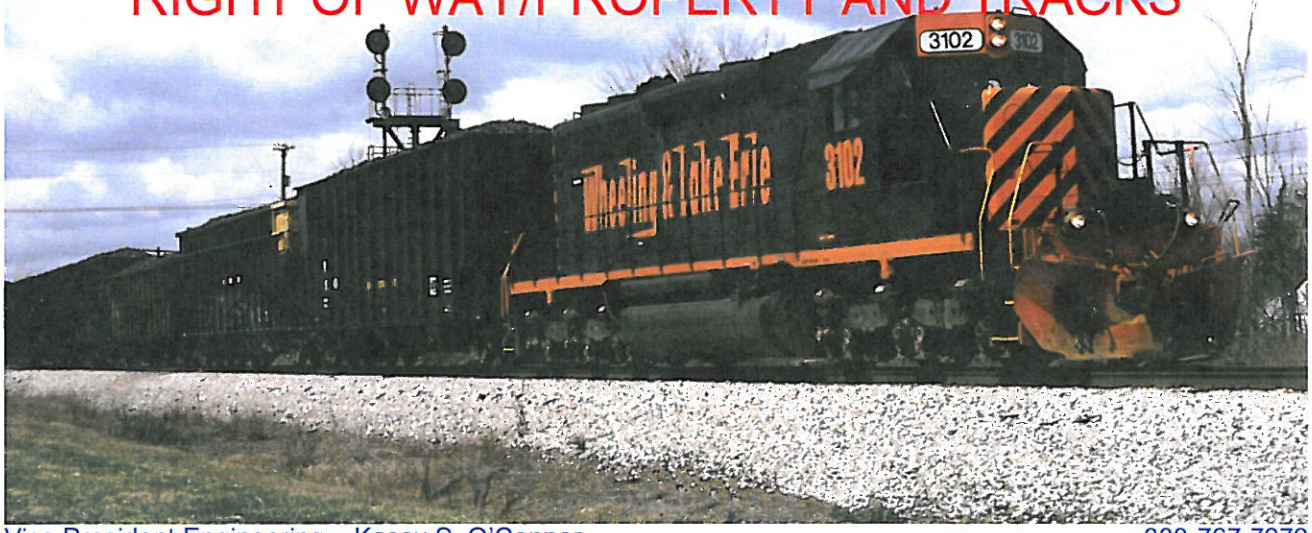
FOR

WIRE, CONDUIT AND CABLE OCCUPATIONS

OF THE

WHEELING AND LAKE ERIE RAILWAY COMPANY

RIGHT OF WAY/PROPERTY AND TRACKS



Vice President Engineering – Kasey S. O'Connor 330-767-7279
Director Real Estate – Clarence W. Jaeger 330-767-7236

100 East First Street
Brewster, Ohio
44613

1. SCOPE

A. These specifications apply to the design electric wires and cable (power or communication) which are to be located over, under, across or upon property owned or leased by the Wheeling and Lake Erie Railway Company, (WLE).

2. APPLICATION FOR OCCUPANCY

A. Applications will be accepted from the owner or his designate representative (hereinafter called applicant).

B. Individuals, corporations, municipalities, public utilities desiring occupancy of WLE property by such wire, conduit, or cable occupations must agree, upon approval of the construction details by the WLE Engineering Department to:

(1) Execute an appropriate occupational (License) agreement.
(2) Pay a required fees and/or rentals outlined in the agreement.
(3) Meet all WLE or operating railroad insurance requirements.

C. Application for an occupancy shall be by letter addressed to the Director Real Estate and the Vice President of Engineering, Wheeling and Lake Erie Railway Company, 100 East First Street, Brewster, Ohio, 44613, giving the followings information:

(1) Name of Individual, Corporation or Municipality desiring the occupancy.
(2) Complete mailing address of applicant.
(3) Name and title of person who will sign the agreement.
(4) Name of representative or contact who will handle the request.
(5) The State in which the applicant is incorporated.

D. All applications shall be accompanied with three copies of the completed WLE Application Form, six (6) copies of all construction plans and three (3) copies of specifications and computations concerning the proposed occupancy.

3. APPROVAL OF PLANS

A. Entry upon WLE property for the purpose of conducting surveys, field inspections, obtaining soil information, or any other purpose associated with the design and engineering of the proposed occupancy, will not be permitted without a property Right of Entry Permit prepared by the WLE and the executed by the applicant. It is to be clearly understood that the issuance of such permit does not constitute authority to proceed with any actual construction. Construction cannot begin until the WLE is in receipt of a fully executed License Agreement and permission is received from the designated railroad representatives with authorization to proceed from the WLE.

B. Plans for proposed wire line or cable occupations shall be submitted to and meet the approval of the Vice President of Engineering of Railroad prior to start of construction. These plans are to be prepared in sizes as small as possible and are to be folded to an 8-1/2 inch by 11 inch size, (folded dimensions), with a 1-1/2 inch margin on the left hand size and a 1 inch margin on the top so that they can be secured in a file at the upper left hand corner and still be unfolded to full size without being removed from the file.

Also, after folding, the title block and other identification of the plans shall be visible at the lower right hand corner, without the necessity of unfolding. Each plan shall bear an

individually identifying number and an original date, together with subsequent revision dates, clearly identified on the plan so as to be readily apparent as to just what revisions were made and when.

All plans are to individually folded and where more than one plan is involved, they shall be assembled into complete sets before submission to the Railroad.

C. Plans shall be drawn to scale and show the following (see Plates I, II, III, and IV);

(1) Plan view of proposed crossing in relation to all Railroad facilities (see Plate I).

(2) Location of wire or cable, (in feet), from nearest Railroad Milepost, centerline of a Railroad Bridge, (giving bridge number), or centerline of an existing public thorofare. In all cases, the name of the County and City in which the proposed facilities are located must be shown. In States where Townships, Ranges and Sections are used, give distance in feet to the nearest Section Line and identify the Section Number, Township and Range.

(3) Profile of ground on centerline of pole or tower line, showing clearances between top of high rail and bottom of sag, as well as clearances from bottom wire or cable to top of wire or cable of railroad's transmission, signal and communication lines. If Railroad facilities listed above do not exist at the point of crossing, the plan should so state. Actual vertical clearance shall be shown. (See Plate V for the required overhead clearance.)

(4) Show all know property line s and WLE right of way lines. If wires, cables or conduits are within the limits of a public highway limits, such limits shall be clearly indicated with dimensions shown from the centerline to road to centerline of proposed poles (Plate I).

(5) The plan must be specific, as to:

(a) Base diameter, height, class and bury of poles. Poles shall be set as close to WLE right of way lines as possible with every effort being made to locate poles off WLE right of way and in no instance closer than 18'-0" from the face of the pole to the centerline of the nearest track. When necessary, however, each location will be analyzed to consider speed, traffic, etc.

(b) Number of size and material of power wires, as well as number of pairs in communication cables. In the case of fiber optics, the numbers of stands must be shown.

(c) Nominal voltage of line.

(d) Location, number of, size of, material of anchors and all guying poles and arms.

NOTES: Double cross-arms are required on poles adjacent to track. Any tower or steel pole foundation design must be accompanied by engineering computations and data stamped by a registered professional engineer.

Any tower or steel pole to be installed on WLE property must meet or exceed the industry standards regarding design and usage.

These four (4) items cannot have an alternative and any application received indicating such options will not be processed. Once an application is approved by the Vice President of Engineering, no variance from the plans, specifications, method of construction, etc., as approved in the occupancy document will be considered or permitted without the imposition by the Railroad of additional handling charges.

4. CONSTRUCTION REQUIREMENTS

A. Overhead power and communication lines shall be constructed in accordance with the National Electrical Safety Code (current edition), Part 2, "Safety Rules for the Installation and Maintenance of Overhead Electric and Communication Lines", except as outlined in paragraph C (3) Page 2 herein.

B. All underground installations carrying power or communication wires and cables shall be constructed and properly marked with signs, in accordance with "Specifications for Pipeline Occupancy of WLE Property", current edition dated June 1, 2006.

C. Under special conditions, WLE will give consideration to occupations of its structures, subject to approval of the WLE Vice President of Engineering and WLE's policy governing such matters.

5. LONGITUDINAL OCCUPATIONS

A. Feasibility proposals will be accepted for review. Applicant should furnish a letter requesting study along with a plan view showing the extent of the proposed occupation. This feasibility plan may be in the form of a local, county, USGS Map, or drawing, showing the railroad, streets, and highways and other information outlined in item [3C(2)] to clearly identify the location of the project.

B. Arrangements will then be made to furnish the applicant with the appropriate WLE property maps and a right of entry permit. There will be a 'nominal charge' for the necessary maps which depict the railroad right of way line and other facilities. These are the best records that the WLE has and may be used for the feasibility proposal, however, WLE does not warrant the accuracy of these maps and all pertinent information to the occupancy must be verified prior to final submission.

C. Upon receipt of these documents, the applicant must execute the right of entry permit in order to access WLE property. Such access would allow for verification that the proposed poles locations are feasible and do not interfere with any WLE facilities. At such time, the applicant should stake out a few 'key' points along the occupation such as, crossings, alignment, radical changes in alignment, etc.

D. Once this temporary stake out is completed, the applicant must submit to WLE three (3) set of preliminary plans showing the location of all proposed poles and other information as stated below. Three copies of completed WLE Railroad application forms must also be submitted. Arrangements will then be made for a site investigation by WLE personnel. The proposed occupation will be field checked to insure compliance with and conformance to this specification. At that time; comments, recommendations, charges to, or approval of, all locations will be made.

E. Wires and cables running longitudinally along WLE right-of-way shall be constructed as closed to the property line as possible. The following information must be submitted in addition to the detail of the pole top configuration as called for on Plate IV of these specifications:

(a) Voltage of circuit(s) of number of pairs.
(b) Phase of electrical circuit(s).
(c) Number of electrical circuits.
(d) Size (AWG or CM) and material of wires or cables.
(e) Length of spans clearly indicated on drawing.
(f) Any intended future wires or cables.

In the case of Fiber Optics being constructed longitudinally on WLE right-of-way, the following must be submitted in addition to the above:

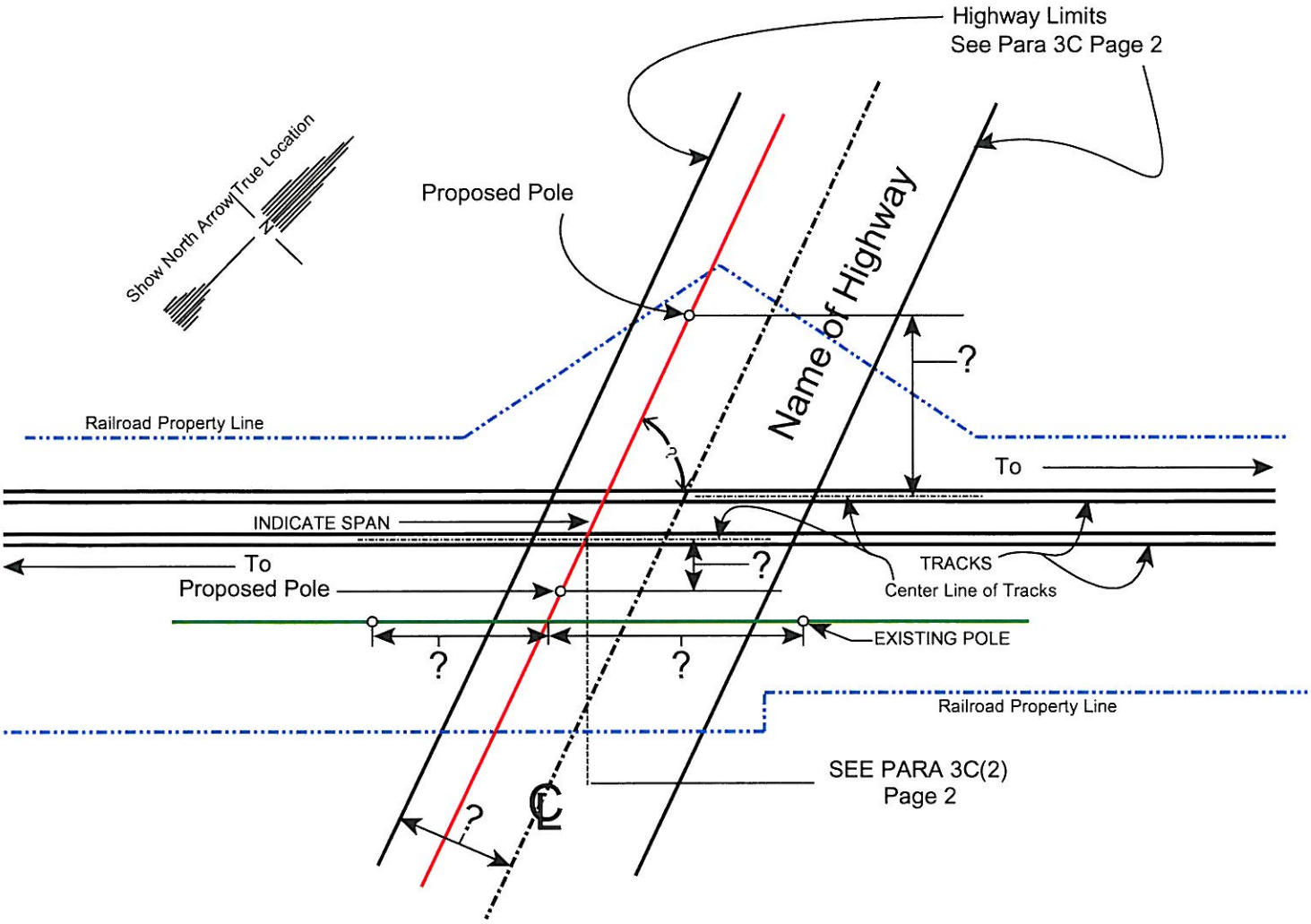
(a) Number of Strands.
(b) Type of casing.
(c) Number of pull boxes and the location of each.

F. Any facilities overhanging WLE property must have approval of the WLE Vice President of Engineering and must conform to the above specifications and are subject to the appropriate rental charges.

6. INDUCTIVE INTERFERENCE

A. An inductive interference coordination study in required for all proposed longitudinal occupations. This study may also be required for any crossing other than 90^0 with the track(s).

B. All agreements covering crossings and longitudinal occupations will include provisions that the owner of the facilities provide appropriate remedies, at his or their own expense to correct any inductive interference with WLE facilities.



SCALE OF DRAWING TO BE SHOWN

Note:

If the proposed line is to serve a new development, a map showing the area in relations to established areas and roads is to be sent with the request.

If the proposed pipe is not wholly within highway limits, the same information is required shown on this Plate

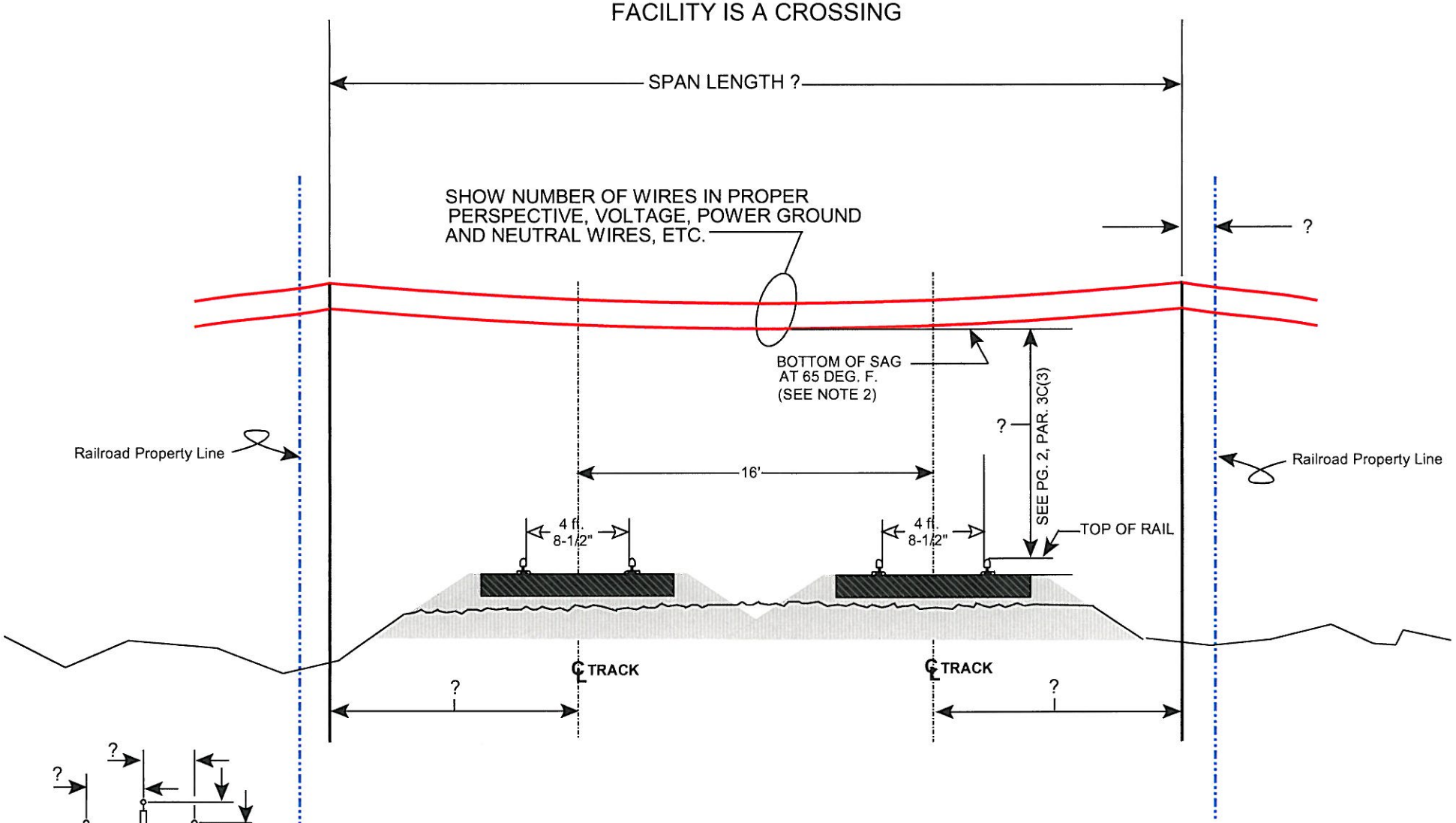
Locate W&LE facilities at crossing, i.e. cantilevers, flashers, gates and show clearances from each facility

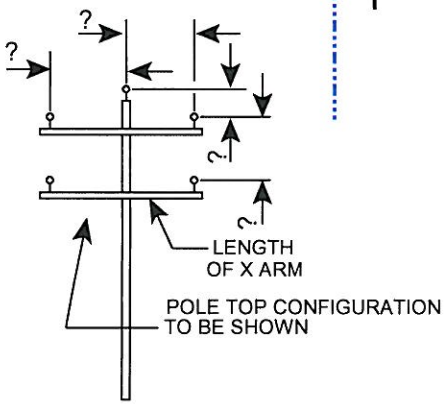
Poles shall be located as close to the right-of-way line as possible

PLATE I

INFORMATION TO BE SHOWN ON PLAN VIEW OF DRAWINGS WHEN A FACILITY IS A CROSSING

INFORMATION TO BE SHOWN ON CROSS SECTION OF DRAWINGS WHEN A FACILITY IS A CROSSING





SECTION LOOKING _____ (DIRECTION)

SCALE: H _____

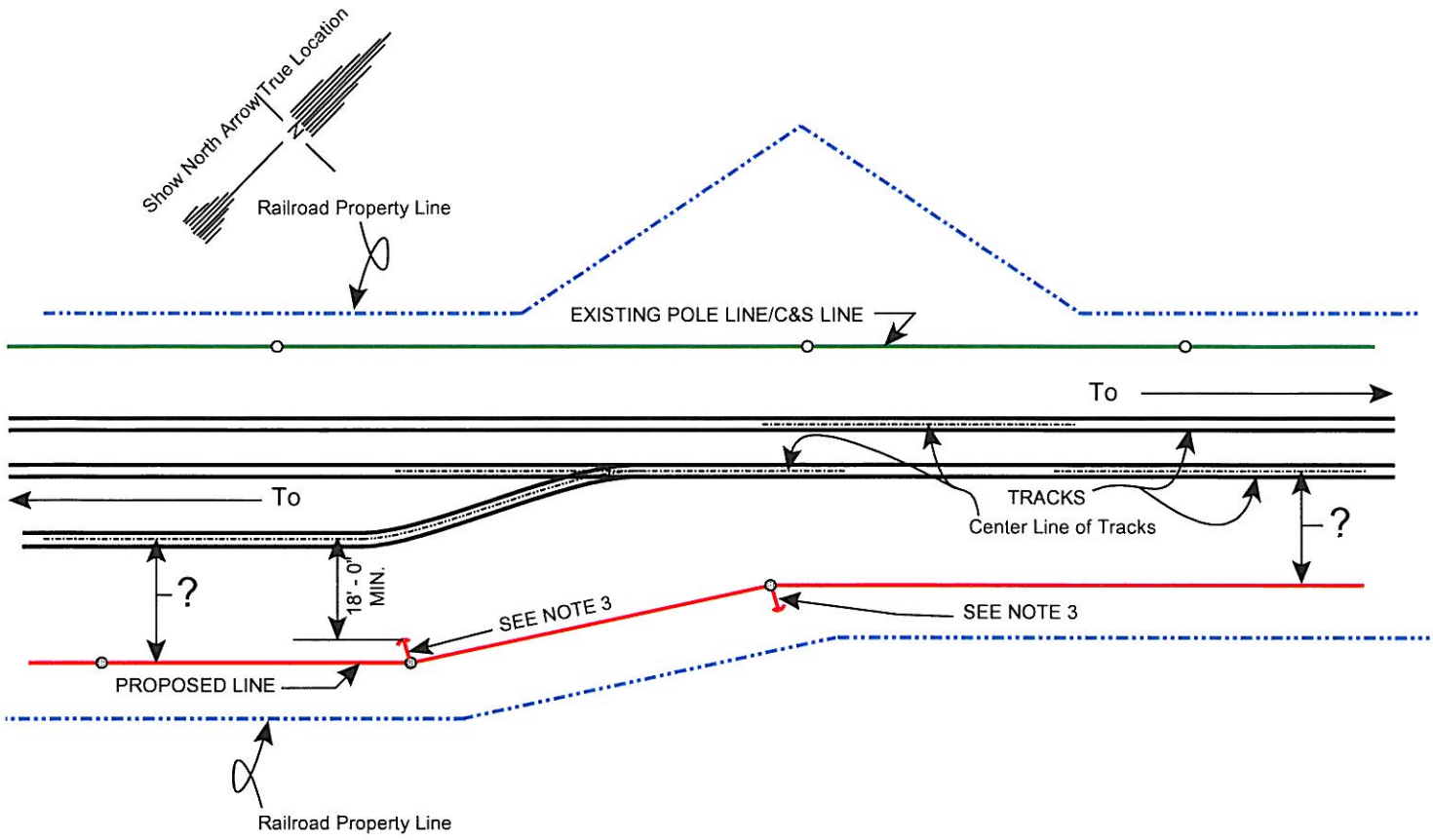
V _____

* MEASURED AT RIGHT ANGLES TO TRACK

NOTE 1: ALL TRANSMISSION, SIGNAL, AND COMMUNICATION LINES SHOULD BE INDICATED AND PROPER CLEARANCES SHOWN.

NOTE 2: SHOW MAXIMUM SAG INCREASE OF POWER WIRES OVER TRACKS IF SPAN EXCEEDS 175 FEET IN LENGTH.

Plate II



SCALE OF DRAWING TO BE SHOWN

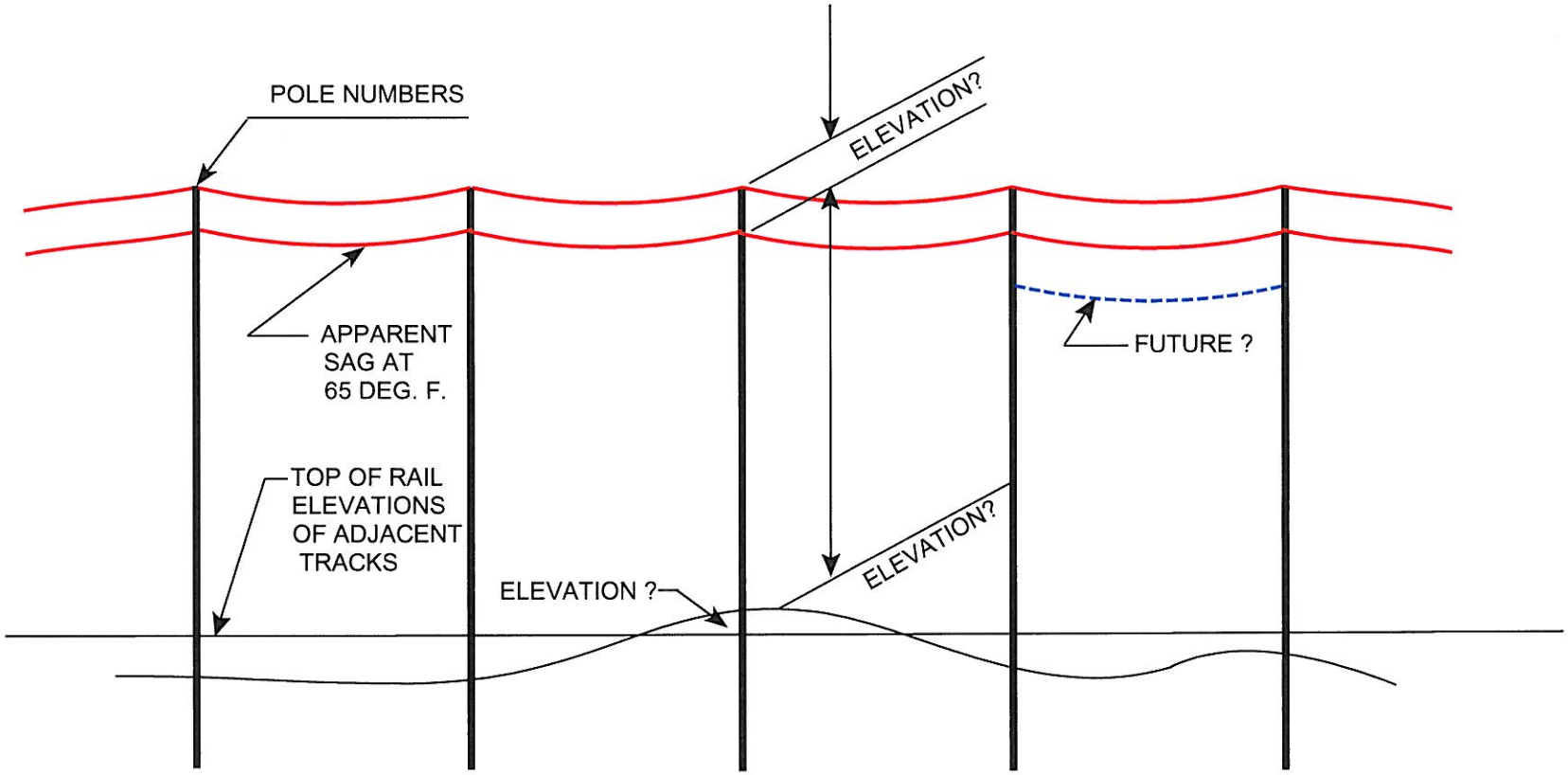
Notes:

1. EACH END OF THE LINE MUST SHOW MEASUREMENTS AS CALLED FOR ON PG. 2 PARC. 3C (2)
2. IF POWER LINE CROSSES ANY TRACK, THEN THE INFORMATION SHONW ON PLATE 1 IS ALSO REQUIRED
3. WHERE ANCHOR GUYS ARE REQUIRED, THE MINIMUM CLEARANCE MUST BE 18'-0" FROM FACE OF ANCHOR TO CENTERLINE OF NEAREST TRACK.
4. THE DISTANCE BETWEEN EACH POLE IS TO BE SHOWN.
5. ASSIGNED POLE NUMBERS TO BE SHOWN AT EACH POLE.

PLATE III

INFORMATION TO BE SHOWN ON PLAN VIEW OF DRAWINGS WHEN FACILITY IS A LONGITUDINAL OCCUPATION

INFORMATION TO BE SHOWN ON CROSS SECTION OF DRAWINGS WHEN A FACILITY IS A CROSSING



DISTANCE BETWEEN POLES TO BE SHOWN

POLE TOP CONFIGURATION TO BE SHOWN SIMILAR TO SAMPLES

NOTE: IF POWER LINE CROSSES ANY TRACK, THEN INFORMATION SHOWN ON PLATE 2 IS ALSO REQUIRED

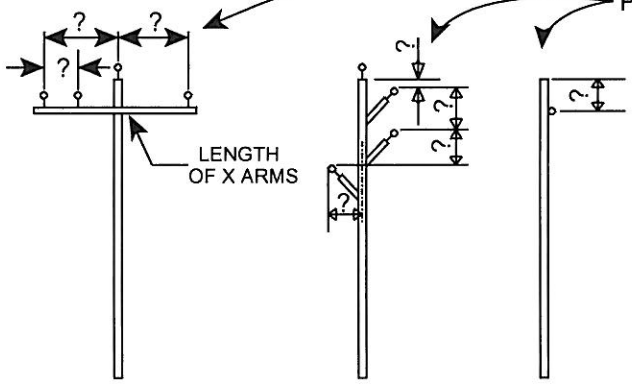


Plate IV

PLATE V

FOR INFORMATION ONLY
MINIMUM REQUIREMENTS FOR UNDERCLEARANCE OF WIRES OF VARIOUS VOLTAGES

NOMINAL L-L VOLTAGE	OVERHEAD CLEARANCE	MINIMUM BETWEEN WIRES
0 -750	27′- 0″	4′- 0″
To – 15,000	28′- 0″	6′- 0″
To – 50,000	30′- 0″	6′- 0″
69,000	30′- 8″	6′- 8″
115,000	32′- 2″	8′- 2″
138,000	33′- 0″	9′- 0″
345,000	39′- 10″	15′- 10″
500,000	45′- 0″	21′- 0″
745,000	53′- 2″	29′- 2″
765,000	53′- 10″	29′- 10″

Calculation for overhead clearance is 30′- 0″ plus 0.4″ per 1,000 volts over 50,000 Volts.

DEFINITIONS:

NOMINAL L-L VOLTAGE - Means Line – To – Line Voltage

OVERHEAD CLEARANCE – The measured distance (in feet) from the top of the high rail to the bottom sage of the bottom wire at 65° F.

MINIMUM BETWEEN WIRES – The minimum clearance between the top wire of a W&LE pole line and the proposed bottom power wire.

NOTE 1: The minimum clearance between the top wire of any W&LE pole lone and any proposed overhead guy wire shall be not less than 4′–0″.

NOTE 2: The minimum clearance from crossing gate tip, cantilever structures, signal masts, signal and other bridges etc., shall conform to the National Electrical Safety Code, Section 23, Rule 234, but in no case shall overhead clearance shown in the above table be reduced.