

From: VTA Board Secretary

Sent: Friday, July 9, 2021 12:09 PM

To: VTA Board of Directors

Cc: VTA Board Secretary

Subject: From VTA: Confirmation of a Board of Directors Special Meeting - July 13, 2021 @ 2:00 p.m.

VTA Board of Directors:

A Board of Directors Special Meeting has been confirmed for the following date/time:

Tuesday, July 13, 2021

2:00 p.m. – 5:00 p.m.

Thank you.

Office of the Board Secretary
Santa Clara Valley Transportation Authority
3331 North First Street, Building B
San Jose, CA 95134-1927
Phone [408-321-5680](tel:408-321-5680)



From: VTA Board Secretary
Sent: Friday, July 9, 2021 5:49 PM
To: VTA Board of Directors
Cc: VTA Board Secretary
Subject: VTA Correspondence: Week ending July 9, 2021

VTA Board of Directors:

We are forwarding to you the following correspondence:

From	Topic
Roland Lebrun, Member of the Public	Comments addressed to the Caltrain Board pertaining to: 1) Stadler EMU interim revenue service (Plan B); 2) Item #8 Background behind recommendation to terminate Contract w/Alstom Signaling Operation LLC; 3) Item #8 Contract with Alstom Signaling Operations LLC for Signal Systems Modification; 4) March 2021 PMOC report; 5) Caltrain Finance Item 4.c., On-call Transportation Planning and Consultant Support; and 6) Repayment to SamTrans for the acquisition of the Caltrain right of way

Thank you.

Office of the Board Secretary
Santa Clara Valley Transportation Authority
3331 North First Street, Building B
San Jose, CA 95134-1927
Phone [408-321-5680](tel:408-321-5680)



Conserve paper. Think before you print.

From: Roland Lebrun

Sent: Tuesday, July 6, 2021 12:02 AM

To: Caltrain Board <board@caltrain.com>

Cc: MTC Info <info@bayareametro.gov>; SFCTA Board Secretary <clerk@sfcta.org>; VTA Board Secretary <Board.Secretary@vta.org>; Caltrain CAC Secretary <cacsecretary@caltrain.com>; SFCTA CAC <cac@sfcta.org>

Subject: [EXTERNAL] Stadler EMU interim revenue service (Plan B)

Dear Caltrain Board,

Further to the recent announcement that the first EMUs will be delivered in 2022 but that electrification (including signaling) may not be fully operational until mid-2025, I believe that the time has come for the Board to consider a diesel-electric hybrid alternative during the transition to fully-electrified revenue service.

Background

- Gallery railcars are over 35 years-old (5 years above life expectancy) <https://www.caltrain.com/about/statsandreports/commutefleets.html>
- There is no existing secure storage capacity for EMUs while the current railcars are in service
- The Stadler warranty period will start when the EMUs are delivered (NOT when they enter revenue service)
- **The EMUs were designed with coupler adapters designed to rescue a stranded train in an emergency** (EMU RFP Section 5 attached for your convenience).

"5.4 COUPLER ADAPTER

*If automatic couplers are provided, **the Contractor shall supply coupler adapters for coupling to the existing diesel fleet.** Each cab car shall be equipped with one coupler adapter to allow it to be connected to a conventional AAR Type-E, F, or H coupler. The removable adapter shall have a maximum weight of 65 pounds and be located outside of the car and in a position such that it will require minimal effort for the Operator to remove, install and replace the adapter in its holder. It shall be able to withstand 100,000 pounds in buff or draft without permanent deformation. The operator shall be able to manually install or remove the adapter alone and without tools. **It is anticipated that the adapter will be used during emergency or rescue situations only.**"*

Proposed testing plan

The proposal is to send two Caltrain locomotives (one F40 and one MP36) to the FRA's testing facility in Pueblo, Colorado and **certify that the coupler adapters, as designed, are capable of supporting safe and reliable revenue service in push/pull mode for a minimum of three years,**

as follows: six push and six pull 7-car EMU tests at the following speeds: 65, 70, 75, 80, 85, 90 MPH for a total of 12 tests/locomotive.

The above 24 tests will be repeated with an 8-car EMU consist (total 48 tests).

The objective of these tests is to certify the following:

- That hybrid consists can be operated **safely and reliably in revenue service** at speeds of 60-79 MPH
- The existing F45 and MP36 locomotives are powerful enough to push/pull 7 and 8-car EMU consists **loaded at 150% of capacity** (Baby Bullet and special event service)
- The optimal consist configurations for Baby Bullet, Express and Local service (observed acceleration/deceleration curves)
- **That the coupler adapters, as designed, will survive the delivery trip from Salt Lake City and/or Pueblo to the JPB** <https://www.railwayage.com/passenger/intercity/first-siemens-brightline-cars-depart-sacramento/>



First Siemens Brightline trainset departs Sacramento - Railway Age

Siemens announced Dec. 14 that its first Brightline trainset, comprised of two locomotives and four coaches adorned in Brightline Blue, is complete and has left the company's manufacturing hub in Sacramento, Calif.. The first trainset is approximately 489 feet long and is being transported across the country via rail, journeying 3,052 miles from Sacramento to Florida.

www.railwayage.com

Respectfully submitted for your consideration.

Roland Lebrun

CC

MTC Commissioners
SFCTA Commissioners
VTA Board of Directors
VTA PAC

Caltrain CAC
SFCTA CAC
VTA CAC

SECTION 5 - COUPLERS, DRAWBARS AND DRAFT GEAR

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5.1 GENERAL

The coupler system shall be service proven and shall meet the requirements of all applicable FRA regulations, and APTA and AAR Standards and Recommended Practices. All like vehicle types shall have identical coupler systems. The coupler system shall be either a conventional system, using an APTA Type-H Tightlock coupler or an automatic system that will make all mechanical, pneumatic, and electrical trainline connections. Semi-permanent couplers, such as drawbars, may also be proposed for use at non-cab ends of cars.

The coupler connections shall permit operation of up to eight vehicles in a train under normal conditions through electric and pneumatic trainlines. If automatic couplers are used, coupler controls shall be located in each operator's cab and outside the vehicle near each automatic coupler.

The coupler and draft gear shall have the strength needed to allow, under emergency conditions, a train of eight vehicles with an AW3 passenger load to push or pull an inoperable train of up to eight vehicles with an AW3 passenger load, without damage to the coupler or its anchorage.

Pushback couplers shall meet all the requirements of APTA PR-CS-RP-019-11, Pushback Couplers in Passenger Rail Equipment.

The Contractor shall provide a complete System Functional Description (SFD) for all systems, subsystems, components and devices, contained within this specification section. The SFD shall be in the form of a narrative description, with attendant electrical schematics and mechanical drawings, sufficient for the JPB to fully understand every aspect of the design and operation of the equipment specified in this section, and to make an engineering-based decision as to its acceptability for the Caltrain application.

5.2 CONVENTIONAL COUPLERS

Where conventional couplers are provided, they shall be of an APTA Type-H Tightlock design. Electric and pneumatic connections shall be made through use of inter-car jumpers utilizing AAR pneumatic fittings and Amtrak style electric connectors.

There shall be no permanent deformation in the couplers or in any other component during a 4 mph collision. Reference Section 3.1.4.1.1 for the parameters of this collision scenario.

5.2.1 MECHANICAL

5.2.1.1 Coupler and Yoke

Type-H Tightlock couplers and yokes shall comply with APTA Recommended Practice RP-M-003-98. Each coupler shall have an automatic horizontal centering device that aligns an unloaded coupler to carbody centerline. It shall be possible for two cars to automatically couple on a maximum degree horizontal curve shown on the Caltrain profile and alignment charts. An override of the centering device shall be provided to allow coupling in tight curves.

The gathering range of the coupler shall not be less than 3 3/8 inches in all directions with the coupler at the nominal operating height. The coupler gathering range shall be sufficient for two

cars to automatically couple on tangent track when each coupler is maintained within the tolerance stated in Section 5.2.1.3, and each coupler is positioned at the opposite limit of the gathering range. Tests shall be conducted to confirm the gathering range.

5.2.1.2 Draft Gear

The draft gear shall have rubber cushioning which shall be effective in both buff and draft in normal train operation.

For alternative structural compliance designs, a push-back, release function shall be incorporated. The draft gear shall not engage non-recoverable energy absorption below 4 mph (reference CEM collision Scenario 1 of Section 3.1.4.1.1). At speeds over 4 mph, the coupler will push back and engage the energy absorption device. The Contractor shall provide calculations detailing the energy management of this feature. A telltale device shall be incorporated to provide obvious indication that the function has been triggered.

For Tier I compliant structural designs, the above requirements shall apply if a CEM coupler design is offered.

5.2.1.3 Coupler Carrier

Each coupler shall have a carrier that maintains nominal coupler height while allowing vertical dynamic motion. The coupler carrier shall be designed to adequately and consistently support the coupler through its full range of vertical and horizontal movement, and shall maintain the coupler at a nominal height of 34.5" ATOR. The coupler carrier and centering device shall be adjustable to allow maintenance personnel to correct for wheel, truck, suspension, and carbody wear. The coupler location shall be maintained within ± 0.75 inches vertically and ± 0.75 inches horizontally of its nominal, centered position on level, tangent track with new wheels under all static conditions from AW0 to AW3. Coupler adjustment shall not be required more frequently than 92-day intervals.

5.2.1.4 Uncoupling Lever

Uncoupling levers shall be provided that comply with APTA Standard SS-M-016-06 and 49 CFR 238. The uncoupling lever shall not cause unintentional uncoupling as a result of any possible coupler movement.

5.2.1.5 Energy Absorption

For alternative structural compliance designs, an energy absorption feature shall be provided that will automatically engage when the push-back release function is triggered. The minimum stroke of the system shall be sufficient to allow the anti-climbers to fully engage. The device shall have a replaceable cartridge or be of a self-resetting hydraulic design.

For Tier I compliant structural designs, the above requirements shall apply if a CEM coupler design is offered.

The Contractor shall submit all energy-absorption system design information, including an energy-absorption analysis and actual test results showing applied force, compression distance traveled, and calculations demonstrating the performance of the energy absorption system.

5.2.2 ELECTRICAL

Electrical connectors shall be provided at the cab ends to maintain trainline continuity when EMU's are coupled. Intercar jumper cable assemblies shall be provided for each connector. The control system shall automatically reconfigure the trainlines and car ends after the cars are coupled and intercar jumpers connected.

The Contractor shall provide an special MU jumper cable between locomotive and the EMU to release the EB brakes and activate any other trainlines as needed to fully use the pneumatic brake pipe to safely tow and brake a dead 8 car EMU with functioning pneumatic brakes for maintenance and emergency operations.

5.2.3 PNEUMATIC

Pneumatic hoses shall be coupled manually and shall comply with applicable AAR standards. Each end of each vehicle shall be equipped with a 1-1/4 in self-locking ball type AAR approved angle cock on the air brake trainline pipe. Each end of every vehicle shall be provided with a 1 inch self-vented cut-out cock with a locking handle on the main reservoir trainline pipe. The system shall be compatible with JPB locomotives for rescue. Unintentional uncoupling and break-aparts shall cause emergency brakes to be applied.

5.3 AUTOMATIC COUPLERS

Where automatic couplers are provided, they shall provide fully automatic mechanical, electrical and pneumatic connections between mating cars.

There shall be no permanent deformation in the couplers or in any other component during a 4 mph collision. Reference Section 3.1.4.1.1 for the parameters of this collision scenario.

5.3.1 MECHANICAL COUPLER

5.3.1.1 General

The mechanical coupler shall be slack free and self-locking. The coupler shall be supported such that nominal coupler height is maintained while allowing vertical dynamic motion. The Contractor shall provide technical specifications, drawings, schematics, maintenance instructions and any other information requested by JPB to determine the suitability of the mechanical head.

The Contractor shall provide all special tools, as necessary for the maintenance and repair of the coupler and coupler mechanism.

5.3.1.2 Geometric Requirements

The coupler, drawbar, and draft gear shall be designed and constructed such that coupled cars shall be able to negotiate the horizontal and vertical curves on all classes of track, as specified in Section 2.2.2. This requirement shall remain valid when one car has worn wheels and deflated air springs and the other has new wheels and the air springs are at their up-stop limits.

The coupler support and centering device shall be adjustable to allow maintenance personnel to correct for wheel, truck, suspension, and carbody wear. The coupler location shall be maintained within ± 0.75 inches vertically and ± 0.75 inches horizontally of its nominal

position on level, tangent track with new wheels under all static conditions from AW0 to AW3. Coupler adjustment shall not be required more frequently than 92-day intervals.

The gathering range of the coupler shall not be less than 3 3/8 inches in all directions with the coupler at the nominal operating height. The coupler gathering range shall be sufficient for two cars to automatically couple on tangent track when each coupler is maintained within the above stated tolerance, and each coupler is positioned at the opposite limit of the gathering range. Tests shall be conducted to confirm the gathering range.

5.3.1.3 Coupler Head

The coupler head shall be slack free and self-locking.

5.3.1.4 Strength

The coupler, draft gear and anchorage to the carbody shall comply with the requirements of APTA PR-CS-RP-019-12. This shall include a draft strength capable of handling the normal and rescue operations described in Section 2.3.7.

All parts of the coupler assembly on which it is possible for a person to stand shall withstand a vertical load of 400 lbf (1780 N) without deformation.

5.3.1.5 Energy Absorption

For alternative structural compliance designs, an energy absorption feature shall be provided that will automatically engage when the push-back release function is triggered. The minimum stroke of the system shall be sufficient to allow the anti-climbers to fully engage. The device shall have a replaceable cartridge or be of a self-resetting hydraulic design.

For Tier I compliant structural designs, the above requirements shall apply if a CEM coupler design is offered.

The Contractor shall submit the energy-absorption system design information, including an energy-absorption analysis and actual test results showing applied force, compression distance traveled, and calculations demonstrating the performance of the energy absorption system.

5.3.1.6 Self Centering

Each coupler shall have an automatic horizontal centering device that aligns an unloaded coupler to carbody centerline. An override of the centering device must be provided to allow coupling in tight curves. When coupled, the centering device shall not prevent coupler movement necessary for normal operation.

5.3.1.7 Draft Gear

The draft gear shall have cushioning which shall be effective in both buff and draft in normal train operation.

For alternative structural compliance designs, a push-back, energy absorbing function shall be incorporated. The draft gear shall not engage non-recoverable energy absorption below 4 mph (reference CEM collision Scenario 1 of Section 3.1.4.1.1). At speeds over 4 mph, the coupler will push back and engage the energy absorption device. The Contractor shall provide calculations detailing the energy management of this feature. A telltale device shall be incorporated to provide obvious indication that the function has been triggered

For Tier I compliant structural designs, the above requirements shall apply if a CEM coupler design is offered.

5.3.2 ELECTRICAL COUPLER

5.3.2.1 Electric Coupler Head

Each coupler assembly shall be provided with an electrical coupler head or heads. The electrical portion of the coupling equipment shall perform the following functions:

- a) Sense the uncoupled state and control the car relays needed to establish the adjacent car end as a train end
- b) When coupled to another vehicle, sense the coupled state and control the car relays to establish the car end as middle, or coupled end
- c) Sense an unintentional uncoupling through the use of a loop circuit and apply emergency brakes in the train
- d) Provide for isolation by Cab control or local manual control

There shall be a minimum of 10 percent spare contacts in the electric coupler head.

Electric coupler contacts and trainlines shall be symmetrically arranged about the vertical centerline so that they may be reversed with respect to any other car and the specified functions will not be affected.

The electrical coupler heads shall be heated, if required, to operate correctly over the full temperature range described in Section 2.2.5, environmental conditions.

The mounting of the electric coupler head on the mechanical coupler shall provide for easy removal and replacement of the entire assembly without the removal of any other adjacent component.

The Contractor shall submit a design analysis report on the electrical coupler to confirm compliance with the requirements of this Section.

5.3.2.2 Trainline Circuits

The circuit assignments shall be selected by function such as, but not limited to, ATC, Door, Communications and MU Operation (propulsion, braking, auxiliary power and battery, cab control, data bus network, etc.).

5.3.2.3 Electrical Contact Requirements

Butt-type or pin and socket contacts shall be used.

5.3.2.3.1 Butt Contacts

Butt-type contacts for high energy (battery level) signals shall be silver plated. Contacts for low energy (train bus, etc) signals shall be gold plated.

The contact tips shall be replaceable by removal through the front of the coupler block without disassembling the coupler or its wiring.

The contacts shall mate with a wiping action. Fritting currents shall be employed where necessary to maintain low resistance pin contact for data bus and other low voltage, low current sensitive circuits. The disconnect operation shall be rapid to avoid damage by arcing.

5.3.2.3.2 Pin and Socket Contacts

The electrical coupler head shall be retractable. The electric heads shall not mate until mechanical coupling has been achieved, and shall un-mate prior to mechanical uncoupling.

Guide pins shall be provided to ensure that pin and sockets are correctly aligned.

Contacts shall have sufficient lead-in to ensure that they will always mate correctly under worst case conditions of guide pin wear.

Fritting currents shall be employed where necessary to maintain low resistance pin contact for data bus and other low voltage, low current sensitive circuits.

Electric coupler head mating forces and speed shall not be greater than necessary.

The Contractor shall supply details of the design that describes how misalignment and mismatching of contacts is avoided.

5.3.2.4 Contact Springs

No current shall flow through the contact springs.

5.3.2.5 Current Interruption Protection

To prevent electric coupler pin contacts from arcing during uncoupling, a separate set of switching functions shall be included for the automatic disconnect of all circuits which might cause arcing damage, prior to separation of the current carrying contacts.

5.3.2.6 Connections

Each contact, except spares, shall be permanently marked to identify its actual circuit designation by engraving its identification on the contact block. Spares shall be identified with decals only, designating "SPARE" and its number.

Connections to the back of the electrical coupler contacts shall be non-corroding, designed to prevent interference between adjacent connections, and shall be accessible for maintenance. Cable entry to the electrical coupler shall be waterproof.

Connections from the electrical coupler head to the carbody mounted trainline junction box shall be by means of flexible cables with multi-way, locking type connectors at the carbody ends.

Sufficient conductors shall be provided to wire all coupler contacts, including all spares, back to the junction box.

The method of connection and support shall minimize stress in all operating positions and shall prevent chafing of the cables. Strain relief bushings shall be used in this regard.

The connections shall permit removal and replacement of the complete electrical coupler without disturbing the mechanical and pneumatic portions of the coupler.

5.3.2.7 Housing

The housing shall be provided with an opening on the bottom, covered with a removable plate of sufficient size to make connections and to inspect and repair the terminals, cross-connections and other internal parts of the coupler.

5.3.2.8 Contact Holder

The electrical coupler contact block shall be of a non-hygroscopic material, of adequate strength to withstand, without damage, mechanical forces imposed by normal revenue service.

The design of the insulating block, contacts and edge seals shall preclude the entry of water and debris of any kind into the electrical housing, and shall be mechanically stable over the full range of temperatures defined in Section 2.2.5.

An elastomeric gasket shall be attached to the perimeter of the electric coupler contact block. When the electrical heads mate during coupling, the gasket material shall form a waterproof seal to protect the contacts. This gasket shall also form a waterproof seal with the electrical head cover when it is in the closed position.

Dielectric strength shall meet the requirements of Section 16.17.3 for wiring insulation resistance from pin-to-pin and from pin-to-ground. Creepage distance between adjacent contacts and between the contacts and any metal part connected to the carbody shall be in accordance with EN50124.

The contact block shall be removable for repairs or replacement.

5.3.2.9 Electric Coupler Cover

Each electric coupler shall be provided with a waterproof cover which shall protect the coupler contacts from dirt, dust, water and ice when it is closed in the uncoupled position. The cover shall be spring-closed and shall automatically open as the electric heads mate during coupling and shall close as the electric heads separate during uncoupling. The cover shall not be damaged by maintenance personnel using the cover as a step. A prop rod or other hold-open device shall be provided.

5.3.2.10 Electrical Isolation

Electrical isolation shall be possible without mechanically uncoupling by activating the Trainline Isolation Bypass switch in the cab. This shall cause the electric heads to retract after proper electrical isolation has occurred automatically. It shall not be necessary to return the Trainline Isolation Bypass switch to its normal position in order to mechanically uncouple using the "UNCOUPLE" pushbutton.

5.3.2.11 Non-Cab End

5.3.2.11.1 Electrical Connections

Intercar electrical connections utilizing semi-permanent jumper cables with connectors at each end, connected to car junction boxes are required. Since the disconnection of the inter-car connectors is a manual process, means shall be provided to safely remove all circuits with potential differences of more than 50 volts and/or currents in excess of 10 amps prior to disconnection.

5.3.3 PNEUMATIC COUPLER

The coupler shall be capable of making all necessary connections for trainlining the main reservoirs and the control pressure (brake pipe). Car-to-car brake pipe connections shall be made automatically when couplers are fully engaged mechanically and locked. Connections shall be provided in the coupler for the control pressure pipe, main reservoir pipe and any other connections necessary for the automatic coupling and uncoupling of the cars. Manually operated, self-locking, non-vented cut-out cocks shall be provided at each end of each pneumatic pipe that is trainlined.

A readily replaceable, self-closing valve shall be provided which shall automatically close off the emergency pipe and main reservoir pipe when cars are uncoupled and open between coupled cars. The design of the coupler and controls shall ensure that during intentional uncoupling the emergency brakes shall apply on the cars being parked. The uncoupling operation shall not cause an emergency brake application on the controlling car and shall not result in the loss of brake pipe air. Unintentional uncoupling and break-aparts shall cause emergency brakes to be applied.

Provisions shall be made to prevent undesired buildup of air pressure in the uncoupling cylinder due to uncoupling valve leakage.

The air connections at the rear of the coupler head shall be tapped for standard iron pipe size connections. All piping and fittings on or about the coupler shall be of approved materials. The air line at the face of the coupler shall be free-flow connected by means of spring loaded rubber gasketed bushings or approved equal. These gaskets shall be retained to prevent their becoming dislodged during uncoupling.

All piping and fittings on or about the coupler shall be of approved materials.

To prevent debris from entering the pneumatic trainlines, a tappet valve shall be provided in the face of the coupler for each pneumatic trainline. The tappet valve shall automatically open upon mechanical coupling and automatically close upon mechanical uncoupling.

5.3.4 CONTROL

5.3.4.1 General

Coupler design shall permit automatic coupling when bringing cars together. If the displacement of the couplers is within the gathering range specified, coupling shall occur when the couplers come into full contact.

Coupler control shall be arranged so that the complete uncoupling operation can be performed only from an active coupler control station at the uncoupling location.

Single point failures in the uncoupling control shall not produce uncoupling. Uncoupling must be manually initiated, and protected by a key-switch. Uncoupling shall only be possible at no motion.

5.3.4.2 Coupler Control

The electric and pneumatic control system shall provide the functional features to permit automatic coupling and uncoupling of the cars from within the adjacent cab car-end. Manual, electric and pneumatic coupling and uncoupling features shall also be provided.

Auxiliary equipment shall be supplied as part of the coupler equipment to energize in both cars the activating relays and magnet valves performing the following functions:

- a) Sense the uncoupled state and operate the drum switch accordingly, or equivalent. Close the loop circuits and open all other switched trainline circuits; close the air trainlines and open the coupler hook.
- b) Sense the coupled state and operate the drum switch accordingly, or equivalent. Open the looping circuits, restore continuity of trainlines and open the air trainlines. Manual means must also be provided by which specified air and electric trainlines can be opened or closed
- c) Provide a manual means by which specified trainlines can be broken.

5.3.4.3 Automatic Coupling/Uncoupling

5.3.4.3.1 Coupling

When contact with a second coupler is made, the couplers shall automatically couple mechanically and pneumatically (if applicable).

Once mechanically coupled, the ISOLATE/TRAINLINE switch in one coupled cab should be momentarily moved to the TRAINLINE position to make the electrical trainlines in the opposite cab. This operation should be repeated in the other coupled cab to complete the coupling process.

Coupling of a live train to a “dead” (no air) train should commence with the electrical coupling, and not require that the dead train be fully pneumatically charged before the electric portions of the couplers functionally engage. This may be effected via the use of a pilot valve on the live train. The rationale for this requirement is to energize the air compressor controls on the dead train so as not to rely on the live train alone to pneumatically charge the dead train. All of this shall occur automatically upon coupling.

Once a cab is detected as coupled, it shall no longer be an Operating cab.

5.3.4.3.2 Uncoupling

The uncoupling operation shall be electrically controlled from the adjacent Operator's console. During uncoupling, the emergency brakes shall be automatically applied on the cars to be parked and remain released on the cars to be moved.

In the event of an unintentional uncoupling, an emergency brake application to all sections of the train shall be caused by exhausting the emergency pipe.

The uncoupling control shall be interlocked such that its activation is restricted to a powered Operator's console with the car speed below the no-motion detection point of the no-motion detection system. The couplers shall be controllable only from the cab control panels adjacent to the point of separation. Coupler control shall not be trainlined. The uncoupling sequence shall be as follows:

- d) A cab adjacent to the coupler where the uncoupling is to occur is activated.
- e) The UNCOUPLE pushbutton in the active cab is depressed and latches electrically after a predetermined length of time (adjustable). This causes the electric heads to retract after proper electrical isolation has occurred automatically. Subsequently, mechanical uncoupling is initiated. Once this sequence commences, it shall continue to the fully uncoupled state even if the UNCOUPLE button is released. It shall not be necessary to operate the car in forward, to buff the couplers, to achieve mechanical uncoupling.
- f) The reverser is placed in REVERSE and the train backs away from the opposing, uncoupled portion of the train.

5.3.4.3.3 Manual Operation Requirements

Devices shall be provided to permit the cars to be mechanically uncoupled without the use of tools in the event of a power loss or control failure. Sufficient mechanical advantage shall be provided to allow JPB personnel to manually operate these devices in an emergency using a force of 60 pounds or less.

It shall be possible to manually turn the drum switch to effect electrical isolation.

All manual functions shall be independent and be capable of being operated in any sequence or combination.

If a manually retractable electric coupler head is provided, it shall not require more than 35 pounds force to engage or disengage.

5.4 COUPLER ADAPTER

If automatic couplers are provided, the Contractor shall supply coupler adapters for coupling to the existing diesel fleet. Each cab car shall be equipped with one coupler adapter to allow it to be connected to a conventional AAR Type-E, F, or H coupler. The removable adapter shall have a maximum weight of 65 pounds and be located outside of the car and in a position such that it will require minimal effort for the Operator to remove, install and replace the adapter in its holder. It shall be able to withstand 100,000 pounds in buff or draft without permanent deformation. The operator shall be able to manually install or remove the adapter alone and without tools. It is anticipated that the adapter will be used during emergency or rescue situations only.

5.5 REQUIRED CONTRACT SUBMITTALS

The Contractor shall submit for JPB review and approval those documents identified in the CSR that demonstrate compliance with this section. Refer to section 1.7.

5.6 CITED REFERENCES

The following standards or references were cited in this Section:

STANDARD	TITLE
EN50124	European Standard, "Railway applications. Insulation coordination. Basic requirements. Clearances and creepage distances for all electrical and electronic equipment"

PCEP Procurement of Bi-Level EMU Vehicles

STANDARD	TITLE
APTA RP-M-003-98	American Public Transportation Association, "Recommended Practice for the Purchase and Acceptance of Type H-Tightlock Couplers"
APTA SS-M-016-06	American Public Transportation Association, "Standard for Safety Appliances for Rail Passenger Cars"
49 CFR 238.205	Code of Federal Regulations, "Rail Passenger Equipment Safety Standards" Anti-climbing mechanism.
49 CFR 238.207	Code of Federal Regulations, "Passenger Equipment Safety Standards" Link between coupling mechanism and car body.
APTA PR-CS-RP-019-12	American Public Transportation Association, "Recommended Practice for Pushback Couplers in Passenger Rail Equipment"

From: Roland Lebrun

Sent: Wednesday, June 30, 2021 4:20 PM

To: Caltrain Board <board@caltrain.com>

Cc: MTC Info <info@bayareametro.gov>; SFCTA Board Secretary <clerk@sfcta.org>; VTA Board Secretary <Board.Secretary@vta.org>; CHSRA Board <boardmembers@hsr.ca.gov>; Caltrain CAC Secretary <cacsecretary@caltrain.com>; SFCTA CAC <cac@sfcta.org>

Subject: [EXTERNAL] Item #8 Background behind recommendation to terminate Contract with Alstom Signaling Operation LLC

Dear Caltrain Board,

This email is intended to substantiate and elaborate on the recommendation I made in my 6/29 email to **"Suspend all future contracts with Alstom Signaling LLC (formerly GE Signaling) until the gate activation issues at Virginia and Auzeais have been resolved at no cost to the JPB"**

Background:

- **February 4 Board Meeting**

"John Funghi, CalMod Chief Officer, reported that subcontractor successfully converted grade crossings to alternating current (AC) compatible systems over the weekend. He stated the Federal Railroad Administration (FRA) was pleased with the quality and testing performance achieved."

<https://www.caltrain.com/Assets/feb+bod+mins.pdf> (page 3)

- **February 8 PRA issued** requesting the following information about the West Virginia and Auzeais grade crossing conversions:

- 1) Engineering drawings
- 2) Parts list including manufacturer, part/model number and quantities
- 3) Task and/or work order(s)
- 4) Observed warning times at the following approach speeds: 5 MPH, 10 MPH, 15 MPH, 20 MPH, 25 MPH, 30 MPH, 35 MPH and 40 MPH

- **February 25 SamTrans response**

"Please note that the COVID-19 pandemic has caused staff-time shortages and put inordinate stress on all JPB functions. We will provide you a status update as to your request as soon as possible"

- **May 3 FOIA request to the FTA**

"Please provide electronic copies of all Caltrain Program Management Committee (PMOC) reports submitted after November 3, 2020"

https://www.caltrain.com/projectsplans/CaltrainModernization/CalMod_Document_Lib

[rary.html](#)”

- **May 6 SamTrans response to February 25 PRA**
 1. **No engineering drawings**
 2. **Equipment is GE Transportation Systems Audio Frequency Train Activated Circuit (AFTAC) II**
 3. **Design**
 - a. **Auzerais: 32-second CONSTANT Warning Time** for a maximum 35 MPH approach speed.
 - b. **West Virginia: 34-second CONSTANT Warning Time** for a maximum 35 MPH approach speed.
 4. **Observed results (*"Unable to reach designed Maximum Authorized Speed (MAS) due to Civil speed restriction"*)**
 - a. **Auzerais**
 - i. 51-second warning for a 17 MPH approach speed
 - ii. 57-second warning for a 13 MPH approach speed
 - iii. **78 to 149-second warning for a 9 MPH approach speed**
 - iv. **96 to 172-second warning for an 8 MPH approach speed**
 - b. **West Virginia**
 - i. 65-second warning for an 18 MPH approach speed
 - ii. **110 to 130-second warning for a 9 MPH approach speed**
 - iii. **128-second warning for an 8 MPH approach speed**
- **June 7 FTA response to May 2 FOIA**
 - October 29, 2020 Two-Tiered Quarterly Progress Review Meeting No. 14
 - January 26, 2021 Two-Tiered Quarterly Progress Review Meeting No. 15
 - **April 27, 2021 Project Monitoring Report (PMR) March 2021** (page 3 attached for your convenience)
 - *“The FRA and CPUC have observed the installation of 2SC at a location in Segment 4, and the test data has been supplied to the FRA.*
 - ***The FRA has suggested that PCEP complete a few more tests before submitting its RFA.***
 -
 - **Please note that, per Board direction (Director Pine), this PMR should have been posted**

to https://www.caltrain.com/projectsplans/CaltrainModernization/CalMod_Document_Library.htm **OVER TWO MONTHS AGO**

o

Recommendation:

1. Accept MRS agreement to transfer responsibility for signal conversion to the JPB
2. **Suspend all future contracts with Alstom Signaling LLC (formerly GE Signaling) until the gate activation issues at Virginia and Auzerais have been resolved at no cost to the JPB**
3. **Enter into a sole source contract with Siemens**, including **FUNCTIONAL** Constant Warning Time (CWT) equipment at every crossing between San Francisco and San Jose

Respectfully submitted for your **thoughtful** consideration.

Roland Lebrun

CC

MTC Commissioners
SFCTA Commissioners
VTA Board of Directors
CHSRA Board of Directors
VTA PAC
VTA CAC
Caltrain CAC
SFCTA CAC

Status	The System Integration Lead is only part-time and needs assistance. Scheduling capacity continues to be insufficient to meet the routine demands of the project. Rail Activation Planning is currently being managed by a member of the safety team with rail activation experience until a permanent Rail Activation Manager is hired.
Project Sponsor Action	The JPB reports that it is attempting to hire an additional scheduler to assist with delay analysis. Rail Operations has engaged an independent consultant to assist it in developing materials for incorporation into the overall Rail Activation Plan (RAP). <i>The Rail Activation process is currently being managed as two concurrent processes with coordination at the committee level. Communication between the PCEP and Rail Operations teams requires improvement.</i>
PMOC Recommendation	<i>Add scheduling support and assign technical staff to assist in Systems Integration and testing, and commissioning coordination and oversight.</i>

Summary of Issue/Concern	OCS Construction Progress
Date Identified	May 2018
Status	Overall progress on the OCS foundations and follow-on electrification work is much slower than originally planned. <i>Foundations in Segments 3 and 4 are complete and foundation work at the CEMOF recently started. This problem continues to impact design and construction of OCS foundations. Approximately 26%, or 806 of the planned 3108 foundations, remain to be constructed as of 3/30/2021.</i>
Project Sponsor Action	<i>The PCEP team continues to coordinate closely with the contractor in an effort to avoid changes in pole locations, particularly those that would require additional rights-of-way. The JPB now expects OCS foundation work to be complete in September 2021.</i>
PMOC Recommendation	Complete potholing of the remaining foundations as early as possible.

Summary of Issue/Concern	Consistent Warning Time (CWT) or two (2) speed check (2SC) for Grade Crossings
Date Identified	<i>February 2018</i>
Status	The Electrification contractor is moving forward with design using a two (2) speed check (2SC) solution which apparently will satisfy FRA and California Public Utilities Commission (CPUC) requirements.
Project Sponsor Action	JPB to submit a Request for Amendment (RFA) to Caltrain's Positive Train Control Safety Plan (PTCSP) under 49 CFR Sec. 236, Subpart I; the RFA will document the design and performance of its 2SC grade crossing warning system. <i>The FRA and CPUC have observed the installation of 2SC at a location in Segment 4, and the test data has been supplied to the FRA. The FRA has suggested that PCEP complete a few more tests before submitting its RFA. The JPB now expects to submit its Request for Amendment (RFA) in late spring 2021.</i>
PMOC Recommendation	<i>Continue close coordination with FRA and CPUC. Resume preparation of GO 88B applications for upcoming jurisdictions.</i>

Summary of Issue/Concern	<i>Timely Completion of Signals Design and Installation</i>
Date Identified	<i>2019</i>
Status	<i>The pace of signals design is slower than required to achieve a satisfactory completion date for the project. The mediation process currently underway is intended to resolve the underlying issues and result in an improved plan for</i>

From: Roland Lebrun

Sent: Tuesday, June 29, 2021 3:26 AM

To: Caltrain Board <board@caltrain.com>

Cc: MTC Commission <info@mtc.ca.gov>; VTA Board Secretary <Board.Secretary@vta.org>; CHSRA Board <boardmembers@hsr.ca.gov>; SFMTA Municipal Transportation Agency <sfmta@public.govdelivery.com>; SFCTA Board Secretary <clerk@sfcta.org>; SFCTA CAC <cac@sfcta.org>; Caltrain CAC Secretary <cacsecretary@caltrain.com>

Subject: [EXTERNAL] Item #8 Contract with Alstom Signaling Operation LLC for Signal Systems Modification

Importance: High

Dear Caltrain Board,

Further to my email of August 1, 2018 (below) which closed with a recommendation to "***Decouple all resignaling from the DB electrification contract and reach out to Siemens (and Wabtec) for a Constant Warning Time solution for electrified territory.***" and the **SYSTEMATIC MISREPRESENTATION OF FACTS** by Ms. Bouchard and her staff, I am **STRONGLY** recommending that the Board amend the staff recommendation as follows:

1. Accept MRS agreement to transfer responsibility for signal conversion to the JPB
2. **Suspend all future contracts with Alstom Signaling LLC (formerly GE Signaling) until the gate activation issues at Virginia and Auzerais have been resolved at no cost to the JPB** (separate email will follow)
3. **Enter into a sole source contract with Siemens**, including **FUNCTIONAL** Constant Warning Time (CWT) equipment at every crossing between San Francisco and San Jose

Background

The staff recommendation states: "***Because Alstom is the legacy manufacturer of Caltrain's existing rail system requiring modification to accommodate electrification, Alstom is the only firm that can perform this Signal System Work and as such, the JPB has negotiated this contract with Alstom on a single source basis.***"

THIS IS ABSOLUTELY FALSE for the following reasons:

1) Alstom is NOT "***the legacy manufacturer of Caltrain's existing rail system***"

Specifically, **GE divested GE Signaling to Alstom** as part of its acquisition of Alstom's power generation facilities on November 2, 2015:

"This activity, representing 1,200 employees, opens the

SIGNALING FREIGHT MARKET to Alstom, while strengthening its presence in North America."

<https://www.alstom.com/press-releases-news/2015/11/alstom-refocused-on-rail-transport-with-strong-leadership-positions>

2) Alstom is NOT *"the only firm that can perform this Signal System Work"*

Specifically, **Section 34 42 23.01, Signal Systems Miscellaneous Products** of the Caltrain Electrification RFP mentions TWO firms suitable for the manufacture and supply of AC track circuits (see list of suitable manufacturers attached for your convenience):

"2.22 AUDIO FREQUENCY OVERLAY TRACK CIRCUITS

A. Audio frequency overlay track circuits shall be AFTAC-II manufactured by Alstom (formerly GETS Global Signaling), **PSO manufactured by Siemens** (formerly Invensys Rail), or equivalent.

2.23 AUDIO FREQUENCY ISLAND TRACK CIRCUITS

A. Audio frequency island track circuits shall be AFTAC-II manufactured by Alstom, **PSO manufactured by Siemens**, or equivalent.

2.24 AC TRACK CIRCUITS

A. AC Track Circuits shall be steady energy 100 Hz such as the **SE-3 manufactured by Siemens** (formerly Invensys Rail) or equivalent. **Vane Relays shall not be used."**

The last sentence in section 2.24 is particularly significant because it **specifically EXCLUDES Alstom Vane Relays as devices suitable for AC track circuits.**

Thank you in advance for your careful consideration of this recommendation.

Sincerely,

Roland Lebrun

CC

MTC Commissioners
SFCTA Commissioners

VTA Board of Directors
CHSRA Board of Directors
VTA PAC
Caltrain CAC
SFCTA CAC
VTA CAC

From: Roland Lebrun <ccss@msn.com>
Sent: Wednesday, August 1, 2018 5:12 AM
To: Caltrain Board <board@caltrain.com>
Cc: MTC Commission <info@mtc.ca.gov>; Steve Stamos, Clerk of the Board <clerk@sfcta.org>; VTA Board Secretary <board.secretary@vta.org>; CHSRA Board <boardmembers@hsr.ca.gov>; SFMTA Municipal Transportation Agency <sfmta@public.govdelivery.com>
Subject: item #7 (d) CHANGE ORDER FOR INSTALLATION OF INSULATED JOINTS

Dear Chair Bruins and Members of the Caltrain Board of Directors,

The only known device capable of supporting Constant Warning Time (CWT) in electrified territory does not require insulated rail joints:

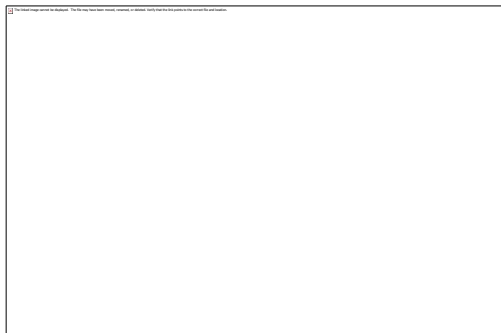
*"The PSO 4000 couples to the track with a bandpass, low impedance connection—**you don't have to have insulated rail joints on the track.**"*

http://download.siemens.com.au/index.php?action=filemanager&doc_form_name=download&folder_id=5633&doc_id=17039

Please consider deferring your vote on item #7 (d) **CHANGE ORDER FOR INSTALLATION OF INSULATED JOINTS** until after confirming the requirement for insulated rail joints with VTA signal engineers (the VTA purchased a PSO 4000 for \$38,688.32 last year).

On a related note, Balfour Beatty continue to experience difficulties at RTD in Denver and are now in arbitration after requesting a \$40M 599-day contract extension.

<http://www.cpr.org/news/story/rtd-and-contractor-battle-over-blame-for-n-line-commuter-train-delays>



[RTD And Contractor Battle Over Blame For N Line Commuter ...](http://www.cpr.org/news/story/rtd-and-contractor-battle-over-blame-for-n-line-commuter-train-delays)

www.cpr.org

The Regional Transportation District and a private contractor are in the midst of a dispute

over which party is responsible for construction delays on the \$343 million N Line commuter train line from Denver to Thornton. The disagreement is laid out in Denver District Court documents filed earlier ...

Recommendation:

Decouple all resignaling from the DB electrification contract and reach out to Siemens (and Wabtec) for a Constant Warning Time solution for electrified territory.

Sincerely,

Roland Lebrun

cc

Metropolitan Transportation Commission
VTA Board of Directors
SFCTA Board of Directors
High Speed Rail Authority Board of Directors

1. ABB Secheron
2. Siemens Transportation Systems
3. Balfour Beatty Rail Power Systems
4. Areva T & D
5. Powell Industries (Traction Power Systems)
6. Or approved equal

PART 2 – PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. The pre-packaged switchgear shall consist of an assembly of air insulated, vacuum circuit breaker switchgear and associated components. Switchgear shall be complete with draw-out type vacuum circuit breakers, current and potential transformers, control switches, indicating lamps, protective apparatus and all other devices as indicated on the Contract Drawings and as required for the intended operation. The switchgear shall be housed in a pre-fabricated switchgear building with integral control room.
- B. The design of the switchgear shall provide features for safety of personnel during operation, maintenance and repair and be constructed in accordance with the applicable requirements of ANSI C37.20.2 and/or IEC 298.

2.2 SINGLE-POLE SWITCHGEAR RATINGS

- A. The minimum ratings for the single-pole switchgear assemblies shall be as follows:

1.	Nominal Voltage U_n	25 kV
2.	Rated Voltage U_{Ne}	27.5 kV
3.	Maximum Non-permanent Voltage U_{max2}	29 kV
4.	Rated Insulation Voltage U_{Nm}	27.5 kV
5.	Rated Impulse Withstand Voltage/BIL	200 kV
6.	Rated Power Frequency Withstand Voltage	95 kV
7.	Internal Arc Classification	25kA
8.	Rated Busbar and Feeder Normal (Continuous) Current	As indicated on the Contract Drawings
9.	Frequency, Hz	60
10.	Rated Short Circuit Breaking Current I_{Nss}	25 kA

- D. Catalog Cuts: Provide catalog information for the following as a minimum:
 - 1. Circuit breakers
 - 2. Protective devices
 - 3. Control switches
 - 4. Switchgear lights
 - 5. Switchgear heaters
 - 6. Switchgear convenience outlets
 - 7. Instrument transformer characteristic curves and burdens
 - 8. Switchgear fuses
 - 9. Relays and meters
 - 10. Test switches
- E. Operating and maintenance (O&M) manuals for circuit breakers, relays, meters, transducers, ground and test devices: The manual shall provide comprehensive detailed information on the approved installation, operation and use, troubleshooting, parts list, lubrication and periodic maintenance, source of replacement parts and service for the items of equipment covered. Fifteen copies of O&M manuals shall be submitted by the Contractor to PCJPB.

1.5 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements of the Contract Documents, vendors offering products and services which may be considered for this Project include, but are not limited to, the following:
 - 1. Siemens Transportation Systems
 - 2. ABB Secheron
 - 3. Balfour Beatty Rail Power Systems
 - 4. Or approved equal

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. The pre-packaged switchgear shall consist of an assembly of air insulated, vacuum circuit breaker switchgear and associated components. Switchgear shall be complete with draw-out type vacuum circuit breakers, current and potential transformers, control switches, indicating lamps, protective apparatus and all other devices as indicated on the Contract Drawings and as required for the intended operation. The switchgear shall be housed in a pre-fabricated switchgear building with integral control room.
- B. The design of the switchgear shall provide features for safety of personnel during operation, maintenance and repair and be constructed in accordance with the applicable requirements of IEC 62271-200.

1.5 SUBMITTALS

- A. The Contractor shall prepare detailed designs for each of the required assemblies based on the information specified on the Contract Documents, including details for mounting switches, insulators, operating mechanisms and other related assemblies on the structure, including necessary catenary feeding/sectionalizing jumpers, showing details and dimensions of the parts and their relationship to each other, and describing the material composing the various parts, together with technical, mechanical and electrical characteristics.
- B. The Contractor shall include the following:
 - 1. Complete manufacturer's descriptions, catalog data, and information including model and parts numbers.
 - 2. Manufacturer's general and detail arrangement drawings, and installation instructions.
 - 3. Operation and maintenance manual with a list of recommended spare parts.
- C. Submit details of tests proposed and the procedures and forms to be used during tests and inspection.
- D. Specific warranties, guarantees, spare parts list and manuals.

1.6 ACCEPTABLE MANUFACTURERS

- A. Alstom
- B. Artwell Electric
- C. S&C Electric Company
- D. Turner Switch
- E. Southern States
- F. Siemens Electric
- G. Or, approved equal

PART 2 - PRODUCTS

2.1 GENERAL

- A. Materials shall comply with UL testing and product requirements.
- B. Disconnect switch insulators shall be station post type NEMA TR-208, or approved equal.

2.9 INSULATED TEST LINK

- A. Type 024620-1X as manufactured by Siemens (formerly Invensys Rail) or equivalent.

2.10 LIGHTNING ARRESTERS AND EQUALIZERS

- A. Siemens (formerly Invensys Rail) Clearview No. 022485-28X, Equalizer No. 022700-1X, or equivalent. Lightning arresters and equalizers shall be mounted on a type of base indicated by JPB's action in accordance with the SONO or SOO defined in the General Provisions and shall be in accordance with the recommendations of AREMA C&S Manual Part 11.3.1.

2.11 SURGE PROTECTORS

- A. Siemens (formerly Invensys Rail) SP-17, SP-18, SP-19, SP-20, or equivalent. Surge Protectors shall be in accordance with the recommendations of AREMA C&S Manual Part 11.3.3.

2.12 TERMINALS FOR WIRES AND CABLES

- A. Solderless terminals shall be in accordance with the recommendations of AREMA C&S Manual, Part 14.1.1, unless otherwise specified herein.
- B. Terminals shall be of the solderless crimp-on type. Samples of all solderless terminals shall be submitted for the JPB's action in accordance with the SONO or SOO defined in the General Provisions.
- C. Stranded copper wire shall be fitted with a type of terminal indicated by the JPB's action in accordance with the SONO or SOO defined in the General Provisions at all points where the wires are to be terminated on terminal binding posts.
- D. The terminating means shall be of four types:
 - 1. A lug for terminating heavy wires or signal power wires.
 - 2. A solderless type of terminal as manufactured by TE Connectivity, Inc., under the trade name of "Pre-Insulated Flags" with translucent insulation similar to Catalog No. 322313, or equivalent, for terminating No. 16 and No. 14, American Wire Gauge (AWG) stranded wires.
 - 3. An AMP Solistrand "Ring Tongue-Flat" terminal, similar to that shown on the AMP Drawing P64-044, together with slip-on nylon post insulator, similar to that shown on AMP Drawing P64-0264, or equivalent, for terminating wires having a diameter larger than No. 14 AWG to a maximum diameter over the insulation of 0.40-inch.
 - 4. An AMP preinsulated; diamond grip ring nylon insulated wire terminal shall be used for terminating other stranded wires, No. 20 and No. 18 AWG, having maximum diameter of 0.125-inch. AMP Catalog No. 320554, or equivalent, shall be furnished for No. 8 studs and AMP Catalog No. 320571, or equivalent, shall be furnished for 1/4-inch studs.
- E. Terminals shall be for attaching to the ends of the conductor in such a manner that the flexibility of the conductor will not be destroyed and the possibility of breakage at the terminal will be reduced to a minimum.

- B. Junction boxes shall be provided to terminate underground cables at all switch-and-lock movements and all switch circuit controllers.
- C. Junction boxes shall be provided with means for applying padlock.

2.20 LUBRICATION

- A. Lubrication for switch tie plates for all switch-and-lock movement layouts installed by the Design-Builder shall be a graphite lubricant, similar to Dixon's Graphite "Railroad 60" per the JPB's action in accordance with the SONO or SOO defined in the General Provisions.

2.21 ENVIRONMENTAL PROTECTION (CORROSION PREVENTIVE COMPOUND)

- A. Protection, as hereinafter specified for machine-finished surfaces, threaded rods, nuts, and other parts that are susceptible to rusting or corroding, shall be a corroding preventive compound, NO-OX-IDE No. 90918, or equivalent. The product shall have sufficient body to resist weather and rusting for at least 6 months.

2.22 AUDIO FREQUENCY OVERLAY TRACK CIRCUITS

- A. Audio frequency overlay track circuits shall be AFTAC-II manufactured by Alstom (formerly GETS Global Signaling), PSO manufactured by Siemens (formerly Invensys Rail), or equivalent.

2.23 AUDIO FREQUENCY ISLAND TRACK CIRCUITS

- A. Audio frequency island track circuits shall be AFTAC-II manufactured by Alstom, PSO manufactured by Siemens, or equivalent.

2.24 AC TRACK CIRCUITS

- A. AC Track Circuits shall be steady energy 100 Hz such as the SE-3 manufactured by Siemens (formerly Invensys Rail) or equivalent. Vane Relays shall not be used.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Material and apparatus specified herein shall be installed by the Design-Builder in accordance with the details of respective Sections of the Specifications, other Contract Documents, manufacturer's recommendations, and in accordance with the Design-Builder's installation drawings per the JPB's action in accordance with the SONO or SOO defined in the General Provisions.

END OF SECTION

- C. Furnish one test tool or relay wrench for each shelter where relays are installed.
- D. Furnish 12 inserting/extracting tools for each type of contact requiring a special tool.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Relays shall be in dustproof enclosures, except a provision shall be made for ventilation where required for heat dissipation.

2.2 VITAL DC RELAYS

- A. General:
 - 1. Vital Relays shall be Alstom Type B, Siemens (formerly Invensys Rail) Type "ST", or equivalent. Design-Builder shall use relays for the intended application, e.g. line, switch control, or track.
 - 2. Vital dc relays shall be of the plug-in type and rack-mounted. Relays shall have a transparent dust cover made of a composition that will not support combustion.
 - 3. Vital Relays, with a nominal operating voltage of 10 to 16 volts, shall be capable of operating continuously without resultant damage, with a minimum voltage range of 7 to 21 volts inclusive, applied to their operating circuits.
 - 4. Vital relays shall have a test terminal to allow convenient measurement of the coil voltage.
 - 5. Design biased neutral vital relays so that gravity alone will prevent the armature from picking up if the permanent magnet is de-energized or if no current is applied to the coil, due to interruption of the normal magnetic circuit.
 - 6. All front contacts shall be silver-to-metal carbon, meeting the recommendations of the AREMA C&S Manual Part 6.2.1.
 - 7. When three dc vital relays, suppressed as specified herein, are connected in parallel and operated as a test load from normal working voltage, a vital relay front or back contact that breaks this load shall be capable of at least five million operations at this load without the contact resistance, measured with 10 milliamp current, exceeding 5 ohms.
 - 8. Arc suppression for vital relays shall be built into the relay or into its plugboard.
 - 9. Equip vital plug-in relays, except vital time-element relays and special application relays, with front current testing facilities. Provide facilities to enable the testing of voltage from the front of the relay, without having to remove the relay or remove adjacent relays.
 - 10. Equip vital relays with a registration plate to prevent relays of the wrong style, contact arrangement, or operating characteristics, from being inserted into the plugboard.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Properly fasten and brace equipment shipped within shelters and cases to prevent damage during transit. The Design-Builder shall replace any equipment damaged during transit or prior to in-service operation at no cost to the JPB.
- B. The Design-Builder shall package all vital relays, batteries, and electronic plug-in modules in separate containers for shipment and do not install until the shelter is set at its final location.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Furnish factory-wired equipment shelters or cases, as described herein and as required by the Design-Builder's design. These shelters shall be complete with all the equipment required to provide the necessary functionality. Wiring shall conform to NEMA Standard ICS-70, or National Electrical Code (NEC), and the recommendations of the AREMA C&S Manual, as applicable. All signal shelters containing electronic equipment shall be supplied with an air conditioning system. AC units shall be placed in a vandal-proof cage readily accessible for maintenance.
- B. Equipment shelters shall be products manufactured by P.T.M.W., Siemens (formerly Invensys Rail) or equivalent.
- C. The Design-Builder shall develop equipment shelter sizes and layouts in accordance with site-specific requirements.
- D. Equipment shelters shall be rain-tight and dust-tight, National Electrical Manufacturers Association (NEMA) 3R, ventilated, and have hinged doors with three-point latch and handle that include support to securely lock the doors with standard JPB signal padlocks.
- E. Equipment shelters shall be constructed of 12-gauge galvanized steel for floors, walls, and doors. Roofs shall be no less than 14-gauge galvanized steel with a minimum of 50 lb/ft² load rating.
- F. The entire structure shall be powder coated on the outside with TGIC Polyester Powder (or equal polyester powder) with a nominal thickness of four (4) mils, but no less than three (3) mils at any point on the surface of the enclosure in accordance with AREMA C&S Manual Part 1.5.10. The exterior color shall be light gray.
- G. The steel instrument enclosures shall be complete with moveable shelves, wire chase, and backboard.
- H. The equipment shelters shall provide access to underground and aerial cable entrance behind the main terminal racks. The top and sides shall be lined with heat and cold insulating material and constructed to prevent sweating. Provide ventilation openings as required for the size of the shelter proposed. No ventilation opening shall be made in the roof of the shelter. Provide lift rings to facilitate the movement of the shelter.
- I. Provide ventilation openings in each door. The exterior of the ventilation openings shall be hooded to minimize the entrance of precipitation. Equip the interior of ventilation opening with sliding plate to allow the adjustment of airflow and with a replaceable dust filter. The doors shall be hinged and gasketed so that they will provide a dust proof and

From: Roland Lebrun

Sent: Monday, June 28, 2021 11:48 AM

To: Caltrain Board <board@caltrain.com>

Cc: SFCTA Board Secretary <clerk@sfcta.org>; VTA Board Secretary <Board.Secretary@vta.org>; MTC Info <info@bayareametro.gov>

Subject: [EXTERNAL] March 2021 PMOC report

Dear Caltrain Board,

Please direct staff to post the March 2021 PMOC report released by the FTA on April 27th to the REPORTS & PRESENTATIONS section of the CalMod web page.

https://www.caltrain.com/projectsplans/CaltrainModernization/CalMod_Document_Library.html

CalMod Document Library - Caltrain

PMOC Reports. PMOC Reports are provided to the JPB by the Federal Transit Administration (FTA) Region 9 and posted to this page upon receipt.. September 2020*; The delay referenced on page 2 of the report does not affect the 2022 project delivery date, and does not reflect actual or projected progress toward completion of this work.

www.caltrain.com

Thank you

Roland Lebrun

CC

MTC Commissioners

SFCTA Commissioners

VTA Board of Directors

From: Roland Lebrun

Sent: Monday, June 28, 2021 5:18 AM

To: Caltrain Board <board@caltrain.com>

Cc: MTC Info <info@bayareametro.gov>; SFCTA Board Secretary <clerk@sfcta.org>; VTA Board Secretary <Board.Secretary@vta.org>; Donald Pollitt <DTX@tjpa.org>; CHSRA Board <boardmembers@hsr.ca.gov>

Subject: [EXTERNAL] Caltrain Finance item 4.c On-call Transportation Planning and Consultant Support Services

Dear Chair Zmuda,

Thank you for asking staff to provide a list of on-call consultant projects that includes costs and descriptions (attached).

Here are my comments:

- **WD 10306 Kimley Horn**
- **Caltrain DTX Operations Analysis**
- **\$293,625 (X 6 including the other 5 partner agencies)**
-
- **Comment:**
- Further to my letter of June 9th
(<https://www.caltrain.com/Assets/Correspondence+as+of+06-11-2021.pdf> #4), **this consultant was directly responsible for a fatally flawed DTX infrastructure configuration that included HSR platforms at 4th & Townsend.** This flawed configuration resulted in a fatally flawed DTX Operations Analysis which resulted in the requirement for a third set of tracks between 4th&Townsend and the Salesforce Transit Center.
-
- **Recommendation:**
- **Terminate contract immediately** and reassign responsibility for the project to one of the other consultant teams.

- **WD 10428 WSP**
- **Refinement of Capital Project Implementation**
- **\$99,909.25**
-
- **Question through the Chair:**
- Why do we need consultants for this? Shouldn't this activity be performed by SamTrans staff under the Caltrain Administration contract?

- **WD 10468 Kimley Horn**
- **Capital Planning Support**
- **\$252,226**
-
- **Question through the Chair:**
- Why do we need consultants for this? Shouldn't this activity be performed by SamTrans staff under the Caltrain Administration contract?
-
- **WD 10305 Kimley Horn**
- **DISC Plan Technical support and Analysis**
- **\$386,447 (X 6 including the other 5 partner agencies).**
-
- **Comment:**
- This consultant does not have the required technical expertise to manage the multimodal integration required at Diridon and was responsible for approximately \$100M of impacts on Google properties earmarked for affordable housing.
-
- **Recommendation:**
- **Terminate contract immediately** and reassign responsibility for the project to one of the other consultant teams.
-
- **WD 10304 Kimley Horn**
- **DISC Plan PM & Outreach Support**
- **\$308,445(X 6 including the other 5 partner agencies).**
-
- **Comment:**
- This consultant does not have the required technical expertise to manage the multimodal integration required at Diridon and failed to provide any outreach during the pandemic.
-
- **Recommendation:**
- **Terminate contract immediately** and reassign responsibility for the project to one of the other consultant teams.
-
- **WD 10307 Fehr & Peers**
- **DSAP Development Support Services**
- **\$97,967.24**

Recommendation:

Terminate all *“planning, land use, economic, environmental and development strategy associated with the City of San Jose’s preliminary review application”* activities and issue a new Work Directive for the drafting of an MOU with Google LLC for the development of the Caltrain parcels and the preservation of the Southern Pacific Historic Depot.

-
- **WD 10308 Fehr & Peers**
Internal Support for Interim Executive Director Transition
\$207,882.64
- **Question through the Chair:**
- Why do we need consultants for this? Shouldn’t this activity be performed by SamTrans staff under the Caltrain Administration contract?

- **WD 10446 Mott MacDonald**
- **Redwood City station area planning**
- **\$296,048.22**
-
- **Comment:**
- The JPB needs to focus on the development of a double-length station with passing tracks and a connection to the Dumbarton Corridor at Redwood Junction, not Downtown Redwood City.
-
- **Recommendation**
- The responsibility for funding the redevelopment of the Sequoia station should be transferred to SamTrans and the City of Redwood City
-

Respectfully submitted for your consideration.

Roland Lebrun

CC

MTC Commissioners
SFCTA Commissioners
VTA Board of Directors
TJPA Board of Directors
CHSRA Board of Director

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: JPB Finance Committee

THROUGH: Michelle Bouchard
Acting Executive Director

FROM: Melissa Reggiardo Lawrence Leung
Manager, Caltrain Planning Manager, Rail Contracts & Budget

SUBJECT: **ACCEPT ON-CALL TRANSPORTATION PLANNING AND CONSULTANT
SUPPORT SERVICES UPDATE**

Finance Committee Recommendation Work Program-Legislative-Planning Committee Recommendation Staff Coordinating Council Reviewed Staff Coordinating Council Recommendation

ACTION

This report is for information only. No Board action is required.

SIGNIFICANCE

This informational item is presented quarterly to the Board and reports on the following:

- Total amount of work directives (WDs) issued to each firm since contract inception
- List of WDs and amendments issued since the last reporting period with the WD number, title, description, JPB project manager, vendor, issuance date, start date, end date, and value

The tables below provide an update of contract activities from March 10th, 2021 thru June 4th, 2021. Table 1 summarizes the contract capacity status. Table 2 updates the percentage of capacity used against the percent time elapsed. Table 3 shows the Board approved dates and amounts. Table 4 aggregates the WD amounts issued to each of the vendors. Table 5 describes each of the WDs issued since the last reporting period.

BUDGET IMPACT

There is no impact on the budget.

BACKGROUND

Pursuant to Resolution No. 2020-18, the Board of Directors (Board) awarded contracts to Fehr & Peers, HNTB Corporation, Kimley-Horn & Associates, Inc., Arup North America Ltd., Mott MacDonald Group Inc., and WSP USA, Inc., consisting of a five-year base term for an aggregate not-to-exceed amount of \$25,000,000 with two additional, one-year option terms in an aggregate not-to-exceed amount of \$5,000,000 for each option year.

Prepared By:

Melissa Reggiardo
Manager, Caltrain Planning

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Lawrence Leung
Manager, Rail Contracts & Budget

650.508.6328

Table 1

Contract Summary	Years	Amount
Total Capacity:	7.0	\$35,000,000
Exercised:	5.0	\$25,000,000
Work Directives Issued:		\$4,568,665
Remaining Capacity:		\$20,431,335

Table 2

Contract Days	Days Elapsed	% Time Elapsed	Capacity Used
1825	338	19%	18%

Table 3

Contract Information	Start	End	Years	Capacity	Resolution/ Authorized
Base	7/1/2020	6/30/2025	5.0	\$25,000,000	2020-18
Option #1	7/1/2025	6/30/2026	1.0	\$5,000,000	
Option #2	7/1/2026	6/30/2027	1.0	\$5,000,000	
Amendment			0.0		
Total:			7.0	\$35,000,000	

Table 4

Vendor	Fehr & Peers	HNTB	Kimley-Horn	ARUP	Mott MacDonald	WSP
Contract #	20-J-P-006A	20-J-P-006B	20-J-P-006C	20-J-P-006D	20-J-P-006E	20-J-P-006F
Total WDs Issued	\$1,427,247	\$595,198	\$1,240,743	\$622,093	\$583,474	\$99,909
Previous Reporting Period	\$879,666	\$532,888	\$600,720	\$43,854	\$-	\$-
Current Reporting Period	\$547,581	\$62,310	\$640,023	\$578,239	\$583,474	\$99,909

Table 5

WD#	Title	Description (Updates in Bold)	Vendor	Updated	Start	(Revised) End	Current Value
10306	¹ Caltrain DTX – Operations Analysis	Rail operations technical analysis to support Caltrain and California High-Speed Rail Authority (CHSRA) to assess service and infrastructure configurations for the San Francisco Downtown Rail Extension. Authorized additional \$133.6k-->\$293.6k to fully fund WD and extended from 5/31/21 to 7/31/21.	Kimley-Horn	6/1/2021	9/1/2020	7/31/2021	\$ 293,625.00
10428	Refinement of Capital Project Implementation	Consultant shall be responsible for refining the decision-making process to ensure that specific decisions are being made at the correct level of the organization, defining a reporting process that is aligned with the decision-making process and provides both the appropriate information for decision-making as well as an accurate documentation of decisions made, providing COO with a program and project reporting template at the level of detail that meets her needs, and aligning staff reports with each other as well as Board reports to better inform the Board and staff as well as reduce the need to produce multiple reports.	WSP	5/18/2021	1/11/2021	9/30/2021	\$ 99,909.25
10335	² 22nd St Station ADA Access Feasibility Study	Completion of the ADA Access Feasibility study for the 22nd Street Caltrain Station including background research; stakeholder engagement; conceptual designs; constructability and funding analysis; alternative screening; and final report. Extended to 6/30/21.	HNTB	4/29/2021	9/1/2020	6/30/2021	\$ 133,106.00
10468	Capital Planning Support	Support for potential capital projects that are currently being managed within the Planning Department or being transitioned from Planning to the Capital Projects/Development Department. Such projects require ongoing yet intermittent planning management and tracking, coordination with internal and external partners and stakeholders, development of agreements, technical reviews, etc. The goal is to acquire resources to support these projects up to a certain dollar value.	Kimley-Horn	4/2/2021	4/2/2021	8/31/2021	\$ 252,226.00
10305	³ DISC Plan – Technical Support & Analysis	Technical management and support and organizational, governance and funding analysis and strategy for the remainder of Phase I of the Diridon Station Concept Plan. Added \$59k for additional support.	Kimley-Horn	3/31/2021	9/3/2020	6/30/2021	\$ 386,447.00
10304	³ DISC Plan – PM & Outreach Support	Technical and outreach program management for the remainder of Phase I of the Diridon Station Concept Plan. Added \$140k for additional support.	Kimley-Horn	3/30/2021	9/3/2020	6/30/2021	\$ 308,445.00
10309	Caltrain Governance Support	Support for Caltrain’s governance process including the following tasks: assisting with designing and structuring meetings, providing meeting facilitation services, developing and producing visual communications and graphics, and providing notetaking services during meetings.	Fehr & Peers	3/30/2021	2/22/2021	12/31/21	\$ 103,890.15

¹ Multi-agency Endeavor - San Francisco

² Transferred from old contract #13-PCJPB-P-023

³ Multi-agency Endeavor - San Francisco

WD#	Title	Description (Updates in Bold)	Vendor	Updated	Start	(Revised) End	Current Value
10334	⁴ Bike Parking and Micromobility Support	Continuation of bike parking and micromobility support as Caltrain replaces and expands bike parking infrastructure throughout the Corridor; includes demand analysis, conceptual station plans and micromobility best practices. Extended to 5/31/21.	HNTB	3/23/2021	9/1/2020	5/31/2021	\$ 179,304.33
10307	DSAP Development Support Services	Development support services associated with commercial development on the Caltrain-owned parcels within the Diridon Station Area Plan (DSAP) area in the City of San Jose. Specifically, the development team will be responsible for developing planning, land use, economic, environmental and development strategy associated with the City of San Jose's preliminary review application and formal planning application. \$573k budget thru FY24 but \$98k authorized for FY21.	Fehr & Peers	3/17/2021	3/8/2021	6/30/2024	\$ 97,967.24
10308	Internal Support for Interim Executive Director Transition	Internal support for the Interim Executive Director transition for the JPB and includes the following tasks: Development of Internal Action Plan for Transition Period, Support for Implementation of Internal Action Plan, Manage Special Projects as Identified by COO/ED, and Support Recruitment of Chief of Staff including Transitioning Internal Action Plan Tasks as Needed.	Fehr & Peers	3/17/2021	3/15/2021	9/30/2021	\$ 207,882.64
10446	Redwood City Station Area Planning	The main objective of the station area planning work is to provide inputs into Redwood City's Transit District planning process in the spring 2021 timeframe with consideration for the proposed redevelopment of Sequoia Station, the Whipple Avenue Grade Separation Study, Reimagine SamTrans and potential options related to the Dumbarton Rail Corridor Project. The scope of work will potentially produce street networks and a station area footprint to aid near-term land use development. It does not include public outreach, detailed design or cost estimates.	Mott Mac-Donald	3/11/2021	3/11/2021	6/30/2021	\$ 296,048.22

⁴ Transferred from old contract #13-PCJPB-P-023

From: Roland Lebrun

Sent: Friday, June 25, 2021 10:13 AM

To: Caltrain Board <board@caltrain.com>; VTA Board Secretary <Board.Secretary@vta.org>; SFCTA Board Secretary <clerk@sfcta.org>; MTC Info <info@bayareametro.gov>; SFCTA CAC <cac@sfcta.org>; Caltrain CAC Secretary <cacsecretary@caltrain.com>

Subject: [EXTERNAL] Repayment to SamTrans for the acquisition of the Caltrain right of way

Importance: High

Dear Caltrain Board,

Please add an information item to the 6/28 Finance Committee agenda to inform the expediting of the repayments to SamTrans for the acquisition of the Caltrain right of way.

Thank You.

Roland Lebrun

CC

MTC Commissioners

SFCTA Commissioners

VTA Board of Directors

VTA PAC

SFCTA CAC

Caltrain CAC

VTA CAC