

LINE 4. PLAN A. 5.
SHUNT NICHOLSON ST

OPP. EXHIBITION BLDGS

LINE 4.

DESCRIPTION A 5.

EMERGENCY SHUNT - NICHOLSON STREET (OPPOSITE

(EXHIBITION BUILDINGS.)

1. The special check of Check-rails of Inner Curves of Shunt are badly hammered in places by vehicular Traffic. These checks are slightly above levels of adjacent paving blocks.
2. On No. 3 Down rail, two lengths of rails (about 5'0" each) are pumping, and on No. 4 Down Track, one short length of rail is pumping, and the Fishplates are presumably loose. Paving-Blocks on each side of pumping rails are loose.
3. The heels of 2 of the four Points are of loose fit, and rocking. Tongues of the 4 Points are worn to varying amounts. There is also hammering of some of the other joints, to varying amounts.
4. 14 of the Joints of Tram rails, adjacent to the rail-crossings, and Points, are wide (varying from $1/8"$ to $3/8"$) and in many cases are hammered.
5. At the Crossing-intersections, also at the intersections of slot-rails with tram-rails, hammering is taking place to varying degrees.

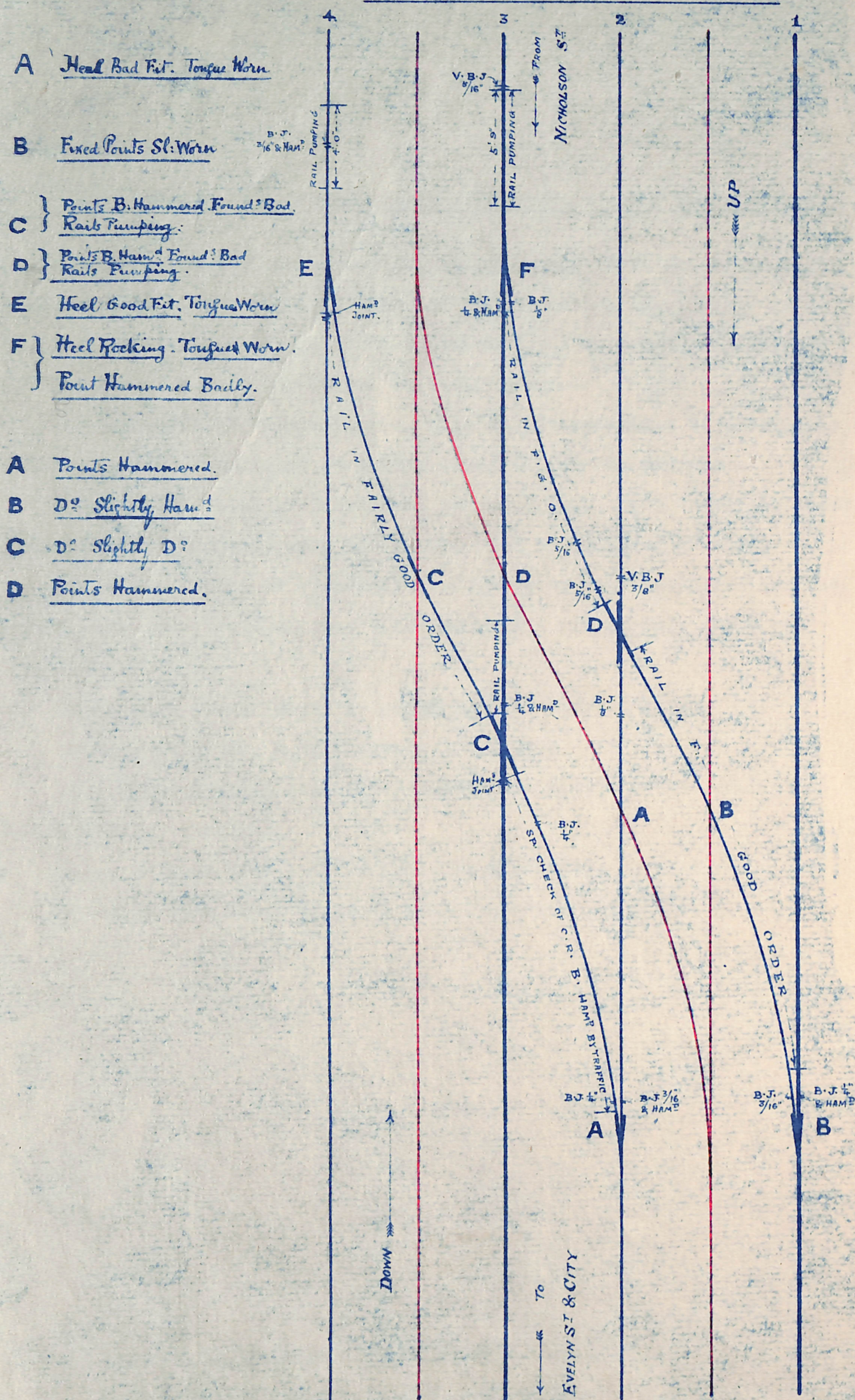
DATE First Inspected - May 12th, 1916.

DATE Last Inspected - July 4th, 1916.

LINE 4. PLAN A. 5.

SHUNT NICHOLSON S^I

OPP: EXHIBITION BLD ^{GS}_{..}



SHUNT · EVELYN S^T

LINE 4.

DESCRIPTION A 6.

B Heel of Point of Shunt-rail is worn.

EMERGENCY SHUNT - EVELYN STREET (OPPOSITE BOURKE & WILLS STATUE).

C Points Badly Hammered.

1. D The rail-check of Point-Casting to No. 3 Rail (Down Track) is badly worn, whilst the ~~xxx~~ tread of opposite Point-Casting (No. 4 Rail) is grooved, as a result of the above check-wear. The tread of Point-Casting to No. 2 Rail (Up Track) is badly grooved.
2. H At the Crossing intersections, also at intersections of slot-rails with Tram-rails, hammering is taking place to varying degrees.
3. J The heel of Point of Shunt-rail (on No. 3 Rail, Down Track) is loose and rocking. Tongue is worn low. The head is hammered by heel.
4. 10 of the Joints of Tram-rails, adjacent to rail intersections and Points, are wide (varying from $\frac{3}{16}$ " to $\frac{9}{16}$ ") and in many cases are hammered.

No. 4 Rail (Down Track) is bottoming for about 6 yards.

Depression of No. 4 rail equals 70 mils.

Nos. 1 and 2 Rails (opposite crossing of Slot-beam and No. 3 Rail) are bottoming in places.

Gauge between Nos. 1 and 2 Rails is $\frac{1}{8}$ " wide.

Ordinary rail check of No. 1 rail is worn up to $\frac{3}{16}$ ".

DATE First Inspected - April 25th. 1916.

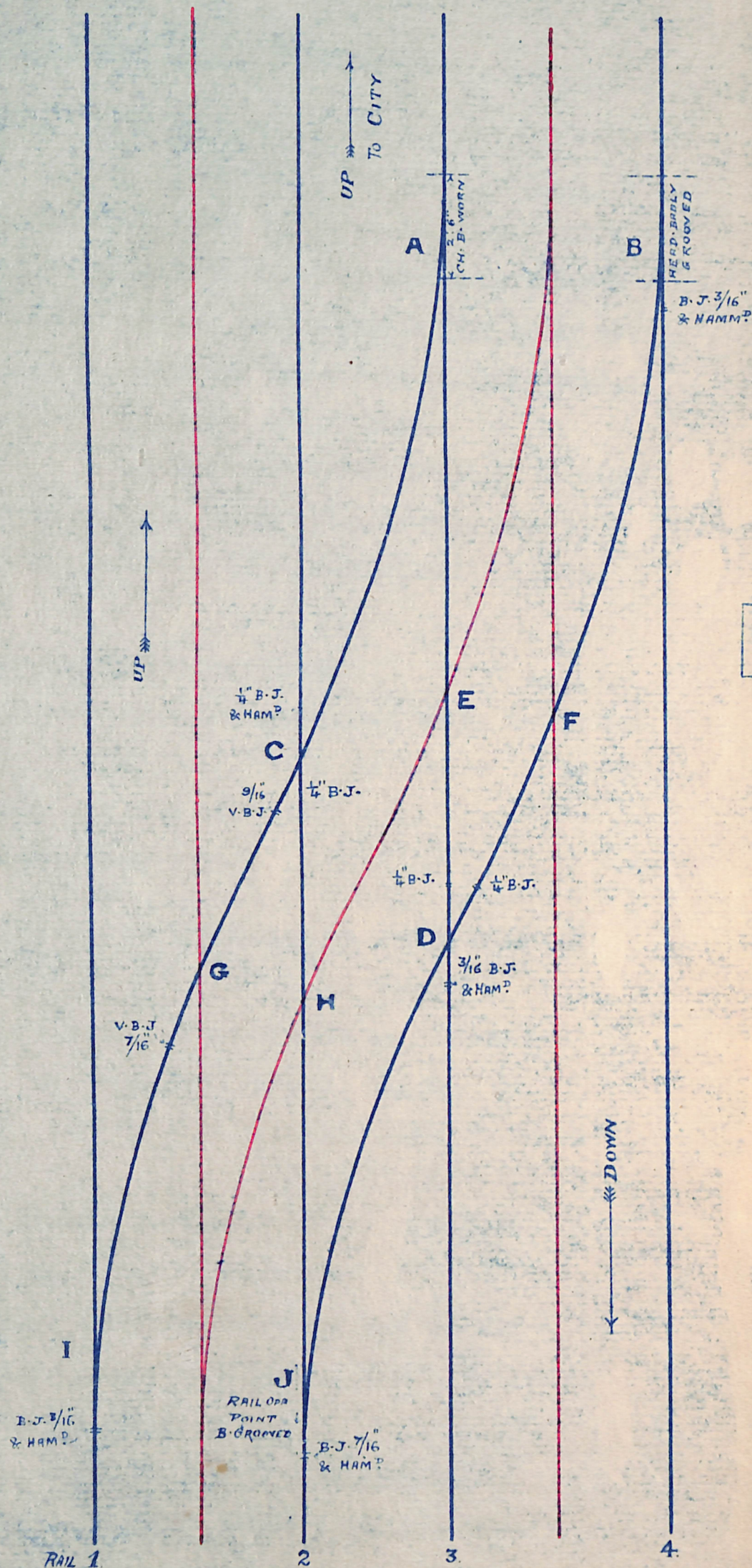
DATE Last Inspected - July 4th. 1916.

LINE 4. PLAN A.6.

SHUNT · EVELYN S^T

OPP: STATUE

- A Nil.
B Heel F. Good Fit. Tongue Sl. Worn.
C Points Badly Hammered.
D D°. Hammered. Loose Joint.
E D°. Badly Hammered.
F D°. Hammered.
G D°. Slightly Hammered.
H D°. Slightly D°.
I Nil.
J } Point Worn Low.
 } Head Grooved.
 } D° Hammered by Heel.



CURVE IN EVELYN S^T

LINE 4.

DESCRIPTION A 7.

1. The Checks of Special Check rails of Nos. 1 and 3 Rails are badly worn for greater portion of lengths of curves. The Check of No. 3 Rail is very badly worn in centre of curve for about 30 yards. The sides of heads of the opposite rails (Nos. 2 and 4) are badly grooved on greater portions of lengths of curves, and in places very badly so.
2. The bearing wear has been removed from outer edge of rail-tread, causing a projecting edge, which in places is very high.
3. No. 3 Rail (Down Track). A short length (about 1'9") of straight rail-check, adjacent to curved rail, on North side, is worn away at joint, whilst the ordinary rail-check of this straight rail is worn very thin.

4. Nos. 1 and 2 Rails are corrugated in places.
No. 2 Rail is 31 Mils below Template, and is bottoming for 30 yds
No. 4 Rail is 60 Mils "
No. 2 Rail - 1/2" is worn off side of Tread.
No. 3 Rail - Check is worn very thin.

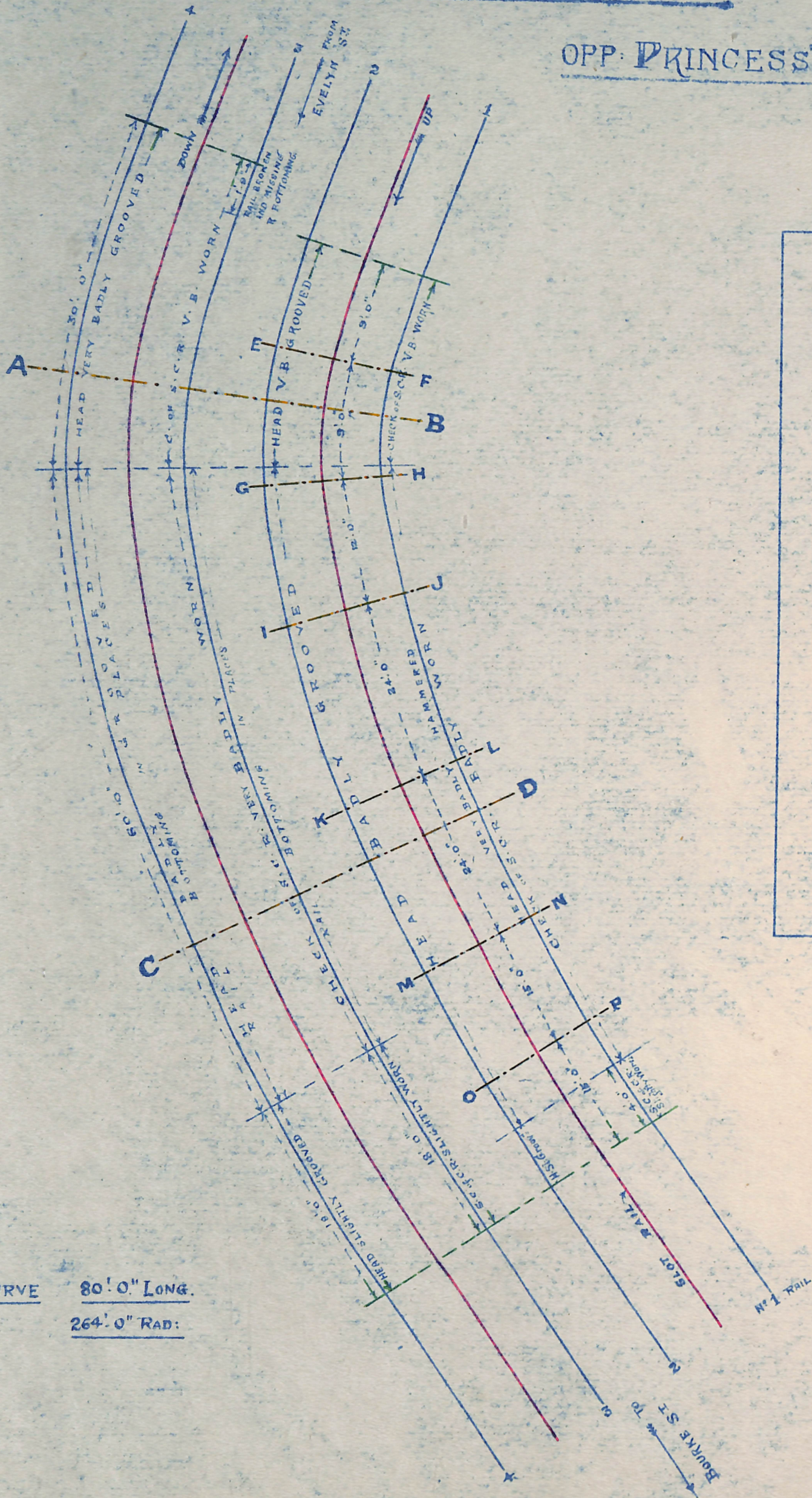
DATE LAST INSPECTED - July 4th. 1916.

LINE 4 PLAN A.7.

CURVE IN EVELYN S^T

OPP: PRINCESS THEATRE

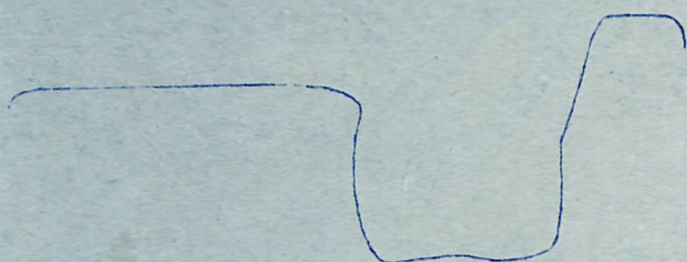
PRINCESS THEATRE



CURVE 80' 0" LONG.
264' 0" RAD:

EVELYN S^T CURVE

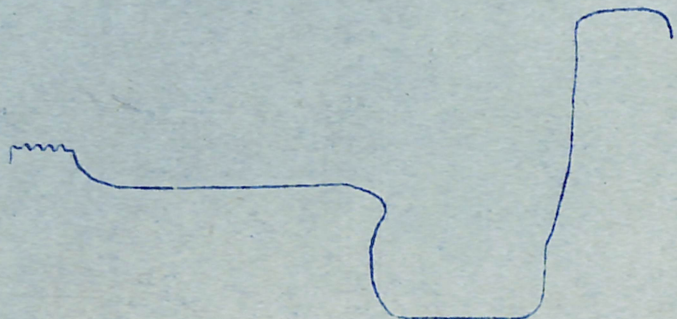
SHEET N° 2.



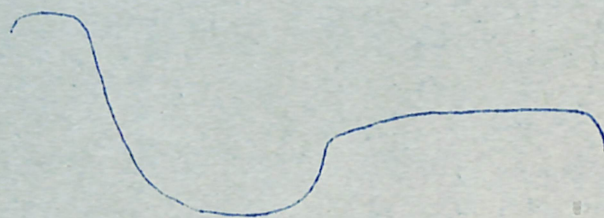
N° 1 RAIL ON E-F.



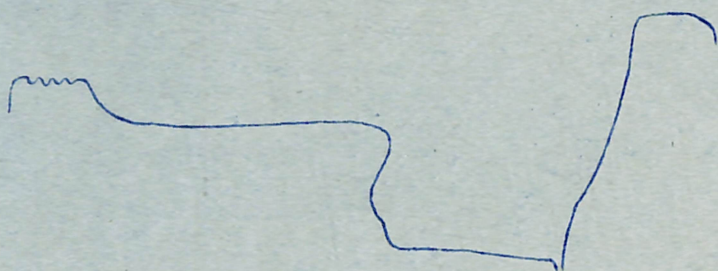
N° 2 RAIL ON E-F.



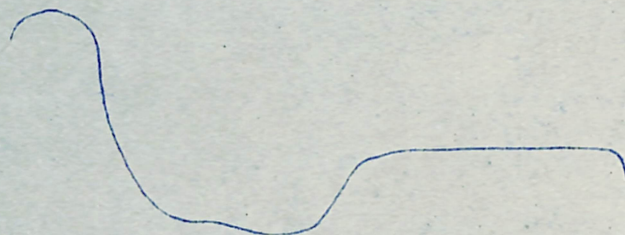
N° 1 RAIL ON G-H.



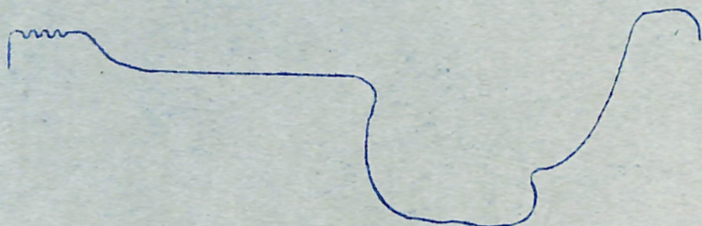
N° 2 RAIL ON G-H.



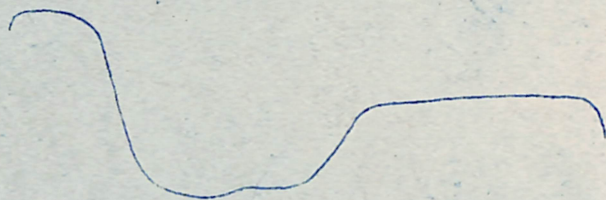
N° 1 RAIL ON I-J.



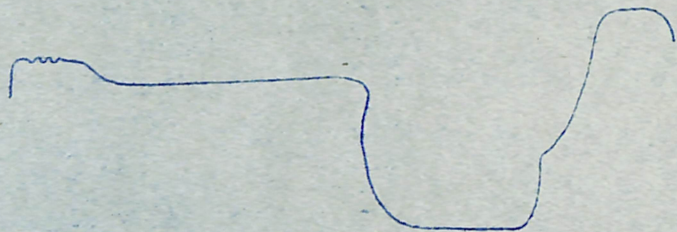
N° 2 RAIL ON I-J.



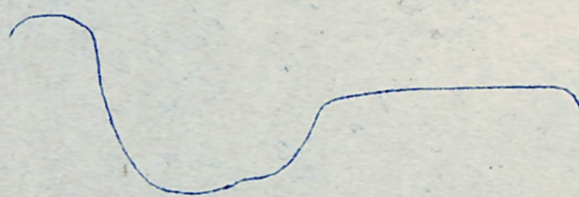
N° 1 RAIL ON K-L.



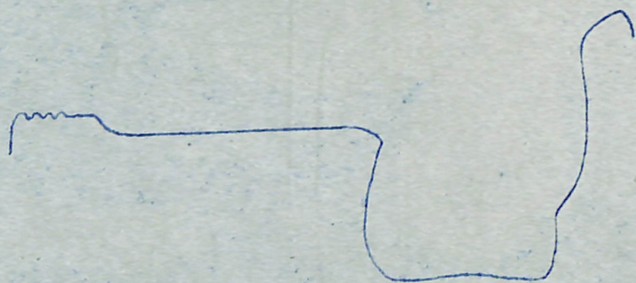
N° 2 RAIL ON K-L.



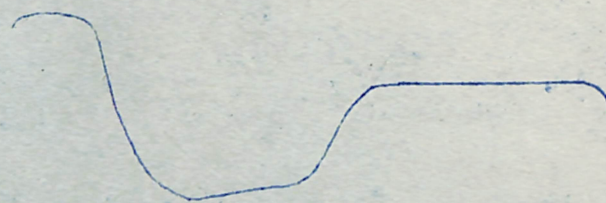
N° 1 RAIL ON M-N.



N° 2 RAIL ON M-N.



N° 1 RAIL ON O-P.



N° 2 RAIL ON O-P.

CURVE AT JUNCTION OF EVELYN AND BOURKE STS

LINE 4.

DESCRIPTION A.8.

CURVE at JUNCTION of EVELYN and BOURKE STREETS.

- The checks of special check rails of No. 2 and 4 Rails are worn for a great portion of their length, and in places very badly so.
- The sides of heads of opposite rails (Nos. 1 & 3) are grooved to varying amounts, and in places very badly so, as a result of the above check wear (1/4" is worn off side of Tread of No. 1 Rail). From 3/8" to 1/2" is worn off side of Tread of No. 3 Rail. The checks of special check rails are loose, and ineffective in places.
- NOS. 1 and 3 RAILS. In two places, lengths of Tram rails are pumping (for lengths of 5 yards and 12 yards respectively), and Fish-plates are presumably loose. Paving-Blocks on each side of pumping rails are loose, and tarred surface at these, and at other places on Curve, is shattered. No. 3 Rail is 56 mils lower than gauge, and rail is bottoming for 2 yards. CORRUGATIONS are apparent on No. 3 Rail, along centre portion of curve. Depressions = 37 mils. 3/8" to 1/2" is worn off side of Tread. Groove is 2" wide on No. 3 Rail. GAUGE of Nos. 1 and 2 Rails is 1/2" too wide, and gauge of Nos. 3 and 4 rails is 3/8" too wide. No. 1 Rail. 1/4" is worn off side of Tread. Groove is 1 5/8" wide. No. 2 Rail. Groove is 1 1/4" wide.

DATES OF CURVE RAIL RENEWALS.

Nos. 1 & 2 Rails	Sept. 18th. 1910	Length of Curve - 142' 0"
Nos. 3 & 4 "	June 30th. 1911	
No. 4 Rail	Sept. 30th. 1915.	Radius of Curve - 90' 0"
48' 0" New Check Rails)		
Slot beam renewed)	Dec. 30th. 1913.	
15' 0" length)		

CLEARANCES between flange and bottom of groove, also SUPER-ELEVATIONS

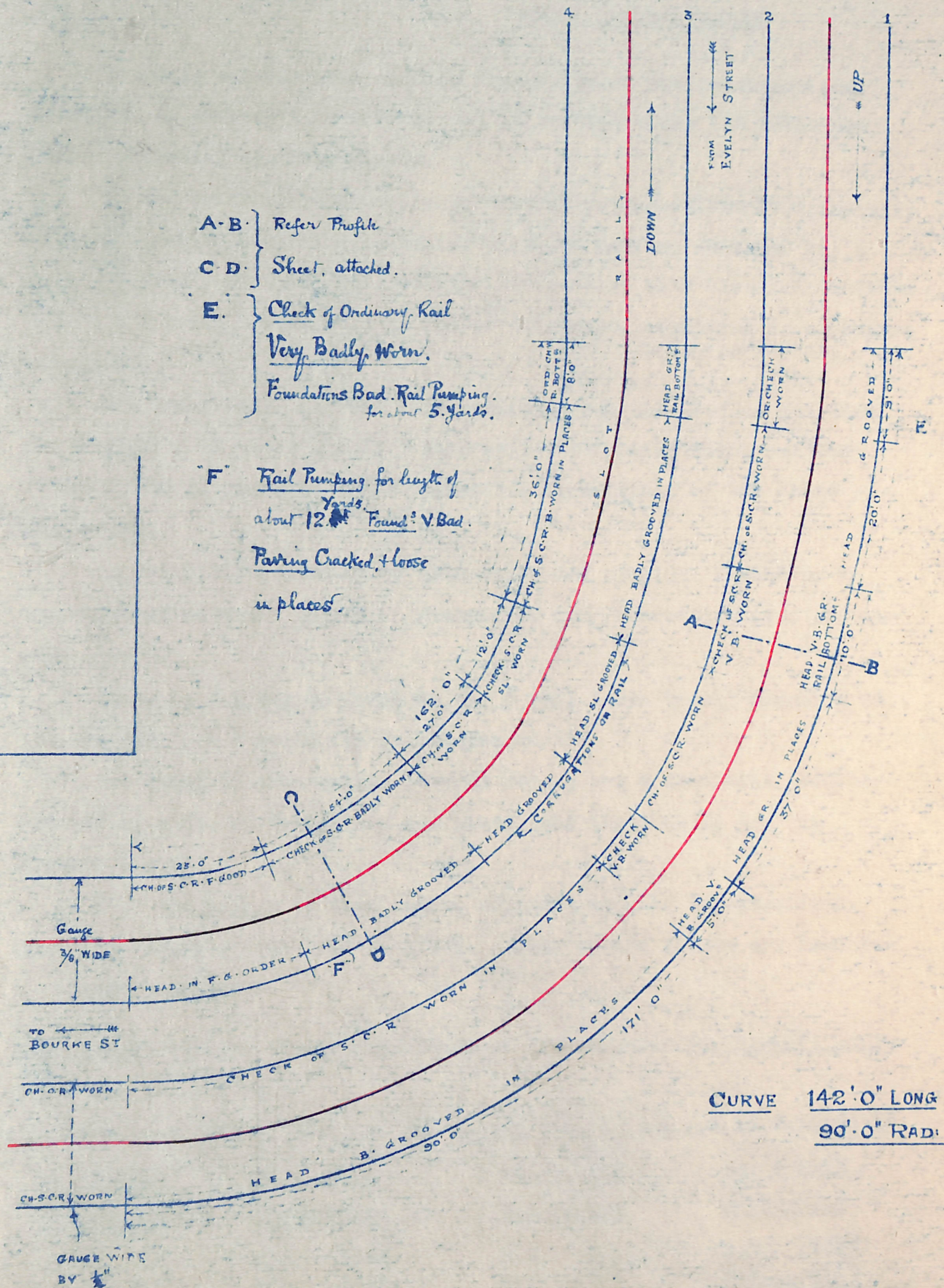
taken April 16th. 1916. The sets of Tests are as follows: CURVE 142' 0" LONG
CLEARANCES SUPER-ELEVATIONS. 90' 0" RAD.

No. 1 Rail	.287"	2 5/8" (R. & B.)
No. 2 "	.333"	--
No. 3 "	0	2 5/8" (R. & B.)
No. 4 "	.357"	--

DATE First Inspected - May 3rd. 1916.

DATE Last Inspected - July 4th. 1916.

CURVE AT JUNCTION OF EVELYN
AND BOURKE S^{TS}



RIGHT ANGLE CROSSING JUNCTION OF
SWANSTON ST WITH BOURKE ST

LINE 4.

DESCRIPTION A 9.

RIGHT - ANGLE CROSSING.

JUNCTION of SWANSTON STREET

WITH BOURKE STREET.

1. There is considerable wear on tram-rails at the intersections, resulting in excessive hammering, and in several cases the rails are almost bottoming at these places.

At the Crossing-intersections, also at intersections of tram-rails with Slot-rails, hammering is taking place to varying degrees. NO. 1 RAIL (Up Track) Swanston St., at its intersection with slot-rail (between Nos. 1 & 2 rails Bourke St.) is out of alignment, resulting in excessive hammering.

2. The Tram-rails, between intersections, and Slot-rails, are worn for a portion of their length, - the rail-check being worn, and the side of head of opposite rail is grooved, as a result of the above Check-wear.

3. In two places, lengths of Tram-rails are pumping, resulting in loosening of adjacent paving. Fishplates and Foundations are, presumably, loose.

4. There is a Crack on Tread of No. 4 rail (Down Track) Swanston St., between Nos. 1 & 2 rails (Up Track) Bourke St.

5. The gauge of tram-rails, between Nos. 3 and 4 downrails (Bourke Street) is wide, up to 1/8" in one place, and tight up to 3/8" in another place.

8 of the joints of tram rails, adjacent to rail intersections, are wide (varying from 1/8" to 3/8"). Many of the joints are hammered to varying degrees.

CLEARANCES, between flange and bottom of groove, also SUPER-ELEVATIONS, taken May 14th., 1916.

The two sets of Tests on the Bourke Street Line are as follows :-

<u>No. 1 Rail</u>	<u>No. 2 Rail</u>	<u>No. 3 Rail</u>	<u>No. 4 Rail</u>
<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>
S.E. .186"	S.E. .264"	N.E. .171"	N.E. .155"
S.W. .147"	S.W. .233"	N.W. .250"	N.W. .271"
	<u>SUPER-ELEVATION</u>		<u>SUPER-ELEVATION</u>
	S.E. Level (R)		N.E. Level (R)
	S.W. 3/8" (R)		N.W. 3/8" (R)

RIGHT ANGLE CROSSING JUNCTION OF SWANSTON ST WITH BOURKE ST

Tram Rail Intersections. Evidence of Hammering at all Intersections.

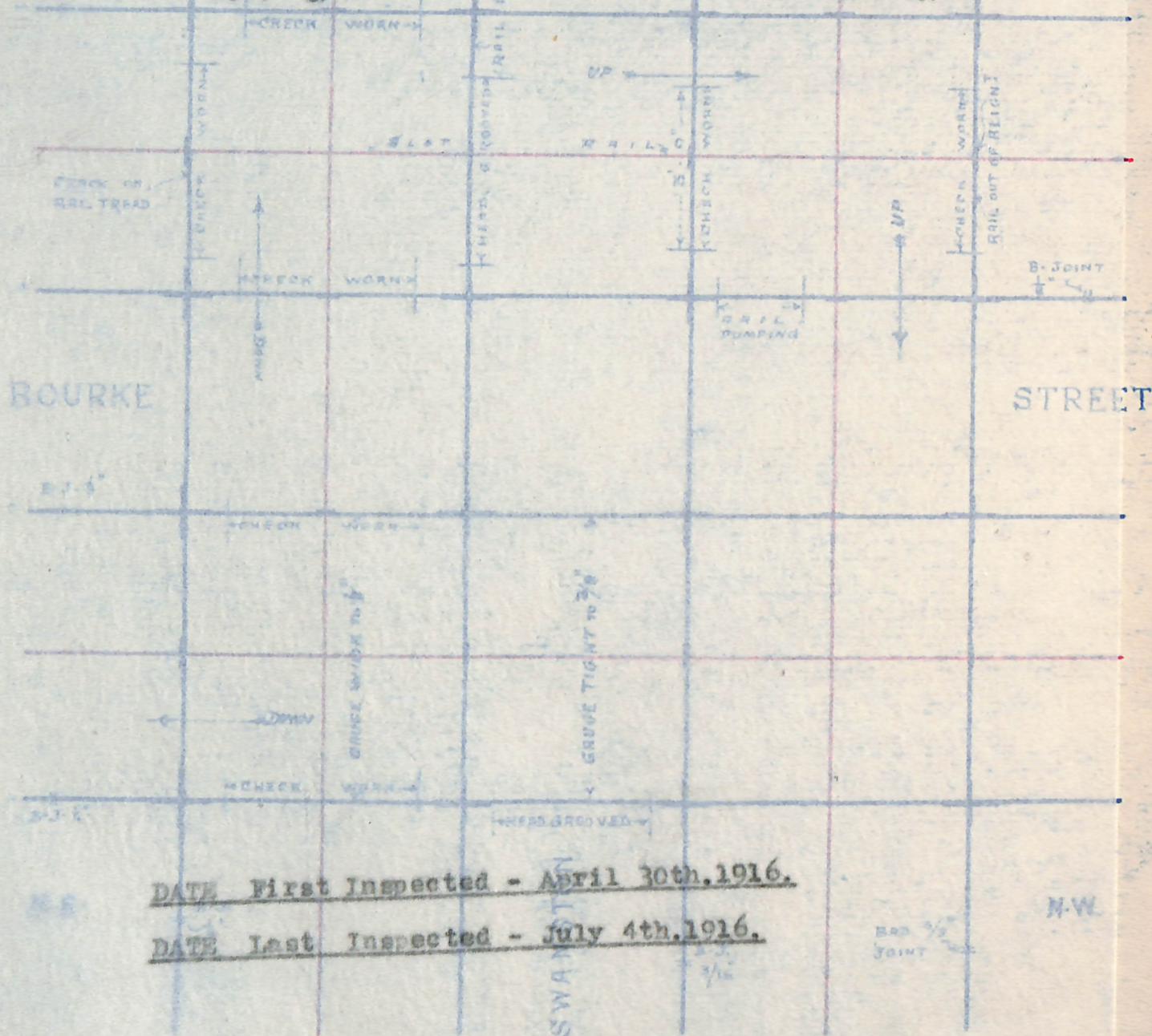
Tram Rail and Slot Rail Intersections D⁺ Hammering D⁻ D⁺

Paving In Fairly Good Order, except where Rails are pumping, where Paving is Bad.

File Description A 9. In Fairly Good Condition, but loose in places.

The two Sets of Tests on the Swanston Street Line are as follows :-

<u>No. 1 Rail</u>	<u>No. 2 Rail</u>	<u>No. 3 Rail</u>	<u>No. 4 Rail</u>
<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>
N.W. .124"	N.W. .147"	N.E. .217"	N.E. .186"
S.W. .217"	S.W. .279"	S.E. .163"	S.E. .124"
	<u>SUPER-ELEVATION</u>		<u>SUPER-ELEVATION</u>
	N.W. 3/8"		N.E. 5/8"
	S.W. 3/4"		S.E. 5/8"



DATE First Inspected - April 30th. 1916.

DATE Last Inspected - July 4th. 1916.

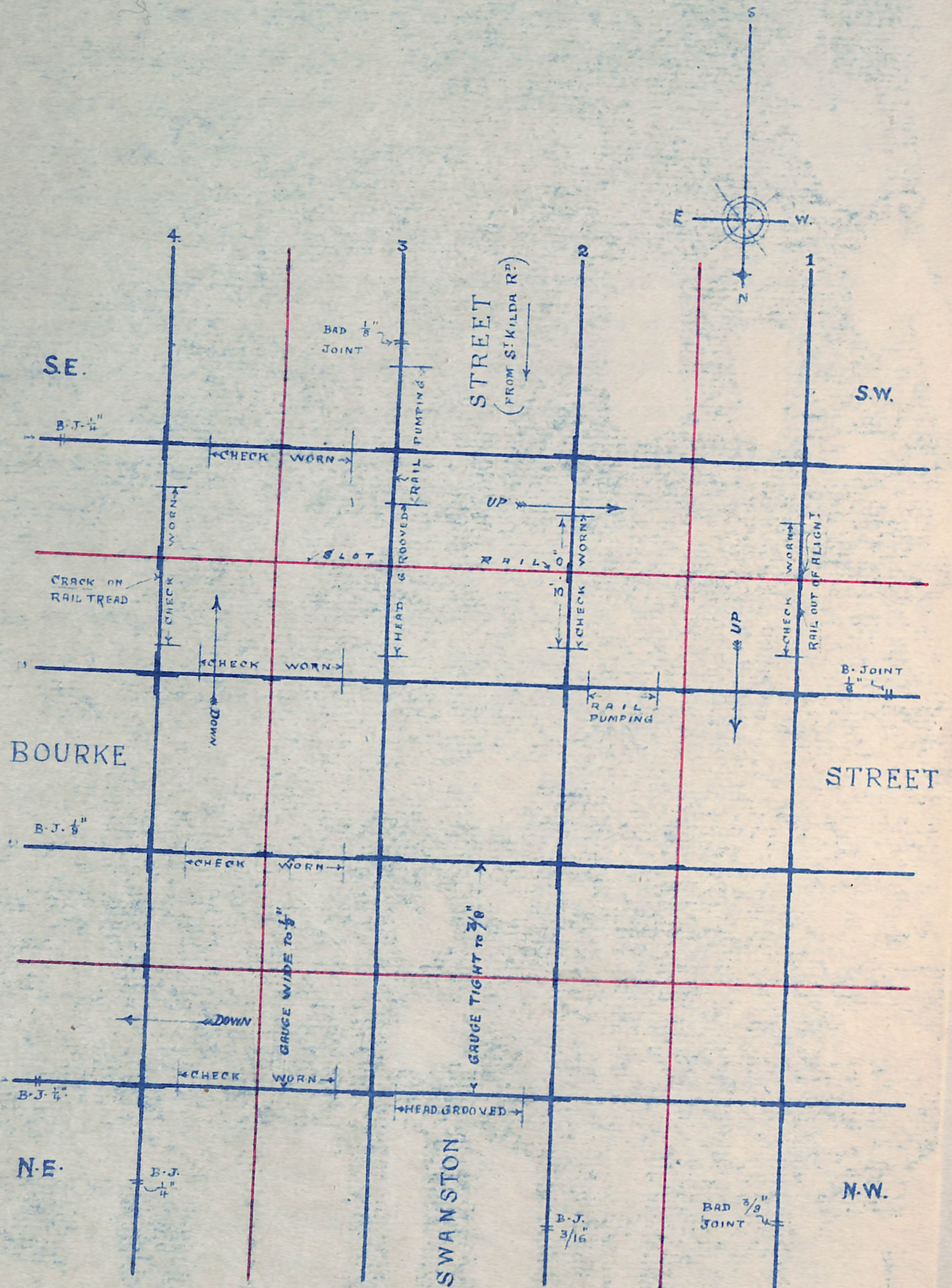
RIGHT ANGLE CROSSING JUNCTION OF SWANSTON ST WITH BOURKE ST

Tram-Rail Intersections. Evidence of Hammering at all Intersections.

Tram-Rail and } Intersections. D. Hammering D. D.
Slot Rail }

Paving. In Fairly Good Order, except where Rails are pumping, where Paving is Bad.

Fish Plates, Generally in Fairly Good Condition, but loose in places.



RIGHT-ANGLE CROSSING · BOURKE ST

LINE 4. PLAN A.10. WITH ELIZABETH STREET.

LINE 4.

DESCRIPTION A.10.

RIGHT-ANGLE CROSSING at JUNCTION of BOURKE STREET with ELIZABETH STREET.

1. There is considerable wear on rails at Crossing Intersections, resulting in excessive hammering. At the intersections of Tram rails with Slot Rails, hammering is taking place to varying degrees.
 2. The Tram-rails, between intersections and Slot-rails, are worn for a portion of their length, - the rail check being worn, and the side of head of opposite rail is grooved, as a result of the above Check wear.
 3. 14 of the Joints of Tram-rails, adjacent to rail intersections, are wide (varying from 1/2" to 3/4"). Many of the Joints are hammered, to varying amounts. There is also hammering of some of the other joints, and want of lineability of the Tread Surface at ten places.
 4. Paving Blocks are loose in places, and tarred surface shattered.
- CLEARANCES between Flange and bottom of Groove, also SUPER-ELEVATIONS taken May 14th., 1916.

The two Sets of Tests on the Bourke Street Line, are as follows :-

<u>No. 1 Rail</u>	<u>No. 2 Rail</u>	<u>No. 3 Rail</u>	<u>No. 4 Rail</u>
<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>
S.E. .124"	S.E. .147"	N.E. .233"	N.E. .271"
S.W. .171"	S.W. .186"	N.W. .217"	N.W. .410"
<u>SUPER-ELEVATIONS</u>		<u>SUPER-ELEVATIONS</u>	
S.E. 7/8"		N.E. 5/8"	
S.W. 1/8"		N.W. 1/2"	

The two Sets of Tests on the Elizabeth Street Line, are as follows :-

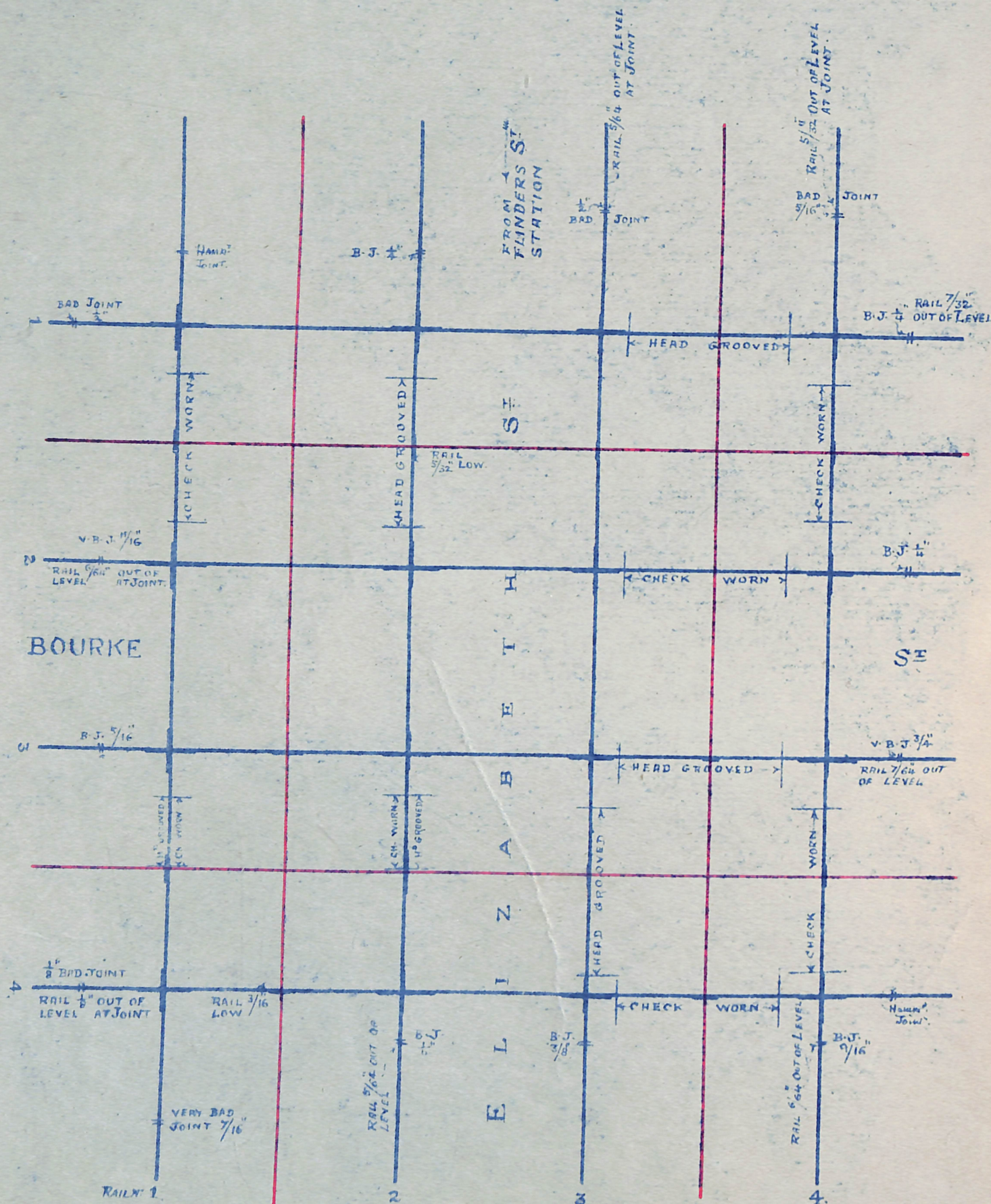
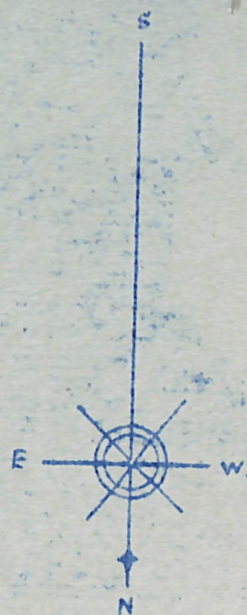
<u>No. 1 Rail</u>	<u>No. 2 Rail</u>	<u>No. 3 Rail</u>	<u>No. 4 Rail</u>
<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>	<u>CLEARANCES</u>
N.E. .186"	N.E. .225"	N.W. .109"	N.W. .093"
S.E. .124"	S.E. .101"	S.W. .217"	S.W. .140"
	<u>SUPER-ELEVATIONS</u>		<u>SUPER-ELEVATIONS</u>
	N.E. Level		N.W. 1/4"
	S.E. 1/4"		S.W. 5/8"

DATE First Inspected - April 30th. 1916.
DATE Last Inspected - July 4th. 1916.

RIGHT-ANGLE CROSSING · BOURKE ST

LINE 4. PLAN A-10.

WITH ELIZABETH STREET.



SHUNTS (2) AT TERMINUS. BOURKE STREET.

LINE 4.
PLAN A. 11.

SHUNTS (2) at TERMINUS - BOURKE STREET. Joints, to varying

The special Checks of 3 of the four Inner Curves of Dummy and Trailer Shunts, are worn to varying amounts. In places, the special Checks are loose and ineffective.

The heads of the four Outer Curves of Dummy and Trailer Shunts are badly grooved in places as a result of the above Check wear. The Bearing wear has been removed from outer edge of tread, at several places, causing a projecting edge, which in places is high.

No. 4 RAIL (Down-Track). The side of head of Tram-rail, between Points of Dummy and Trailer Shunts, is grooved, and rail is corrugated in places.

Two short lengths of rails on each side of Point of Trailer-shunt, are pumping, and fishplates are presumably loose.

No. 3 RAIL (Down Track). A short length of rail (between intersection of Dummy Shunt rail and Point of Trailer-Shunt) is pumping, and fishplates are presumably loose.

The casting of Rail-crossing (intersection of Curved rail of Trailer Shunt, with No. 3 Rail Down Track), is pumping, and fishplates are presumably loose.

The check of ordinary rail, near Point of Trailer Shunt, is completely worn through.

No. 2 XXX RAIL -(UP TRACK). A short length of rail (between end of curve of Dummy Shunt and intersection of curved rail of Trailer-shunt) is pumping, and fishplates are presumably loose.

Paving is loose in several places, and tarred surface is shattered

At the Crossing intersections, also at intersections of Slot-Rails with Tram-rails, hammering to varying degrees is taking place.

Five of the 6 heels of Points are of loose fit and rocking, and several of these are below level of rails, resulting in excessive hammering. There is also diagonal wear on Treads, in several cases. Tongues are worn to varying amounts.

7 of the Joints of Tram-rails, adjacent to the rail-intersections and joints, are wide, varying from 1/4" to 3/4", and in several cases are hammered.

SHUNTS (2) AT TERMINUS. BOURKE STREET.

A Line 4
Plan A. 11.

-2-

B Rail below level of Rail, and Rocking

Tongue There is also hammering of some of the other Joints, to varying degrees.

C Bad Hammering at Rail Intersections

D Rail below level of Rail, and Rocking

CLEARANCES, between flange and bottom of groove, also SUPER-ELEVATIONS taken May 9th. 1916.

on Trailing opposite 685 Bourke Street, on Shunt, (18 Feet from Point)

E CLEARANCE - No. 1 Rail .093.

No. 2 Rail .264

SUPER-ELEVATION

No. 2 " 3/8" (R. & B.)

F Bad Hammering at Rail Intersections

Casting opposite 683 Bourke Street, on Shunt (3 Feet from Crossing)

G CLEARANCE - No. 1 Rail .186

No. 2 Rail .233

H SUPER-ELEVATION

No. 2 " 0 (R. & B.)

I NOTE. Since the above Track was first inspected, and particulars noted, the two Point-Castings of Trailer-shunt (on Nos. 3 and 4 Rails), also a 7'0" length of rail, have been taken up and New Point Castings and Tongues have been fixed in lieu of same; also a 7'0" length of second-hand rail has been laid adjacent to Point-Casting work (No. 4 Rail). This was carried out on May 23rd. 1916.

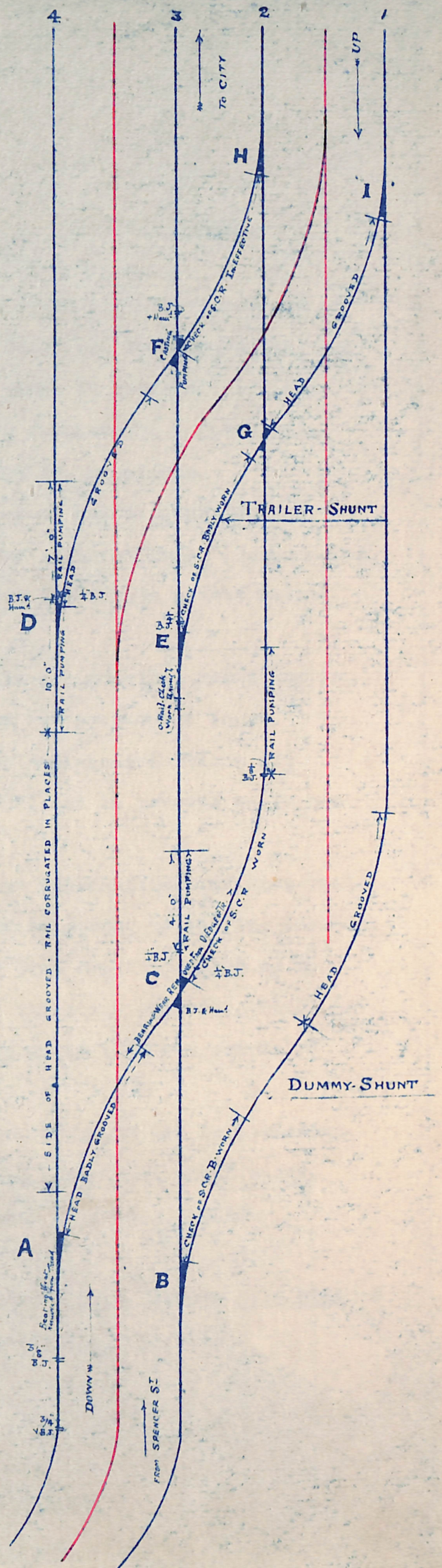
DATE First Inspected May 4th. 1916.

DATE Last Inspected July 4th. 1916.

DUMMY-SHUNT

SHUNTS (2) AT TERMINUS. BOURKE STREET.

- A. Heel bad fit and Rocking.
Tongue Worn.
- B. Heel below level of Rail, and Rocking.
Tongue Worn.
- C. Bad Hammering at Rail Intersections.
- D. Heel below level of Rail, and Rocking.
Tongue Worn. Diagonal Wear
on Tread of Point-Casting.
- E. Heel bad fit and Rocking.
Tongue V. Badly Worn.
- F. Bad Hammering at Rail Intersections.
Casting of Rail-Crossing Pumping.
- G. Hammering at Rail Intersections.
- H. Heel Bad fit, and Rocking.
Tongue Worn.
- I. Tongue Slightly Worn.



LINE 4 PLAN B-1 TERMINUS } QUEENS PARADE

Heel Tread Low. Heel Rocking.
A Points Worn Badly. Tongue Worn.

B End Worn Badly. Tongue Worn.

C Points Badly Hammered. Loose Fish-Plates.

DESCRIPTION B 1.

E D: Slightly Hammered

F Rail SHUNTS EAST TERMINUS

and "TURN-IN" and "TURN-OUT" to DEPOT

H D: Tread Slightly Point Worn

1. The Checks of Special check-rails to "Turn-In" and "Turn-Out" of Car Depot, also 3 of the Inner Curves of Dummy and Trailer Shunts, are worn, and in places very badly so. The sides of heads of opposite rail are grooved, as a result of the above check-wear. Checks to special check-rails are loose, and ineffective, in places.

2. The heels of 7 of the eight Points are of bad fit and rocking. In several cases the heel is below level of adjacent rail. Tongues are worn to varying degrees. In several cases the trends of the Point-Castings are diagonally worn.

3. In three places, lengths of Tram-rails are pumping, resulting in loosening of adjacent paving. Fishplates are presumably loose.

4. 10 of the Joints of rails adjacent to rail-intersections and Points, are wide (varying from $3/8"$ to $5/8"$) and in several cases are hammered.

5. At the Crossing-intersections, also at intersections of Slot-rails with tram-rails, hammering and wear is taking place, to varying degrees.

6. The gauge of Tram rails on "Run-Out" from Depot is tight up to $5/8"$ in two places, and sides of heads of rails are grooved. Gauge on straight rails (opposite "Run-In") is wide up to $1/4"$ and checks of both rails are worn.

No. 4 Rail at Terminus (opp. 464 Heidelberg Road) is bottoming for about 3 yards. Rail-Tread is 125 mils lower than wheel gauge.

CLEARANCES, between flange and bottom of groove, also

SUPER-ELEVATIONS taken April 26th. 1916.

CLEARANCES - No. 1 Rail .250": No. 2 .124": No. 3 .140": No. 4 Rail 0

SUPER-ELEVATIONS - No. 2 $1/2"$ (R): No. 3 $1 1/8"$ (R):

DATE First Inspected - April 27th. 1916.

DATE Last Inspected - July 4th. 1916.

LINE 4 PLAN B-1

TERMINUS } QUEENS PARADE

- Heel Tread Low. Heel Rocking.
A Points Worn Badly. Tongue Worn.
 Heel Rocking.
B Point Worn Badly. Tongue Worn.
C Points Badly Hammered. Loose Fish-Plates.
D Points Hammered.
E D: Slightly Hammered.
F Rail Crossing Badly Hammered.
G Heel Rocking. Point Worn away.
H D: Rocking Slightly. Point Worn.

