Maintenance of Way
On-Track Safety Manual
MOW-PLN-204

Fifth Revision Effective Date: October 7, 2019

The Maintenance of Way On-Track Safety Manual (MOW-OTS Manual) has been developed to ensure the safety of all workers who enter the Caltrain right of way. All personnel performing work on the Caltrain right of way must comply with these rules and all applicable Federal, State, and local regulations.

This plan shall replace all previous submissions to the Federal Railroad Administration and shall be the only plan used on Caltrain. This includes the Contract Operator and all Contractors working along the Caltrain right of way. In case of conflicting rules the most restrictive shall apply. Roadway workers governed by these rules must have a current copy they can refer to while on duty. When amendments are made to the MOW-OTS Manual, roadway workers must have a copy of the general order with their rule books, make notation of the change in their rule book or obtain a copy of the revised page. Third Party Contractors working on the Caltrain ROW are required to be RWP qualified annually.

Union Pacific Railroad Roadway Worker Protection rules apply to all work performed on the Union Pacific right of way, including MT1 between CP Coast and CP Lick, and all track East of MT1 between those locations.

On-Track Safety must be provided to any person or machine with the potential to foul a track. Third Party Contractors to the JPB are responsible for ensuring On-Track Safety has been provided if they intend on fouling the track, or have the potential to foul the track. On-Track Safety will be provided by the Contract Operator only. If the Third Party Contractor is working within 15’ of the nearest rail, a TransitAmerica Services, Inc. roadway worker must be present, even if On-Track Safety is not required.

Revisions to the Document

Page Number (s)	Revision #	Instructions
Replace entire MOW-PLN-204	2	Revision 2 replaces entire MOW-PLN-204. Replace existing Plan with this Revision 2.
Pages 6-22 through 6-24	3	Review additional language for 6.50.2 and 6.51
Various	4	Revision 4 includes regulatory changes effective April 1, 2017

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DOCUMENT NUMBERING PROTOCOL

The numbering system used in this Caltrain Maintenance of Way On-Track Safety Manual document is based on the numbering utilized in the General Code of Operating Rules (GCOR) (current edition). Not all of the the GCOR provisions have been used, resulting in a document that has missing sequential provisions. The following is a listing of the GCOR provision numbers which have not be used in this document:

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6.0 Movement of Trains, Engines and On-Track Equipment

6.1 Repeat Instructions

A roadway worker who verbally receives instructions or information about train, engine or on-track equipment movements must repeat them.

6.2 Initiating Movement

6.2.1 Train Location

A. MOW roadway workers must not receive authority behind a train(s) until the train(s) is passing, or has passed the location where the track will be occupied or fouled. After receiving authority behind a train(s) and before occupying or fouling the track, or using the authority as a method of protection, the roadway worker must establish direct radio contact with a crew member of the train(s) or dispatcher and verbally:

1. Confirm train(s) identity by train and engine number.
2. Determine train(s) location by MP

B. The roadway worker must use this information to verify the train(s) has passed the location prior to occupying or fouling the track, or using the authority as a method of protection.

C. When an authority is issued voiding a previous authority and identifying additional train(s) to be followed, movement must stop until direct radio contact is established to ascertain the MP location of the additional train(s). Direct radio contact is not required when roadway workers are occupying the track with authority behind a train(s), and additional authority is received behind the same train(s).

6.3 Track Occupancy

6.3.1 Main Track Authorization

A. When it is necessary to occupy or foul a track where Centralized Traffic Control (CTC) is in effect and positive protection is required one of the following types of protection must be used.

1. MOW-OTS Rule 10.3 (Track and Time)
2. MOW-OTS Rule 15.2 (Track Bulletin Form B)
3. MOW-OTS Rule 15.4 (Track Bulletin Form C)

B. Working Limits

1. When receiving an authority that is not “joint”, working limits are considered to be established at the limits of authority. Red flags do not need to be displayed.
2. Where authority overlaps track bulletin Form B limits, make all movements under the direction of the RWIC of the track bulletin Form B. Red flags will only be displayed at the limit of the track bulletin Form B and at main track junctions within the limits.

C. Occupying or Fouling Track

1. Before occupying a main track, controlled siding or any track where CTC is in effect, roadway workers must have information concerning all track bulletin Form B's in effect that may overlap their authority.
2. When roadway workers are unable to obtain authority and it is necessary to foul or occupy a main track or controlled siding, protection must be established in both directions using MOW-OTS Rule 6.19 (Flag Protection).
3. When requesting authority or establishing protection, the RWIC must ensure that equipment and roadway workers do not occupy or foul the track until authority is received or protection is established. The roadway worker requesting authority must be qualified on these rules and must tell the Train Dispatcher where the main track will be entered.
4. When the work group consists of two or more roadway workers, at least one other roadway worker (rules qualified, if available) in that work group must read and understand the authority prior to equipment or roadway workers fouling the track. This roadway worker will initial the authority.

D. Overlapping Authority

1. When a roadway worker receives "joint" authority, the roadway workers must not occupy the overlapping limits until roadway workers and/or trains listed on that authority are contacted. An on-track safety briefing must determine the location of all working limits. The on-track safety briefing must designate only one roadway worker as the RWIC of overlapping working limits.
2. When a roadway worker receives an authority that overlaps a track bulletin Form B, the roadway worker must not occupy the overlapping limits until the RWIC of the track bulletin Form B is contacted. Make all movements within the Form B limits under the direction of the RWIC of the track bulletin Form B. Do not display red flags within the limits of the track bulletin Form B.
3. When authority is granted behind a train, working limits may not be established until the RWIC contacts the train(s) listed on the authority. The RWIC will inform crew that working limits will be established behind their train. The RWIC will also inform the train crew that no reverse movements may be made without first contacting the RWIC.

E. Multiple Work Group — On-Track Safety Briefing

When two or more work groups are using the same authority, the RWIC of the authority must have an on-track safety briefing with each work group.

F. Multiple Work Group — Documentation

1. The RWIC of the authority must document the following on the "Track and Time/Multiple Work Group Forms (Exhibit C):
    a. Authority number
    b. Name of each work group using the authority
    c. Time acknowledgment received
    d. Time authority limits are cleared

G. Confirmation of Limits Prior to Granting Authority

Following a verbal request for authority, the following will apply:

1. If the authority can be granted as requested, the Train Dispatcher will restate the limits to the requesting roadway worker for confirmation.
2. If confirmation is received from the roadway worker, the Train Dispatcher will issue the authority with no change in the confirmed limits.
3. If unable to grant authority with limits as requested, the Train Dispatcher will state limits that can be given, asking roadway worker if usable.
4. If changed limits are usable, the Train Dispatcher will require the roadway worker to repeat the changed limits to confirm understanding before issuing limits. If the authority issued is different from that discussed with the Train Dispatcher, roadway worker must not repeat the authority until a confirmation of the limits requested is identical to the authority being issued.

H. Releasing Authorities

1. Track and Time limits must be cleared and reported clear to the Train Dispatcher before time expires. Before any of these authorities are released, all equipment and roadway workers must be clear of the limits and reported clear to the designated Train Dispatcher.
2. The roadway worker must request any additional time before the authorized time has expired. If the roadway worker cannot clear the track before the expiration time of the authority, authority is extended until the Train Dispatcher is contacted.

6.3.2 Protection on Other than Main Track

A. To establish protection on a track other than a main track, controlled siding or any track where CTC is in effect, use one or a combination of the following:

1. All switches that provide direct access to the track must be:
    a. Lined against movement AND
    b. Properly tagged AND
    c. Effectively spiked, or clamped AND
    d. Secured with an effective securing device.
2. A red flag must be placed as outlined in MOW-OTS Rule 5.4.7 (Display of Red

Flag). A derail capable of restricting access to the track where work will occur must be locked in derailing position near the red flag with an effective securing device. The derail must be placed at least 150 feet from the work location. If the derail cannot be placed 150 feet from the work location due to standing equipment, the derail should be placed between the work location and equipment.

3. Place a flagman to hold all trains and on-track equipment clear of the working limits.

4. Establish discontinuity in the rail to prevent movement into the working limits. Place red flags 150 feet in advance of the working limits.

5. Establish working limits on main track or controlled siding to prevent movement to or into the track where protection is required or needed.

B. When establishing protection, the RWIC must ensure that equipment and roadway workers do not occupy or foul the track until protection is established. The roadway worker assigned the responsibility of yard movements must be notified of the work to be done.

C. **Protection Within Car Shop, Repair or Engine Servicing Areas**

Maintenance of Way roadway workers are not permitted to use blue flag protection for their work.

Before establishing working limits, the roadway worker in charge must conduct an on-track safety briefing with the Mechanical Foreman of the Car Shop, Repair or Engine Servicing Area. When locomotives, cars or motorized on-track equipment are on the track where working limits will be established, the RWIC of the Maintenance of Way work group and the Mechanical Foreman must jointly establish safeguards to protect the working limits against other movements. The RWIC must notify the Mechanical Foreman when work is completed and working limits have been cleared.

In lieu of the requirements of 49 CFR §214, workers (as defined by 49 CFR §218.5) within the limits of locomotive servicing and car shop repair track areas (as both defined by 49 CFR §218.5) may, in accordance with 49 CFR §218 Subpart B (Blue Signal Protection), utilize established procedures to perform duties incidental to inspecting, testing, servicing, or repairing rolling equipment when those incidental duties involve fouling a track that is protected by Blue Signal Protection. Incidental duties may include but are not limited to: sweeping/mopping shop floors, changing inspection pit light bulbs, repairing shop roll-up doors.

Contractors to Caltrain may similarly perform incidental duties within the locomotive servicing and car shop repair area under the direct supervision of a railroad employee qualified on the rules and procedures implementing Caltrain's blue signal protection.

When any work performed within a shop area requires the presence of a person qualified in accordance with 49 CFR § 213.7 of FRA's Track Safety Standards, the on-track safety requirements of Part 214 will apply.

6.3.3 Visual Detection of Trains

A. Track Authority provided by the dispatcher or protection provided by a track bulletin is not required when using visual detection of trains as outlined below.

B. Lone Workers

1. Lone Worker Responsibilities

Lone workers must:

a. Be trained and rules qualified.

b. Perform an on-track safety briefing with their supervisor or other designated employee prior to fouling the tracks. The on-track safety briefing must include at a minimum the procedures used to protect the roadway worker and the roadway worker's itinerary.

c. Complete the form entitled, "Statement of On-Track Safety Form" (Exhibit D) prior to fouling a track. The completed form must be in the roadway worker's possession when used to establish on-track safety.

d. Maintain immediate access to a working railroad radio on their person, which can be a portable radio capable of monitoring transmissions from train movements in the vicinity.

e. Identify a place of safety prior to fouling a track.

f. Not use Individual Train Detection when using a roadway maintenance machine, equipment, or material that cannot be readily removed by hand.

g. Position themselves in a predetermined place of safety at least 15 seconds prior to the arrival of the train moving at maximum authorized speed as indicated in the Statement of On-Track Safety Form.

2. Conditions for Use

a. Lone workers may perform minor work or a routine inspection using **Individual Train Detection (ITD)** when they meet all of the following conditions:

(1) The work will not affect the movement of trains.

(2) The lone worker is able to visually detect the approach of a train moving at maximum authorized speed and position themselves in a predetermined place of safety at least 15 seconds prior to the arrival of the train as indicated on the Statement of On-Track Safety Form.

(3) Visibility is sufficient to observe the entire track segment at the minimum separation distance as specified by the Statement of On-Track Safety Form.

(4) Power-operated tools or roadway maintenance machines are not in use within hearing distance.

(5) The ability to hear and see approaching trains and other on-track equipment is not impaired by background noise, lights, precipitation, fog, a passing train or other physical condition.

(6) Natural or artificial light and conditions are sufficient to observe approaching trains, engines or on-track equipment at the minimum separation distance as specified by the Statement of On-Track Safety Form. Individual train detection is prohibited based solely upon the observation of headlights, ditch lights or markers, such as during conditions of insufficient visibility as affected by darkness or inclement weather.

(7) The work is performed outside the limits of a control point.

b. The Statement of On-Track Safety Form can be found as an attachment in this document (Exhibit D).

C. Watchman

1. Watchman Responsibilities

Watchman must:

a. Be trained and rules qualified.

b. Complete the Statement of On-Track Safety Form prior to fouling a track or allowing others to foul the track. The completed form must be in the roadway worker's possession when used to establish on-track safety. Work groups may use a watchman to perform minor work or routine inspection using **Train Approach Warning (TAW).** The operation of work equipment (i.e., backhoes, loaders) within 15' of the track is not considered "minor work or routine inspection." Positive protection must be established.

c. Maintain immediate access to a working railroad radio on their person, which can be a portable radio capable of monitoring transmissions from train movements in the vicinity.

d. Identify a place of safety prior to fouling a track where they and roadway workers they are protecting can go when a train approaches. The place of safety to be occupied upon the approach of a train may not be on a track, unless positive protection has been established on that track.

e. Position themselves and roadway workers in a predetermined place of safety at least 15 seconds prior to the arrival of a train moving at maximum authorized speed as indicated on the Statement of On-Track Safety Form.

f. Communicate the place of safety to the other roadway workers prior to the track being fouled.

g. Devote their full attention to detecting the approach of trains and warning roadway workers.

h. Be equipped to provide both audible and visual warning. Acceptable warning devices include: whistle, air horn, white disc, red flag, lantern, or fusee

i. Use a method to warn roadway workers of the approach of a train or on-track equipment that meets all of the following:

(1) Is distinctive, clear and unquestionable.

(2) Does not require roadway workers to be looking in any particular direction.

(3) Can be detected by roadway workers regardless of noise or work distractions.

(4) Is identified in the on-track safety briefing.

2. Conditions for Use

Work groups may use a watchman to perform minor work or a routine inspection using **Train Approach Warning (TAW)** when they meet all of the following conditions:

a. The work will not affect the movement of trains.

b. Watchmen must be able to visually detect the approach of a train moving at maximum authorized speed. They must position themselves and the members of the work group in a predetermined place of safety at least 15 seconds prior to the arrival of the train as indicated on the Statement of On-Track Safety Form.

c. Visibility is sufficient to observe the entire track segment at the minimum separation distance as specified by the Statement of On-Track Safety Form.

d. The ability to communicate a warning to all members of the work group upon the approach of trains and other on-track equipment is not impaired by background noise, lights, precipitation, fog, a passing train or other physical condition.

e. Natural or artificial light and conditions are sufficient to observe approaching trains, engines or on-track equipment at the minimum separation distance as specified by the Statement of On-Track Safety Form. Train approach warning is prohibited based solely upon the observation of headlights, ditch lights or markers, such as during conditions of insufficient visibility as affected by darkness or inclement weather.

f. Work groups of 2 or less are not required to display the Watchman's disk. Work groups of 3 or more are required to carry and display the Watchman's Disk. The disk will be held in a position viewable by approaching trains or On-Track equipment. Once the movement has

passed, the disk will be pointed toward the track. This is to communicate it is safe to occupy or foul.

g. Roadway workers who depend upon a watchman for protection must always remain in a position that allows them to receive warnings communicated by the watchman.

D. Advanced Watchman

1. Advanced Watchman Responsibilities

Advanced Watchman must:

a. Be trained and rules qualified.

b. Complete the form entitled, Statement of On-Track Safety Form prior to fouling a track. The completed form must be in the roadway worker's possession when used to establish on-track safety. Work groups may use an advanced watchman to perform minor work or routine inspection using **Train Approach Warning (TAW).** The operation of work equipment (i.e., backhoes, loaders) within 15' of the nearest rail is not considered "minor work or routine inspection." Positive protection must be established.

c. Maintain immediate access to a working railroad radio on their person, which can be a portable radio capable of monitoring transmissions from train movements in the vicinity.

d. Identify a place of safety prior to fouling a track where they and roadway workers they are protecting can go when a train approaches.

e. Position themselves in a predetermined place of safety at least 15 seconds prior to the arrival of a train moving at maximum authorized speed as indicated on the Statement of On-Track Safety Form.

f. Work groups of 2 or less are not required to display the Watchman's Disk. Work groups of 3 or more are required to carry and display the Watchman's Disk. The disk will be held in a position viewable by approaching trains or On-Track equipment. Once the movement has passed, the disk will be pointed toward the track. This is to communicate that it is safe to occupy or foul the track.

g. Advanced Watchman must possess a red flag to be used if the next watchman does not acknowledge the signal. The red flag will be used to flag a train or on-track equipment to a stop in accordance with MOW-OTS Rule 5.3.5 Explain Stop Signal.

2. Advanced Watchman will not be used to protect work groups performing major repairs or new construction due to the danger involved with large work groups.

3. Conditions for Use

Work groups may use an Advanced Watchman to perform minor work or a routine inspection using **Train Approach Warning (TAW)** when they meet all

of the following conditions:

a. The Advanced Watchman must be in the direct line of sight of the watchman and not rely on a radio to warn of an approaching train.

b. The work will not affect the movement of trains.

c. Advanced Watchmen must be able to visually detect the approach of a train moving at maximum authorized speed. They must position themselves in a predetermined place of safety at least 15 seconds prior to the arrival of the train as indicated on the Statement of On-Track Safety.

c. Visibility is sufficient to observe the entire track segment at the minimum separation distance as specified by the Statement of On-Track Safety Form.

d. The ability to communicate a warning to the Watchman of the work group upon the approach of trains and other on-track equipment is not impaired by background noise, lights, precipitation, fog, a passing train or other physical condition.

e. Natural or artificial light and conditions are sufficient to observe approaching trains, engines or on-track equipment at the minimum separation distance as specified by the Statement of On-Track Safety Form. Train approach warning is prohibited based solely upon the observation of headlights, ditch lights or markers, such as during conditions of insufficient visibility as affected by darkness or inclement weather.

6.3.4 Train Coordination

A. Train Coordination provides for men or equipment to use a train's authority to establish working limits for track maintenance. The RWIC must contact the train's engineer to request use of Train Coordination. To establish working limits:

1. The train must be in view and stopped.

2. The RWIC of working limits will communicate with the engineer who will notify other crew members that working limits are to be established.

3. The engineer will make movements only as permitted by the RWIC until the working limits have been released to the engineer.

4. The train will not release its authority within the limits until those working limits have been released by the RWIC.

B. Establish Working Limits

Working limits may be established within a train's authority limits as follows:

1. CTC Territory

a. With a train having track and time authority that is not joint.

or

b. With a train having authority to move in one direction only, and

working limits must not be established:

(1) Behind the train.

(2) More than one block in advance of the train or beyond any location that a train or engine could enter the track between the RWIC of the working limits and the train.

6.3.5 Local Control

A. Requesting Local Control

When a control point is placed into Local Control, the person taking Local Control will always be the RWIC for the purpose of on track safety at that control point. The person taking Local Control must be a qualified Signal Maintainer or Signal Manager.

1. Contact the Train Dispatcher and request permission to take a specific control point into Local Control.
2. When the Train Dispatcher states that the RWIC may take the location into Local Control, the RWIC will then repeat back to the Train Dispatcher that it is OK to take the control point and place it into Local Control. The RWIC must also repeat and comply with any other pertinent instructions from the Train Dispatcher.
3. The Train Dispatcher will confirm by stating, “That is correct”. The RWIC may then place the control point into Local Control and begin their work.

   Note: If the work to be done involves clearing signals and/or moving switches the RWIC must first receive permission from the Train Dispatcher.

4. When work is completed the RWIC will return the control point to remote control and notify the Train Dispatcher. The Train Dispatcher will then acknowledge return of control.

B. Local Control with Track and Time

When it becomes necessary to place a control point into Local Control and track and time is involved, the process is similar to the above with a few exceptions.

1. Local Control may be granted to the RWIC that holds a track and time that encompasses the control point and that track and time is not joint with another roadway worker.
2. The track and time may not overlap another main track authority.
3. When the RWIC’s track and time has multiple control points, Local Control may be granted that covers the control points within their track and time.

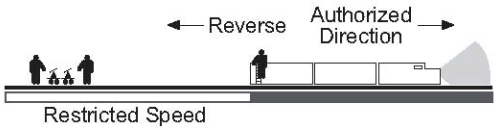
C. Local Control Due to Communications Failure (Brown Out)

1. When communications between the control point and the Train Dispatcher is lost (brown out), the Train Dispatcher may request a qualified C&S roadway worker to take the control point into Local Control.
2. The Train Dispatcher will instruct the RWIC which switches need to be lined in what position and which signals need to be cleared. RWIC will repeat back each switch and signal that is requested by the Train Dispatcher before

executing the instructions. The same instructions must then be repeated back to the dispatcher after they have been carried out. The RWIC must also repeat and comply with any other pertinent instructions from the dispatcher.

6.4 Reverse Movements

Make reverse movements on any main track, but only within the limits on-track equipment has authority to occupy the track. Trains and engines must make reverse movements at restricted speed.



6.5 Handling Cars Ahead of Stabilizer

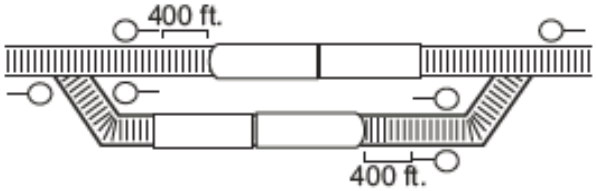
A. When cars or engines are shoved and conditions require, the operator must take an easily seen position on the head end of the equipment or the cars must not be shoved until the equipment operator knows who is protecting the point of the movement and how protection will be provided. The RWIC providing protection for the movement shall not engage in any task unrelated to the movement. Cars or engines must not be shoved to block other tracks until it is safe to do so.

B. When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed 20 MPH.

C. Immediately before shoving, a movement is made on the adjacent track providing the roadway worker the ability to visually determine the track to be shoved is clear and route is properly lined.

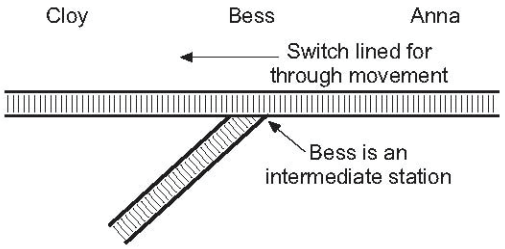
6.8 Stopping Clear for Meeting or Passing

When stopping in the clear to be met by a train and the length of track permits, on-track equipment must stop 400 feet from the signal or the clearance point of the facing point switch.



6.17 Switches at Junctions

The normal position for a junction switch is for through movement on the main track where the junction is an intermediate station.



6.19 Flag Protection

A. When flag protection is provided in an emergency to protect on-track equipment, roadway workers or track conditions, flagmen must immediately go at least the distance prescribed by the special instructions or other instructions for that territory and protect all possible access to the restriction. When reaching the correct distance, the flagman must remain there until he or she stops a train or is recalled by the Train Dispatcher or manager. Where trains are required to move at restricted speed or under the provisions of MOW-OTS Rule 6.28 (Movement on Other Than Main Track), flag protection may be provided by a single flagman located at the obstruction or point to be protected. Flagman must remain at the job site to watch for approaching trains. When a train approaches from either direction, flagman must go toward the approaching train and flag it with a red flag.

B. Flagmen must:

1. Be rules-qualified.
2. Be sent in both directions to provide protection, unless there is a current of traffic and the Train Dispatcher has relieved the roadway worker of flagging against the current of traffic. When relieved of flagging against the current of traffic, the flagman must notify the Train Dispatcher when he or she is clear of the track.
3. Never rely on others for information about approaching trains.
4. Never estimate the nature, speed or probable time of the next approaching train.
5. Each individual flagman should carry a minimum of:
   a. Six red fusees.
   b. By day, a red flag.
   c. By night, a white light.
6. If only one flagman is available, the flagman must immediately provide protection in the direction from which the first train is expected. Then they should provide protection in the opposite direction.

6.19.1 Protection of On-Track Equipment

Do not depend on rail detectors and on-track equipment, other than engines or cars, to actuate block signals, interlocking signals, or highway crossing signals or to be under the protection of such signals. Provide flag protection when required.

6.19.2 Acknowledgment of Flagging

When flagged, the engineer must acknowledge stop signals promptly. The flagman must continue giving stop signals until the engineer acknowledges them and reacts to them. After stopping, the engineer must be told why the train was flagged and act accordingly.

6.19.3 Fouling Double Track

In double track or other areas where a current of traffic is in effect, flag protection must be provided against movements against the current of traffic, unless the Train Dispatcher advises that no movements have been or will be authorized. Roadway workers who receive this advice must notify the Train Dispatcher when protection is no longer required.

6.20 Protection of Equipment Left on Main Track

A. MOW roadway workers that receive permission from the Train Dispatcher to leave equipment on the main track or a controlled siding do not need to provide protection for the equipment if the Train Dispatcher gives verbal relief.

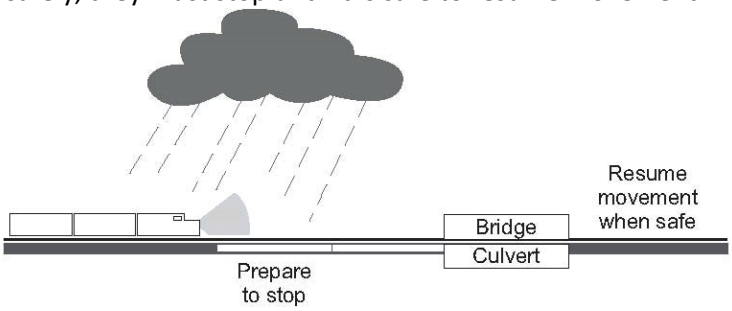
B. The Train Dispatcher may request the MOW roadway workers to report clear of their authority when the equipment is stored or tied down on the main track or controlled siding. The Train Dispatcher must provide protection for the equipment.

C. The Train Dispatcher must know that protection is provided. All crews that use the main track at that point must be notified of the equipment location and must move at restricted speed when approaching the location.

6.21 Precautions Against Unusual Conditions

A. Protect trains, engines and on-track equipment against any known condition that may interfere with their safety. Advise the Train Dispatcher of such conditions by the first available means of communication.

B. In unusually heavy rain, storm, or high water, on-track equipment must approach bridges, culverts, and other potentially hazardous points prepared to stop. If they cannot proceed safely, they must stop until it is safe to resume movement.



Advise the Train Dispatcher of such conditions by the first available means of communication.

6.21.2 Water Above Rail

A. Do not operate trains and engines over tracks submerged in water until the track has been inspected and verified as safe.

B. Operate engines at 5 MPH or less when water is above the top of the rail. If water is more than 3 inches above the top of the rail, a mechanical department supervisor must authorize the movement.

6.24 Movement on Double Track

On double track, trains must keep to the right unless otherwise instructed.

6.26 Use of Multiple Main Tracks

Multiple main tracks will be designated by name or number. When necessary, track number will be indicated in the special instructions.

6.27 Movement at Restricted Speed

A. When required to move at restricted speed, movement must be made at a speed that allows stopping within half the range of vision short of:

1. Train.
2. Engine.
3. Railroad car.
4. Men or equipment fouling the track.
5. Stop signal.

   or

6. Derail or switch lined improperly.

B. When a train or engine is required to move at restricted speed, the crew must keep watch for a broken rail and not exceed 20 MPH.

C. Comply with these requirements until the leading wheels reach a point where movement at restricted speed is no longer required.

6.28 Movement on Other Than Main Track

Except when moving on a main track or on a track where a block system is in effect, trains, engines and on-track equipment must move at a speed that allows them to stop within half the range of vision short of:

A. Train.

B. Engine.

C. Railroad car.

D. Men or equipment fouling the track.

E. Stop signal.

   or

F. Derail or switch lined improperly.

6.28.3 Cars or Equipment Left on Siding

A. Avoid leaving cars or equipment on sidings unless authorized by the Train Dispatcher, except in an emergency. In this case, notify the Train Dispatcher immediately.

B. Do not perform maintenance on sidings, unless approved by the Train Dispatcher, except in an emergency. In case of an emergency, notify the Train Dispatcher immediately.

6.28.4 Storing Equipment on Other Than Main Track

A. When on-track equipment is stored on other than a main track or controlled siding, all switches that provide direct access to the track must be:

1. Lined against movement.
2. Properly tagged.

3. Effectively spiked, or clamped and

4. Secured with an effective locking device.

B. When unable to line a switch away, place a red flag or light and derail to prevent movement onto the track protected and protect on-track equipment as outlined in MOW-OTS Rule 15.4 (Protection When Tracks Removed from Service). Lock the derails with an effective locking device and notify the Train Dispatcher.

C. When tying-up on-track equipment, observe the following requirements:

1. Set brakes and secure booms or other extensions to prevent fouling adjacent tracks.

2. For machines with rotating cabs, engage the house lock (drop pin) to prevent movement.

3. Lower devices attached to booms, such as clam shells or magnets so they rest on the ground or the bottom of the car.

4. Ensure that the equipment is properly enclosed to prevent theft or vandalism. If necessary, notify railroad police to provide protection of company equipment.

6.29 Inspecting Trains

6.29.1 Inspecting Passing Trains

A. Except as provided in MOW-OTS Manual 12.1 and 12.2, roadway workers must inspect passing trains. The inspection must be made from the ground if there is a safe location.

1. Dismount equipment on the side opposite approaching train.

2. Do not cross adjacent tracks solely for the purpose of inspecting a passing train.

3. During inclement weather, roadway workers may remain in equipment when inspecting passing trains.

B. If any of the following conditions are detected, notify crew members on the passing train by any available means:

1. Overheated journals

2. Sticking brakes

3. Sliding wheels

4. Wheels not properly positioned on the rail

5. Dragging equipment

6. Insecure contents

7. Signs of smoke or fire

8. Headlight or marker improperly displayed

9. Any other dangerous condition

C. When trains or engines are passing, remain clear of tracks to prevent being struck by objects that may fall or protrude from the train. Note: Take articles that fall from cars to a secure area and report them to the supervisor and/or Train Dispatcher.

6.29.3 Train Inspection Notification

When a defect has been reported and a train or track equipment has been stopped to make inspection, the Train Dispatcher must be notified. By use of a recorded telephone line or road radio channel the conductor or maintenance of way roadway worker must confirm that the inspection was made, no defects remain, and all defects have been repaired.

6.31 MOW Requirements When Approaching Passenger Stations With No Center Track Fence

Responsibilities of Approaching Movements With On-Track Equipment

When a passenger train will be at a station, do not pass between station platform and a passenger train with on-track equipment until assured that all passengers and roadway workers have cleared the track between the passenger train and the station platform. Movement may then pass when preceded by a roadway worker walking ahead of the movement.

6.32 Road Crossings

6.32.1 Providing Warning Over Road Crossings

A. When cars are shoved over road crossings at grade, a roadway worker must be on the ground at the crossing to warn traffic until the crossing is occupied. Make any movement over the crossing only on the roadway worker's signal.

B. Such warning is not required when it is clearly seen that no traffic is approaching or stopped at the crossing. Shoving movements must not exceed 15 MPH over crossing until occupied.

C. MOW roadway workers must not kick or drop cars.

6.32.2 Automatic Crossing Devices

A. Roadway workers must observe all automatic crossing warning devices and report any that are not operating properly to the Train Dispatcher or proper authority by first available means of communication. Notify all affected trains as soon as possible.

B. Automatic Warning Devices Malfunctioning

1. Under any of the following conditions, a movement must not foul a crossing equipped with automatic warning devices until the device has been operating long enough to provide warning and the crossing gates, if equipped, are fully lowered:

   a. Movement has stopped within 3,000 feet of the crossing.

   b. Movement is within 3,000 feet of the crossing and speed has increased by more than 5 MPH.

   c. Movement is closely following another movement.

   d. Movement is on other than the main track or siding.

   or

e. Movement enters a main track or siding within 3,000 feet of the crossing.

f. Where "STOP" signs are located approximately twenty-five (25) feet on each side of crossings, movements must stop at "STOP" sign to allow warning devices to activate for the required length of time.

2. Use the following table to properly complete movement over the crossing:

Movement When Notified that Automatic Warning Devices have an Activation Failure, are Disabled or Malfunctioning	
If ...	**Then ...**
The crew is notified that the crossing warning system has an activation failure or that the crossing warning system has been disabled and an equipped flagger is not at the crossing to provide warning.	Stop before occupying crossing. After a crew member is on the ground at the crossing to warn highway traffic, proceed over the crossing as directed by that crew member. Then proceed at normal speed.
The crew is notified that the crossing warning system is malfunctioning, and an equipped flagger is not at the crossing to provide warning.	Stop before occupying crossing. After a crew member is on the ground at the crossing to warn highway traffic, proceed over the crossing as directed by that crew member, or If devices are seen to be working or when instructed by the train dispatcher or proper authority, proceed with caution over the crossing at 15 MPH without stopping until the head end of the train completely occupies the crossing. Then proceed at normal speed.
The crew communicates with a flagger before fouling the crossing and receives confirmation that warning is being provided by at least one equipped flagger who is unable to provide warning in all directions of approaching traffic.	Proceed over the crossing at 15 MPH without stopping until the head end of the train completely occupies the crossing. Then proceed at normal speed.
The crew communicates with a flagger before fouling the crossing and receives confirmation that warning is being provided by one or more equipped flaggers who are able to provide warning in all directions of approaching traffic.	Proceed over the crossing at normal speed without stopping.
NOTE: An equipped flagger is a person other than a crew member who is equipped with an orange vest, orange shirt or orange jacket. At night, the vest, shirt or jacket must be fluorescent. The flagger must have a red flag or stop paddle by day and a light at night.	

When advised by the Train Dispatcher or proper authority that the warning devices are repaired or returned to service, these restrictions no longer apply.

Note as to broken crossing gate arm:

When a crossing gate arm is broken, it's considered to be a crossing malfunction of the "Partial Activation" type covered under 49 CFR 234.5:

Partial activation means activation of a highway-rail grade crossing warning system indicating the approach of a train, however, the full intended warning is not provided due to one of the following conditions:

3. At gated crossings, the gate arm is not in a horizontal position; or

4. At gated crossings, any portion of a gate arm is missing if that portion normally had a gate arm flashing light attached.

C. Whistle for Crossing

When notified that automatic warning devices are malfunctioning, sound whistle signal 5.8.2(7) regardless of any prohibition.

D. Power Off Indicators

When the power off indicators on the side of signal housings at highway crossings are flashing or not illuminated, immediately notify the Train Dispatcher.

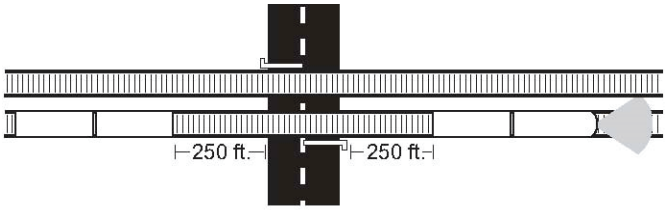
6.32.3 Standing Equipment Near Crossings

If on-track equipment or cut of cars is parted to clear a road crossing or is standing near the crossing, when possible, a roadway worker must be on the ground to warn traffic against trains or engines approaching on adjacent tracks.

6.32.4 Clear of Crossings and Signal Circuits

A. Leave cars, engines, or equipment clear of road crossings and crossing signal circuits.

B. When practical, avoid leaving cars, engines, or equipment standing closer than 250 feet from the road crossing when there is an adjacent track.



6.32.5 Actuating Automatic Warning Devices Unnecessarily

Avoid actuating automatic warning devices unnecessarily by leaving switches open or permitting equipment to stand within the controlling circuit. If this cannot be avoided and if the signals are equipped for manual operation, a crew member must manually operate the signal for movement of traffic. A crew member must restore signals to automatic operation before a train or engine occupies the crossing or before it leaves the crossing.

6.32.6 Blocking Public Crossings

When work is performed on or near a crossing protected by an automatic warning device, and if the work performed affects the automatic warning device, provide protection.

6.33 Familiar with Territory

Roadway workers must be familiar with the territory they are operating on or be accompanied by an employee who is.

6.50 Movement of On-Track Equipment

On-track equipment must move at a speed that will allow stopping within half the range of vision short of:

A. Train.

B. Engine.

C. Railroad car.

D. Men or equipment fouling the track.

E. Stop signal,

or

F. Derail, moveable point frog or switch lined improperly.

6.50.1 Maximum Authorized Speed

A. On-track equipment must not exceed the manufacturer's recommended speed or any of the following speeds, whichever is less:

Type of Equipment	Speed
Hy-rail vehicles over 15,000 GVW	25 MPH
Bridge inspection/Hy-rail vehicles 15,000 GVW or under	40 MPH
Speed Swings and Hy-rail cranes in hi-rail mode	15 MPH
Track Stabilizer	40 MPH
On-track equipment with cars attached	20 MPH
Other on-track equipment	30 MPH
On-track equipment towed by other on-track equipment	20 MPH

B. **Exception:** Speed of on-track equipment designed for high speed travel will be governed by the System Special Instructions. Do not exceed manufacturer's MAS or Caltrain MAS, whichever is lower.

C. When determining the proper speed, take into consideration the following:

1. Track conditions, such as grade, curvature and rail condition.
2. Load.
3. Sight distance.
4. Visibility.
5. Other conditions that might adversely affect the safe operation of on-track equipment.

D. On-track equipment must not exceed 20 MPH while within established working limits, except when a higher speed is specifically authorized by the RWIC of the working limits on a main track.

6.50.2 Approaching Road Crossings

A. On-track equipment must stop at all grade crossings and not proceed until it has been determined that it is safe to do so. On-track equipment must yield the right of way to vehicular traffic. If necessary, flag the crossing to protect movement of on-track equipment. The use of horns at grade crossings by all roadway machines and hy-rail equipment is optional at the discretion of the operator.

Exceptions:

1. On-track equipment with one or more rail cars attached may proceed over road crossings without stopping in accordance with OTS Rule 6.32 and not to exceed 10 MPH.

2. On-track equipment with knowledge that a specific grade crossing is being

protected may proceed in accordance with OTS Rule 6.32.

B. As part of the on-track safety briefing, operators must identify any grade crossings that pose a significant challenge and determine the type of protection that will be required for safe movement over such crossings. See TI-08 – Grade Crossings Posing Significant Challenges.

6.50.3 Equipment Components Clear

Before passing over crossings, switches, derails and frogs, be sure all equipment components will clear.

6.50.4 Hy-Rail Vehicle Movement Over Spring Frogs, Self- Guarded Frogs, Lift Frogs, and Flange-Bearing Diamonds

A. Do not move hy-rails through the spring side of spring rail frogs or the low speed route(s) of lift frogs or flange-bearing diamonds, or make a facing point move through self-guarded frogs, except as outlined below:

1. The hy-rail must stop before moving through the spring-rail frog, the self-guarded frog, or the low speed route(s) of the lift frog or flange-bearing diamond.
2. When available, a roadway worker must remain on the ground to guard against derailment and direct the hy-rail operator through the spring side of the frog.
3. Spring switches must be lined and locked for the route to be used before moving through the switches.

B. Hy-rail operators must look to ensure that switches are properly lined for movement before passing through the switches. When operating a hy-rail over a power operated switch, power operated derail, self-guarded frog, or low speed route(s) through a lift frog or flange-bearing diamond, do not exceed 5 MPH. Additionally, hy-rails must reduce to one half of their maximum authorized speed when operating over all other hand operated switches and frogs.

C. When operating a hand operated switch for hy-rail movement, return and lock it in the normal position after the hy-rail has passed the switch. When the Train Dispatcher is unable to line a dual-control switch for the desired route, hy-rail operators must first receive permission to operate the switch by hand as outlined in MOW-OTS Rule 9.13.1 (Hand Operation of Dual Control Switches).

6.51 Maintaining a Safe Braking Distance

A. On-track equipment operators are responsible for maintaining a safe braking distance between their on-track equipment and other on-track equipment, trains and engines.

B. For purposes of this rule:

Working mode will apply to on-track equipment stopped or moving slowly in the performance of maintenance activities. Traveling mode will apply to on-track equipment moving to and from a work location or performing inspection activities.

C. On-track equipment operators must:

1. Ensure that on-track equipment remains at least 300 feet behind a train or engine

while in working or traveling mode, except when it has been determined by an on-track safety briefing that the train or engine is stopped and will not move.

2. Ensure that on-track equipment remains at least 300 feet behind other on-track equipment while in working or travelling mode. Exception: On track equipment may be "bunched" to make movements over short segments of track such as crossings at grade, diamonds, moveable structures and control points. An on-track safety briefing must establish the procedure with all involved roadway workers. Machines must be at least 50 feet apart during such movements.

3. At grade crossings where, due to traffic volumes, it is determined that separation of 50 feet or more may allow aggressive highway vehicle operators to drive between machines, the interval may be reduced to not less than 25 feet, as long as environmental conditions are consistent with safe travel on the rail, and machines do not exceed walking speed. As part of the on-track safety briefing, operators must identify any grade crossings that pose a significant challenge and determine the type of protection that will be required for safe movement over such crossings. See TI-08 – Grade Crossings Posing Significant Challenges.

4. On-track equipment must travel (Travelling Mode) facing the direction of approach. If not possible, additional precautionary measures must be taken and discussed during the on-track safety briefing.

D. If machines will be "bunched" when stopped, all roadway workers must remain clear of the track until the entire movement has stopped, unless otherwise instructed by the RWIC.

1. Use radio or hand signals to notify the operator of the following machine when slowing or stopping on-track equipment during traveling mode. If the following machine operator does not acknowledge the radio or hand signal, stop, dismount the on-track equipment and proceed, clear of the track, toward the following machine giving stop signals.

2. Maintain at least 40 feet between on-track equipment while in working mode unless on-track safety briefing establishes a shorter distance due to existing working conditions. While in working mode, it is the responsibility of all machine operators to maintain a safe distance between their machine and other men and on-track equipment. (Exception- Working distance from regulator shall be a minimum of 150') while regulator is in work mode.)

3. Ascertain that a back-up alarm is activated and/or the appropriate whistle signal has been sounded and that the distance to be traveled is clear of workers and machines before making a back-up move.

4. Follow these procedures when equipment is being tied up:

   a. Secure all brakes, booms, locks and hooks.

   b. Dismount the machine on the field side of the track away from traffic. If the track is between two live tracks, dismount on the side designated by the on-track safety briefing.

   c. Stand beside the machine and direct the next roadway machine to a stop.

   d. Do not go between machines until all machines have come to a stop or the RWIC has given permission.

6.52 Spacing of On-Track Equipment

A. When on-track equipment is being used, workers and machine operators must follow the guidelines below for maintaining safe distances to prevent machines from contacting other machines and workers.

B. When machines must be spaced closer than guidelines require because of work or travel conditions, the machine operators and the RWIC must have a thorough understanding of:

1. The specific task
2. The conditions under which the task will be done
3. How the task will proceed

C. Work Zones Around Machines

1. Roadway workers must not enter a machine's work zone without first communicating with the operator to establish safe work procedures.
2. Note: Unless a different understanding is established through an on-track safety briefing, this work zone extends from a point 25 feet in front of the machine to a point 25 feet behind the machine. The work zone limits on each side of the machine will be designated in the on-track safety briefing.
3. If a machine is approaching workers who are foul of the track, the operator must communicate with the workers before getting closer than 25 feet to them.

D. Safe Working Distance Between Machines

The minimum distance between machines while working is 40 feet, unless an on-track safety briefing establishes a different distance.

E. Back-Up Movements by Machines

Before making a back-up move, the machine operator must:

1. Verify that a back-up alarm is activated and/or the appropriate horn or whistle signal is sounded on machines so equipped.
2. Observe that the track is clear of workers and machines.

6.53 Getting On and Off Equipment

A. Roadway workers must not get on or off work equipment while it is moving.

B. Exception: In an emergency, or where designated by special instructions or general order, roadway workers may get on or off work equipment while it is moving.

6.54 Display of Lights

If equipped with lights, on-track equipment will display a white light to the front and a red light to the rear.

6.55 Handling Emergency Situations

When there is an emergency, roadway workers must not attempt to remove on-track equipment at the risk of their own safety.

6.56 Replacing Displaced Signals

Roadway workers operating on-track or off-track equipment must replace signals such as flags, fixed signals and signs if they are displaced or disturbed.

11.0 On-Track Safety Policies

11.1 MOW-OTS Manual Training and Qualification

A. The purpose of this section is to prevent accidents and injuries that result from engines, locomotives, and on-track equipment striking roadway workers and machines.

B. The TASI training and qualification programs for employees subject to the Maintenance of Way On-Track Safety (MOW-OTS) Manual meet the requirements of Federal Railroad Administration (FRA) regulations under 49 CFR Parts 213, 214, and 217. Specifically, 49 CFR Part 214.343 prohibits railroads, or contractors to railroads, from assigning an employee to certain positions, and prohibits an employee from accepting those positions, unless the employee has been properly trained and has demonstrated the ability to fulfill the responsibilities for on-track safety that are required of an individual roadway worker performing that assignment. This instruction reflects the belief that the most comprehensive, consistent, and fair method for an employee to demonstrate his or her knowledge of rules and practices is through standardized training and testing for the various positions.

C. Assignments Requiring MOW-OTS Manual Qualification

1. Employees must be qualified on the MOW-OTS Manual before requesting or accepting assignments as:

   a. Employees in charge

   b. Lone workers

   c. Watchmen

   d. Flagmen

   e. Escorts

   f. Independent machine operators

   g. Subgroup coordinators working with large-scale maintenance and construction crews

2. In addition, these employees are trained and qualified on the on-track safety procedures specific to their positions. Assignments subject to these rules may be modified periodically pursuant to changes in governmental regulations or Caltrain policy.

3. Territory qualification is required for each employee who will Hy-rail, request track and time, or run a Form B. Territory qualification is both a written and field exam. The details are as follows for each stage:

   a. Stage 1 – Employee will take the annual written territory qualification exam. The passing score is 90%.

   b. Stage 2 – Employee will need to make three trips from one end of the territory to the other by Hy-rail.

   c. Stage 3 – Employee will need to ride 1 train each direction from one end of the territory to the other.

   d. Stage 4 – The employee will take one final trip across the territory with a supervisor and answer a verbal exam that the supervisor will fill out while

Hy-railing. The employee will need to be able to identify control points ahead of the track and time limits, and behind. They will also need to know where the next station is, and the previous station. The employee should have an idea of the road crossing names, however this is not a disqualifier.

e. Qualification – Once the employee has completed the previous steps, the completed Hy-rail territory qualification form will be completed by the employee's manager and submitted to the Deputy General Manager of Maintenance of Way (DGMMOW) for final approval.

D. Initial Training to Attain MOW-OTS Manual Qualification

1. Training required to attain MOW-OTS Manual qualification reviews the content and application of those rules and addresses the on-track safety training and qualification required of employees whom a MOW-OTS Manual-qualified employee may be required to supervise or protect. To accomplish this, participants complete the MOW-OTS Manual Study Guide and the MOW-OTS Manual Promotion Examination.

2. The Promotion Study Guide is furnished to applicants upon request. Classes that complete the MOW-OTS Manual Promotion Examination are scheduled quarterly. An employee designated by the DGM-MOW will facilitate these classes.

E. Re-Qualification Training to Retain MOW-OTS Manual Qualification

1. Training and re-qualification is required each calendar year for all employees currently qualified on the MOW-OTS Manual. Included in this program is a classroom review of:

a. MOW-OTS Manual

b. System Special Instructions

c. Timetables

d. General Orders

e. Caltrain Standard Procedures for Track Maintenance and Construction (SPTMC)

2. This review is followed by a written examination, and required passing score of 90%.

F. Training for Employees in Assignments Not Requiring MOW-OTS Manual Qualification

Training is required each calendar year for employees who are not currently qualified on the MOW-OTS Manual. This review is followed by the same test the other employees are taking, however it is (non-disqualifying).

G. Training and Qualification Records

Electronic records are maintained of each employee's qualification in effect. Each record includes the name of the employee, the type of qualification made, test scores when applicable and the most recent date of qualification. Records are available for inspection and copying by the FRA during regular business hours.

H. Written Examinations

Employees whose assignments require MOW-OTS Manual qualification must pass initial qualification and requalification examinations. Employees whose assignments do not require

MOW-OTS Manual qualification complete the same test as the rules qualified employees, however it is non-disqualifying.

I. Failure to Achieve a Minimum Score on Recorded Examination

1. Employees who fail to pass the initial qualification examination may re-take it up to two additional times. After three unsuccessful attempts at passing this examination, employees must wait at least 1 year from the first attempt before re-taking it. Employees who fail to pass the initial qualification examination before requesting assignments that require MOW-OTS Manual qualification are not eligible for such assignments.

2. Employees whose assignments require MOW-OTS Manual qualification and who fail to pass the re-qualification examination may re-take the examination; however:

   a. No further associated classroom training is provided.

   b. The examination may be re-taken up to two additional times.

   c. The second attempt may immediately follow the first, covering only those questions answered incorrectly on the first attempt.

   d. Re-examinations must be completed within 90 days of the first attempt.

3. After a second failure, employees must work under the oversight of another qualified employee until successfully completing the examination. Employees whose assignments require MOW-OTS Manual qualification and who do not pass the examination on the third attempt within the 90-day period are disqualified from holding positions that require this qualification. Such employees must wait at least 30 days before attempting to re-gain MOW-OTS Manual qualification through the process described in “Initial Training to Attain MOW-OTS Manual Qualification” above. Disqualification and exercise of seniority by those disqualified under the provisions of this Instruction are conducted according to the applicable collective bargaining agreement.

J. Notification Associated with Failing to Pass Recorded Examination

Employees who fail to pass the re-qualification examination on the first attempt, including those who fail the second attempt on the same day, receive a notice from the rules instructor indicating the examination must be successfully completed within 90 days to retain MOW-OTS Manual qualification. Employees who fail to pass the initial qualification examination in three attempts and employees who fail to pass the re-qualification examination during the 90-day period receive a notice confirming that fact. For employees whose assignments require MOW-OTS Manual qualification, this notice advises the employee to contact his or her supervisor before resuming normal duties. The supervisor, in turn, provides a notice of disqualification to the employee.

11.2 Requirements for Operating Roadway Machines

A. General Requirements

Before operating a roadway machine, first:

1. Receive training according to MOW-OTS Rule 11.1

2. Be informed of the safety procedures that apply to persons working near your

machine

3. Inform the RWIC that you fully understand the safety procedures

B. Machine-Specific Requirements

Follow these machine-specific requirements:

1. Keep the operator's manual with the machine if the machine is large enough to carry the manual.
2. Be familiar with the information in the operator's manual before you operate the machine.
3. Follow the manual's instructions for safe operation.

C. Qualification Requirements

1. To be qualified to operate a roadway machine, you must be trained and qualified as competent to operate that machine. This training may be accomplished through:
   a. Peer instruction on the job

   or

   b. A combination of classroom training and peer training
2. A new machine operator or a relief machine operator who has not operated the type of equipment to which he or she will be assigned within the past year must be qualified competent by the DGM-MOW before operating the machine, except during supervised training.
3. After a new or relief operator receives approval to begin operating the machine, the certifying individual will observe the operator to ensure that he or she is competent to operate the machine. This will take place for 29 days. On the 30th day, the DGM-MOW or his designee will observe the employee operating the machine to ensure they are competent.

11.3 Fouling the Track

A. Each roadway worker is responsible for determining that on-track safety is provided before fouling any track.

B. A roadway worker or roadway machine is fouling a track when the nearest rail of the track is within 4 feet. When this situation occurs incidental to the performance of his or her duties, such as when walking across or adjacent to a track on which authority or protection has not been provided, each worker must:

1. Assume individual responsibility to make the move safely.
2. Fill out the On-Track Safety Protection Form, determining track speed and the proper sight distance needed.
3. Identify a place of safety prior to crossing a track.
4. Foul the track only after determining that it is safe to do so and that the roadway worker can be in the place of safety for 15 seconds before the train arrives in that location.
5. Move directly and promptly to a position clear of the track.

6. Establish an appropriate level of protection to carry tools or material that restricts motion, impairs sight or hearing, or prevents the rapid movement away from an approaching train or other on-track equipment on the track being fouled.

C. Sub-contractors to the JPB or TASI are foul of the track when they are within 15' of the nearest rail. This is referred to as the safety envelope. A fully qualified MOW-OTSM employee provided by the contract operator must be on-site to ensure the sub-contractor is protected accordingly. Positive protection is required if the sub-contractor will foul, or has the potential to foul. The operation of equipment within the 15' safety envelope is considered potential to foul.

11.4 On-Track Safety Briefings

A. Conduct an on-track safety briefing before any roadway worker fouls a track. An on-track safety briefing should also be conducted at the beginning of shift, and when conditions change. An on-track safety briefing is not complete until each roadway worker acknowledges understanding of the method of on-track safety that will be applied and the procedures that will be followed. The Caltrain On-Track Safety Manual must be readily available to all roadway workers. This can be accomplished electronically or with a hard copy. When it is impractical for the On-Track Safety Manual to be readily available, such as for a lone worker walking track, the roadway worker will access the OTSM via a company provided electronic device or radio to contact another roadway worker who has the contents to a complete On-Track Safety Manual accessible (for example another RWIC, MOW supervisor, safety department, or CCF). They also need to have a valid RWP card and proper PPE.

B. Roadway Work Groups

1. In the on-track safety briefing, discuss information related to on-track safety with each roadway worker who will foul the track.

2. In addition to other safety issues, minimum on-track safety information must include:

   a. Designation of the RWIC and an alternate means of communication if he or she is unavailable

   b. Method of on-track safety being applied

   c. Track limits and time limits of authority

   d. Track(s) that may be fouled

   e. Operational controls of movements on adjacent tracks, if any

   f. Procedure to arrange for on-track safety on adjacent tracks, if necessary

   g. Means of providing a warning when a watchman is used

   h. Designated place of safety where workers will clear for trains

   i. Designated work zones around machines

   j. Safe working and traveling distances between machines

   k. 15' Circle of Safety around equipment

3. Conduct follow-up on-track safety briefings when:

   a. The working conditions or procedures change, or

b. The method of on-track safety is changed, extended, or about to be released

C. Lone Workers

1. Before fouling any track, each lone worker must participate in a on-track safety briefing with his or her supervisor or another roadway worker. The on-track safety briefing includes the lone worker's planned itinerary and the procedures that will be applied to establish on-track safety.

2. Lone workers who cannot contact their supervisor or another roadway worker must verify the method of on-track safety with the Train Dispatcher. If communication with the Train Dispatcher is necessary to establish on-track safety (track and time, track warrant, track permit, track bulletin Form B) the communication can be considered an on-track safety briefing.

3. When all communication channels are disabled, conduct the on-track safety briefing as soon as possible after communications are restored.

11.5 On-Track Safety Procedures in Effect

A. Management and individual roadway workers share the responsibility for ensuring that proper on-track safety procedures are followed when workers are fouling track.

B. Responsibilities of Management

TASI management must:

1. Provide initial and recurring on-track safety training to all roadway workers once each calendar year.

2. Guarantee each roadway worker the right to challenge in good faith whether the on-track safety procedures to be applied at that work location comply with the MOW-OTS Manual.

3. Follow the procedure outlined in MOW-OTS Rule 11.6 to promptly and fairly resolve challenges to on-track safety procedures.

C. Responsibilities of Individual Roadway Workers

Individual roadway workers must have a valid RWP card, and:

1. Follow TASI's on-track safety rules and procedures.

2. Avoid fouling a track except when necessary to perform their duties.

3. Wear

- High-visibility orange retro-reflective outerwear with reflective stripes permanently attached. Outerwear must be ANSI Class 2 or Class 3 and must have the manufacturer's label intact.
- Hardhat
- Safety glasses (ANSI Z87.1)
- 6" high steel toed boots (ASTM F-2413-2005) with a defined heel when on or near the track.

4. Determine that on-track safety is being provided before fouling a track.

5. Refuse any directive to violate an on-track safety rule.

6. Notify the RWIC when making a good faith challenge that on-track safety procedures to be applied at the work location do not comply with the MOW-OTS Manual. See (Exhibit E, Caltrain On-Track Protection/RMM Safety Good Faith Challenge Form).

11.6 Resolving Challenges to On-Track Safety Procedures

A. All roadway workers are guaranteed the right to challenge in good faith whether the on-track safety procedures applied at their work location comply with the MOW-OTS Manual and to remain clear of the track until resolved.

B. When making a good faith challenge, inform the RWIC before the on-track safety rules are misapplied, if possible. Otherwise, inform the RWIC before fouling the track.

C. As set forth in the Caltrain On-Track Protection/RMM Safety Good Faith Challenge Form (Exhibit E), a challenge is resolved as follows:

1. The challenging individual informs the RWIC that he or she does not believe the method of on-track safety at the work location complies with the MOW-OTS Manual.

   Note: Individuals will not be subject to retribution or punishment for making a good faith challenge.

2. The RWIC reviews the on-track safety procedures with the challenging individual to determine if proper procedures have been or will be applied.

3. If the challenging individual is still not convinced that the on-track safety procedures comply with the MOW-OTS Manual, the RWIC contacts the next level supervisor. The supervisor reviews the on-track safety procedures and determines if the procedures are being properly applied.

4. After that review, if the challenging individual still is not convinced that the on-track safety procedures comply with the MOW-OTS Manual, the RWIC and the next level supervisor contact the Deputy General Manager Safety Training & Compliance. The person contacted reviews the on-track safety procedures and determines if the procedures are being applied properly.

   a. If the determination is that the on-track safety procedures are not being applied properly, the RWIC modifies the procedures as required.

      or

   b. If the determination is that the on-track safety procedures are being applied properly, the challenge is considered resolved, and the RWIC will instruct the challenging individual to perform his or her assigned duties.

5. Note: Challenges that progress to the next level supervisor are documented by that supervisor. The DGM-MOW reviews this documentation within 1 month of the challenge. A union representative is invited to participate in this review.

12.0 Adjacent Track Operations

12.1 General Requirement

A. On-track safety is required for each adjacent controlled track when a roadway work group with at least one roadway worker on the ground is engaged in a common task with on-track, self-propelled equipment or coupled equipment on an occupied track. The required on-track safety must be established through one of the following methods:

1. Rule 10.3 - Track & Time
2. Rule 15.2 - Protection by Track Bulletin Form B
3. Rule 15.4 - Protection When Tracks Removed from Service (Form C)
4. Rule 6.3.3 C - Train Approach Warning provided by a Watchman

12.2 Procedures for Adjacent Controlled Track with Passenger, Freight, or Equipment Moves

A. Upon warning from a watchman or notification from the RWIC:

1. If a passenger train or other on-track equipment is authorized to move on an adjacent controlled track at a speed of 40 mph for passenger trains or 25 mph for freight trains or less, each roadway worker in the roadway work group must comply with the procedures listed below in **Figure B**:

or

2. If a passenger train or other on-track equipment is authorized to move on an adjacent controlled track at a speed higher than 40 mph for passenger trains or 25 mph for freight trains, each roadway worker in the roadway work group must comply with the procedures listed below in **Figure A** and **Figure B**:

Figure A

- Each roadway worker must stop all on-ground work on or between the rails of the occupied track.
- Equipment movement performing work between the rails of the occupied track must cease.

Figure B

- Each roadway worker must stop all work on the side(s) of the track between the occupied track and the adjacent controlled track and clear to a predetermined place of safety.
- Roadway workers may clear between the rails of the occupied track if that location is designated place of safety by the RWIC.
- On-ground work and equipment movement that has been instructed to cease may resume only after the trailing-end of all trains or other on-track equipment moving on the adjacent controlled track has passed and remains ahead of that equipment and roadway workers and only as permitted by the RWIC.
- Equipment operators who are working on the side(s) of the rail between the occupied track and the adjacent controlled track must dismount and clear to the predetermined place of safety.
- Equipment operators working between the rails of the occupied track may remain on the equipment.
- If the train or other on-track equipment stops before its trailing-end has passed all of the roadway workers in the work group performing ahead of the end of the train or on-track equipment on the adjacent controlled track may resume only: if on-track safety has been established on the adjacent controlled track; or after the RWIC has established with the train crew or on-track equipment operator that further movements of the train or other on-track equipment shall be made only as permitted by the RWIC.

12.3 Exceptions to Rule 12.1 and 12.2

A. Adjacent controlled track protection is not required when all roadway workers of the work group on the ground are exclusively positioned on the side of the occupied track where there is:
   1. No adjacent track or;
   2. One or more adjacent tracks, the closest of which has working limits established, and no movements are permitted within the working limits by the RWIC or;
   3. An inter-track barrier separating roadway workers from the adjacent track

B. Adjacent controlled track protection is not required for one or more roadway workers on the ground when:
   1. Engaged in a common task with a hy-rail vehicle or other self-propelled on-track equipment, not coupled to rail cars, being used for inspection or minor correctional repairs. When multiple hy-rail vehicles or other self-propelled on-track equipment are being used for inspection or minor correctional repairs, the RWIC must determine if adjacent controlled track protection is necessary or;
   2. Performing maintenance or repairs on the side of machines that would effectively prevent the worker from fouling the adjacent controlled track or;
   3. A catenary maintenance tower car or vehicle, provided that all of the on ground workers engaged in a common task are positioned within the gage of the occupied track for the sole purpose of applying or removing grounds.

12.4 Discretion of the Roadway Worker In Charge

A. Nothing in this section prohibits the roadway worker in charge from establishing on-track safety on one or more adjacent tracks as deemed necessary.

B. When determining what type of OTS is appropriate for the adjacent track, consider the site conditions. Refer to MOW-OTS 6.3.3 C to determine if Train Approach Warning is appropriate.

C. Remember that rule 12.3 does not make an exception for a roadway worker or an item of equipment to foul the adjacent controlled track.

12.5 On-Track Equipment

A. Operators of on-track equipment working adjacent to a controlled live track will place standard signs reading “Danger – Live Track” across the entrance/exit on the live track side of their machines if so equipped. Otherwise, another physical restraint must be placed to restrict access to that point. When the equipment is designed to enter/exit from either side, the RWIC must instruct all personnel to utilize the field side when:
   1. Getting on or off the equipment
   2. Transferring tools or material
   3. Conversing with the occupant(s) of the equipment

Diagram I – Guide for Rule 12.2

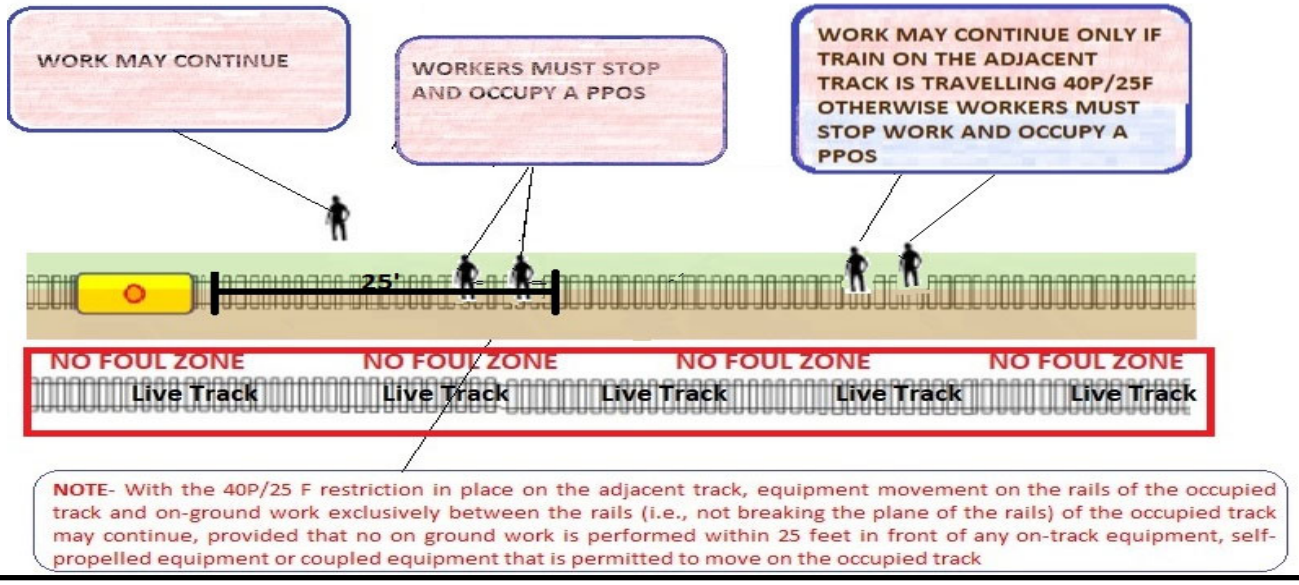


Diagram II – Guide for Rule 12.2

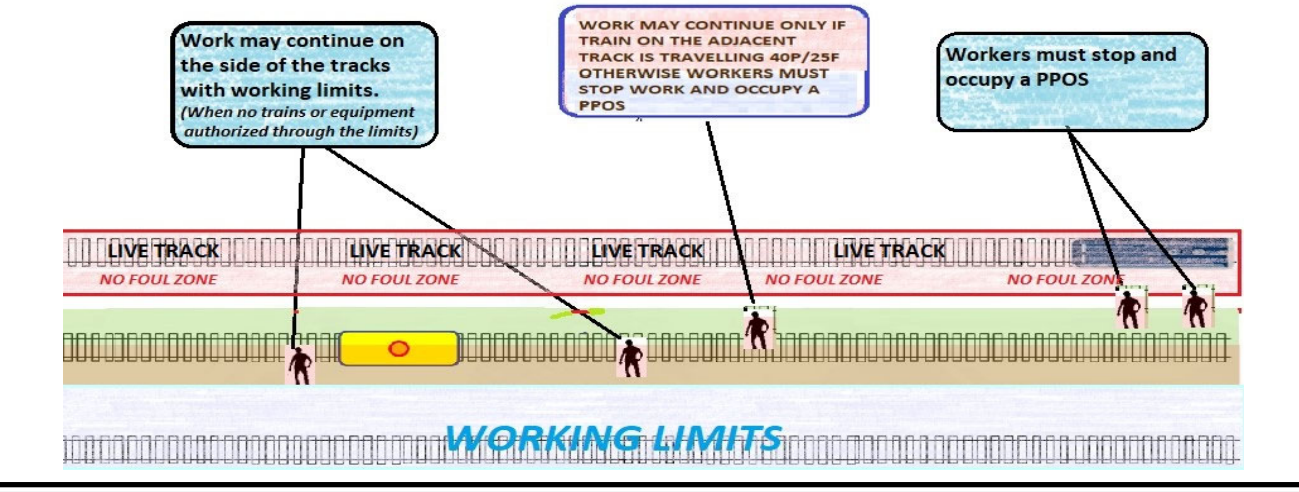
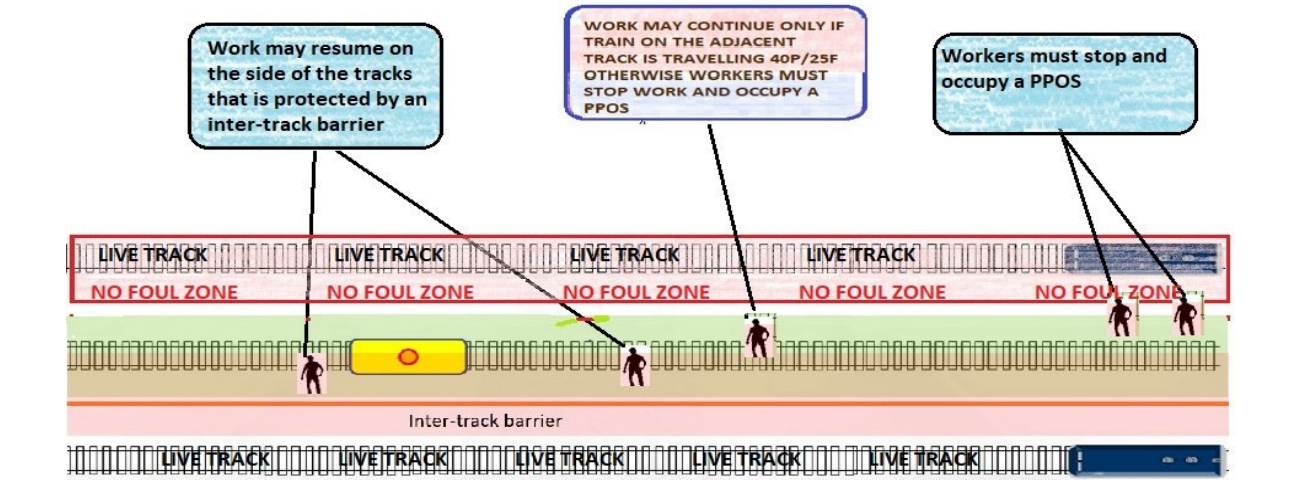


Diagram III – Guide for Rule 12.2



15.0 Track Bulletin Rules

15.1 Track Bulletins

A. Track bulletins must not be changed unless specified by Rule 15.13 (Voiding Track Bulletins). The train dispatcher will issue track bulletins as required. Track bulletins will contain information on all conditions that affect safe train or engine movement.

B. Form A restrictions will be used for speed restrictions. Form B restrictions will be used as authority for MOW roadway workers. Form C restrictions will be used for tracks removed from service. Forms other than track bulletin restrictions Forms A, B or C may be used when necessary.

C. Roadway workers must ensure they have the most current bulletins for the territory they are working prior to commencement of shift.

15.2 Protection by Track Bulletin Form B

A. Display track flags as specified in MOW-OTS Rule 5.4.3 (Display of Yellow-Red Flag) and Rule 5.4.7 (Display of Red Flag).

B. A train must not enter the limits unless instructed by the RWIC. A train within the limits at the time the track bulletin Form B takes effect must not make further movement until instructed by the RWIC.

C. A crew member must attempt to contact the RWIC of a track bulletin Form B to avoid delay, giving the train's location and track being used.

D. Before occupying a main track, controlled siding or any track where CTC is in effect, roadway workers must have information concerning all Form B track bulletins in effect that may overlap their authority.

E. The RWIC will use the following format to establish communication with the train:

> Foreman (name and/or gang number) in charge of Track Bulletin No.____ (specifying line number when necessary) between MP____ and MP____ (specifying subdivision when necessary).

F. Trains within the limits of a track bulletin Form B, unless otherwise restricted, must move at the speed(s) specified by the RWIC as stated in Item G (Instructions).

G. Instructions

1. After communication with the train has been established, the RWIC will use the following format to grant a train permission to proceed through the Form B limits:

   > "(Train ID) may enter limits (and pass the red flag) at MP____ and proceed at (one of the following), specifying route:
   >
   > a. "Maximum Authorized Speed"
   >
   > b. "Restricted Speed"
   >
   > c. A speed specified by the RWIC

2. Two additional speeds may be given to restrict a train's movement through a portion of the limits, by adding the following:

"Do not exceed ____MPH between/at MP____ and MP____ (or other location)."

3. To require a train to stop at a designated location within the limits, add the following:

"Stop at MP____ (or other location) until additional instructions are received."

3. When men or equipment foul adjacent track(s), add the following:

"Men or equipment fouling (specify track)."

H. Repeat Instructions

1. A crew member must repeat the above instructions, and the roadway worker giving the instructions must acknowledge them before they can be followed.

2. Once instructions are received from RWIC, if the track route changes from previous instructions received, contact RWIC to determine that original instructions received are valid on new track route before proceeding on the new route. The movement must not change direction without permission from the RWIC.

I. Stop Column

1. "Stop" must always be written in the stop column. Trains and roadway workers must not enter the limits unless instructed by the RWIC.

2. A red flag must be displayed at the beginning of the limits and at main track junctions within the limits.

3. On-track equipment authorized under the provisions of MOW-OTS Rule 15.2.1 (Authorization for On-Track Equipment) is not required to display red flags when traveling. When establishing working limits, red flags must be displayed at the location of the working limits.

4. On track equipment or a train within the limits at the time the track bulletin Form B takes effect, must not make further movement until instructed by RWIC.

J. Entering Within Limits

Before entering the track governed by the track bulletin Form B from any location other than at the beginning of the Form B limits, obtain permission from the RWIC.

K. Control Points

1. When Form B track bulletin restriction limits contain a dual control switch(es), an on-track safety briefing must be held with the Train Dispatcher to determine if switches need to be blocked.

2. The on-track safety briefing must include the following:

a. What track(s) will be occupied or fouled,

b. Which, if any, of the dual control switch(es) in the limits will be occupied or fouled,

c. What, if any, routing restrictions exist for movements through the limits,

d. What, if any, MOW activity will be affected by the change of position of any dual control switch(es) within the Form B limits.

3. The RWIC must inform the Train Dispatcher of any MOW activity that would be affected by the change of position of any dual control switch(es) within the limits of the track bulletin Form B. When a MOW activity will be affected by the change of position of a dual control switch(es), the RWIC must ascertain that blocks have been applied by the Train Dispatcher prior to occupying the track.

L. Crossovers

Outside of CTC when track bulletin Form B limits contain a crossover from the other main track, the RWIC of the track bulletin Form B must ensure that all crossover switches providing access to the track segment to be occupied are:

1. Lined in normal position.

2. Spiked, clamped or locked with an effective securing device.

3. Properly tagged.

M. Verifying Track Bulletin Form B

Roadway workers must verify with the Train Dispatcher that the Form B is in effect. Additionally, the roadway worker must record or cross-check all of the verification information on the form entitled “Request/Verification of Track Bulletin Form B” or with a copy of the Form B. The verification information must be retained until the track bulletin Form B has expired and track flags have been removed.

15.2.2 Time Limits Expire

A. If track bulletin Form B limits cannot be cleared prior to the expiration of time shown on Form B, obtain an extension or other authority from the Train Dispatcher to remain within the limits.

B. If the Train Dispatcher cannot be contacted, immediately provide protection as outlined in MOW-OTS Rule 6.19 (Flag Protection).

15.2.3 Subgroup Coordinators

A. When work is at many locations over an extended distance and when crews are working at many locations over an extended distance, the RWIC divides the workers into subgroups, each with a designated person who acts as a coordinator for that subgroup. **Note:** Only TASI MOW-OTS Manual-qualified employees may act as Subgroup Coordinators.

B. The RWIC notifies the subgroup coordinators when a train is approaching on a track protected by a track bulletin Form B. Each Subgroup Coordinator then:

1. Warns subgroup roadway workers of the approaching train, ensuring that all members of the subgroup have acknowledged an understanding that a train is approaching. If the subgroup coordinator is not in a position to physically or verbally warn roadway workers as

described below in “Subgroup Coordinators Warn of Approaching Train,” then the subgroup coordinator must NOT tell the RWIC that the track is clear of all men and equipment.

2. Notifies RWIC when all subgroup roadway workers are in the designated place of safety.

3. Makes immediate corrections when subgroup roadway workers are operating equipment that could contact the passing train or are on the ground between the tracks with no provision for a watchman

C. Subgroup Coordinators Warn of Approaching Train

Subgroup Coordinators warn subgroup roadway workers of a train approaching on a track or adjacent track as follows:

1. Identify the warning method in the job safety briefing

2. Give a distinctive, clear, and unquestionable warning

3. Make sure that workers can detect the warning regardless of noise or work distractions

4. Do not require workers to look in a particular direction to receive warning

D. Subgroup Coordinator Notifies RWIC

The Subgroup Coordinator notifies the RWIC when all subgroup members have:

1. Acknowledged an understanding that a train is approaching

2. Stopped work that is foul of the track or with potential to foul

3. Stopped operating equipment that could foul the track

E. RWIC Clears Train

The RWIC clears a train on the track to pass the red flag as follows:

1. Use the Subgroup Coordinator Notification form to positively confirm that all Subgroup Coordinators have reported that their subgroup members are not fouling the track or work that has the potential to foul is stopped.

2. Note: Subgroup Coordinators are the only roadway workers authorized to cross the live track to inspect the opposite side of passing train.

3. Instruct the train to pass the red flag according to the speed restrictions in MOW-OTS Rule 12.2

4. When the train clears the work limits, notify each Subgroup Coordinator. Make sure that each Subgroup Coordinator specifically acknowledges that the information was received and understood

15.4 Protection When Tracks Removed from Service (Form C)

A. Before a track is removed from service, it must be protected.

B. This rule does not relieve MOW roadway workers or on-track equipment of their responsibility of obtaining authority or establishing protection as prescribed by MOW-OTS Manual 6.3.1 and 6.3.2.

C. A track bulletin Form C may protect tracks removed from service by designating the track and naming the points at each end of the track. Trains must not use this track unless the track bulletin states the name or title of an RWIC who may authorize its use, and this person directs all movement.

D. When required, the Train Dispatcher must advise crews of alternate routes and switch positions.

E. The Dispatcher must be notified when the track can be returned to service.

15.5 Protection When Tracks Blocked with Equipment

A. Notify the Train Dispatcher when main tracks, controlled sidings, or other tracks that are normally clear are blocked with equipment and cannot be cleared.

B. When the main track or controlled siding is blocked, provide protection as specified by MOW-OTS Rule 6.20 (Protection of Equipment Left on Main Track).

15.6 Change of a Rule, General Order or Special Instruction

A. When authorized by the designated manager, a track bulletin may be used to issue, change, or cancel rules, general orders, or special instructions.

B. General Orders or special instructions cancelled by track bulletins must not be reinstated. The track bulletin must remain in effect until the general order that contains the change is posted.

15.13 Voiding Track Bulletins

To void a numbered line on a track bulletin, a part of a track bulletin, or an entire track bulletin, the Train Dispatcher may do one of the following:

A. Voiding Track Bulletins Verbally

Void the track bulletin by verbally using one of the following examples:

1. “Line (number) of track bulletin No. ____ reading (quote the line to be voided) is void.”
2. “That part of track bulletin No. ____ reading (quote the part to be voided) is void.”
3. “Track bulletin No. _____ is void.”

Roadway worker must repeat the information to the Train Dispatcher. If correct, the word “VOID” will be entered to indicate that portion is no longer in effect.

B. Issue Track Bulletin or a Track Warrant to Void a Track Bulletin

Issue a track bulletin or use the line designated “OTHER SPECIFIC INSTRUCTIONS” on a track warrant using one of the following examples:

1. “Line (number) of track bulletin No. ____ is void.”
2. “That part of track bulletin No. ____ reading (quote the part to be voided) is void.”
3. “Track bulletin No. ____ is void.”

Where paper copies are used, roadway worker will keep a copy of the track warrant or track bulletin that made it void and the word “VOID” will be entered to indicate that portion is no longer in effect.

The track bulletin or the part of the track bulletin indicated will no longer be in effect.

16.0 Third Party Contractors on Caltrain Property

Third party contractors will frequently be required to supplement Caltrain contract operator Maintenance of Way (MOW) personnel to perform critical and highly technical services. Third party contractors will also be utilized to perform capital construction work on the Caltrain Right of Way (ROW). All third-party contractors will be required to comply with the safety requirements of Exhibit F – Third Party Contractors on Caltrain Property. This document is an exhibit of the MOW OTSM. The purpose of this document is to identify the responsibilities for third party contractors working on the Caltrain ROW. Each job site on Caltrain property must have a copy of the MOW OTSM as well as the exhibit. The MOW OTSM is the operating rules and instructions primarily for the contract operator as they are responsible for providing On-Track safety for the third party contractors. The exhibit provides the minimum expectations of Caltrain for third party contractors. This document does not restrict employers from adopting and enforcing additional or more stringent expectations of their employees. It is strongly encouraged that a copy of this exhibit is given to each and every third party contractor working on Caltrain property. At a minimum a complete copy is required at each job site and can be audited by Caltrain or the contract operator at any time during working hours.

The third party contractor exhibit is located as Exhibit F of this document. Once the contractor has reviewed all three sections of the exhibit and has passed the 2-3 hour Roadway Worker Protection (RWP) course, they will be given a course completion card and immediately listed on the Transit Safe administration page. Third party contractors must be in that database to work on the Caltrain ROW. In the case of emergency work, special provisions may be made to cover safety issues in a thorough on-site job safety briefing however, making special provisions will not be a matter of routine.

TASI/Caltrain contractor employees are required to carry a current copy of the course completion card. This card will be provided after completion of the course by a TransitAmerica Services, Inc. (TASI) employee.

Third party contractors working on the Caltrain ROW are required to complete RWP training annually.

17.0 Zero Tolerance Procedure Maintenance of Way On-Track Safety Rules Enforcement

A. Every individual performing work on the Peninsula Corridor Joint Powers Board (JPB) right-of-way is both entitled to and responsible for a safe working environment. The objective of this "Zero Tolerance Procedure" statement is to establish clear and concise standards for Roadway Worker Protection (RWP) compliance on the Caltrain system.

B. This is a minimum requirement and any supervisor or manager of any group or organization working on the JPB right of way may set more stringent standards for their own employees.

C. General

1. The Zero Tolerance Procedure applies to all employees and contractors of the JPB and its contract operator or any other entity entering upon the Caltrain right-of-way for the purpose of performing work as a Roadway Worker, as defined in the Caltrain Maintenance of Way On-Track Safety Manual.

2. The RWIC will be responsible for overseeing the enforcement of Caltrain RWP requirements and all other applicable right-of-entry requirements for workers in his work group. The RWIC will not allow anyone to work within his/her workgroup until all RWP requirements are met.

D. Roadway Worker Protection Infractions

1. Individuals who are determined to be non-compliant with Caltrain's RWP requirements will be subject to the following procedures:

   a. First Infraction – A written notice will be delivered to the non-compliant individual, the individual's supervisor and the Caltrain Supervising Safety Officer –Rail. A copy will be forwarded to the appropriate JPB manager with the Safety and Risk Management Department. The individual or work group must leave the right-of-way until the reason for the infraction is corrected.

   b. Second Infraction – The individual or work group will be banned for 7 days from the Caltrain right-of-way with re-training within 7 days of infraction. Notification procedures will be the same as with the first infraction.

   c. Third Infraction – The individual or work group will be banned for 1 year from the Caltrain right-of-way. Notification procedures will be the same as with the first infraction.

   d. Fourth Infraction – The individual or work group will be permanently banned from the Caltrain right-of-way. Notification procedures will be the same as with the first infraction.

2. Any infraction in which the individual cannot provide evidence of training will result in immediate removal from PCJPB right-of-way.

3. Each infraction will be automatically removed from Caltrain records 3 years from the date of occurrence.

E. Accountability

1. Infractions to this procedure will be referred to and handled by Caltrain Department of Safety and Risk Management. Refer by phone immediately, and then written follow up within 24 hours to the Project Manager and Rail Safety Officer –Construction / Engineering.

2. Corrective actions or other follow up resulting from infractions covered by this procedure are the responsibility of the Resident Engineer, reporting back to the Rail Safety Officer – Construction / Engineering and the Project Manager.

GLOSSARY

Abbreviations

Use only the following abbreviations:

CCF	Central Control Facility
C&S	Communications and Signal Department Employees
CTC	Centralized Traffic Control
DGM-ST&C	Deputy General Manager - Safety, Training and Compliance
JPB	Peninsula Corridor Joint Powers Board
MOW	Maintenance of Way
MOW-OTS	Maintenance of Way On-Track Safety
MP	Mile Post
MPH	Miles Per Hour
MT	Main Track
RWIC	Roadway Worker In Charge
RWP	Roadway Worker Protection
TASI	TransitAmerica Services, Inc.

Use the normal abbreviations for names of months.

Definitions

ABS

See Automatic Block Signal System.

Absolute Block

A length of track that no train is permitted to enter while the track is occupied by another train.

Absolute Signal

A block or interlocking signal without a number plate, or designated by an A marker.

Adjacent Tracks

Two or more tracks with track centers spaced less than 25 feet apart.

Adjacent controlled track means a controlled track whose track center is spaced 19 feet or less from the track center of the occupied track.

Advanced Watchman

A TASI MOW-OTS manual qualified employee assigned to provide advanced warning of approaching trains or on-track equipment to a Watchman.

Automatic Block Signal System (ABS)

A series of consecutive blocks governed by block signals, cab signals, or both. The signals are activated by a train or by certain conditions that affect the block use.

Automatic Switch

A switch that, when movement over the switch is complete, will automatically return to its normal position.

Block

A length of track:

- between consecutive block signals.
- between a block signal and the end of block system limits.

or

- in ATC limits the use of which is governed by cab signals and/or block signals.

Block Signal

A fixed signal at the entrance of a block that governs trains entering and using that block.

Block System

A block or series of consecutive blocks within ABS, ACS, CTC, or interlocking limits.

Cars

Railroad cars.

Centralized Traffic Control (CTC)

A block system that uses block signal indications to authorize train movements.

Conductor

RWIC of train or yard movement.

Control Point

The location of absolute signals controlled by a Train Dispatcher or by a Dispatcher.

Controlled Siding

A siding within CTC or interlocking limits where a signal indication authorizes the siding's use. Rules applicable in CTC apply on these sidings.

Controlled Signal

An absolute signal controlled by a Train Dispatcher or by a Dispatcher.

Crossings at Grade

Crossings that intersect at the same level.

Crossover

A combination of two switches that connect two adjacent tracks.

CTC

See Centralized Traffic Control.

Dispatcher
Employee assigned to operate a CTC or interlocking control machine or authorized to grant track permits. The definition also applies to Train Dispatcher.

Distant Signal

A fixed signal outside a block system that governs the approach to a block signal, interlocking signal, or switch point indicator. A distant signal does not indicate conditions that affect track use between the distant signal and block or interlocking signals or between the distant signal and switch point indicator. A distant signal is identified by a D.

Dual Control Switch

A power-operated switch, moveable point frog, or derail that can also be operated by hand.

Effective Securing Device

A vandal and tamper resistant lock, keyed for application and removal only by the roadway worker(s) for whom the protection is provided. **Electric Switch Lock**

An electrically controlled lock that restricts the use of a hand-operated switch or derail.

Engine

A unit propelled by any form of energy or more than one of these units operated from a single control. Engines are used in train or yard service. Rules that apply to engines also apply to cab control cars.

Engineer

Also includes student engineers, firemen, and hostlers (See also Remote Train Dispatchers).

Equipment

Railroad equipment.

Escort/Pilot

An employee familiar with the territory and assigned by the RWIC to assist the movement of equipment operated by employees, contractors, or other outside personnel unfamiliar with the territory.

Fixed Signal

A signal that is fixed to a location permanently and that indicates a condition affecting train movement.

Flagger

A person providing warning for highway or pedestrian traffic approaching malfunctioning crossing devices. Flaggers must wear enhanced visibility work wear and be equipped with a STOP/SLOW paddle. Flaggers must also be equipped with a red coned traffic baton flashlight at night.

Flagman

Any rules-qualified employee providing flag protection under the protection of Track Bulletin Form B.

Foreman

The employee who is in charge of the work. The Foreman is the RWIC, however can assign the responsibility of providing protection to a person within the work group.

Foul of Track

Within four feet of the nearest rail of a track.

General Track Bulletin

A notice containing track bulletin restrictions and other conditions affecting train movement.

Inter-track barrier

A continuous barrier of a permanent or semi-permanent nature that spans the entire work area, that is at least four feet in height, and that is of sufficient strength to prevent a roadway worker from fouling the adjacent track.

Lone Worker

A rules-qualified person not engaged in a common task with another person or group.

Machine Operators

Operators of on- and off-track equipment.

Main Track

A track extending through yards and between stations that must not be occupied without authority or protection.

Men

Railroad roadway workers.

Men and Equipment

A term referring to Maintenance of Way roadway workers and their related equipment.

Minor Work or Correction

One or more repairs of a minor nature, including but not limited to, spiking, anchoring, hand tamping, and joint bolt replacement that is accomplished with hand tools or handheld pneumatic tools only. The term does not include welding, machine spiking, machine tamping, or any similarly distracting repair.

Multiple Main Tracks

Two or more main tracks that are used according to the timetable.

Occupied track

A track on which on-track, self-propelled equipment or coupled equipment is authorized or permitted to be located while engaged in a common task with a roadway work group with at least one of the roadway workers on the ground.

Off-Track Equipment

Machines that may be operated on the right-of-way foul of track. Off-track equipment includes tractors, scrapers, graders, cranes, trucks, and similar equipment.

On-Track Equipment

Machines that may be operated on the rails. On-track equipment includes motor cars, push cars, trailers, hy-rail vehicles, cranes, tampers, power jacks, ballast shapers, brooms, trucks, and similar equipment.

Overlap Sign

A sign that indicates the limits of a block.

Proceed Indication

Any block signal indication that allows a train to proceed without stopping.

Radio

As used in these rules, the term 'radio' also applies to wireless communication devices when used in radio operation.

Reverse Movement

A movement opposite the authorized direction.

Roadway Worker In Charge

A rules qualified MOW employee who is assigned the duty of being responsible for the protection and direction of the work group any engineering activity. There will be only one RWIC, however the RWIC can assign the responsibility of providing protection to another person in the workgroup.

Siding

A track connected to the main track and used for meeting or passing trains. Locations of sidings are shown in the timetable.

Signal Aspect

The appearance of a fixed or cab signal.

Signal Indication

The action required by the signal aspect.

Special Instructions

Instructions contained in the timetable or other publication.

Station

A place designated by name in the timetable station column.

Timetable

A publication with instructions on train, engine, or equipment movement. It also contains other essential information.

Track Bulletin

A notice of conditions affecting train movement.

Track Occupancy Indicator

An indicator that tells whether a length of track is occupied or not.

Trackside Warning Detector

A device that indicates conditions such as overheated journals, dragging equipment, excess dimensions, shifted loads, high water, or slides.

Train

One or more engines coupled, with or without cars, displaying a marker, and authorized to operate on a main track. A term that when used in connection with speed restrictions, flag protection, and the observance of all signals and signal rules also applies to engines.

Train Coordination

Working limits established by a roadway worker through the use of a train's authority on a main track or other track where specific authority is required from a Train Dispatcher.

Trainmen

Conductors, assistant conductors, brakemen, yard engine foremen, switchmen, and yard helpers.

Watchman

A rules qualified employee assigned to warn roadway workers of approaching trains or on-track equipment. A Watchman can be the RWIC, however will not be able to oversee any work if providing TAW. If the Watchman is the only qualified person at the job site, the Watchman will be the RWIC. Any discussions with the Watchman after TAW is established will need to be done outside of the foul zone.

Working Limits

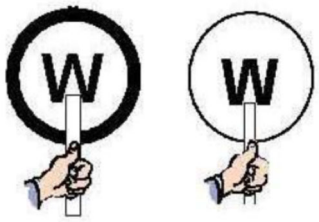
A segment of track within definite boundaries on which movements may be made only as permitted by the RWIC. Boundaries may be established using mile posts, station signs, timetable locations, or clearly identifiable points.

Yard

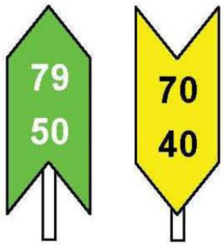
A system of tracks, other than main tracks and sidings, used for making up trains, storing cars, and other purposes.

Exhibit A –
Roadway Signs

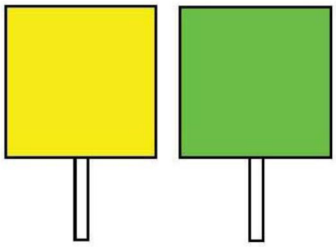
Roadway Signs



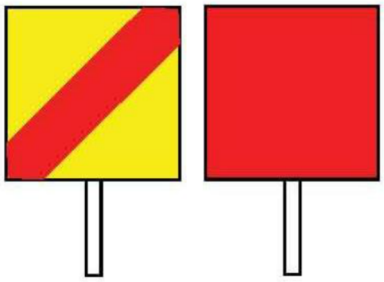
WATCHMAN'S DISKS
RULE 5.2.3



SPEED SIGNS
RULE 5.5



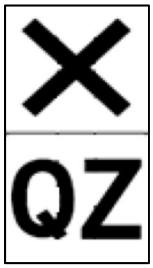
FLAGS OF TEMPORARY SPEED RESTRICTIONS
RULE 5.4.2 & RULE 5.4.5



FLAGS OF TEMPORARY TRACK CONDITIONS
RULE 5.4.3 & RULE 5.4.7

STATION SIGN
1 MILE IN ADVANCE OF PASSENGER STATION

STOP SIGN
RULE 6.32.2



WHISTLE QUIET ZONE
RULE 5.8.4

NUMERAL, WHEN ATTACHED, DENOTES NUMBER OF CROSSINGS NOT MORE THAN ONE-QUARTER MILE APART

WHISTLE SIGNAL
RULE 5.8.2 (7)

Exhibit B –
Occupying or Fouling Track/
Work Train Request Form

Mark "X" in Type of Protection Required	Track and Time	Other	Form-B	Out-of-Service	Work Train

Date Request Submitted: _____

Track(s): _____

North Limits MP: _____ Yellow/Red Flag if **Short** MP: _____

South Limits MP: _____ Yellow/Red Flag if **Short** MP: _____

From Time and Date: _____

To Time and Date: _____

Foreman/Flagman Name: _____

Describe on track equipment/train movement required on main track(s):

Primary Contact: **Phone:**

Reason for request:

NOTE:

Requesting Employee: _____

Request Received on date and by: _____

Approved on date and by: Bulletin #

Disapproved on date and by: _____

Reason(s):

Exhibit C –
Track and Time/
Multiple Work Group Forms

Track and Time Authority (Rule 10.3) *Retain this document for 7 days after use*

Authority No._____ Date: _____

To: _____ At: _____

2. ☐ Track and Time limits granted on Main Track_____between_____

And_____until_____.

3. ☐ Joint with_____. Make all movements at restricted speed prepared to stop short of men and equipment fouling the track.

4. ☐ Behind_____. Will work shunt signal circuits within Control Points? YES ☐ NO ☐

(For Track and Time granted employees ending in a control point only)

OK (Time) _____ Dispatcher: _____

5. ☐ Made Joint With: _____ OK (Time) _____

6. ☐ Extended until:_____ OK(Time)_____

Job briefing must be held with each work group OTS 20.3 and 23.1.3

Multiple Work Group Employees				
	Authority No.	Name:	Ack Rec'd:	Limits Cleared:
	Authority No.	Name:	Ack Rec'd:	Limits Cleared:
	Authority No.	Name:	Ack Rec'd:	Limits Cleared:
	Authority No.	Name:	Ack Rec'd:	Limits Cleared:

Have all personnel working in your limits been cleared? Yes ☐ No ☐ Release (Time) _____

Exhibit D –

Statement of On-Track Safety Form

A lone worker using individual train detection or a watchman using train approach warning to establish on-track safety must complete this form prior to fouling a track. A separate form must be completed for each location if distance is more than walking distance.

To complete this form:

1. Provide the following information:

   Name of Lone Worker/Watchman: _____

   Date: _____ Time:_____

   Location: From MP _____ to MP _____

   Designated Place of Safety: _____

   Method of Warning: _____

   Time Form Completed: _____

2. In the table below, place an X in the box adjacent to the maximum authorized speed of trains at the location specified above. Observe the minimum required distance between the approaching train and the roadway worker(s) when the place of safety has been reached.

Maximum Authorized Speed in MPH	Minimum Separation Upon Reaching Place of Safety		Maximum Authorized Speed in MPH	Minimum Separation Upon Reaching Place of Safety	
	X	Feet		X	Feet
5		110	50		1,100
10		220	55		1,210
15		330	60		1,320
20		440	65		1,430
25		550	70		1,540
30		660	75		1,650
35		770	80		1,760
40		880	85		1,870
45		990	90		1,980

Note: When the maximum authorized speed is not shown on the form, use the next higher speed.

Conditions for Use

(a) Only routine inspection of minor work or correction

(b) Right to use other on-track safety procedures

(c) Requirements for Individual Train Detection

(1) Trained and Qualified

(2) Work will not affect the movement of trains
(3) Only outside Manual Interlocking or Control Point
(4) Able to visually detect train 15 seconds before train arrives
(5) Not permitted where power tools or on-track machines are in use
(6) Not permitted where hearing or vision is impaired

(d) Must clear entirely or into protected area
(e) Cannot engage in any activity that interferes with Individual Train Detection
(f) Complete Statement of On-Track Safety

Checklist

Enter Yes or No

Have a working radio?
I will comply with RWP Regulations
I have verified the speed and sight distance required

Roadway worker Signature Date

In order to use Individual Train Detection, Caltrain requires this statement be completed, discussed with a designated roadway worker & carried on your person.
Retain this statement for 7 days.

Exhibit E –

Caltrain On-Track Protection/

RMM Safety Good Faith Challenge Form

Roadway worker Name: Position: Date:

(if RMM Challenge)

Employer: Type of Equipment Time:

Equipment Number:

Work Location: Track # Mile Post:

OTS procedure applied or lacking at work location / RMM Equipment Safety Issue

Caltrain's Safety/GCOR Rule not being complied with, give Rule # if known:

Reason for Challenge:

Roadway worker's Signature Date:

Determination by RWIC

RWIC Signature Date:

Determination by Roadway worker's Supervisor

Roadway worker's Supervisor Signature Date:

INSTRUCTIONS: READ the Caltrain ROADWAY WORKER PROTECTION GOOD FAITH CHALLENGE AND DISPUTE RESOLUTION PROCEDURE IN THE OTS MANUAL!
The roadway worker making the challenge shall complete this form, sign and date it, and give it to the RWIC who shall document his/her determination, sign and date it, and forward it to the Caltrain Safety Officer or his/her designee. If immediate resolution cannot be reached, the RWIC must contract the San Jose Control Center who will contact the Caltrain Safety Officer or his/her designed.

Exhibit F –

Third Party Contractors on Caltrain Property

Maintenance of Way On-Track Safety Manual

Effective April 1, 2017

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Third Party Contractors on Caltrain Property

Third party contractors will frequently be required to supplement Caltrain contract operator Maintenance of Way (MOW) personnel to perform critical and highly technical services. Third party contractors will also be utilized to perform capital construction work on the Caltrain Right of Way (ROW).

All third-party contractors will be required to comply with the safety requirements of the Maintenance of Way On-Track Safety Manual (MOW OTSM). This document is an exhibit of the MOW OTSM. The purpose of this exhibit is to identify the responsibilities for third party contractors working on the Caltrain ROW. Each job site on Caltrain property must have a copy of the MOW OTSM as well as this exhibit. The MOW OTSM is the operating rules and instructions primarily for the contract operator as they are responsible for providing On-Track safety for the third party contractors.

This exhibit provides the minimum expectations of Caltrain for third party contractors. This exhibit does not restrict employers from adopting and enforcing additional or more stringent expectations of their employees; nor is this reflective of comprehensive local, state, and federal compliance requirements. It is strongly encouraged that a copy of this exhibit is given to each and every third party contractor working on Caltrain property.

A complete copy of the MOW OTSM including this exhibit is required at each job site and can be audited by Caltrain or the contract operator at any time during working hours.

Once you have reviewed all three sections of this exhibit and have passed the 2-3 hour Roadway Worker Protection (RWP) course, you will be given a course completion card and immediately listed on the Transit Safe administration page. You must be in that database to work on the Caltrain ROW.

In the case of emergency work, special provisions may be made to cover safety issues in a thorough on-site job safety briefing however, making special provisions will not be a matter of routine.

Caltrain/TASI contractor employees are required to carry a current copy of the course completion card. This card will be provided after completion of the course by a TransitAmerica Services, Inc. (TASI) employee.

Third party contractors working on the Caltrain ROW are required to complete RWP training annually.

Section One - General

A. General Information

1. Caltrain/TASI personnel (e.g., safety assessment teams, safety and rules personnel, industrial hygiene personnel, environmental personnel, TASI project representatives) may conduct unscheduled assessments of third party contractor operations at any time without notice.

2. On-site contractor supervision and contractor safety representatives will be notified of audit findings. These are written and provided to the employee and JPB project manager for handling. The employee will be notified immediately upon discovery of non-compliance and asked to correct the deficiency prior to returning to work. The Caltrain project manager will be given a copy of the deficiency within 48 hours. The contractor will be required to provide a written response as to planned or completed corrective actions. In the most severe cases (e.g., where very serious discrepancies are found), a contractor may be directed to discontinue work and/or be removed from consideration of future work on Caltrain property.

3. Caltrain/TASI safety and rules, industrial hygiene, environmental personnel and TASI project representatives are authorized to stop contractor operations where there is imminent jeopardy to the safety/health of personnel, or where damage to equipment, property, customers or the environment seems highly probable.

4. Caltrain/TASI contractor personnel need to comply with, applicable FRA, CalOSHA and/or OSHA regulations, EPA or equivalent state environmental regulations, and local fire and building codes and rules, some of which are referenced within this document.

5. This exhibit is not intended to identify all of the laws and regulations that contractors need to know and be in compliance when working on Caltrain property.

B. Reporting of Injuries/Illnesses/Property and Equipment Damage

1. Contractors need to promptly advise their CALTRAIN/TASI RWIC of work-related injuries/illnesses. The TASI RWIC needs to, in turn, report the contractor personal injury to the Manager of Train Operations (MTO) at the Central Control Facility (CCF) immediately. Contractors are responsible for meeting applicable CALOSHA/OSHA and FRA reporting and recordkeeping requirements.

2. As is the case with work-related injuries/illnesses, all damage to railroad property needs to be promptly reported to the responsible CALTRAIN/TASI RWIC.

3. TASI vehicles, equipment and tools are not to be operated or used by contractors without specific authorization from the responsible TASI superintendent. TASI employees are not to use or operate contractor vehicles, equipment, and tools, unless specifically directed by the TASI superintendent to do so, and only when the TASI employee feels qualified to safely operate the vehicle, equipment, or tool.

C. General Requirements

1. Horseplay will not be tolerated. Personnel witnessing such actions have the responsibility to intervene.
2. The use of pocket knives as tools is prohibited. Personnel need to be challenged to find the right tool/procedure for the specific job.
3. The possession of drugs, alcohol or weapons is prohibited.
4. Any contractor employee under suspicion of being under the influence of drugs and/or alcohol, or in the possession of same, will be removed from the immediate job-site and subsequently released to the custody of a representative of contractor management. As determined to be administered, drug and/or alcohol test(s), future access to the property will be dependent on negative drug and/or alcohol test results. If the result(s) are positive, the employee will be forbidden to return to work on Caltrain property.
5. Workers are not to wear/use items that impair hearing or vision. Listening to cellular telephones, personal radios, MP3 players, CD players, tape players or other electronic media is prohibited while on-site.
6. Do not walk, step, sit or stand on the rail. This is one of the very basic safety requirements on Caltrain property. Also, some rails are conductors of electrical current and are, therefore, an integral part of the railroad's operating system. Devices that could shunt electrical current are not to be laid across rails. No hand or portable power tools are to be left against the rails. Use a wooden lath to provide separation when taking measurements adjacent to rails.
7. Maintain adequate clearance around on-track railroad equipment. Do not cross between railcars/locomotives, or do not attempt to climb underneath railcars to reach the other side of the track. With the exception of properly authorized and secured tool cars, there should be no reason for contractor personnel to enter railcars. When passing in front of standing on-track railroad equipment, allow 50 feet of clearance.
8. Crossing immediately in front of moving equipment is prohibited. Do not make any movement towards an on-coming train or make any equipment moves in a manner that may lead the train engineer to think that you are about to cross or otherwise foul the track.
9. Do not attempt to grab onto and ride moving railroad equipment.

10. Maintain 25 feet of clearance from switches and do not operate switches, unless specifically directed otherwise by the responsible TASI RWIC.

11. Maintain a 15 foot clearance from the nearest main track/controlled siding/other track unless your work requires you to enter this area and you have specific instructions from the responsible TASI RWIC. (See Section Three for Roadway Worker Protection information).

D. Emergencies

1. The violent movement of arms will be taken as an indication by train engineers and the operators of other on-track equipment to **STOP.**

2. When giving a **STOP** signal of this type to an operator of rubber-tired equipment, make sure that it will not be mistakenly interpreted by the engineer/operator of an approaching train or on-track equipment as an indication for the engineer/operator to stop.

3. Should an emergency situation arise and your assessment indicates a need to stop the movement of trains and other on-track equipment, immediately contact the Caltrain emergency number: 800-872-4660.

4. When you have identified an emergency need to stop trains or on-track equipment, you can accomplish this by violently waving your arms or swinging your hard hat in a circular motion while standing away from the tracks. Remember, it may take a train a distance of up to 1/2 mile to come to a stop. Be sure that you have a clear emergency when taking this serious action, as there are risks of personal injury to train passengers, crew members and expensive mechanical repairs following a train executing an emergency stop.

E. Job Safety Briefings/Project Work Plans

1. Well thought-out job safety briefings can positively affect the safety, quality and productivity of projects. Third party contractors are required to conduct and document daily safety briefings with all employees working on their project. When RWP is required, a Caltrain/TASI Roadway Worker In Charge (RWIC) or Watchman will conduct an additional safety briefing; however, the emphasis of this safety briefing is working safely on or adjacent to tracks and will emphasize the type of protection for Roadway Workers. When agreed upon by the RWIC or Watchman, the RWP safety briefing and work crew safety briefing may be combined. Regardless, the RWIC or Watchman must have a good understanding of the day's work to facilitate the RWP safety briefing and safeguard RWP.

2. To develop your project work plan, as communicated through your job safety briefing:

   a. Review the job tasks to be accomplished;

   b. Inspect the job location/work area;

   c. Break each task into a step-by-step procedure addressing existing and potential hazards of each task and list precautionary measures that are to be implemented;

d. Determine tool, equipment and material needs; and, determine applicable safety rules and procedures.

e. Consider existing/potential hazards (not all inclusive):

(1) Weather conditions;

(2) Tools, equipment and materials to be used;

(3) Train, vehicular and pedestrian traffic;

(4) Overhead/underground hazards; and,

(5) Slip/trip/fall hazards.

3. Establish a safety zone ("15-foot circle of safety") around mobile construction equipment and tool operations. Other personnel are not to enter the circle of safety without first communicating with the operator/person using the equipment.

Example 1: After attending the main job-safety briefing for the group, Tom and Terry are going to manually lift and carry, as a team, a piece of construction material. Tom and Terry as a team need to have an additional job-safety briefing which would advise of such concerns as: sharp edges, tripping hazards in the path of travel, and emphasize that anyone who begins to lose their grip shouts a warning. These types of operations requiring additional safety- briefings for small groups of workers are not uncommon.

Example 2: Tom shows up to work today and is feeling "a little under the weather." He should have a good enough relationship with his supervisor that he could comfortably bring this to the attention of his supervisor. His supervisor would then be able to consider Tom's illness when assigning job tasks for that day.

4. Carefully explain job tasks to workers:

a. What is to be done;

b. Why it is to be done;

c. Where it is to be done;

d. How it is to be done;

e. Who is to do what tasks/portions of tasks; and

f. What safety precautions are necessary

5. When conducting a job safety briefing discuss existing or potential hazards and ways to eliminate them or protect against them.

6. Clearly define work assignments.

7. Make sure employees understand their assigned duties.

8. Solicit questions of the "how" and "why" type to determine the level of understanding.

9. Where jobs are somewhat complex consider briefing only a portion of the job at a time. Conduct additional briefings as the job progresses.

10. During the course of a job, should it become necessary to change plans or procedures, employees will brief on the changes made. Examples of changes:
    a. Changes in personnel. When a person approaches your job-site, a representative from your work group needs to meet the person before he enters the immediate job-site. Determine the person's reasons for visiting the job-site and conduct a job safety briefing with the visitor(s). Visitors need to be referred to the employee-in-charge (RWIC) to receive track authority information, as applicable.
    b. Changes in weather conditions
    c. Assignment changes; and
    d. Changes of equipment
11. Follow-up activities need to be conducted in support of a job safety briefing. The follow-up is conducted to:
    a. Verify compliance with plans;
    b. Verify correct work methods are being used;
    c. Verify assigned responsibilities are being carried out; and, identify and address new hazards.
    d. Notify all personnel of On-Track Safety changes.
12. All employees are responsible to see that the work plan is being carried out in accordance with the job safety briefing, and that the plan is modified when conditions change.
13. When an employee departs from the work site, the RWIC or Watchman will be notified. This is for the protection of the Roadway Workers and the RWIC or Watchman will know that the Roadway Worker is clear from the tracks.
14. Job De-Briefings. A recommended safety practice is to hold job de-briefings or work-day exit briefings with contractor workers at the conclusion of the work day. This meeting may include such topics as:
    a. Review what went well;
    b. Review opportunities for improvement;
    c. Prepare workers mentally for the trip home or back to headquarters;
    d. Identify slip/trip/fall hazards that may be encountered when leaving the job-site; and
    e. Emphasize safe driving.

F. Personal Protective Equipment (PPE)

1. Various items of personal protective equipment (PPE) need to be worn when on Caltrain property. Hardhats need to be worn at all times except when in office areas - performing office related activities, when in highway vehicles, or when in the enclosed cabs (with doors

and windows closed) of equipment. ANSI Z89. 1 is to be shown on a decal inside of approved hardhats. "Cowboy hat" type hardhats are not to be used on-site.

2. Safety shoes meeting the requirements of the applicable ASTM standards need to be worn at all times except when in office areas performing office related tasks. Safety shoes need to be above- the-ankle, lace-up boots with a well-defined heel, and safety toe. The safety toe may be steel or composite material. Sections 301.7 through 301.7.5 of Caltrain's Safety Rules provides the following requirements:

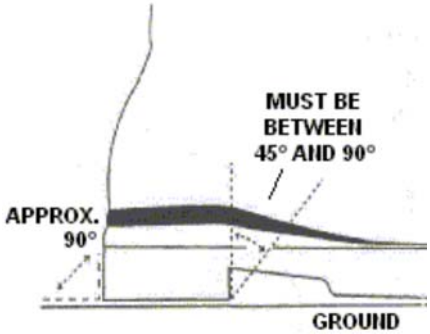
301.7: Footwear

When working on uneven terrain, on or near tracks, on cars, engines or other equipment wear footwear that affords support and protection. Footwear must have soles that provide good traction and thick enough to withstand punctures.

Footwear must be tied. Do not wear excessively worn footwear or footwear with loose soles or heels.
Unless you work exclusively in an office, you must not wear thin-soled or high-heeled shoes, sandals, athletic (sports) shoes or similar footwear.

301.7.1: Defined Heel

All employees, except office workers are required to wear footwear with a defined heel. A "defined heel" means that the back of the heel is at an approximate right angle from the sole of the shoe and from the ground when standing. The front of the heel must not be at an angle of less than 45 degrees from the sole of the shoe to the ground. Footwear with heels commonly called "riding heels" are not appropriate footwear and do not satisfy this requirement.



301.7.2: Covers the Ankle

Footwear that covers the ankle will be a lace up boot of approximately 6 inches or more in height. Employees who routinely work in the field must wear footwear that covers their ankles.

301.7.3: Required Footwear

When working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole of the foot or electrical hazard, protective footwear as defined by Cal/OSHA §3385 Foot Protection is required. All safety toe footwear must meet ANSI Z41.1, Standard Class #75. Cal/OSHA required footwear is required for the following departments:

1. Maintenance of Way
2. Maintenance of Equipment
3. Inventory Control

301.7.4: FRA Required Footwear

MOW workers are required to wear safety footwear that conforms to FRA footwear requirements for their specific task being performed.

301.7.5: Visitors and Contractors

Visitors and contractors must wear the same type of footwear as those with whom they are working. The individual responsible for the visitor shall ensure compliance.

3. Eye protection needs to be worn at all times except when in office areas performing office tasks or when in highway vehicles on paved roads or with windows up. The marking ANSI Z87+ appears on one of the temple bars of items of approved safety eyewear. An engraved monogram at the top center of safety glasses lenses, plain or prescription indicates that the lenses are in fact safety lenses.

   Safety glasses are available in three materials: glass, plastic and polycarbonate. Polycarbonate is the strongest of the materials. Polycarbonate is a high index material; therefore, polycarbonate lenses are lighter than glass or plastic lenses of like prescription. Glass has the best scratch resistance qualities.

   Safety glasses are to have permanently affixed side shields. The reason for this is to help ensure that a quality side shield is used, and to make sure that the side shields are in-place, when needed. Reflective/mirrored lenses are not to be worn when on-site.

4. Your eyesight is precious, always wear protective eyewear in all required areas and upgrade your protection to goggles, or face shield and goggles when faced with more severe exposures. Contractors need to have guidelines in place as to what tasks/conditions require the upgrading of eye protection from safety glasses to goggles or, in more severe eye hazard situations, to goggles under a face shield. Workers also need to receive training/counseling to help them to make good decisions in this regard.

5. ANSI Level II or III orange, retro-reflective work wear needs to be worn by engineering contractors working on the right-of-way areas at all times. This is a reflective florescent orange safety vest with reflective stripes permanently attached. **Caltrain RWIC's are the only persons who may wear florescent green reflective vests.** The contractor is responsible for verifying that the material of garment construction is appropriate for the work to be performed.

6. Hearing and respiratory protection need to be worn as designated by signage in TASI areas, and otherwise, in accordance with Cal/OSHA requirements for work being performed. This should be identified in the project work plan and job safety briefing.

7. Appropriate wet weather gear needs to be provided and worn, as necessary. Training in relation to wet weather safety as well as heat related disorders and precautions needs to be completed where appropriate.

8. Appropriate hand protection is required to be worn when actively engaged in work activities, except:

    a. When performing office activities;

    b. When operating highway vehicles;

    c. Where manual dexterity is required, and there is no potential for exposure to energized electrical systems, sharp projections, hot surfaces, or corrosive chemicals; or,

    d. When working in proximity to machines, where there is the possibility of gloves becoming entangled in moving parts.

9. No one glove type or material is good across-the-board for all work activities. Be careful to select the right glove and the right fit for the job.

10. Do not wear jewelry, wrist watches, long watch or key chains, or other suspended jewelry when they present a hazard around machinery or electrical lines and equipment.

11. Contractors do not need to use the same PPE manufacturers or suppliers as TASI, or follow the same program parameters, beyond what is stated above. There are Cal/OSHA requirements to provide training in the selection and use of PPE.

G. Electrical Work

Contractors performing electrical work are to comply with the procedural, personal protective equipment (PPE), and work wear requirements of Cal/OSHA and NFPA 70E, Standard for Electrical Safety Requirements for Employee Workplaces. It is the contractor's responsibility to verify that their personnel involved in electrical-related work activities have the required training and qualifications to safely perform this work.

H. Housekeeping/Materials Staging and Storage

1. Good housekeeping is critical to the prevention of many slip, trip and fall, and struck-on injuries. Contractors need to maintain clean work areas. Proposed storage locations need to be approved by the TASI RWIC. This approval is particularly important when proposing storage within 15 feet of the nearest main track/controlled siding/other track. Obviously material and equipment needs to be stored where it will not be struck by a train or on-track equipment, or where it will obstruct the view of railroad crossings

2. Keep walkways clean, and free of slip hazards such as spilled liquids, or materials that may lead to trips and falls. Post appropriate warning signs to identify workplace hazards.

I. Vehicles and Job-Site Access

1. Use established routes of travel. For emergency preparedness purposes, two means of egress should be available from right-of-way work areas. Should you see a need to establish a new or another route of entry/egress, to a work-site, be sure to obtain specific approval from the responsible TASI RWIC or superintendent.

2. Areas adjacent to the Caltrain right-of-way may be private property, or wetland or watershed areas and as such, access may be limited or prohibited.

3. To protect against unauthorized access and/or use, unattended equipment needs to be shut off, and left in-gear, with brakes set. Remove keys, and lock cabs, where so equipped. Buckets and blades need to be lowered to the ground.

4. Provide a lockable master battery disconnect switch. Verify that the master battery disconnect switch is left in the off or disconnect position and padlocked, when equipment is left unattended.

5. If equipment has an enclosed cab, consider installing a lockable hasp on cab access doors. Padlock equipment when left unattended. This will prevent the use of easily obtainable universal keys to access equipment cabs.

6. Do not leave unattended equipment within 15 feet of the nearest main track/controlled siding/other track, unless obtaining prior approval from the responsible TASI RWIC. Under no circumstances is equipment to be left where it is within 8' 6" of track centerline, or otherwise could be struck by a train, or materials on a train, or on-track equipment.

7. On and off track equipment, trains, or cars are not to be parked or stored within 250 feet of a crossing where it may interfere with the sight distance of vehicle operators approaching a crossing.

8. Do not park in areas of high grass or brush for fire reasons. Hot vehicle undercarriages can initiate a wild fire.

9. Come to a complete stop and verify clearance in both directions before driving across internal maintenance crossings that do not have automatic warning devices. Keep in mind that the angle of vehicle approach, door post design and width, trees, and structures can affect your ability to

clearly spot on-track traffic at a glance. Carefully look both ways then look both ways again. Avoid shifting gears when crossing tracks. Railroad vehicles do not have the right-of-way. TASI employees are not to use or operate contractor vehicles, equipment, and tools, unless specifically directed by the TASI RWIC to do so, and only when the TASI employee is qualified to safely operate the vehicle, equipment, or tool.

10. Contractors need specific authorization to operate hy-rail vehicles on Caltrain track. Where authorization is granted, a TASI Maintenance of Way rules-qualified employee will accompany the contractor. Remember to factor in grade, field of vision, track condition, and weather conditions when estimating the stopping distance of hy-rail vehicles.

11. Personnel who are passengers on on-track work equipment must have specific authorization from the equipment operator, and must:

    a. Be safely seated where specified by the operator;

    b. Not hang their feet over the sides or ends; and

    c. Remain alert, orderly and quiet.

12. Personnel must not ride on push cars except those designed for that purpose.

J. Hand and Power Tools

1. Hand and portable power tools need to be maintained and inspected in accordance with manufacturers' instructions. Defective tools need to be immediately removed from service, and labeled "out-of-service", or the equivalent, so that others will not inadvertently use them. Workers need to receive appropriate/required training in the inspection, maintenance and use of hand and portable power tools that they work with.

2. The use of ground-fault circuit interrupters, or the equivalent, where appropriate, needs to be in place at job-sites.

3. Pressurized hydraulic lines are not to be directly handled with bare or gloved hands. When trying to locate a leak in a hydraulic line, run a piece of wood or cardboard along the line. If leaks are detected, remove the equipment from service.

4. Extension cords will be inspected for exposed wires daily before use. Cords with defects will be removed from service until they can be properly repaired or replaced.

K. Longitudinal Positioning of Continuous Welded Rail (CWR)

1. Conduct a pre-job risk assessment which includes consideration of the following:

    a. Track geometry;

    b. Length of rail to be pulled;

    c. Length of pull;

    d. Equipment available for positioning rail;

    e. Accessibility of work area;

f. Identification of safe zones; and,

g. Experience of personnel – particularly operators of machines used to position rail

Risk assessment findings are communicated during job safety briefings.

2. Safe Zones

a. Rail Relay Gangs - When replacement rail is located in center of track, ground personnel are to be a minimum of 15 feet from rail being positioned. Personnel may remain on machines, in designated riding positions.

b. Other Rail Positioning Operations – Curve

All personnel are to be beyond the ends of the pull; or on the high side of track, a minimum of 15 feet from the rail being positioned.

Exception: Where highway flaggers need to be located at grade crossings in curves, a flagger on the low side must be at least 25 feet from the rail being positioned. Where practical, at crossings with anchored signal apparatus, a highway flagger on the low side is to establish a flagging position that is also protected from unexpected rail movement by the apparatus.

c. Other Rail Positioning Operations – Tangent

All personnel are to be beyond the ends of the pull, or 15 feet from the rail being positioned.

d. When establishing safe zones based on distance from rail being positioned, consider hazards associated with high fill locations and the crossing of tracks. **In all cases, when tracks must be crossed to reach a safe zone, expect movement at any time, on any track, in either direction.** Expect movement of unsecured CWR at any time.

3. Rail Positioning Operations

a. Before beginning to position rail, ensure the following steps have been taken:

(1) All personnel need to be in the designated safe zone.

(2) Clear and direct communications must be established and used. A ground person must be at the equipment positioning the rail in order to direct the movements of the operator.

b. Communication is essential.

(1) The operator of equipment positioning rail is to be facing the operation, where practical.

(2) Inspect and use chains, cables, pulling blocks, and other rail handling accessories that are designed and engineered for rail positioning operations.

(3) Rail tongs are *not* to be used for rail pulling operations.

(4) Use chains or cables of a sufficient capacity and length – minimum of 4 feet – so as to minimize the elevating of rail to be positioned.

(5) A "15 foot circle of safety" is to be established at each end of a rail positioning operation. No one is to enter the "circle of safety" without first communicating with the equipment operator. When establishing the diameter of the "circle of safety," considerations include:

(a) Boom/arm swing;

(b) Unexpected equipment or rail movement; and,

(c) Rigging failure.

(6) The diameter of the "circle of safety" must be communicated to all personnel involved in the operation.

L. Hazard Communication Program and Hazardous Materials

1. Hazard Communication Program Safety Data Sheets (SDS) are developed and provided by chemical manufacturers, distributors and importers. These documents provide important information about chemical products, including: hazardous ingredients, recommendations for storage/handling/use, health hazards, PPE recommendations and fire and spill information.

2. Copies of SDS need to be maintained with your work groups.

3. TASI RWICs' are to advise contractors of precautionary measures to be taken where there will be exposure to hazardous materials being used by TASI employees. Any questions regarding hazardous materials being used in TASI operations need to be directed, through your TASI RWIC, to the responsible TASI supervisor. The responsible TASI supervisor will provide you with the requested SDS.

4. In addition to maintaining SDS on-site, contractors need to verify that all chemical containers are labeled with the chemical name and appropriate hazard warning. Many safety equipment suppliers carry a large line of chemical labels and hazard warning decals.

5. Included in a Hazard Communication Program is a review of the types of information provided on a SDS, requirements for container labeling, and specific discussion of the hazards of hazardous materials worked with or around.

6. When performing work in occupied areas take adequate precautions to keep TASI personnel and other contractors from being exposed to noise, air contaminants, and/or eye hazards from operations such as saw cutting, cutting/welding, powder actuated tools, and the application of paints, sealants and adhesives.

7. Weed spray applicators need to have advance, *live communication* with the responsible TASI superintendents prior to initiating spray application. The exchange of voicemail messages regarding the intent to spray is not acceptable. The responsible superintendent is responsible for communicating weed spray plans to affected TASI and contractor workgroups.

8. Contractors will be held responsible for the costs of work interruptions occurring as a result of their negligence.

9. Asbestos containing materials (ACM) are not to be used in the construction or maintenance of Caltrain facilities. Contractor personnel are to immediately stop work activities and notify their responsible TASI RWIC upon encountering any materials suspected of containing asbestos.

10. Notices are posted in affected Caltrain structures to advise which materials in a building are known to contain asbestos, how much ACM is present, and where it is located.

11. Contractor's involved in asbestos removal activities need to work with their responsible TASI RWIC to ensure that personnel in adjacent work areas are fully aware of on-going activities and precautions that have been put in place.

12. Contractors are to refrain from using lead-based products; e.g., lead-based containing paints. When performing hot work on lead-containing work materials develop and implement work policies and practices that comply with the Cal/OSHA Lead Standards.

13. Contractors will have a written Hazard Communication Plan in compliance with Title 8 California Code of Regulations §5194.

14. Compressed gas cylinders of fuel gas and oxygen, whether full or “empty”, need to be separated in storage by a distance of 20 feet or by a barrier having a fire-resistance rating of at least one- half hour. Cylinders are to be secured in the upright position. A labeling system will be in place to distinguish full and in-use from empty cylinders.

    Exception: Some acetylene systems are designed to operate with the cylinders secured in a horizontal position.

M. Fire Prevention/Suppression

1. Open fires are prohibited on Caltrain property except in limited situations where specific permits have been obtained. Open fires are not to be left unattended.

2. Contractor personnel who may operate portable fire extinguishers or other fire suppression equipment need to receive appropriate, annual training. Portable fire extinguishers are to be visually inspected monthly, with an annual formal inspection. Other portable fire protection systems need to be inspected prior to the start of shift, with formal inspections as required by applicable regulatory requirements.

3. Contractors will ensure the proper fire extinguishers are provided and on the job site where their use may be needed.

4. Your job-planning activities and job safety briefings need to clearly define your fire prevention strategies and procedures (e.g.; spark shields, pre-wetting), availability and staging of on-site fire prevention and suppression equipment. During job planning meetings and job briefings address basic issues such as: no smoking in right-of-way areas in proximity to combustible vegetation; and no parking vehicles over dry vegetation.

5. Flammables and combustibles need to be stored, handled and used in accordance with local fire codes. Grounding and bonding procedures need to be followed when dispensing flammables. Metal safety cans are to be used for the storage of flammable liquids. DOT rated cans are to be used where required by regulation.

6. Work equipment can be fueled on Caltrain property; however the equipment must be turned off during the fueling process and precautions must be taken to avoid spills.

N. Blasting Operations

Handheld radios and other communications equipment that may interfere with blasting operations are not to be used within 250 feet of such operations. Special permits may be required for blasting operations.

O. Lockout/Tag out

1. TASI applies Cal/OSHA lockout/tag out regulations to construction activities and work equipment-related repair/service activities, as well as, to fixed facilities systems. Lockout/tag out procedures are used during the maintenance, repair or service of equipment or systems which could unexpectedly start up, energize or release stored energy.

2. Lockout/tag out operations, where TASI personnel and/or operations are affected, need to be coordinated with the responsible TASI RWIC and other, affected TASI personnel.

3. Contractors will have their own lockout/tag out policy. The policy must be available for review during regular business hours.

P. Tunnel Safety

There are several key safety and health considerations when completing construction activities in tunnels:

1. Ventilation (exhaust from work equipment)

2. Scrubbers/catalytic converters on equipment (required)

3. Industrial hygiene air monitoring for carbon monoxide (CO levels), Nitrogen Dioxide (for diesel engines) and possibly other airborne contaminants (required)

4. On-track safety (train traffic)

5. Access/egress

6. Proper lighting; fires are not permitted in tunnels

Note: California OSHA Tunnel Safety regulations are one source for guidelines for tunnel safety.

Q. Crane Safety

1. Maintain the displayed minimum clearances from high voltage lines. The most conservative distance, 45 feet, needs to be maintained when line voltage is unknown.
2. The operator should know boom height and distance to foul the track. Ensure appropriate protection is in place if the equipment can foul the track. The contractor will need to base this determination on a worst case scenario. An example of a worst case scenario would be, “If this crane were to fall over, will it foul the track?”
3. Do not stage or store materials in proximity to overhead lines, so as to place other personnel - other contractors or TASI employees - in a potentially hazardous situation during future material handling operations. Reference Chart Below

Power	Distance from Power Line
50 kV or below	10 feet
50 kV - 200 KV	15 feet
200 kV - 350 KV	20 feet
350 kV - 500 KV	25 feet
500 kV - 750 KV	35 feet
750 kV - 1000 KV	45 feet

4. In addition to electrical lines, overhead signal and telecommunications lines are present in Caltrain yards and rights-of-way. Be sure to address overhead clearance issues during job safety briefings for projects involving cranes. Use a ground man during crane operations when operating within “one boom length" of the identified clearance distance.

   Note: Similar concerns with overhead lines exist when operating equipment such as dump trucks, and using equipment such as ladders and poles.
5. Have procedures in place to remind personnel to properly stow booms and outriggers when preparing to travel.
6. All crane operators are to be appropriately trained in the operation of their equipment. Training needs to include familiarity with the load capacity chart specific to the equipment that they are operating. Outriggers are to be deployed as specified in the load chart.
7. Be sure to identify and address any potential underground hazards that may affect the safe operation of cranes and other heavy equipment.

R. Material Handling Accessories

1. Use only below-the-hook lifting devices that are certified by a qualified individual or manufacturer. Certified below-the-hook lifting devices will have a permanent nameplate or marking stating the following information:
   a. Manufacturer’s name
   b. Serial number

c. Weight of lifting device (when over 100 lbs.)

d. Rated load (capacity)

2. Contractors are to have a program in place for the inspection/ maintenance of below-the-hook lifting devices, slings and lifting chains.

3. Use taglines, or equivalent, to guide suspended loads as appropriate.

Section Two - Environment

A. Environmental Issues

1. Caltrain is committed to operate in a manner which will protect and enhance the environment. Caltrain will work to minimize hazardous material releases to the air, land and water.
   a. Protect adjacent ground and surface waters, such as wetlands and watersheds.
   b. Protect adjacent government, railroad and private property as reasonably practicable.
   c. Protect overhead and underground utilities on JPB property from sustaining damage.
2. It is suggested that prior to initiating work activities in right-of-way areas, contractors should consider taking photographs or careful notes to document any existing damaged fence lines or out-buildings on adjacent properties.
3. The guidelines shown below relate to Corps of Engineer concerns. These concerns are supported by the TASI Engineering group.
   a. Do not encroach on areas that could be considered wetland or watershed areas without proper authority.
   b. Do not place any materials in or immediately alongside waterways where materials may wash into waterways.
   c. Initiate appropriate pollution prevention and/or erosion control to protect wetlands from storm water run-off. Local jurisdictions may have specific regulations relating to:
      (1) Burning
      (2) Erosion control
      (3) Material storage
      (4) Extensive hauling
      (5) General work permits
4. Below are some actions that can be taken to protect the environment:
   a. Conduct a daily clean-up of the work area;
   b. Provide for the proper handling of hazardous wastes;
   c. Do not dump, bury or burn waste material on Caltrain property;
   d. Label all containers as to content and hazards;
   e. Provide a means to capture fluids leaking from parked equipment establish adequate dust control;

f. Wash work equipment only in areas where wastewater and contaminants can be contained; specific authorization from the TASI RWIC and superintendent needs to be obtained prior to the washing of any work equipment on Caltrain property.

5. Below are some actions that can be taken to protect the property of others:

   a. Keep gates closed at all times;

   b. Obtain access permission in writing;

   c. Protect all utilities; and

   d. Keep vehicles off private property.

6. Regarding the response to releases of hazardous materials:

   a. Comply with current environmental regulations – local, state, and federal requirements.

   b. Secure the area.

   c. Prevent run-off, especially into surface waters and/or storm water drains.

   d. Protect yourself, stay upwind.

   e. Report the spill/release to the TASI Dispatcher at 800-872-4660 prior to clean up.

   f. Clean up as directed by the product SDS if safe; if not, request Fire Department Haz-Mat team.

   g. Follow regulatory requirements for reporting releases of hazardous materials. Provide a copy of report(s) to Caltrain/TASI project representative.

7. Be sure to notify your Caltrain/TASI RWIC as soon as the spill or release situation is stabilized. This applies even in situations where a spill or release did not result out of your work activities.

8. Contractor personnel are required to participate in any evacuation drills scheduled and conducted at Caltrain facilities by Caltrain/TASI personnel.

9. Contractor shall have a spill response plan and kit on site.

B. Fall Protection for Railroad Bridges

1. With limited exceptions, FRA Bridge Worker Safety Standards require fall protection equipment to be worn when on railroad bridges where the distance from the top of the deck to the ground or water surface below is 12 feet or more.

   Exceptions are:

   a. When walking or working between the rails performing inspections and/or completing minor repairs;

b. Where walkways are present, and no deck openings exist through which a worker can fall; and

c. When the installation/use of a fall protection system poses a greater exposure to risk than the work to be performed (e.g. some bridge inspection activities), complete thorough risk assessment.

NOTES:

(1) Waist belts are not to be used for fall arrest at Caltrain.

(2) The use of nets for fall protection purposes requires the specific approval of the responsible TASI superintendent.

(3) Be sure to have procedures in place to address fall concerns below threshold heights.

2. Affected contractor personnel will need to have training in the inspection, maintenance and use of fall arrest/restraint equipment.

3. Workers need to maintain a minimum of 6 foot clearance from longitudinal openings in the deck through which a worker could fall and the edge of the deck. Whenever possible such openings need to be covered.

4. Challenge yourself and your co-workers to find ways to work within the requirements without always looking for loopholes.

5. Do not limit your concern to falls from elevations above height thresholds established by governmental agencies. Consider potential for falls from all elevations. Also include in your risk assessments the potential for slips/trips and falls on rip-rap, or steep slopes along the track structure and trips over old materials, tree roots in right-or-way areas, etc.

6. All items of fall arrest equipment need to be inspected prior to use. This includes personal fall arrest equipment such as full-body harnesses and lanyards, as well as items such as vertical and horizontal lifelines. It is critical that any horizontal lifeline systems be inspected after absences from the job-site, as unauthorized personnel may have tampered with the equipment. Inspections of fall protection equipment need to be documented. This is a Caltrain requirement that the FRA may audit.

7. Documenting that an inspection has taken place protects workers in the event of a conflict with assessment personnel, as documentation helps to verify that an inspection was, in fact, conducted. When equipment is shared, inspections and documentation become more critical.

8. Inspections are conducted in accordance with the guidelines of equipment manufacturers. Equipment found to be defective is to be immediately removed from service. “Out of Service”, tags or the equivalent, need to be used to prevent defective equipment from inadvertently being used.

9. Where fall arrest equipment is in use on railroad bridges, plans need to be developed for prompt rescue. Specialized rescue equipment, and related training, is necessary, for example, where horizontal lifelines are in use. A worker tied-off to a horizontal lifeline may be left suspended several feet below the bridge deck following the arrest of a fall.

10. Frequently, anchor point and lanyard arrangements can be employed so as to restrain a worker from reaching the edge of a bridge deck, where a fall from elevation can occur. In such cases, specialized rescue equipment would not be necessary; however, general emergency preparedness plans still need to be in place and communicated.

11. After a fall, even where an injury has not been sustained, all involved fall arrest equipment is to be immediately removed from service. Depending on the situation, equipment may be able to be returned to service after thorough inspection by the manufacturer. In other situations, equipment may have to be set aside and maintained for potential legal proceedings, or simply retired from service.

12. The responsible TASI RWIC is to be immediately notified of any falls from railroad bridges.

13. Life vests need to be worn when working over or adjacent to water four feet or more in depth, or where the danger of drowning is otherwise determined to exist.

    Exceptions are:

    a. When walking or working between the rails performing inspections completing minor repairs;

    b. Where walkways are present, and no deck openings exist through which a worker can fall; and

    c. Where wearing of life vests pose a greater exposure to risk e.g. when climbing the structure to perform bridge inspection activities.

14. Life vests are not required to be worn when wearing fall arrest equipment.

15. Where personnel are wearing life vests, ring buoys with 90 feet of line need to be readily available (spaced at 200’ intervals) and a small boat (skiff) needs to be available. A risk assessment needs to be completed prior to the start of work to determine whether the skiff needs to be manned and in the water, or standing by.

16. Flotation equipment needs to be inspected in the same manner as fall protection equipment. The FRA Bridge Worker Safety Standards (49 CFR Part 214 Subpart B) specify that safety shoes, eye protection and head protection be worn at all times when on railroad bridges.

17. The FRA can assess monetary penalties against a railroad or railroad contractor for failure to comply with the requirements of the Bridge Worker Safety Standards. An individual worker may be assessed a monetary penalty for a willful violation of these standards.

18. The FRA Bridge Worker Safety Standards (49 CFR Part 214 Subpart B) apply only to work activities on railroad bridges. Cal/OSHA General Industry or Construction fall protection regulations are to be applied to other activities and situations, including roofing work, where personnel are exposed to falls from elevation. The Cal/OSHA Standards - General and Construction - have effective thresholds that are significantly less than the 12 foot FRA threshold.

19. There are also Cal/OSHA standards that specifically address activities such as the construction and maintenance of telecommunication towers. These standards need to be complied with at all times.

20. Contractors are to ensure their personnel receive appropriate fall protection training for the tasks they will be performing and the equipment they will be using. Completion of fall protection training is to be documented on the contractor's Safety Action Plan.

C. Confined Space Safety

1. Contractor personnel involved in confined space activities need to comply with local, state, and federal requirements, to include having a written permit-required confined space program and being appropriately trained and qualified. This training needs to be documented in a Safety Action Plan. Following are some recommendations and are not intended to be all inclusive of regulatory compliance.

2. The TASI-accepted definition of a person qualified for confined space work is a worker who has been trained in the proper use of air monitoring and rescue/retrieval equipment and in anticipation, recognition, and evaluation of personnel exposure to hazardous materials and other potential adverse conditions of a confined space.

3. A confined space is defined by Cal/OSHA as a space that:

   a. Is large enough and so configured that an employee can bodily enter and perform assigned work;

   b. Has limited or restricted means for entry or exit, e.g., use of the hands or a contortion of the body to enter into or exit from the confined space;

   c. Is not designed or intended for continuous occupancy by personnel.

   d. A sub-set of confined spaces are permit-required confined spaces.

      A permit-required confined space:

      (1) Contains or has the potential to contain a hazardous atmosphere;

      (2) Contains a material that has the potential for engulfing an entrant;

(3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inward converging walls or by a floor that slopes downward and slopes to a smaller cross-section; or

(4) Contains any other recognized serious health hazard.

4. A hazardous atmosphere exposes personnel to a risk of death, incapacitation, impairment of the ability to self-rescue, injury, or acute illness.

5. Most confined space related illnesses / injuries and fatalities are caused by atmospheric hazards.

6. Some common examples of Permit-Required Confined Spaces on Caltrain property include:

   a. Sanitary and storm sewer systems

   b. Fuel Tanks

   c. Sand Towers (manhole entry points)

   d. Underground utility vaults

   e. Boilers

   f. Pipe/utility tunnels

   g. Covered hopper cars

   h. Ventilation and exhaust ducts

   i. Pits

   j. Some culverts (requires field assessment)

   k. Some excavations. When excavating on railroad property, the potential exists for disturbing soil where hazardous materials may have been spilled in the past. Such excavations, therefore, need to be considered, at least initially, as permit-required confined spaces.

7. Cal/OSHA standards allow for the downgrading of hazard level. Downgrading results in a reduced level of precautionary measures that would need to be in-place.

8. Alternate-Permit Required:

   Identified or recognized potential for a hazardous atmosphere which can be positively controlled by ventilation, and - no other identified safety or health hazards

9. Non-Permit Required:

   a. No recognized potential for hazardous atmosphere development; and

   b. No other identified safety or health hazards

10. Caltrain does not allow the downgrading of the following permit required confined spaces:

    a. Permit-required spaces associated with environmental treatment systems, including sanitary sewer systems

    b. Permit-required confined spaces that are entered vertically with workers subsequently moving significant distances horizontally, in a direction away from the entry point, for example below grade pipe tunnels.

11. Other TASI Pre-Entry/ Entry Requirements:

    In addition to the Pre-Entry/Entry Requirements specifically required by applicable Cal/OSHA standards, TASI has the below - listed specific requirements.

    Contractors need to:

    a. Use a confined space entry permit system;

    b. Coordinate entry operations with affected TASI personnel, where appropriate;

    c. Provide and use their own air monitoring and rescue equipment;

    d. Determine that outside emergency responders are available and equipped to handle rescues that may require entry into a confined space;

    e. Provide the responsible TASI RWIC with copies of closed-out permits; and,

    f. Advise the responsible TASI RWIC of any hazards encountered or created that were not listed on the space specific Confined Space Identification Form.

12. An attendant is not to enter a confined space to perform rescue activities. Those contractors involved in facility design work need to challenge themselves to develop designs that eliminate the need for maintenance personnel to enter permit-required confined spaces. Consider items such as locating pumps above grade, and minimizing exposures to maintenance personnel by reducing the distance between manhole entry points in pipe tunnel designs.

D. Excavation Work

1. "Excavation" means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal. Excavation work is one of the more hazardous construction activities. The major hazards encountered when performing excavation work are:

    a. Cave-ins;

    b. Falls;

    c. Adjacent structures;

d. Water accumulation;

e. Dangerous atmospheres;

f. Exposure to underground utilities; and

g. Material and equipment falling into excavations

2. A competent person is to be present at all excavation sites. The TASI accepted definition of a competent person for excavation work is a worker who:

   a. Is capable of identifying existing and predictable hazards and unsafe conditions; and

   b. Has the authority to take prompt corrective measures to eliminate hazards and unsafe conditions.

3. The competent person is also responsible for conducting inspections at the beginning of the shift and as needed during the course of the work shift. These inspections shall be documented.

Section Three - Roadway Worker Protection/on-Track Safety

A. Roadway Worker Protection/On-Track Safety

1. The FRA Roadway Worker Protection Standards became effective for Class I railroads and their contractors on March *15,* 1997. Although Caltrain is not a Class I railroad, the regulation applies.

2. TASI-published corresponding on-track safety requirements that became effective on Caltrain, including TASI contractor operations, on May 26th, 2012. A revision which includes this exhibit went into effect on April 1, 2015.

3. Notes:

   a. The terms “On-Track Safety” and “Roadway Worker Protection” are used interchangeably.

   b. Some contractors may have their own FRA approved Roadway Worker Protection (RWP) program. The contractor will need to submit a copy to TASI for their review. The contract employees will still need to complete the Caltrain RWP program.

   c. For the purpose of these requirements, all "contractors" working with TASI Engineering work groups, who will be within 15’ of the nearest main track/controlled siding/other live track, will be considered as Roadway Workers, and will be required to meet RWP requirements. Additionally, 15 feet from the nearest rail will be considered foul of track.

   d. The responsible TASI RWIC may set supplemental requirements.

   e. Contractors, who stay behind the yellow line at stations and provide cleaning services at stations, are not considered Roadway Workers and not subject to this requirement. They will still need to have the basic RWP training and do not need a TASI employee there providing watchman protection. The work is contained on the platform which is the same areas passengers stand and sit waiting for trains out of harm’s way.

4. The FRA Roadway Worker Protection Standards were developed to prevent accidents and injuries as a result of personnel being struck by trains and other on-track equipment.

5. Key distances:

   a. Third Party Contractors and their equipment are foul of the track when either is within 15 feet of the main track/controlled siding/other track. An approved RWIC will need to be present to ensure your safety within this envelope. When working just outside this envelope, an approved Watchman or RWIC may still be required. This is dependent on work to be performed,

equipment to be used, and/or potential to foul and to be determined through the request for approval of a Site Specific Work Plan (SSWP) and approval of the SSWP.

b. Contractors need specific authorization from their TASI RWIC to work within 15 feet of the main track/controlled siding/other track. This is communicated through the SSWP, and approved during the weekly SSWP meeting. The contractor will be provided the appropriate personnel for the protection they seek based on the distance they will work from the track.

c. TASI Maintenance of Way employees are the only authorized employees that may work closer than 15 feet of a main track/controlled siding/other track without protection.

6. Contractors working within 15 feet of the main track/controlled siding/other track must:

   a. Have specific authorization from the TASI RWIC to be in this work zone,

   b. Ensure affected personnel are trained annually by Caltrain/TASI personnel on the RWP rules. Wear the required PPE; and,

   c. Work with the responsible TASI RWIC to develop a project specific strategy for addressing On-Track safety.

7. Notes:

   a. The use of hardhats, armbands, belts, or gloves with orange backing alone to meet the high visibility retro-reflective requirements is not acceptable.

   b. Though the FRA Roadway Worker Protection Standards would allow the use of bright green as a high visibility work wear color, orange work wear is specified for use at Caltrain unless you are holding the position of RWIC.

   c. Promptly replace high visibility work wear when it becomes faded or damaged.

   d. Trains and engines are required to sound the whistle and ring the bell when approaching roadway workers - as identified by orange, retro-reflective work wear - who are on or near the track.

B. On-Track Safety Strategy Options Working Under Authority

1. Where third party contractor personnel or equipment may foul the track, and Train Approach Warning (TAW) is not appropriate, positive track authority will be obtained by the RWIC.

2. Examples of other third party contractor operations that will require an RWIC:
   a. Horizontal boring below the track structure, as an operation failure could result in humping or collapse of the track;

b. Use of cranes, pile drivers, telescoping lift trucks, or similar equipment, where boom swing or tipping of equipment would result in fouling the track;

c. Material handling operations such as some pole line removal operations, where material could fall and foul track

3. When a work group has a Form B in place, train crews are aware of the work group's presence and location. The train crew needs to contact the TASI employee-in-charge (RWIC) and receive permission to pass through the section of track covered by the Form B authority.

4. There may be other situations where a TASI RWIC may require an additional TASI employees to provide assistance which includes:

a. Large numbers of contractor personnel working near or within 15 feet of the main track/controlled siding/other track.

b. A large concentration of contractor rubber-tired or off-track equipment working near or within 15 feet of the main track/controlled siding/other track.

c. The responsible TASI RWIC has minimal or no previous work experience with the contractor working near or within 15 feet of the main track/controlled siding/other track.

d. Concerns with high track speeds and/or limited sight distance.

e. Notes:

(1) In some cases a flagman may be required or otherwise used for a portion of a project with other options for on-track safety selected for the balance of a project.

(2) TASI RWIC's are responsible for the on-track safety aspects of the work, as opposed to the overall operation.

(3) A level of discretion will be used to determine the type of protection, and the number of people needed to provide this protection. It is TASI Engineering managements' goal to ensure each and every person working on the Caltrain corridor is free from the fear of being struck by a train or on-track equipment. TASI will adjust the protection appropriately which may result in providing additional protection if deemed necessary.

C. The Roadway Worker In Charge (RWIC)

1. The Roadway Worker In Charge (RWIC):

a. Obtains track authority or provides protection;

b. Establishes the warning method to notify personnel of the need to clear for trains/on-track equipment;

c. Notifies personnel when to occupy, clear and re-occupy the track and adjacent work area;

d. Identifies the place(s) of safety where personnel are to go to when clearing the track for traffic; and,

e. Conducts job safety briefings to cover the aforementioned information.

f. RWIC does not mean “Flagman”. An RWIC is the employee in charge of the work group. This is any Caltrain/TASI employee placed at the site to provide On-Track Safety, that establishes themselves as the “RWIC”.

2. Unless specified otherwise in contract language, TASI personnel are used to perform RWIC/On-Track Safety duties because they are Maintenance of Way On-Track-Safety Manual - qualified, current in on-track safety training, physical characteristics training and have access to Caltrain timetables, General Orders, radios, and required paperwork.

D. Types of Authority

1. Some forms of authority are more commonly used than others, some are rarely used. Track Bulletin Form B is the form of authority most commonly used in conjunction with projects involving contractors. Other forms of authority are as follows:

   a. Track and Time

   b. Track Bulletin Form C – Track Removed from Service

   c. Local Control

2. To be discussed in the job safety briefing conducted by the RWIC, as applicable:

   a. Designation of employee-in-charge, method of on-track safety, limits of authority (time duration, milepost-milepost) (record this information and carry on-person)

   b. Tracks that may be fouled

   c. Control of movements on adjacent tracks and procedures for on-track safety on adjacent tracks

   d. Means of providing a warning to clear the track and adjacent work area, identification *of* the place(s) of safety

   e. Designated work zones around machines

   f. Distances to be maintained between on-track machines when in work mode and traveling

3. Work equipment spacing as listed in the above referenced Maintenance of Way Operating Rules:

   a. 300 feet when traveling

b. 40 feet when working *

c. 50 feet when bunched at crossings *

* This distance may be reduced when having a good reason, and as covered in your job safety briefing. This exemption is not to be used on a routine basis.

4. The work zone extends 25 feet longitudinally to the front and rear of on-track work equipment. The safe working zone to the sides of on-track work equipment varies based on movements of machine parts. A job safety briefing needs to be conducted with the machine operator prior to entering this work zone.

5. Remember, that in addition to on-track safety issues, job safety briefings need to cover other aspects of the work being performed and emergency preparedness issues.

6. Follow-up job safety briefings need to be conducted when conditions or procedures change, or the method of on-track safety is changed, extended, or to be released.

E. Train Approach Warning (TAW) and Watchman

1. During the job safety briefing the TASI Maintenance of Way On-Track Safety Manual - qualified watchman, who is qualified in determining distances and has current qualification in on-track safety training and is equipped with a Caltrain radio:

   a. Identifies the place of safety

   b. Communicates to workers the method of warning

   c. Devotes full attention to the detection of trains; and,

   d. Completes the Statement of On-Track Safety, which is maintained by the watchman on-person.

2. The warning method used by a watchman needs to be:

   a. Distinctive and clear**;**

   b. Non-visual (A light or flag that is being waved; for example, would not be seen by personnel who may be turned and working or walking in the opposite direction.);

   c. Distinguishable above background noise; and

   d. Identified in the job safety briefing

3. Contractor employees will not serve as watchman or advance watchman.

4. Third party contractors require On-Track Safety when they are working within 15 feet of the nearest main track/controlled siding/other track.

5. Only TASI Maintenance of Way employees are permitted to work within 15 feet of the nearest of a main track/controlled siding/other track without protection.

F. Track Protection on Other than Main Track

1. Switches are:
    a. Lined against movement, properly tagged, spiked, clamped, or locked;
    b. Have a red flag/ light with a derail in place.
2. This is performed by a TASI Maintenance of Way On-Track-Safety Manual - qualified employee, unless specified otherwise in contract language.

G. Options When Not Working Foul of Track

The FRA's "foul of track" zone has no vertical limit. When involved in the construction of an overpass, for example, and when working above the immediate track area, the same requirements apply as if working "foul of track" at ground/track level. Common sense dictates, however, that when an overpass is complete except for minor tasks, and there is no potential for material, equipment or personnel fouling the track, it is not necessary for workers, upon notification of the approach of a train, to leave the overpass area above the "foul of track" zone and move to a place of safety. The Caltrain/TASI project representative and RWIC needs to concur with such a plan, and expectations need to be clearly communicated during the job safety briefings.

H. Other Information

1. While contractors may offer suggestions regarding On-Track Safety strategies, the Caltrain/TASI safety representative has the absolute final decision. Different TASI project representatives will not necessarily select the same on-track safety strategy option in like situations.
2. As information, when workers are crossing the track (e.g., to go from a job-site to a building or to their vehicle), the FRA Roadway Worker Protection Standards do not apply. It is critical, however, that workers look both ways and ensure that the track is clear in both direction. Expect movement on any track, at any time, and in either direction! This does not apply to equipment or heavy machinery!
3. Workers crossing the track are not to be carrying heavy and/or awkwardly shaped work materials, equipment, or objects which, hinder their smooth movement across the track, or where - should they drop the item, it would foul the track and create a hazard for trains and on-track equipment.
4. The FRA Roadway Worker Protection Standards require that operators of on-track equipment be:
    a. Trained and certified as competent to operate on-track equipment. TASI Engineering does not provide this training.
    b. Operators are to be familiar with the information in a machine's operating manual; manuals are carried on items of work equipment.

c. TASI provides a basic machine operator safety course. This course is not designed to qualify an operator on any specific piece of equipment. The purpose is to provide basic safety information. The third-party contractor is responsible for ensuring their operators are trained and competent to operate the equipment.

d. Contractors need to have a program in-place to establish competency in work equipment operators.

e. This training, when applicable is listed in a contractor's safety action plan.

f. These same requirements need to be applied to rubber-tired work equipment.

I. SSWP Process

1. All work on the Caltrain property must be submitted and approved through the Site Specific Work Plan Process (SSWP). This section does not identify the specific requirements of the SSWP process. A copy of the SSWP Process should be obtained from the Caltrain project manager.

2. Weekly meetings are convened to coordinate resources for approved SSWPs near conclusion of the process. The type of protection needed will be discussed during this meeting. A representative from Caltrain/TASI will identify the type of protection needed based on the type of work taking place. Contractors can request a certain type of protection, however it is Caltrain/TASI employees providing the protection and they will make the final determination for the type of protection to be provided.

J. Good Faith Challenge

Employees must cooperate and assist in carrying out the rules and instructions. They must promptly report any violations to the proper supervisor. They must also report any condition or practice that may threaten the safety of trains, passengers, or employees, and any misconduct or negligence that may affect the interest of the railroad.

Good Faith Challenge

1. Right to Challenge

a. Federal Railroad Administration (FRA) regulations have provisions that allow an employee the right to challenge a directive which, based upon the employee's good faith determination, would violate a railroad operating rule relating to:

(1) Shoving moves,

(2) Leaving equipment foul of an adjacent track, or

(3) Handling of hand-operated switches or fixed derails.

(4) On-Track Safety Procedures (49 CFR Part 214.311 b).

(5) Operating On-Track Roadway Maintenance Machines that do not comply with FRA regulations or has a condition that inhibits its safe operation (49 CFR Part 214.503 a, b).

b. These federal regulations are not intended to abridge any rights or remedies available to the employee under collective bargaining agreements or Federal law.

2. Good Faith Challenge Procedure

a. The employee may inform their supervisor issuing a directive that they have made a good faith determination that the directive would violate a railroad operating rule relating to:

(1) Shoving moves,

(2) Leaving equipment foul of an adjacent track, or

(3) Handling of hand-operated switches or fixed derails.

(4) On-Track Safety Procedures (49 CFR Part 214.311 b).

(5) Operating On-Track Roadway Maintenance Machines that do not comply with FRA regulations or has a condition that inhibits its safe operation (49 CFR Part 214.503 a, b).

b. The supervisor will not require the employee to comply with the directive until the challenge is resolved. The supervisor may:

(1) Require the challenging employee to perform other tasks not related to the challenge until the challenge is resolved,

Or

(2) Direct an employee, other than the challenging employee, to perform the challenged task before the challenge is resolved. Employee so directed will be informed of the challenge, and determine that the challenged task does not violate the rules.

3. Resolving Good Faith Challenge

a. A challenge may be resolved by one of the following:

(1) The supervisor's acceptance of the employee's request.

(2) An employee's acceptance of the directive.

(3) An employee's agreement to a compromise solution acceptable to the person issuing the directive.

b. If the challenge cannot be resolved because the supervisor issuing the directive has determined that the employee's challenge has not been made in good faith or there is no alternative to the direct order, the railroad will:

(1) Provide immediate review by at least one manager, which must not be conducted by the supervisor issuing the challenged directive or that supervisor's subordinate.

(2) Resolve the challenge using the same options available for resolving the challenge as the initial supervisor.

c. If the manager making the final decision concludes that the challenged directive would not cause the employee to violate any requirement of the involved rules, the reviewing manager's decision shall be final and not be subject to further immediate review.

(1) The manager will inform the employee that federal law may protect the employee from retaliation, if the employee's refusal to do the work is a lawful, good faith act.

(2) The employee making the challenge will be afforded an opportunity to document in writing, any protest to the manager making the final decision before the employee's tour of duty is complete. The employee will be afforded the opportunity to retain a copy of the protest.

4. Resolving Challenges to On-Track Safety Procedures

a. All roadway workers are guaranteed the right to challenge in good faith whether the on-track safety procedures applied at their work location comply with the MOW-OTS Manual and to remain clear of the track until resolved.

b. When making a good faith challenge, inform the RWIC before the on-track safety rules are misapplied, if possible. Otherwise, inform the RWIC before fouling the track.

c. As set forth in the Caltrain On-Track Protection/RMM Safety Good Faith Challenge Form (Exhibit E), a challenge is resolved as follows:

(1) The challenging individual informs the RWIC that he or she does not believe the method of on-track safety at the work location complies with the MOW-OTS Manual.

Note: Individuals will not be subject to retribution or punishment for making a good faith challenge.

(2) The RWIC reviews the on-track safety procedures with the challenging individual to determine if proper procedures have been or will be applied.

(3) If the challenging individual is still not convinced that the on-track safety procedures comply with the MOW-OTS Manual, the RWIC contacts the next level supervisor. The supervisor reviews the on-track safety procedures and determines if the procedures are being properly applied.

(4) After that review, if the challenging individual still is not convinced that the on-track safety procedures comply with the MOW-OTS Manual, the RWIC and the next level supervisor contact the Deputy General Manager Safety Training & Compliance. The person contacted reviews the on-track safety procedures and determines if the procedures are being applied properly.

(5) If the determination is that the on-track safety procedures are not being applied properly, the RWIC modifies the procedures as required.

Or,

(6) If the determination is that the on-track safety procedures are being applied properly, the challenge is considered resolved, and the RWIC will instruct the challenging individual to perform his or her assigned duties.

(7) Note: Challenges that progress to the next level supervisor are documented by that supervisor. The DGM-MOW reviews this documentation within 1 month of the challenge. A union representative is invited to participate in this review.

5. Request for Review and Verification of Decision

Upon written request, at the time of the challenge, the employee has the right for further review by the “DGM-STC”. Within 30 days after the expiration of the month during which the challenge occurred, the DGM-STC” will verify the proper application of the rule in question. The verification decision shall be made in writing to the employee.

Abbreviations Used in This Document

ANSI: American National Standards Institute

ASTM: American Society for Testing and Materials

CCF: Central Control Facility

CWR: Continuous Welded Rail

DGM-STC: Deputy General Manager Safety, Training and Compliance

EPA: Environmental Protection Agency

FRA: Federal Railroad Administration

kV: Kilovolts

MOW: Maintenance of Way

MOW-OTS: Maintenance of Way On-Track Safety

MSDS: Material Safety Data Sheets

MTO: Manager, Train Operations

NFPA: National Fire Protection Association

OSHA: Occupational and Safety Health Administration

PPE: Personal Protective Equipment

ROW: Right of Way

RWIC: Roadway Worker In Charge

SDS: Safety Data Sheet

SSWP: Site Specific Work Plan

TASI: TransitAmerica Services, Inc.

Exhibit G – Policy on On-Track Roadway Maintenance Machines on Non-Controlled Track

.

This policy applies to anyone operating on-track maintenance vehicles - weed spraying machines and or rail flaw detection cars.

When an on-track machine listed above is operating on non-controlled track, the following conditions will apply:

1) **Notification to nearby on-track movements**
    a. The operator of the affected on-track machine will contact the CCF and inform them of their location and activities.
    b. The CCF will notify any on-track movements nearby of the presence of the above operation.
    c. The on-track machine operator will use the appropriate radio channel to communicate with any nearby on-track methods.
2) **On-track movements**

    All on-track movements associated with the activities above shall operate at restricted speed.

3) **Applicable Safety Devices**

    The above mentioned machines will have the following safety devices in working order:

    a. An operative 360-degree intermittent warning light or beacon.
    b. Work lights, which must be used during the period between on-half hour after sunset and one half-hour before sunrise or in dark areas such as tunnels, unless equivalent lighting is otherwise provided
    c. An illumination devise, such as a headlight, capable of illuminating obstructions on the track ahead in the direction of travel for a distance of 300 feet under normal weather and atmospheric conditions.
    d. A brake light activated by the application of the machine braking system, and designed to be visible for a distance of 300 feet under normal weather and atmospheric conditions.
    e. A rearward viewing device, such as a rearview mirror.

A FEW WORDS ABOUT SAFETY

TASI has a four-point approach to safety: Focus, Commitment, Teamwork, and Excellence in Safety.

Focus
Maintaining a safe course starts with focus. Focus is the act of directing attention and concentrating on a specific activity or task at hand. It is a deliberate act designed to prevent unnecessary thoughts or actions from interfering and distracting an employee or a group of employees.

Commitment
Keeping focus requires a commitment from each and every employee. Commitment is not just a promise to remain focused on safety, but it is an attitude. Commitment is an attitude that acknowledges that nothing can be placed ahead of safety.

Teamwork
When that commitment to maintain focus is made, it creates teamwork. Teamwork is a group with each member performing their equal part and submitting their personal needs to the needs of the group. Teamwork is not taking a short cut because it may affect the personal safety and wellbeing of a member of the team. Teamwork is speaking out when something is not quite right or a member of the team needs to take a safer course.

Excellence in Safety
All of these together lead to excellence in safety. Excellence is a state of exceptional quality and setting the bar higher and higher. Excellence in safety leads to less accidents and less injuries. It also leads to increased employee morale and self-worth. Excellence in Safety is a commitment to the TASI team to remain focused on safety at all times.