

ORIGINAL

NOV 7 1984

Decision 84 11 056

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application)  
of the San Diego Metropolitan )  
Transit Development Board on )  
behalf of its subsidiary, )  
San Diego Trolley, Inc. (SDTI) )  
for modification of Decision )  
83-05-101 in Application )  
83-01-33 authorizing construc- )  
tion of a street railroad across )  
an existing railroad. )

(Application 84-05-068)  
(Filed May 18, 1984)

OPINION

As part of a project to construct a light-rail transit system, the San Diego Metropolitan Transit Development Board (MTDB) requested authority by Application (A.) 59744 to construct two street railroad tracks on 13th Avenue at grade across the San Diego & Arizona Eastern Railway's (SD&AE) La Mesa Branch Line at Commercial Street and two street railroad tracks on 12th Street at grade across the tracks of SD&AE's "L" Street spur in San Diego, San Diego County. The requested authority was granted by Decision (D.) 92086 dated July 29, 1980. As a condition to granting of the authority Ordering Paragraph 2 of D.92086 provided:

"2. The operation of light-rail transit and freight trains across the two at-grade rail crossings shall be subject to the conditions specified in Resolution (R.) RTS-4. (Appendix A)."

A.84-05-068 T/RWS/AEM/WPSC \*

To provide for the safe operation of light-rail transit vehicles across SD&AE's La Mesa Branch Line tracks of the 13th Avenue and Commercial Street crossing, Condition 2 of R. RTS-4 established certain operating procedures and required the installation of a signal apparatus in compliance with Section 5.6 - at Grade Railroad Crossings, of the Commissions General Order (G.O.) 143. By telegram dated July 15, 1981, MTDB advised that it had been unable to procure the required signal apparatus and requested temporary authority to operate across the crossing with four-way stop signs and appropriate bulletins to operating employees. R. S-1451, dated July 22, 1981, granted the requested temporary authority to expire on December 31, 1981. R. S-1456 further extended the temporary authority to December 31, 1982.

In A.83-03-31, MTDB, on behalf of its wholly owned subsidiary, San Diego Trolley, Incorporated (SDTI), requested that it be relieved of the interlocking requirements set forth in Condition 2 of R. RTS-4. MTDB stated that Section 5.6 of G.O. 143 permits alternative protection for crossings of light-rail tracks and railroad tracks where the light-rail track is in the street right-of-way and the maximum speeds set forth in Table 1 of G.O. 143 are not exceeded. According to MTDB, the authorized operating speeds of SDTI and SD&AE did not exceed the speed of parallel

traffic in the mixed configuration and operating procedures could be relied on as protection at the 13th Avenue and Commercial Street crossing. By D.83-05-101, dated May 18, 1983, MTDB was relieved of the interlocking requirements established for the 13th Avenue and Commercial Street crossing in D.92086 and, in lieu thereof, MTDB was required to install derails and adopt operating procedures to provide for the safety of conflicting movements by SDTI and SD&AE at the crossing.

In A.84-05-068, filed May 18, 1984, MTDB has requested that operating procedures for the 13th Avenue and Commercial Street crossing be further revised. In addition to operating light-rail cars, through its subsidiary SDTI, between San Diego City Centre and San Ysidro (the South Line), MTDB proposes to commence light-rail transit operations between City Centre and El Cajon (the East Urban Line). This will involve joint operations with SD&AE over its El Cajon Branch Line.

As part of the East Urban Line Project, the line will be double tracked on Commercial Street with the second track alignment generally south and parallel to the present track alignment. The alignment of the South Line will be altered to go through the parcel on the southwest corner of 13th Avenue and Imperial Street.

A.84-05-068 T/RWS/AEM/WPSC \*

MTDB therefore requests authority to substitute a turnout (connecting crossover switch) for the derail presently installed easterly of the crossing. It is further requested that the operating procedures for the crossing established in D.83-05-101 be modified to accommodate the revised trackage and operations at the crossing.

Notice of the application was published in the Commission's Daily Calendar on May 23, 1984. No protests have been received.

Findings of Fact

1. MTDB requests authority under Public Utilities Code Sections 1201-1205 to replace the derail installed easterly of the crossing of MTDB's two street railroad tracks on 13th Avenue across the tracks of SD&AE's La Mesa Branch Line with a crossover switch and to revise the operating procedures for the crossing as established by D.92086 and modified by D.83-05-101 in San Diego, San Diego County. ✓

2. Alteration of the crossing and modification of the existing operating procedures is required as part of MTDB's East Urban Line Project.

3. Public convenience, necessity and safety require replacement of the derail with a crossover switch and revision of the existing operating procedures.

4. A public hearing is not necessary.

Conclusion of Law

The application should be granted as set forth in the following order:

O R D E R

IT IS ORDERED that Condition 2 of D.92086 as modified by D.83-05-101 is further modified as follows:

1. The San Diego Metropolitan Transit Development Board (MTDB) is authorized to replace the derail installed easterly of the crossing of MTDB's two street railroad tracks on 13th Avenue across the tracks of San Diego and Arizona Eastern Railway's (SD&AE) LaMesa Branch Line with a crossover switch in San Diego, San Diego County.
2. Upon completion of replacement of the derail by the crossover switch, operating procedures for the 13th Avenue and Commercial Street crossing and the Imperial Junction - El Cajon Line Interchange shall be as set forth in Exhibit A attached to this order.
3. Within 20 days after the completion of the replacement of the derail by the crossover switch, MTDB shall advise the Commission in writing of the completion date.

4. The modifications authorized herein shall expire if not implemented within two years.

5. In all other respects, D.92086 and D.83-05-081 shall remain in full force and effect.

6. The application is granted.

This order is effective 30 days from today.

Dated NOV 7 1984, at San Francisco, California.

VICTOR CALVO  
FRISCILLA C. GREW  
DONALD VIAL  
WILLIAM T. BAGLEY  
Commissioners

I CERTIFY THAT THIS DECISION  
WAS APPROVED BY THE ABOVE  
COMMISSIONERS TODAY.


  
Joseph E. Bodovitz, Director

EXHIBIT A

Operating Plan - 13th Avenue/Commercial Street

Imperial Junction and El Cajon Line Interchange

Eastbound transit trains from Centre City will service the eastbound Imperial Stop and then move alternately to San Ysidro and El Cajon. The headways of the San Ysidro train are 15 minutes during peak and base hours and 30 minutes at night. The headways of El Cajon trains will be 15 minutes during peak hours, and 30 minutes during base and night hours. During base hours, alternate headway slots in the service to El Cajon will be vacant. This pattern applies also for westbound transit trains.

With respect to the combined transit services, MTDB desires a convenient transfer between the East Urban Line and South Line service. This means that the meet between an East Urban Line train and a South Line train should best occur between Market and Imperial. As a result, the schedule will have no "built-in" conflict in the use of the junction for transit service.

SD&AE Railway trains may operate over all or portions of the East Urban Line during the hours transit is not operating, and also during the transit base period when transit service on the East Urban Line is 30 minutes. In general, the SD&AE Railway train which operates during the daily base period will operate in a vacant transit slot.

#### APPLICABLE REQUIREMENTS

In addition to Ordering Paragraph 2 of Decision 92806, the applicable requirements are the California Public Utilities Commission (CPUC) General Order 143, as applicable. Because the railroad grade crossing and the junction will be combined, the prior order will continue to apply.

Because the transit operations are entirely within the street operations, no signaling is needed to protect the transit moves, and therefore, no interlocking is required.

On the yard leads, the eastbound approach tracks will be equipped with split point derails. The No. 10 cross-over switches on Commercial Street between 14th and 15th Avenues shall be in street construction. On Exhibit B the No. 6 power switch (labeled #2) and the No. 6 hand throw spring switches (labeled #4 and #1) shall also be in street construction.

Thus, the track crossing and junction can, and should be controlled by a simple supervisory scheme using manual controls, switch indicators, and operating rules.

#### SWITCH OPERATION AND INDICATION

Referring to Exhibit B, each of the six switches will be controlled and indicated as follows:

1. Switch No. 1 is the westward trolley switch at the junction of the East Urban Line and the South Line. This Switch will be equipped with a hand throw switch stand, with a buffered spring connection. Operator will determine the position of the points visually.
2. Switch No. 2 is the eastward trolley switch at the junction of the East Urban Line and the South Line. It will be powered and the position of the tongues will be selected by operation of the diverging route trolley. The operational sequence will be as follows:
  - a. The switch controller, but not the switch, will alternate periodically from one throw control to the other about every 10-15 seconds. The controller's throw control is indicated by a signal.. (Exhibit C)
  - b. A trolley will enter track Circuit A when the Controller's throw control is in agreement with the trolley's route. Occupancy of track Circuit A executes the throw control and will cause the switch points to correspond.
  - c. As long as track Circuit A is occupied, the Controller will not alternate. The movement to track Circuit B provides electrical detector locking on the switch throw mechanism.
  - d. The wayside signal, in addition to displaying the Controller's throw control, also shows that the control has been executed and electrical detector locking is in effect.

The power movement is solenoid which applies at least 600 pounds of force on the tongue through a toggled lever (Safetran T.3 or equivalent). The tongue position will follow the throw control and the position of the throw control is indicated.



3. Switch No. 3 is the east end of the facing point crossover lying between 14th and 15th Streets, and Switch No. 6 is the west end of the same crossover. Both switches are powered and controlled in parallel. The switches are double tongued. The position of the switch machine throw is electrically indicated and the "switch point indicator" for the crossover checks the throw of switches No. 3 and No. 6 serially.

There are dual controls at each end of this crossover. They are a trolley contactor on the approach to the crossover (westward track approaching Switch No. 3, and eastward track approaching Switch No. 6), and a manual key box controller located on the side of the street generally opposite the tongue stubs. The trolley contactor will control the crossover normal only in either direction of travel. The key box controller will have the ability to throw the crossover normal or reverse.

The two switch point indicators associated with this crossover will display aspects indicating crossover normal, or crossover reverse, and crossover neither normal nor reverse. (Exhibit C).

4. Switch No. 4 connects the SD&AE Railway to the eastward main line. It will be equipped with a hand throw switch stand, with a buffered string connection and operating personnel will observe the position of the tongues visually.
5. Switch No. 5 is a yard switch which is a No. 7 turnout in open track work. It will be hand thrown and operating personnel will observe the position of the points visually and as indicated by the switch target.

#### OPERATING RULES

San Diego Trolley, Inc. will make rules for the operation of SDTI trolleys and SD&AE Railway trains through the crossing area in accordance with the following definitions and for the indicated procedures.

##### 1. Limits of Imperial Junction, Compass Directions

Imperial Junction extends from the north side of Imperial Avenue South to shop (Newton) crossover. East to 15th and Commercial Streets and west to westernmost SD&AE switch leading to SDTI main track.

2. Railroad Direction

- o San Diego to San Ysidro - Eastward
- o San Ysidro to San Diego - Westward
- o San Diego to Euclid Avenue - Eastward
- o Euclid Avenue to San Diego - Westward

3. Authority

SDTI Controller, located at Central Control, has sole authority over all train movements within the limits of Imperial Junction.

4. Instructions for Train Movements at Imperial Junction

A. Eastward SDTI Trains, Enroute South Line. Eastward trains will approach the "James R. Mills Transfer Center" prepared to stop and, if station is not occupied by opposing train on the adjacent track, may proceed into station. Train will approach the first route selection marker (Exhibit C) located in advance of Switch No. 2, but must not pass it until route request indicator alignment arrow displays South Line route. After white switch indicator (top aspect) is illuminated, normal station stop can be made.

After passenger stop has been made, train may proceed as prescribed by SDTI Yard Limit Rule.

B. Westward SDTI Trains, Exiting South Line. Westward trains will approach Imperial Junction as prescribed by SDTI Yard Limit Rule prepared to stop at marker on street in advance of East Line crossing. If there is no opposing train in the station on adjacent track and there are no East Line train movements, train may proceed into station through Spring Switch No. 1 (Exhibit B).

- C. Eastward SDTI Trains, Enroute East Line. Eastward trains will approach the "James R. Mills Transfer Center" prepared to stop and, if station is not occupied by an opposing train on the adjacent track, may proceed into station. Train will approach the first route selection marker (Exhibit C) located in advance of Switch No. 2, but must not pass it until route request indicator alignment arrow displays East Line route. After white switch indicator (top aspect) is illuminated, normal station stop can be made.

After passenger stop has been made, train may proceed as prescribed by SDTI Yard Limit Rule.

The eastward train will pass over the #4 Spring Switch (Exhibit B), which will normally be aligned for the diverging route onto the eastward main track, East Line. After entering the East Line with the current of traffic, train will approach a switch point indicator (Exhibit C) located between 14th and 15th Streets adjacent to the eastward main track indicating the position of facing point Switch No. 6 (Exhibit B), for which alignment is actuated by an overhead contactor in catenary or key activated control. Operation at the switch point indicator is governed by Switch Indicator Rules (Exhibit C).

- D. Westward SDTI Trains, Exiting East Line. Trains will approach 15th Street as prescribed by SDTI Yard Limit Rule. A switch point indicator (Exhibit C) is located between 15th and 14th Streets adjacent to the westward main track in advance of facing point Switch No. 3 (Exhibit B) indicating the position of switch. Alignment is actuated by an overhead contactor in catenary or by key activated control. Operation at the switch point indicator is governed by Switch Indicator Rules (Exhibit E).

Train will proceed prepared to stop short of marker on street in advance of Switch No. 1 (Exhibit B). If there is no opposing train in the station on adjacent track and there are no westward South Line train movements, train may proceed into station through Spring Switch No. 1 (Exhibit B).

5. Eastward SDTI/SD&AE Yard Movements Over SDTI Double Track Crossing

All SDTI/SD&AE train movements out of yard track areas over the South Line double track crossing will be made by authorization of the Controller. Movement will be made with the added protection of fusees. SD&AE train will remove fusees after clearing the crossing. Trolley will use short term fusees.

Spring and Return Switch No. 4 (Exhibit B) is normally lined reverse. Eastward trains will trail through this switch.

Operation at switch point indicator adjacent to Switch No. 6 is governed by Switch Indicator Rules (Exhibit C).

6. Westward SDTI/SD&AE Train Movements - East Line to Yard

This movement must be made against the current of traffic, westward on the eastward main track. Train enroute to the yard will approach and stop short of the switch indicator (Exhibit C) located in advance of Switch No. 3 between 15th and 14th Streets. Train operator/train crew must request permission from the Controller to operate against the current of traffic into the yard. Controller must first ascertain that the eastward track between the #3 and #6 crossover to yard is clear of all opposing train movements. If clear, Controller will give authority to operate key activated control for the diverging route at crossovers #3 and #6 and to operate westward on the eastward track to the South Line double track crossing. Train Operator/train crew, after obtaining proper switch alignment and switch indicator (Exhibit C) displaying diverging route, may proceed and must take another stop short of Switch No. 4.

Switch No. 4 is normally lined reverse. Switch must be lined for straight track. Permission must then be obtained from Controller to cross South Line main tracks. Additional protection must be provided by placing fusees on the crossing until movement is completed. Trolley will use short term fusees.

Switch No. 4 must be returned to reverse position after movement is completed.

7. SD&AE Special Instruction, Switching Feed Mill  
Track No. 44

The Feed Mill Industry track is located adjacent to the westward main track at 22nd Street, San Diego. This track has an east connected switch only. The westward main track at 22nd Street is on approximately a 2 percent grade.

The following special instructions will apply.

1. When applicable, due to the close proximity of Switch No. 144 to the yard area, SD&AE will be requested to switch this industry as an independent move.

Engine with the feed mill cars will move across South Line double track crossing as prescribed by the rules, and will advance with the current of traffic up to, but not fouling, the #6 crossover switch located between 14th and 15th Streets, San Diego. Controller must ascertain westward main track clear of all opposing moves and, if so, will authorize the

SD&AE crew to request a reversed position of the #6 and #3 crossover switches by key button control. The SD&AE will then operate against the current of traffic from Switches No. 6 and No. 3 to Switch No. 144 to perform switch service and return with the current of traffic, or get in the clear, if necessary, at Switch No. 144. SD&AE will exit East Line as prescribed by these instructions. If, at any time, the SD&AE is occupying the westward main track with an SDTI train in close proximity, both trains must be notified of each other's presence, and Controller must issue necessary instructions to protect the dual movements.

2. When independent switching cannot be accomplished, SD&AE trains will operate with the current of traffic and switch track #144 on westward trip.
3. At any time the SD&AE provides switching service to industry track #144 and it is necessary to cut off from train, leaving cars standing on westward main track, train crew will provide the following protection against car rolling:
  - a. Cut off with train sufficiently charged with air to keep air brakes applied to prevent movement; and

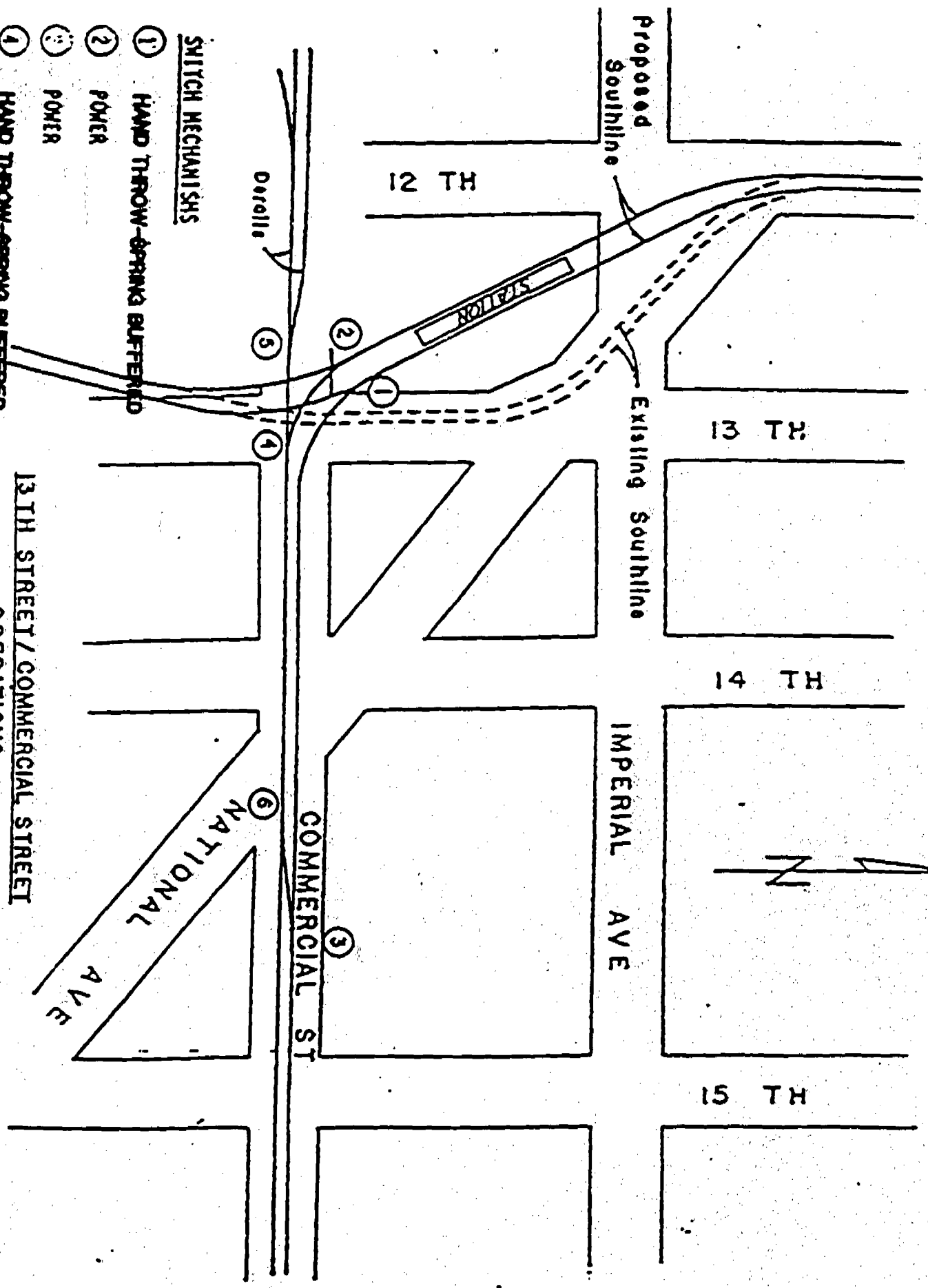
- b. Set hand brakes to all cars left standing on westward main track; and
- c. Chock a sufficient number of wheels to ensure against unattended movement.

(k) force

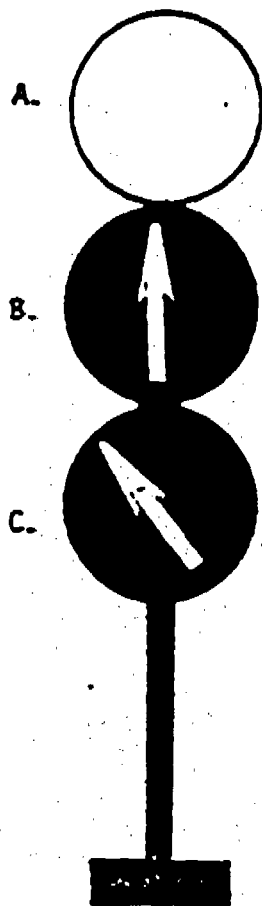
- ① HAND THROW-SPRING BUFFERED
- ② POWER
- ③ POWER
- ④ HAND THROW-SPRING BUFFERED
- ⑤ HAND THROW-SPRING BUFFERED
- ⑥ HAND THROW-SPRING BUFFERED

SWITCH MECHANISMS

13TH STREET / COMMERCIAL STREET OPERATIONS

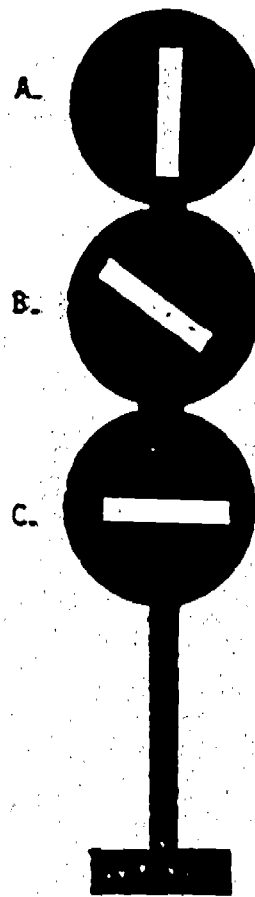


SWITCH INDICATORS AT IMPERIAL JCT.



LOCATED IN ADVANCE OF SWITCH NO.2 AT THE JAMES R. MILLS TRANSFER CENTER.

- A. SWITCH INDICATOR, WHEN WHITE IS ILLUMINATED SWITCH IS LINED FOR MOVEMENT. WHEN WHITE LIGHT IS NOT ILLUMINATED MOVEMENT MUST NOT BE MADE BEYOND INDICATOR.
- B. ROUTE REQUEST INDICATOR, COLOR WHITE, THIS ASPECT INDICATES STRAIGHT TRACK ROUTE REQUEST.
- C. ROUTE REQUEST INDICATOR, COLOR WHITE, THIS ASPECT INDICATES DIVERGING TRACK ROUTE REQUEST.



LOCATED IN ADVANCE OF SWITCHES NO.3 AND 6 BETWEEN 14TH AND 15TH STS. AT COMMERCIAL AVE.

- A. ROUTE IS LINED FOR STRAIGHT TRACK MOVEMENT.
- B. ROUTE IS LINED FOR DIVERGING TRACK MOVEMENT.
- C. STOP, CALL CENTRAL CONTROL.