



CITY OF BURLINGTON, VERMONT
**CITY COUNCIL TRANSPORTATION, ENERGY &
UTILITIES COMMITTEE**

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Transportation, Energy and Utilities Committee of the City Council

Thursday, January 16, 2020 6:00 PM

**Riverside Apartments – Community Room
669 Riverside Avenue – Burlington, VT**

–AGENDA–

1. Agenda
2. Minutes of 12/17/2019
3. Public Forum
4. Amtrak Servicing and Storage & Related Rail Improvements
 - a. VTrans & DPW presenting
5. Councilors' Update
6. Adjourn

Transportation, Energy and Utilities Committee of the City Council

Thursday, January 16, 2020 6:00 PM

Riverside Apartments – Community Room

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Amtrak Storage and Servicing Location Neighborhood Meeting

Transportation, Energy & Utilities Committee of
the Burlington City Council

January 16, 2020

*Michele Boomhower, Division Director for Policy, Planning and
Intermodal Development*

Dan Delabruere, Bureau Director for Rail and Aviation



Amtrak to Burlington Rail Context

- **State & City goal to restore passenger rail service to Burlington**
 - **2015 Vermont State Rail Plan:** “Proposed New Service.... *Extend the Ethan Allen Express to Burlington...* VTrans has established extending the *Ethan Allen Express* to Burlington and the *Vermont* to Montreal as first priorities.
 - **2011 Burlington Transportation Plan:** “The City will pursue several policy initiatives including...supporting improvements to the western corridor rail infrastructure and expansion of passenger rail services to Burlington.”
 - **2019 planBTV Comprehensive Plan:** “Support improvements in the western corridor rail infrastructure and expansion of passenger and commuter rail services through Burlington to aid in traffic and congestion reduction.”

Amtrak to Burlington Rail Context

- **City goal to activate waterfront around Union Station as a mixed-use area**
 - **2013 planBTV Downtown & Waterfront:** “The South Waterfront is truly the workhorse and activated waterfront of Burlington. In many ways this area serves as the front door to the city. The area from College Street down to and including the King Street Dock is envisioned as an active mixed-use area with retail, restaurants and an inn or hotel.”
- **City goal to move Burlington Greenway to west side of railroad tracks**
 - **2012 Bike Path Task Force Study:** “Some sections of the path may be considered for realignment to improve safety and user experience...Between Perkins Pier/Maple Street and College Street: the path crosses to the east side of the railroad tracks for this section, resulting in two awkward railroad/road crossings and potential conflict points at King Street and College Street”
 - **2016 Citizen-initiated Advisory Ballot Item:** “Should the Mayor of Burlington and the City Council be advised to relocate the Burlington Bicycle Path to the west side of the railroad tracks between College and King streets even if that means utilizing the public trust doctrine or eminent domain to accomplish this task?”

Amtrak to Burlington Rail Context

Three Interrelated Efforts

1. Accommodate Amtrak passenger rail service (VTrans)
2. Add a second track generally between King St and College St (VRS requirement)
3. Relocate Burlington Greenway to the west side of the tracks (City)

Amtrak to Burlington Rail Context

Rail ownership and operation

■ North of College Street:

- Railroad right of way owned and operated by Genesee & Wyoming / Brookfield Infrastructure (red line)

■ South of College Street:

- Railroad right of way owned by State of Vermont, leased to Vermont Rail System (VRS) (orange line)
- VRS also has rights to spur on east side of Urban Reserve



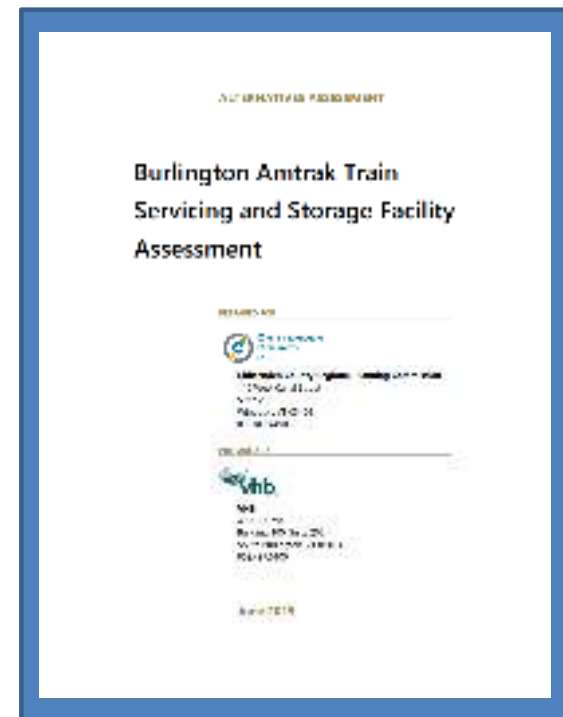
Amtrak Accommodations

■ Station:

- General understanding and agreement that passenger loading and unloading will occur at historic Union Station. State of VT owns lower floor of 1 Main Street building, the balance of the building is owned by Lisa Steele.

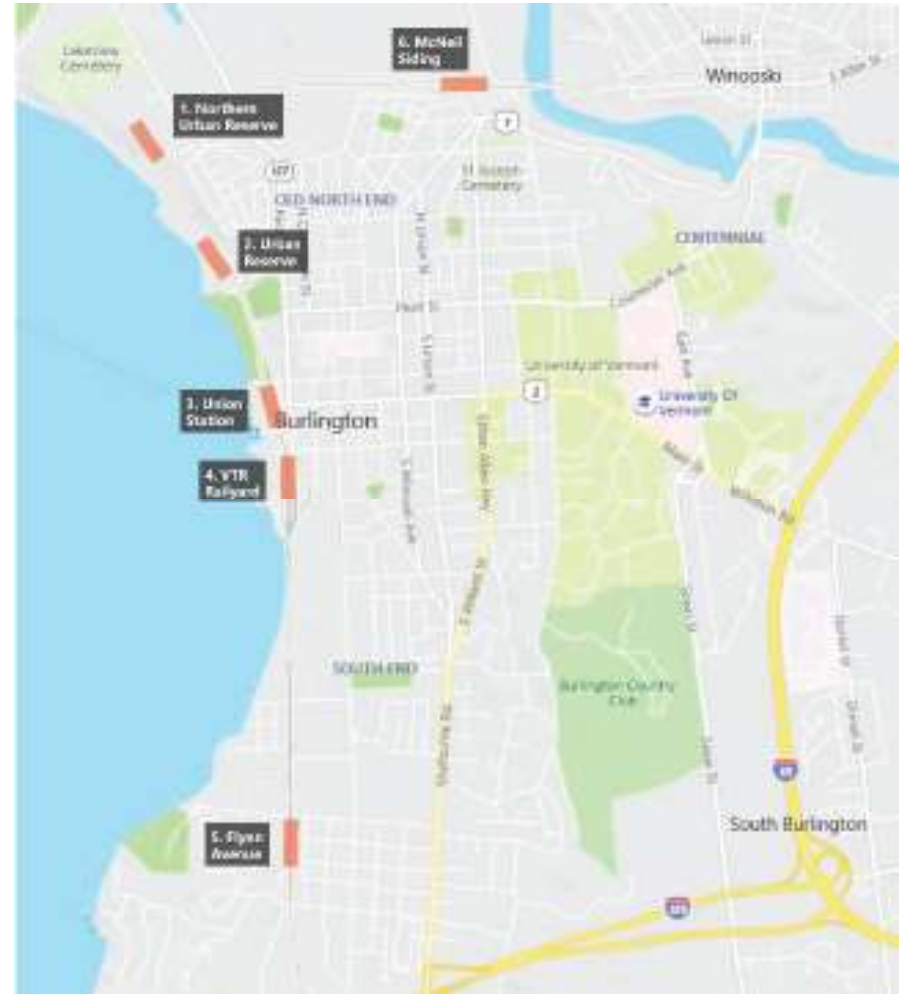
■ Overnighting & Servicing:

- 2016: VTrans begins conversation with City regarding potential location to overnight and service the train in Burlington
- 2017: City requested CCRPC/VTrans do a study of overnighting and servicing locations given our questions and concerns with the various proposed sites
- 2017: CCRPC funded and initiated study
- July 2019: Study completed by CCRPC and received by VTrans



Train Overnighting Locations Evaluated

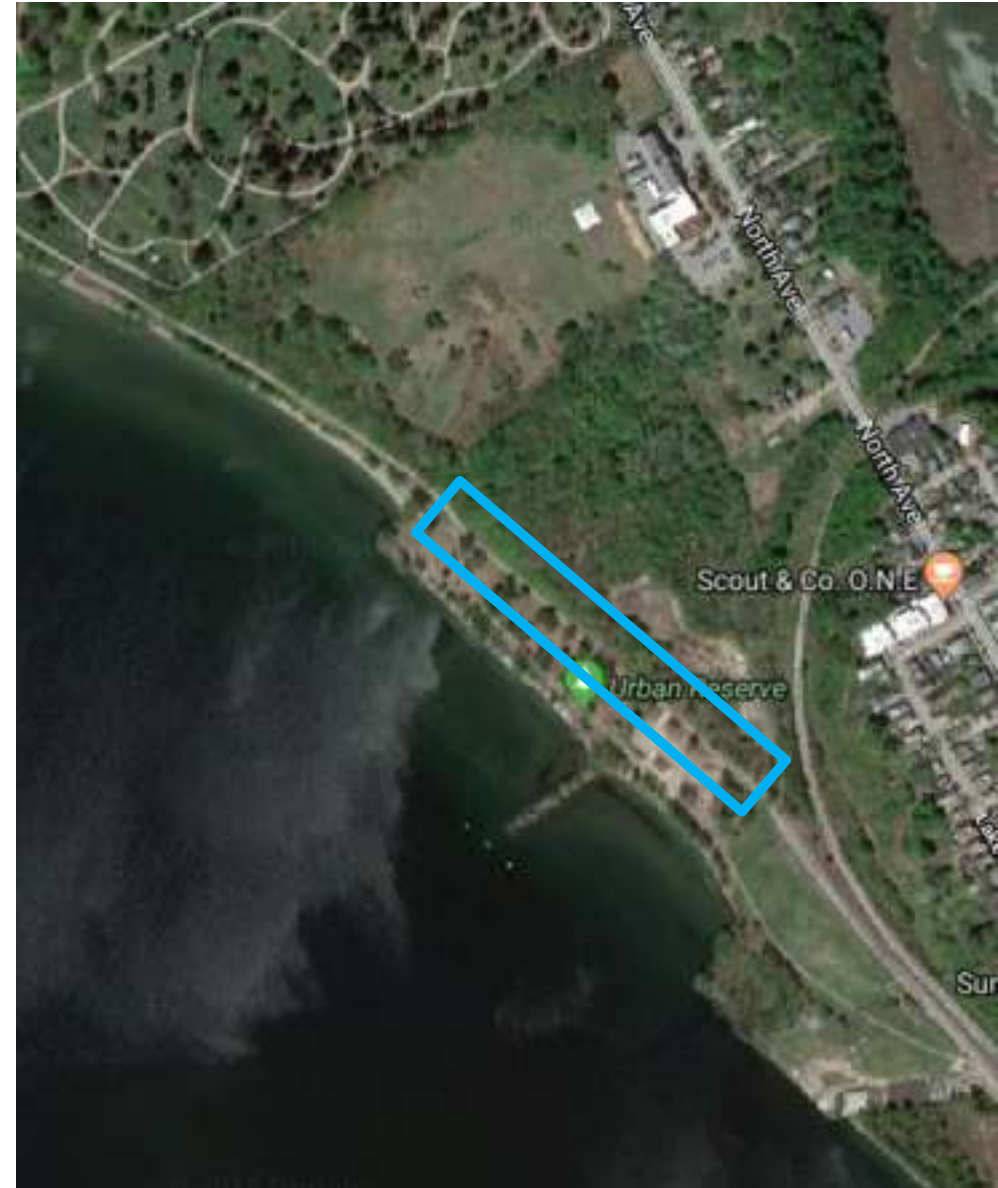
1. Northern Urban Reserve
2. Urban Reserve
3. Union Station
4. Vermont Rail System Railyard
5. Flynn Avenue (City Market)
6. McNeil Siding



Northern Urban Reserve

Location #1

- 2018 construction by VRS to extend their current siding is not affiliated with Amtrak overnighting
- Amtrak train would be stored on a new adjacent siding
- Additional crossings and horn blows
- Located downslope from adjacent residences
- Overnight crew accommodations within short drive
- Requires coordination with New England Central Railroad (Genesee & Wyoming)



Urban Reserve

Location #2

- Current VRS siding located north of skate park
- Amtrak train would be stored on a new adjacent siding
- Additional crossings and horn blows
- Located down slope from adjacent residences
- Overnight crew accommodations within short drive
- Requires coordination with New England Central Railroad (Genesee & Wyoming)



Union Station

Location #3

- Proposed new siding constructed adjacent to Union Station to service Amtrak passengers
- Overnight crew accommodations within walking distance or short drive
- Burlington Greenway to be relocated in coordination with rail project adjacent to the station and the City's goal to move Burlington Greenway to west side of railroad tracks



Vermont Rail System Railyard

Location #4

- VRS states railyard does not have the operational capacity to accommodate storage of the Amtrak train overnight (VRS)
 - Amtrak will disrupt freight rail operations
 - The timing of the evening Amtrak Train may be inconsistent
 - Open track space is used for freight storage and train operations
- Overnight crew accommodations within walking distance or short drive



Flynn Avenue / Briggs Street

Location #5

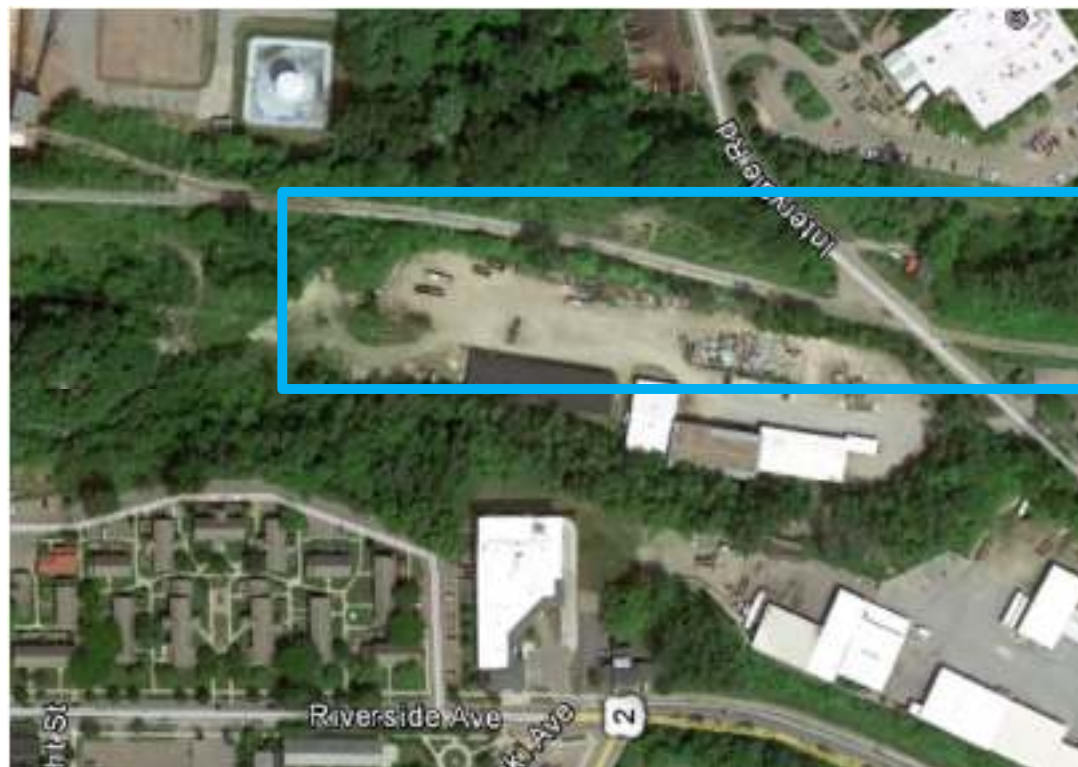
- Use existing VRS siding and construct additional siding to replace storage capacity for VRS
- Adjacent to residential neighborhood and new City Market
- Approximately 1.5 miles from Union Station
- Overnight crew accommodations within short drive



McNeil Siding

Location #6

- Amtrak train would be stored on a new adjacent siding
- Additional crossings and horn blows
- Located downslope from adjacent residences
- Approximately 2.3 miles from Union Station
- Overnight crew accommodations within short drive
- Requires coordination with New England Central Railroad (Genesee & Wyoming)



McNeil Siding

Location #6

- Siding will be Adjacent to Existing Track (14'-0" Centerline of Track to Centerline of Track)
- 12'-0" Wide Access Road will be Located Next to Track for Servicing Amtrak (Septic and Water)
- Lighting will be Installed for Servicing and Security
- Engine Will be Plugged in to "Shore Power" Overnight, but will Idle up to 20 Minutes Each AM



McNeil Siding

Location #6 - Noise

- Amtrak Engine Noise Similar to NECR Wood Chip Train Engine
- Noise Level is 50 to 60 Decibels (Circled in Red)
- Noise Level is 40 to 50 Decibels for Remaining Riverside Ave. and Interval Ave. Residents.

Heavy Traffic at 300 ft	60	Large Business Office
Quiet Urban, Daytime	50	Dishwasher Next Room
Quiet Urban, Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban, Nighttime		



Sound Levels			
60-70 dBA	40 dBA	70 dBA	
40-50 dBA	70-80 dBA	50 dBA	80 dBA
50-60 dBA	>80 dBA	60 dBA	90 dBA

McNeil Siding

Location #6 – Air Quality

- Air quality impacts were modeled using the AERSCREEN Dispersion Modeling framework
- The model uses worst case meteorology to conservatively estimate pollution concentrations
- The model evaluated one locomotive idling for 40 minutes at each location
- For structures adjacent to the modeled locations, building height was taken into consideration
- The Study air quality modeling revealed the following:
 - Nitrogen Dioxide (NO₂) was the only emission determined to approach the National Ambient Air Quality Standards (NAAQS) under the one hour averaging period
 - The only location which may have the potential to approach or exceed the NAAQS 1-hour averaging levels for NO₂ are the second story position(s) of the Union Station/Wing Building, if the train engine were parked within 50' of the structures and idling
- A more detailed air quality assessment will be considered following the finalization of site selection

McNeil Siding

Location #6 – Air Quality

Analysis Results

The results of the dispersion modeling for the Storage Facility show pollutant concentrations from the idling locomotive for all criteria pollutants and averaging periods are below the NAAQS criteria at all receptor locations at the McNeil site. The potential to exceed the NAAQS for each site is summarized in Table 3.

Table 3 Potential for Air Quality Impact by Site

Site	Site Description	Potential to Exceed NAAQS?	Potential Exceedance Location
6	McNeil Siding	All Pollutants: No	N/A

McNeil Siding

Location #6 – Comparison to Chip Train

- Length of Idle Time
 - Amtrak – 20 Minutes AM, 5 Minutes PM
 - Chip Train – Unloads for 3 Hours +/-
- Time of Idling
 - Amtrak – +/- 7:00 AM, 7:30 PM
 - Chip Train – 11:00 AM to 2:00 PM
- Distance from Housing to Tracks
 - Amtrak – 396 feet
 - Chip Train 410 feet
 - Chip Train Unloading 560 Feet
 - 100 feet Vertical +/-



Evaluation Matrix – Final Scoring

Each site was scored 0 – 3 for each criterion
0 being the worst and 3 being the best.

Location	Estimated Costs	Electrical Power	Crew Hours	Property Acquisition	Natural Resources	Lighting	Train Visibility	Noise Impacts	Horn Impacts	Air Quality & Emissions	Proximity to Residences	Impacts to VRS	Total Score	Ranking
	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score		
Northern Urban Reserve	2	2	2	1	3	1	3	1	1	3	3	2	24	3
Urban Reserve	2	2	2	1	3	1	2	1	1	3	3	2	23	5
Union Station	3	3	3	3	3	2	1	2	3	0	0	3	26	1
VTR Railyard	0	3	2	2	3	2	3	3	1	3	2	0	24	3
Flynn Avenue	2	2	1	2	3	2	2	0	1	3	2	1	21	6
McNeil Siding	2	3	1	1	3	2	3	1	1	3	3	2	25	2

Amtrak Overnighting Other Considerations

Why not extend the Ethan Allen to St. Albans? There are several unknowns...

- What would the capital and operating expenses be?
- What is potential ridership with an expansion in the route?
- Would our partner states (NY, MA & CT) support this change? If so, what would the cost and revenue splits look like?
- What conflicts if any does this pose for other uses (freight service and the Amtrak Vermonter) on the route?
- Would the host railroad allow an additional passenger train to operate on the track?
- Would additional passenger service trigger the need for positive train control (PTC) safety upgrades, and if so, who would be responsible for the installation, maintenance and operating costs?
- If an extension of service were feasible what would the operating schedule look like and how would it fit with the Vermonter?
- Would additional train crews be required to complete the trip?
- The complexities of future expansion to St. Albans is outside of the Scope of the current project

Amtrak Overnighting Decision Process

- Study completed by CCRPC and accepted by VTrans – July 2019
- Final Report is posted on VTrans website: vtrans.vermont.gov/rail/amtrak-burlington
- VTrans will be making the final selection on the preferred storage site for the Amtrak train taking into consideration:
 - Results from the CCRPC study
 - Public and stakeholder input including City, Vermont Rail Council, Amtrak and VRS input
- VTrans plans to make a decision on the train overnighting location by the end of February 2020
- VTrans is expecting to complete designs for the project elements this winter and start construction in the Spring 2020
- Public input can be sent to daniel.delabruere@vermont.gov

Amtrak Overnighting Ongoing Communications

- VTrans project website: vtrans.vermont.gov/rail/amtrak-burlington
- The Agency will issue quarterly project updates through email
 - To receive updates - Go to the VTrans Project Website and Submit your email address (At the bottom of the website page)
- VTrans and City Staff will continue to meet on a monthly basis to coordinate the Amtrak project and the Greenway project
- At the invitation of the City Transportation, Utilities & Energy Committee the Agency will provide biannual updates on the project



Amtrak to Burlington Rail Briefing

Transportation, Energy & Utilities Committee of the Burlington City Council

January 16, 2020

Questions & Comments

Public input can be sent to
daniel.delabruere@vermont.gov





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Thursday, January 16, 2020 6:00 PM

Riverside Apartments – Community Room
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–MINUTES–

Meeting begins at 6:09PM
Introductions to Committee
Introduction to Interpreters and welcome anyone who needs their service
Introduction around the room

1. Agenda

JH moved to adopt
FP Seconds
Unanimous Aye

2. Minutes of 12/17/2019

FP motion to approve
JH seconds
Unanimous Aye

3. Public Forum

MT prompts public forum at 6:13PM

Cindi Turcot: Gardener Supply Representative

Not against the idea of the train. Here to talk about infrastructure around the area. This area (surrounding proposed McNeil overnighing location) should be a location where people want to go and the current condition of the road and tracks are dangerous for pedestrians to come down to the Interval. Those in charge of the train tracks and the City need to take care of this access road to encourage access to this area.

Alex Friend:

Excited to have an area to overnight the train that is not downtown on the waterfront. Avid train user. Looking forward to train being at the newly proposed location (McNeil).

Intervale representative:

Excited Amtrak is coming. Excited about the McNeil location. If we are investing in the Interval area then we need to think about access to the Interval and this road. If this location is chosen, Intervale road should be enhanced. This could be done as a coordinated effort with the train project and existing DPW study of this area. This could be a cost saving opportunity.

Close public forum at 6:18

4. Amtrak Servicing and Storage & Related Rail Improvements

a. VTrans presenting

VTrans is excited Amtrak will be back.

VTrans presentation – see attached.

QUESTIONS DURING PRESENTATION

Public Comment about timing: when will the train be coming?

VTrans – In the morning between 7 and 8AM. Come back between 6:30 PM-9 PM this is what we know today based on current negotiations.

Public Comment: how long will the train idle when it comes in at night?

VTrans: It will be here for 10 minutes on and idling. Then it will go off while they service.

PC: Hot start, how do we know this will happen?

VTrans: This is a requirement from VTrans to have the train come.

PC: Sound is this modeled or tested?

VTrans: Modeled

MT: We did a site visit to Rutland and did our own tests. Used phone decibel tester. We also witnessed servicing. When passengers aren't at capacity the train cars are not filled and they condense so only necessary cars are filled and need to be serviced. This was two cars in Rutland when we observed. We saw similar decibel readings that are modeled here. The shutdown time of 20 minutes was accurate. This was 85 decibels 10-20 ft away from the train.

PC: We will have better engines than those observed in Rutland

VTrans: Newer locomotives is the goal but hot start locomotives will be here definitely.

PC: What is hot start?

VTrans: Hot start is the technology and equipment added to the locomotive that allows you to plug the train in and keep it warm so it is warm when you start it the next day. This technology keeps the engine flowing and warm. It is required when the train comes to Burlington. People in Rutland said they don't even notice the train when it runs all night (without hot start). We don't want it to run all night here regardless.

VTrans: This will be hard wired to Burlington electric. In initial review shore power can come here.

PC: hot start is not in Rutland?

VTrans: No

PC: Will the train be fueled here?

VTrans: No it will be fueled in NY

PC: Regarding tracks and wood chip tracks

VTrans: Amtrak will switch off the main line so this shouldn't be effected as well as the timing. Wood Chip train follows timing with Vermonter. Wood Chip is back in St Albany by 4 o'clock. Timing is different. Amtrak will not come across the tracks on Intervale Rd

PC: What tier is the locomotive?

VTrans: Unsure. Could be 2 but that is a guess. It is the new one. There is currently tier 2 in Rutland. New ones would be tier 4.

MT: This air quality was modeled. Is there any way to bring a train here and actually test this?

VTrans: We could calculate this in Rutland. Amtrak can't run on tracks they don't know. If they were to come here there would be months so engineers could analyze the tracks and understand all of the features. It can be done but it would take months and show similar results to if it were run in Rutland or as we have it modeled.

VHB: Topography and wind and other things are going on here. This program is acceptable and represents actual situation. This doesn't mean no pollution just means it is within the national standards.

PC: Issues with vibrations and existing track considered?

VT: New siding and assuming some track upgrades between this site and Main St Landing sight. This will be minimal. New ties, etc. Passenger trains have different criteria than freight. There won't be passengers on the train from Main St Landing to this location so it should be fine.

Questions about Matrix:

FP: Have you had an opportunity to reach out to the owners of the railroad from college to McNeil?

VT: Yes we have talked to New England Central Rail Road. There are necessary updates such as ties and other small upgrades. Resurfacing. Nothing major. Adding a siding is needed.

FP: Have you thought about total cost?

VT: Yes this was part of the evaluation. We have a rough number.

FP: Is it a prohibitive cost?

VT: McNeil scored a 2 on the cost matrix

PC: In the study it said Union Station was 300k and McNeil was 1.5 million. Did you say there will be a new track? How is this cost so different?

VTrans: Operationally VT railway is saying second track needs to be built to have Amtrak regardless of where the train overnights. We know it will stop at Union Station. The second siding needs to go in regardless. It is not in this cost estimate because we need to know where the track goes when we design this platform. We looked at the design but we haven't added the construction cost. Potential for VT RR to put in this track at their own cost.

MT: Do we not know the cost comparison between Union Station and McNeil

VTrans: VRS will pay for Union Station siding. Not in our budget because we don't think it will be something we put in although it is necessary.

MT: VRS will pay for second track down on the waterfront.

VTrans: Bike path will be moved through another City project.

MT: The addition of the second track makes the bike path moving necessary. The second track will go in regardless of where the train is stored. We don't own where the bike path is currently. We have an easement with them to have the bike path there and we must move it if they provide notice which they have. Voters were in favor of this move. We need to figure out this cost and other complications including ferry operations.

VTrans: 1.5 is cost estimate for McNeil.

PC: is there an ongoing cost to access rail?

VTrans: Yes this is Amtrak pays NECRR but we pay Amtrak. This is a host RR charge. Amtrak will add wear and tear. This is paid across the country by all Amtrak trains. This would be seen and paid for by state fund that come from the transportation fund. This is currently done in Rutland.

PC: Is Burlington the last stop

VT: For this project yes. Long range there is talk about Essex or St Albans.

PC: This area is already congested

VT: This project is just for Burlington. We do have long range to bring it further north but that is separate project.

FP: What time would it leave Burlington?

VT: Between 7 and 8 AM

FP: So it would leave NY when?

VT: It is about an 8 hr trip to Burlington.

PC: Faire?

VTrans: Unsure. This is 4-5 steps from where the current project is.

QUESTIONS AFTER PRESENTATION

PC: Pollution and noise is only modeled. What about wood chip train?

VTrans: We did look at this. We believe this a tier 2 which we modeled worse tier. We haven't done any actual measurements only modeling. We modeled the worst case scenario and went above and beyond what we thought noise would be and it still wasn't bad. Low impact.

PC: Duration? This will be on top of current woodchip operations.

VTrans: It will only be 10 minutes of engine noise at night. Worst case it will be 40 minutes in the morning in below 20 weather. No change in McNeil operations. We did not study McNeil's current noise level.

PC: For the modeling is it averages or peaks and valleys?

VHB: Unsure but this was done by a specialist. We can get you this answer.

PC: The Air Force did an average over an entire year so they did not consider how loud it is in the extremes (takeoff and landing only happen for short periods of time but they are extremely loud).

FP: Their modeling was consistent with what we observed in Rutland.

PC: Noise often travels up. Was this considered?

VHB: This was considered for all sites.

FP: 1.5 for McNeil sight. VTrans is willing to pay for this?

VTrans: No decision yet. We don't know who will cover this and we are working on this.

FP: VT RR has agreed to pay for second track?

VTrans: We think they will based on the letter they sent saying they are moving forward with this. We are not sure of this. We want Amtrak to come back and VTRR is the host RR. If they have criteria to keep their operations working then we need to comply. If their criteria is a second track we need to make it happen and figure out who pays. They know their daily operations and what is necessary.

FP: It has been made clear we need to pay for the bike path. This is expensive.

VTrans: That is not news. It was in the original agreement.

FP: The timing is news and City is now scrambling.

VTrans: We have been talking to Amtrak since 2016.

PC: The other 5 sites are all within one point (in the matrix) of each other. Is there any chance to put it in the VT Rail yard at the edge?

VTrans: VTRR said no and they control their operations. As of now this is not possible.

PC: Is bike path moved because Amtrak is coming?

VTrans: It's a domino. Amtrak is coming making VTRR need a second rail making bike path need to moved. Amtrak also needs to block conflict points with bike path. Overnighting location and the second track are not related. Second track will be there regardless of where train is stored.

PC: Second track is not needed if Amtrak is not stored there overnight because it won't be there to conflict. They should pay if it's not there. Wasn't there also a city referendum to move track a few years ago. There was a desire to do this regardless

VTrans: I disagree, VRS said they need this.

PC: For three of the options, they all need a second track added?

VTrans: CM there is already a second track but VRS already uses this and the bigger concern is the Amtrak train would interfere with freight operations.

PC: Additional track needs to be added for a lot of sites. It seems like there is extra space in the rail yard.

VT: They are confined. No space to add on current site. They have already moved Salt operations to Shelburne. There is no capacity and no space to expand it easily.

PC: This evaluation matrix is a great framework but it is oversimplified. How will you weight categories? What are next steps?

VTrans: We don't have a weighted system. Meetings like this allow us to get input.

VTrans MB: VT rail advisory meets quarterly and provides input and they have weighed in with a vote on this.

TEUC, CC, and Mayor have advised and continue to advise as well.

JH: Cost difference between Union Station and McNeil option. Can you speak to this? Power upgrades?

VTrans MB: Major difference is that we have to build a brand new side track, add lighting, shore power, and track upgrades from college to McNeil, fence, and other factors that increase cost at McNeil. At Union Station we already have to build a platform.

JH: Upgrades to track are significant upgrades?

VT: Not as significant as siding.

JH: Those upgrades in theory would be helpful in terms of continuing service on to Essex.

VT: From here to McNeil there is no passengers so this doesn't have to be upgraded to full specs with passengers.

To go to Essex this would need more upgrades. Not a huge portion of cost.

JH: Would these upgrades address crossing of railroad and Intervale Rd as comments stated?

VT: Not part of this project because we aren't going that far. Only one sewer truck once a night will be added in terms of additional heavy vehicles.

JH: Is the City putting itself at risk for having to pay for cost of second track? Is there a greater risk at different locations?

VTrans MB: This is still being discussed. Very few differences in impacts. The cost may be worth benefits but we still need to understand this.

JH: When will you know this? We need to give you our input by mid-February.

VTrans MB: We would get back to you with more recommendations and cost consideration.

JH: Pollutant Matrix. It was a 3 for McNeil and a 0 for Union Station.

VTrans MB: Recommend that you look at the report that talks about modeled emissions for levels and how they disperse. These matrix ranking numbers are very gross. Further questions about modeling info can be asked via email. In a prior presentation specific numbers for air quality measures were discussed. Recommend everyone take a look at the reports and ask questions.

SO: Vibrations. When you redo the track do they minimize this? I can currently feel the train on Walnut St. I was told this is because of sandy soils. I support this location. Can they temper the vibrations?

VT: Amtrak train will not weigh as much as chip train. You likely will feel this train. It will likely vibrate less than chip train. It will be going slower than current chip train and freight. Lower impact than what is there today likely.

SO: Plant makes a lot of noise. There will be more noise than just the train.

PC: Compounding noise on top of plant should be considered.

VT: Low impact. This is a train coming to park at McNeil.

PC: Passenger trains don't allow slack between cars and less cars and it is done once it's at a full stop. Freight is louder and more abrasive. There will still be some noise. Horns, revving engines. Not car noise like freight trains. Freight is very heavy.

SO: I like this location but just something to consider with soil and possibility to remedy.

PC: Does not prefer McNeil location. Crime should be considered. Vandalism.

VT: We are discussing fencing and lighting here.

PC: There is homeless population.

VT: We are aware and considering this.

PC: Do you know what kind of lighting and what light pollution?

VT: This has been modeled. There is lighting when it's serviced and then dimmed and on a motion detector.

VHB: This is no different than lighting throughout the City. LED lights.

PC: Even if the lighting is on for a small amount of time if it is in middle of the night and wakes you up that is a considerable impact.

VT: There is currently lighting there but it will be increased with this.

PC: This decision is ultimately at VTrans?

VT: Secretary of Transportation ultimately makes this. We bring info back to Secretary from meetings like these.

MT: Secretary makes decision but funding is legislative. Because there is state appropriations this would need to be in the Governor's budget. Which it currently is approved and in the budget. They could rescind.

VTrans MB: They typically approve or disapprove. They have approved. They typically don't micromanage specific projects.

MT: If there is an additional cost would they need to add to the budget?

VTrans MB: They would potentially have to approve this if there is additional funds needed.

FP: What is the money you have for this project? What makes it so the state won't pay for it?

VTrans MB: Not a question I can answer tonight. It is a concern of ours. We have received input that train isn't wanted a Union Station and now hearing some don't want it at McNeil and some don't want it at other locations. We are taking in a lot of factors to consider. Should all of the tax payers in VT pay additional money to overnight it at McNeil to avoid the local concerns of people at Union Station? Should the City, vs all of state, decided McNeil is better location, based on City needs, pay this cost?

PC: Rail yard has a cost of 50M but no backup documentation like the other sites do.

VT: RR yard does all rail operations. They have told us we need additional tracks. There is no capacity to add on the waterfront. Moving this railyard somewhere else is extremely expensive.

VTrans MB: This number was provided by VTRR. They have a good idea of this.

PC: For clarification of document this info would be helpful.

5. Councilors' Update

FP: request an e bike update.

Unanimous Aye

6. Adjourn

Adjourn at 7:56PM



CERTIFIED MAIL

December 18, 2019

Mayor Miro Weinberger
Burlington City Hall
149 Church Street
Burlington, VT 05602

Dear Mayor Weinberger:

For years we have been working with the City of Burlington and VTrans to plan track and facility upgrades needed for the return of passenger service to Burlington. We have continued to refine our engineering plans with input from the City and VTrans, and are pleased to advise you that initial construction work adjacent to the passenger loading platform at Union Station will begin this Spring in order to be ready for Amtrak service to Burlington.

We know how important the bike path is to the City and, subject to VTrans' approval, we want to work with you to allow continuing interim public use and access over the railroad right of way where feasible, both during and after construction. We therefore propose that the Parties enter into a further amendment to the 1985 Lease Agreement to confirm access and clarify responsibilities for maintenance, indemnity, and insurance consistent with the current agreement. This approach should let all parties coordinate future construction activities, minimize public inconvenience, and will allow for continued public access to businesses located in the Wing Building. It is our understanding from Chapin Spencer that the City has been planning the relocation of the bike path to an improved location west of the tracks in any event, and we would be happy to coordinate planning and construction with the City to the extent feasible.

In order to meet our construction schedule and operational commitments, and consistent with Paragraph 5, Amendment No. 2 to the June 18, 1985 Lease Agreement between the State of Vermont Agency of Transportation and the City of Burlington, this letter therefore is to give notice that the City's lease of that portion of the State's lands and premises located between King Street and College Street is being terminated effective March 23, 2020. Our current plans also anticipate track reconstruction, realignment and signals work within the railroad right of way between Maple Street and King Street and accordingly this letter is also to give notice that the Railroad is terminating the Lease Agreement with the City as to that portion of Parcel No. 5 located between Maple Street and King Street, to be effective June 20, 2020. See Article IX, Lease Agreement dated June 18, 1985. We are providing similar notice to VTrans by copy of this letter to Secretary Flynn, and will keep you informed as we finalize our plans and move closer to the start of work.

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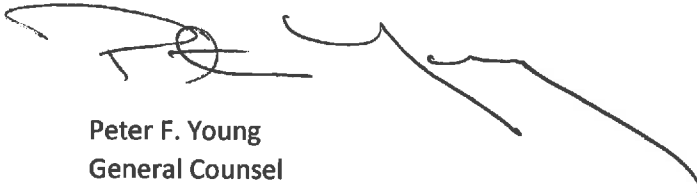
Vermont Railway, Inc. - The Clarendon and Pittsford Railroad Company - Green Mountain Railroad Corporation
Washington County Railroad Company - New York & Ogdensburg Railway Company, Inc.

December 18, 2019

Page Two

Please let me know if you have any questions or would like to discuss further. We would be glad to prepare a draft Agreement for discussion with the City and VTrans to provide for continued public access along the railroad right of way, and look forward to having it ready and in place well before initial site work needs to begin in the Spring.

Regards,

A handwritten signature in black ink, appearing to read 'Peter F. Young', with a long, sweeping horizontal line extending to the right.

Peter F. Young
General Counsel

Cc: Secretary Flynn, Vermont Agency of Transportation

Steven Locke, Acting Chief Administrative Officer, Office of the Clerk/Treasurer

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Agency of Transportation

December 3, 2019

Mayor Miro Weinberger
City Hall
49 Church Street
Burlington, VT 05401

Dear Mayor Weinberger,

Thank you for your recent correspondence regarding our coordinated efforts to bring Amtrak train service to Burlington. We are excited by the enthusiasm you expressed in your letter and your commitment to working with VTrans to return train service to the Queen City, while respecting and protecting the values of the City and its residents.

On Tuesday, November 19th, Michele Boomhower and Dan Delabruere of my staff had the opportunity to meet with the Transportation, Utilities and Energy Committee (TUEC) of the City Council to discuss the project and provide information, including information regarding a new potential overnight storage site which the Agency identified adjacent to the McNeil generating plant. At that meeting, Michele and Dan outlined very preliminary information regarding the McNeil site, since that time the Agency has worked with the CCRPC and consulting firm VHB, to prepare an Addendum (attached) to the *Burlington Amtrak Train Servicing and Storage Facility Assessment* which augments the original Assessment to include an evaluation of the McNeil location utilizing the same criteria as were applied to the original 5 locations.

Additionally, Michele and Dan committed to the TUEC to provide the following enhanced communications related to the project to assure that anyone interested in the project has access to up to date, direct, information:

- VTrans will develop a project website to provide up to date information
- VTrans will issue quarterly project updates through an email distribution link which will be built into the project website
- VTrans and City Staff will continue to meet on a monthly basis to coordinate the Amtrak project and the Greenway project
- At the invitation of the City Transportation, Utilities & Energy Committee, or any other bodies of City Government, the Agency will provide biannual updates on the project.

In response to the questions you posed in our recent correspondence, we offer the following responses:

1. The reasons for which the Amtrak cannot be accommodated in the Railyard. Vermont Rail System (VRS) and VTrans have stated that the existing Railyard is not an option for overnighting the Amtrak train, and the City needs a better understanding of why this is the case.

On November 25th I received the attached letter from VRS regarding the Amtrak Servicing and Storage Study. Information regarding the challenges and obstacles of train storage in the railyard are outlined in that letter.

2. The feasibility of overnighting and servicing the train in Saint Albans or another location beyond Burlington. If the State believes this option infeasible, the City needs more information about why this is the case.

During the last Rail Advisory Council meeting there was a vote taken to request that VTrans explore the option of having the Amtrak service extend further north of Burlington. As background, staff have been working with New England Central Railroad (NECR) and VRS over the past few years to plan for the detour of VRS train traffic over the NECR railroad during the track closure in Middlebury as part of the Middlebury Tunnel Project; this detour is expect to occur during the 2020 construction season.

To prepare for this detour “studies” were completed to determine the required improvements to the line between College Street, Burlington and the wye in Essex Junction to allow for the additional freight trains which will travel over this segment of track. The list of improvements needed for the safe movement of freight will be implemented in advance of the detour so the increased volume and weight of freight trains, traveling at low speeds, can utilize the line during the limited time closure of the track segments in Middlebury. At this time, there have been no comprehensive studies completed to evaluate the level of improvements needed to operate passenger service between Burlington and Essex Junction. A comprehensive study would be required.

Under the VTrans Grant Agreement with the FRA, the Agency is required to commence Amtrak service to Burlington service by 2021, all focus has centralized on the planning, permitting and construction of this service. In this advanced stage of delivering Amtrak service to Burlington, a change to the destination of the train beyond Burlington, even if it were feasible, would put at risk the commencement of service from Rutland to Burlington on the current timeline.

The 2015 State Rail Plan does express, as a second-tier priority after Amtrak passenger service to Burlington and Montreal, Amtrak service from Burlington to Essex Junction (see excerpt from the Rail Plan below).

ES.1.4.4. Vermont Passenger Rail Priorities

VTrans has established extending the **Ethan Allen Express** to Burlington and the **Vermont** to Montreal as first priorities. Second priority is to establish the service between Albany and Burlington through North Bennington and Manchester, and further extending the **Ethan Allen Express** from Burlington to Essex Junction. Third priority is to upgrade all passenger routes to FRA Track Class 4 and to add another frequency to the **Vermont** service. Exhibit ES-5 maps VTrans priorities.

In order to understand the implications of extending service from Burlington to Essex Junction, and then potentially on to Saint Albans, VTrans would need to undertake a comprehensive analysis. Such an analysis would likely cost between \$200,000-\$400,000 and take 12-18 months to complete. At this time the Agency has not scheduled nor budgeted for such an analysis due to the fact that we are still in the process of focusing on the top priorities in the Rail Plan, returning passenger service to Burlington and Montreal.

Some of the questions which would need to be contemplated in such a future study include:

- Should the train go to Essex or St. Albans if it goes beyond Burlington?
- What capital expenses would be needed from the currently planned end of the service to any new termination point?
- What are the costs with an expansion in the route?
- Is there interest on the owners and operators of the tracks to allow an additional passenger train to operate on the track and if they do will this trigger the need for PTC? If it does, who is responsible for the installation, maintenance and operating costs of this?
- Could it meet the Amtrak Vermonter with schedule changes?
- What impact would these schedule changes have on current services?
- If an extension of the service is feasible what does the operating schedule look like?
- What is potential ridership with an expansion in the route?
- Would our partner states support this change? If so what does the cost and revenue splits look like? Would train crews' time out" with an extension in distance for their routes, thus requiring an additional crew to complete the trip?
- What conflicts if any does this pose for other uses on the various tracks involved?

Amtrak to Burlington is the State's goal. This will remain our focus as we work with our partners to make this happen. Any additional services beyond Burlington can be discussed and proceed through a planning process in the future, however this must be done separate from the critical path we are on currently to bring service to Burlington.

Discussions with NECR have been positive, but rightfully so they would like VTrans to have a defined plan to present to them (a business plan) for consideration and response. This plan needs to define specifics of the service (times, stops, etc.), so they can evaluate the impact on their infrastructure and operations. NECR will need enough detail to decide what infrastructure improvements would need to be implemented by VTrans, costs that would be associated with this, as well as operating and maintenance costs that would be VTrans' responsibility if NECR granted permission for a future additional Amtrak service. Additionally, the State would need to identify a source of funding.

3. Why a second track is needed between King and College Streets to accommodate the Amtrak train, an understanding of what alternative strategies have been considered, and if there are additional actions that could make such an alternative feasible. The City is specifically interested in understanding why a second track is necessary at this time if Union Station is not selected as the overnighting location and thus Amtrak would only be briefly stopping at Union Station two times a day.

While Amtrak enjoys a federal delegation allowing it to pass upon any rail operator's tracks, there must be an agreement in place with the railroad which hosts the Amtrak train, and that agreement is predicated on the "Host Railroad" being provided accommodation to maintain its current and future services. Vermont Rail System (VRS), which will serve as the "Host Railroad" for the Amtrak Service, requires the second track to maintain its freight rail operations and its passenger train service (see attached letter from VRS regarding these details).

One of the most significant operational obstacles faced by VRS as the host of the Amtrak service is the limitations which are created during the time which Amtrak is traveling on the track between the wye in Rutland and the end of the VRS controlled line at College Street in Burlington. For each segment of track a train is operating on, a "track warrant" must be obtained from the dispatch center to assure that there are no other trains on the line. It is expected that the "track warrant segment" agreed to by Amtrak and the Federal Railroad Administration would be the entire segment from Rutland to College Street, Burlington – which would then require that no other trains be operating on the line, including in and out of the railyard in Burlington. VTrans is working with Amtrak to seek an FRA exemption which would reduce the warrant segment to Rutland to Middlebury and Middlebury to Burlington so there would be less disruption on VRS operations.

The track warrant segment, even if reduced to Middlebury to Burlington, would interrupt all VRS rail operations during the time the Amtrak train is on the primary track. VRS has predicated the second track as necessary, regardless of where the Amtrak train is stored overnight, due to operational interruptions outlined above, which would be compounded if the evening Amtrak service were not on time.

4. The CCRPC report finds that “nitrogen dioxide emissions from the locomotive have the potential to approach or exceed the NAAQS under the 1-hour averaging period” because the balconies of the Wing Building residences will be less than 50 feet from the train. Does the State believe that this is a concern that will require mitigation, and if so, what are the estimated mitigation costs? Additionally, would mitigation be necessary only if the Amtrak overnighted at Union Station or are the air quality concerns still exist regardless of the overnighting location?

VTrans is committed to mitigating air quality standard exceedances, should there be any identified once any necessary field testing is completed at the location chosen for the overnight storage of the train. Such testing could be accomplished in advance of the train service commencing; however, the State will not be scheduling testing until a location for the overnight storage of the train has been identified. Based on the outcome of the testing, the State would undertake an analysis of mitigation measures which could be implemented and determine which measures will be most appropriate to implement if such measures are required. The State would undertake the analysis and design, if needed, in consultation with the City.

In terms of actual idling of the train when arriving at the station to disembark riders is 5-10 minutes, including completing full shut down of the engines. Departure start up and idling is the same amount of time, 5-10 minutes, except during cold winter temperatures when the engine fluids need to be brought up to temperature and brake check completed, this can cause the engines to need to idle 20-30 minutes.

5. Some constituents have expressed concern the construction of a second rail in front of Union Station will lead to additional train building and freight storage in the heart of the waterfront. Does the State believe a significant increase in such activities is likely? As the owner of the rail line in front of Union Station, can the State ensure that this will not happen?

Based on statements which have been made by VRS officials, the State does not believe that there will be a significant increase in the building or freight storage of trains on the additional track. The State leases the railroad right of way to VRS, under its lease, VRS is within its rights to undertake any railroad operations, or construction of improvements, it deems necessary for its business purposes; the State has no authority to control, direct, or prohibit such uses or improvements.

Mayor Miro Weinberger
December 3, 2019
Page 6

I look forward to our continued collaboration on the advancement of this project. Please feel free to contact me at any time if you have questions or concerns.

Sincerely,



Joe Flynn
Secretary of Transportation

Cc: Michele Boomhower, Director of Policy, Planning and Intermodal Development
Dan Delabruere, Bureau Director, Rail and Aviation



Memorandum

To: Michele Boomhower
VTrans Director of Policy, Planning &
Intermodal Development Division

Date: December 2, 2019

Project #: 57981.00

From: David Saladino, P.E., AICP

Re: Burlington Amtrak Train Servicing and Storage Facility Assessment
Technical Addendum

This technical memorandum serves as an addendum to the *Burlington Amtrak Train Servicing and Storage Facility Assessment* report (June 2019) and provides an updated Evaluation Matrix and supporting technical background associated with a potential sixth Amtrak train servicing and storage location located adjacent to the McNeil Generating Station in Burlington, Vermont.

McNeil Site Overview

Figure 1 to the right shows the location of the McNeil site in relation to the other five potential locations identified and evaluated in the June 2019 *Site Assessment* report. The McNeil site is located along the New England Central Railroad (NECR) Winooski Branch line adjacent to the McNeil Generating Station and Queen City Steel, north of Riverside Avenue and west of Intervale Road in the north end of Burlington.

Figure 2 on the following page shows a conceptual plan of the proposed rail siding and access road immediately to the south of the existing NECR track. The proposed siding and access road fall entirely within the NECR right-of-way – which is owned and maintained by NECR.

For Amtrak to access this site, track rights from NECR would have to be acquired as the passenger train would use a portion of NECR's Winooski Branch line from College Street to Intervale Road.

This site would be located on a new siding immediately east of the McNeil Generating Plant on the southerly side of the NECR mainline track. This location is approximately 2.1 miles north of Union Station as measured along the rail corridor. This site is located at the base of the Winooski River bluff, approximately 80-85 feet below the elevation of the closest homes and businesses located off Riverside Avenue. This vertical separation

Figure 1: Potential Train Servicing & Storage Location Sites

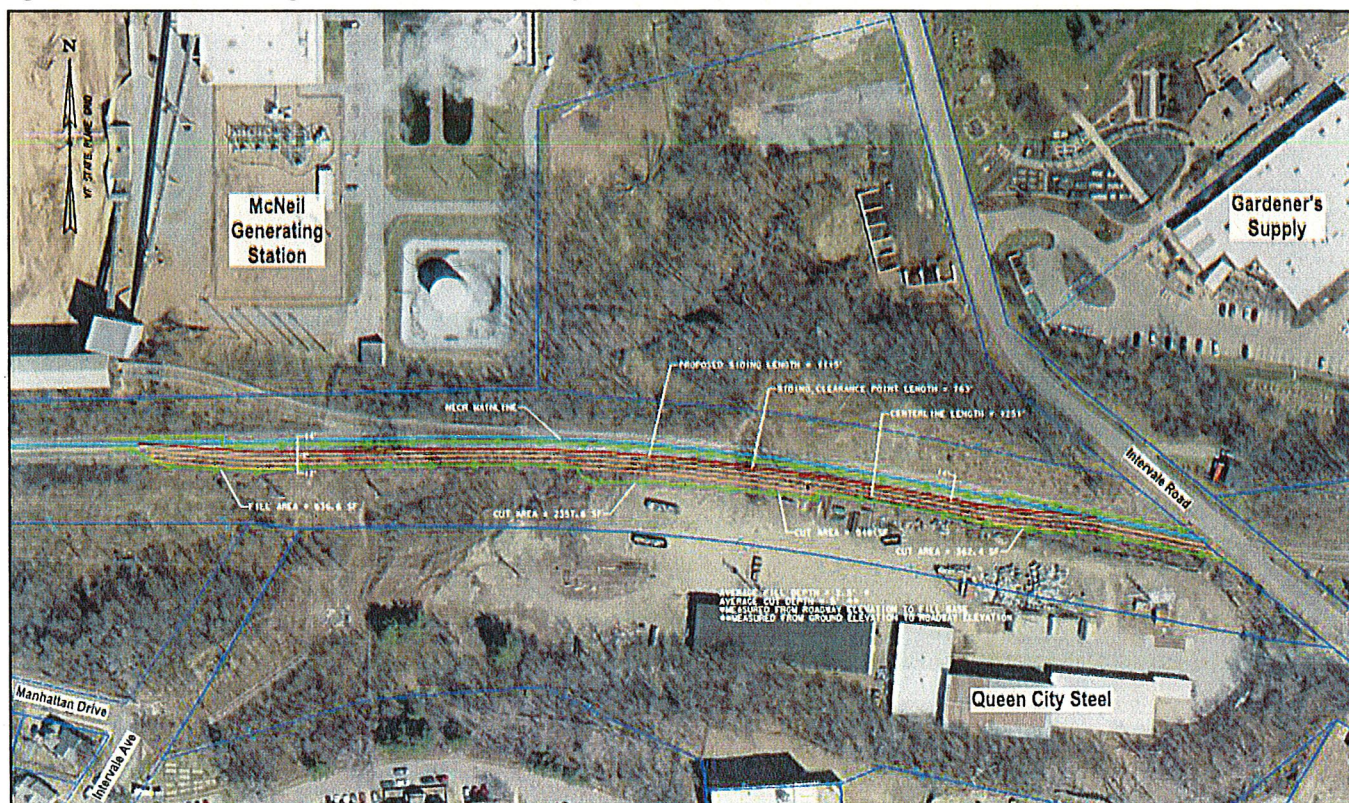


40 IDX Drive
Building 100, Suite 200
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provides a moderate level of noise and visual screening from adjacent homes and businesses. For comparison purposes, the track in the Urban Reserve is approximately 90 feet below the homes on Lakeview Terrace.

To service and store the Amtrak train at this location, approximately 1,200-feet of new track, new switches, and approximately 1,300-feet of new access roadway would have to be constructed. This construction would require earthwork to ensure that the roadway and track would be located at the same grade. A three-phase power drop would be needed to provide access from the existing power lines in the vicinity. The construction of this track, roadway, and related infrastructure is estimated to cost approximately \$1,500,000.

Figure 2: McNeil Site Siding and Access Road - Concept Plan



Evaluation Criteria

The potential McNeil train servicing and storage location was evaluated using the same methodology and metrics used for the other five sites. These criteria are summarized below:

- Design, Construction, and Property Acquisition Costs were calculated using unit costs from VTrans, Vermont Railway (VTR), and previously completed railroad construction projects. Construction of the McNeil Siding is estimated to cost approximately \$1,500,000 for new track, two switches, electrical power service, and a new access road.
- Electrical Power Availability was based on the proximity of the nearest three-phase power supply and the necessary infrastructure required to connect the train to the electrical power grid. Three-phase power is required for the "hot start" device to keep the diesel fuel from gelling without having to idle the locomotive all night. Three-phase power is available near the McNeil siding but would require a power drop line to the siding.
- Additional Crew Hours were calculated and included as a criterion because of federal regulations which restrict the number of consecutive hours a crew can work to 12 hours. After this period of time, a minimum break of ten hours is required. The calculations were based on the amount of time it would take to bring the train from Union Station to the McNeil siding, then have the crew travel to downtown Burlington, where it is assumed the crew would be lodged overnight. There is also additional morning delay of travelling back to the train and bringing it to Union Station for passenger pick-up.
- Property Acquisition is required anywhere that the property is not already owned by the State or locations that would require a lease agreement with VTR or NECR. The McNeil siding property is owned by NECR which would require a lease agreement between VTR and NECR. VTR is expected to be the maintenance provider and point of contact for this train as they are located in Burlington, whereas NECR is based in St. Albans.
- Natural Resource Constraints were measured based on a desktop review of the sites and adjacent mapped natural resources such as wetlands, rare, threatened, and endangered species, river corridors, and floodplains. Two rare species were identified proximate to the site. Upon further inspection, one of the species is an aquatic organism whose presence is likely limited to the Winooski River corridor and the second is not a state- or federally-protected species.
- Lighting Impacts were estimated based on Amtrak lighting requirements for overnight storage, the proximity to residential areas, whether there is already lighting in the location, or if new lighting is being introduced to an area. The servicing and storage area lighting would be a low-level light overnight which increases in brightness when being serviced. There is current ambient light in the vicinity of this site from adjacent industrial buildings, but additional lighting would be required for servicing and security.

- Visual Impacts were evaluated based on how visible the train would be from various angles. Taking topography and adjacent land uses into consideration, this site is anticipated to have little to no impact on adjacent neighborhoods as it located significantly down slope from adjacent residential areas and has ample tree coverage.
- Noise Impacts from the idling locomotive was evaluated using Cadna-A¹ sound prediction software which utilizes the methods outlined in the International Standards Organization (ISO) Standard 9613-2:2006². This prediction method considers the topography, ground cover, wind conditions, and intervening objects such as buildings. The following summarizes the principal assumptions of the noise model:
 - Moderate downwind conditions are assumed which conservatively predict efficient sound propagation from the source to receptors in all directions.
 - Sound attenuation is affected by shielding and diffraction provided by local buildings intervening the propagation path between the source and receptors.
 - Ground cover in the study area depends on site specific conditions. The McNeil site was assumed to be surrounded by earth, grass, and other vegetation which provide acoustically soft ground.

Noise was analyzed assuming one idling locomotive at the potential storage and servicing site. The reference sound level of the idling locomotive used in the study was determined using measurements of an idling Amtrak P32AC Locomotive at the Amtrak Station in Rutland, Vermont on September 7, 2018. Measurements were conducted using an ANSI Type I sound level meter (Larson Davis Model 831) and employed best measurement practices. The P32AC is an older model of locomotive than will be used for the Burlington service. The newer locomotives are anticipated to be quieter than those currently in service, so the resulting analysis should be construed as an order-of-magnitude evaluation and not necessarily an exact estimate of noise at a given location.

Noise receptors were identified at all residential parcels experiencing sound levels 40 dBA and greater from the idling locomotives using a combination of available parcel data, aerial photography, and Google Street View™. Noise receptors were identified at single-family residences and multi-family residences and were tabulated according to the number of dwelling units. The number of residences that would be exposed to sound levels between 40 to 50 dBA, 50 to 60 dBA, and greater than 60 dBA were quantified.

Per information from Amtrak, "hot start" equipment would be integrated into the locomotives which would eliminate the need for the locomotives to idle overnight. With this equipment in place, the train would only

¹ Computer Aided Noise Abatement (Cadna-A). DataKustik GmbH. Version 2017.

² "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation" ISO 9613-2:2006. 2006.

need to go through a 20 to 40-minute power up and power down sequence upon departure and arrival, limiting the duration of noise impacts. The noise analysis is elaborated upon in more detail in Appendix C.

The McNeil Site would be setback from residences at relatively similar distances as the Northern Urban Reserve and Urban Reserves sites, but there are a greater number of multi-family residences near the McNeil Site. Therefore, there would be a greater number of residences that would be exposed to locomotive idling noise 50 dBA or greater at the McNeil Site compared to the Northern Urban Reserve and Urban Reserve sites.

- Air Quality and Emissions were analyzed assuming one idling locomotive at each potential storage site for 40 minutes. Pollutant dispersion modeling was conducted using the AERSCREEN dispersion model³ which is a screening model that uses worst-case meteorology to conservatively estimate pollutant concentrations. Additionally, models were developed with the appropriate geometry for homes along Manhattan Drive and Riverside Avenue near the McNeil Site as these receptors are elevated relative to the tracks.

The results of the dispersion modeling for each location show that only nitrogen dioxide emissions from the locomotive have the potential to approach or exceed the National Ambient Air Quality Standards (NAAQS) under the 1-hour averaging period at the Union Station Site. Elevated receptors (such as balconies) may experience nitrogen dioxide emissions greater than the NAAQS within 50 feet of the locomotive. Nitrogen dioxide concentrations at all ground level receptors at all sites and elevated homes along Lakeview Terrace, Manhattan Drive, and Riverside Avenue would be well below the NAAQS.

Pollutant concentrations from the idling locomotive for all criteria pollutants and averaging periods are well below the NAAQS criteria at the McNeil site. A copy of the Air Quality Assessment memorandum is provided in Appendix C.

- Proximity to Residential Areas is a straight-line measurement from each train servicing and storage location to the nearest residence. This distance was measured to be under 0.1 mile for the McNeil siding.
- Impacts to VTR & NECR Operations were based on potential impacts to VTR and NECR daily freight rail operations. These operations include, but are not limited to, loading, unloading, servicing, building and storing trains. This site is located approximately 2 miles from VTR rail lines, resulting in minimal impacts to VTR operations. Impacts to NECR operations are primarily related to potential impacts to NECR's wood chip trains that service the McNeil Generating Station. Since the Amtrak train would be stored and serviced overnight on a separate siding, impacts on the wood chip trains would be limited.

³ AERSCREEN Dispersion Model, Version 16121r, US Environmental Protection Agency.

Evaluation Matrix

An evaluation matrix was created to summarize the scoring assigned to each metric for each location. The evaluation matrix and total scores for each site are summarized in **Table 1** on the following page. Each of the evaluation criterion was scored on a scale of 0 to 3 with zero representing the lowest possible score and three representing the highest possible score for each metric. The highest possible score for a given site is 33 points. No weighting was applied to the scoring metrics.

Table 1: Evaluation Matrix

Location	Estimated Costs		Electrical Power Availability		Additional Crew Hours		Property Acquisition		Natural Resource Impacts		Lighting Impacts	
	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments
Northern Urban Reserve	2	\$2,250,000 (new track and switch, electrical power, utilities, and new access road)	2	New electrical lines and connection required	2	44 minutes per day	1	Acquisition required from the City of Burlington	3	No anticipated impacts	1	Lighting will be added in an area where there are currently no lights
Urban Reserve	2	\$2,240,000 (new track and switch, earthwork, electrical power, utilities)	2	New electrical lines and connection required	2	40 minutes per day	1	Acquisition required from the City of Burlington	3	No anticipated impacts	1	Lighting will be added in an area where there are currently no lights
Union Station	3	\$300,000 (electrical power)	3	New connection to existing electrical line required	3	0 minutes per day	3	This is located within an existing railroad corridor owned by the State	3	No anticipated impacts	2	Brighter lighting will be required overnight
VTR Railway	0	\$50,000,000 (relocation of Railway to alleviate operational conflicts)	3	New connection to existing electrical line required	2	30 minutes per day	2	Lease agreements will need to be made with VRS	3	No anticipated impacts	2	Brighter lighting will be required outside of current Railway operational hours.
Flynn Avenue	2	\$1,500,000 (relocation of VRS storage currently on this siding)	2	New electrical lines and connection required	1	60 minutes per day	2	Lease agreements will need to be made with VRS	3	No anticipated impacts	2	Brighter lighting will be required overnight
McNeil Siding	2	\$1,500,000 (new track, two switches, electric power, and new access road)	3	New connection to existing electrical line required	1	75 minutes per day	1	Property owned by NECR; Lease agreement needed	3	No anticipated impacts	2	Brighter lighting will be required overnight

Location	Train Visibility		Noise Impacts		Horn Impacts		Air Quality & Emissions		Proximity to Residential Areas		Impacts to Freight Rail Operations		Total Score	Ranking
	Score	Comments	Score	Number of Residences Impacted ²	Score	Number of Additional Horn Warnings ³	Score	Comments	Score	Comments	Score	Comments		
Northern Urban Reserve	3	The train will be located down slope from most homes and will not be easily visible from the east	1	50 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS ⁴	3	The train is less than 528 feet from residences but is significantly down slope	2	Minor impacts to VRS operations. The train would be stored on a new siding off of a VRS siding north of the railway	24	3
Urban Reserve	2	The train will be located down slope from most homes and will be slightly visible from the east	1	62 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	3	The train is less than 528 feet from residences but is significantly down slope	2	Minor impacts to VRS operations. The train would be stored on a new siding off of the VRS main line north of the railway limits	23	5
Union Station	1	The train will be located between Union Station and ECHO	2	26 residences	3	0 Additional Horn Warnings	0	Potentially exceeds Nitrogen Dioxide standard	0	The train is less than 50 feet from residences	3	No impacts to VRS operations. The train would be stored on a new siding off of the VRS track	26	1
VTR Railway	3	The train will be located within an existing railway and will not significantly change the current views	3	12 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	2	The train is less than 528 feet from residences	0	Major impacts to VRS operations. The train would be in direct conflict with current VRS operations	24	3
Flynn Avenue	2	The train will be stored in an area which often has trains currently but it located close to many residences	0	160 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	2	The train is less than 528 feet from residences	1	Significant impacts to VRS operations. The train would be stored on a siding currently used by VRS or along a siding which would disrupt Railway operations	21	6
McNeil Siding	3	The train will be located down slope from most homes and will not be easily visible from Riverside Avenue	1	85 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	3	The train is less than 528 feet from residences but is significantly down slope	2	No impacts to VRS operations. Minor impacts anticipated to NECR's wood chip train.	25	2

² Number of Residences with dBAs more than 50

³ Additional horn warnings necessary at road crossings from and to the Union Station

⁴ National Ambient Quality Standards for specific pollutants

Appendices

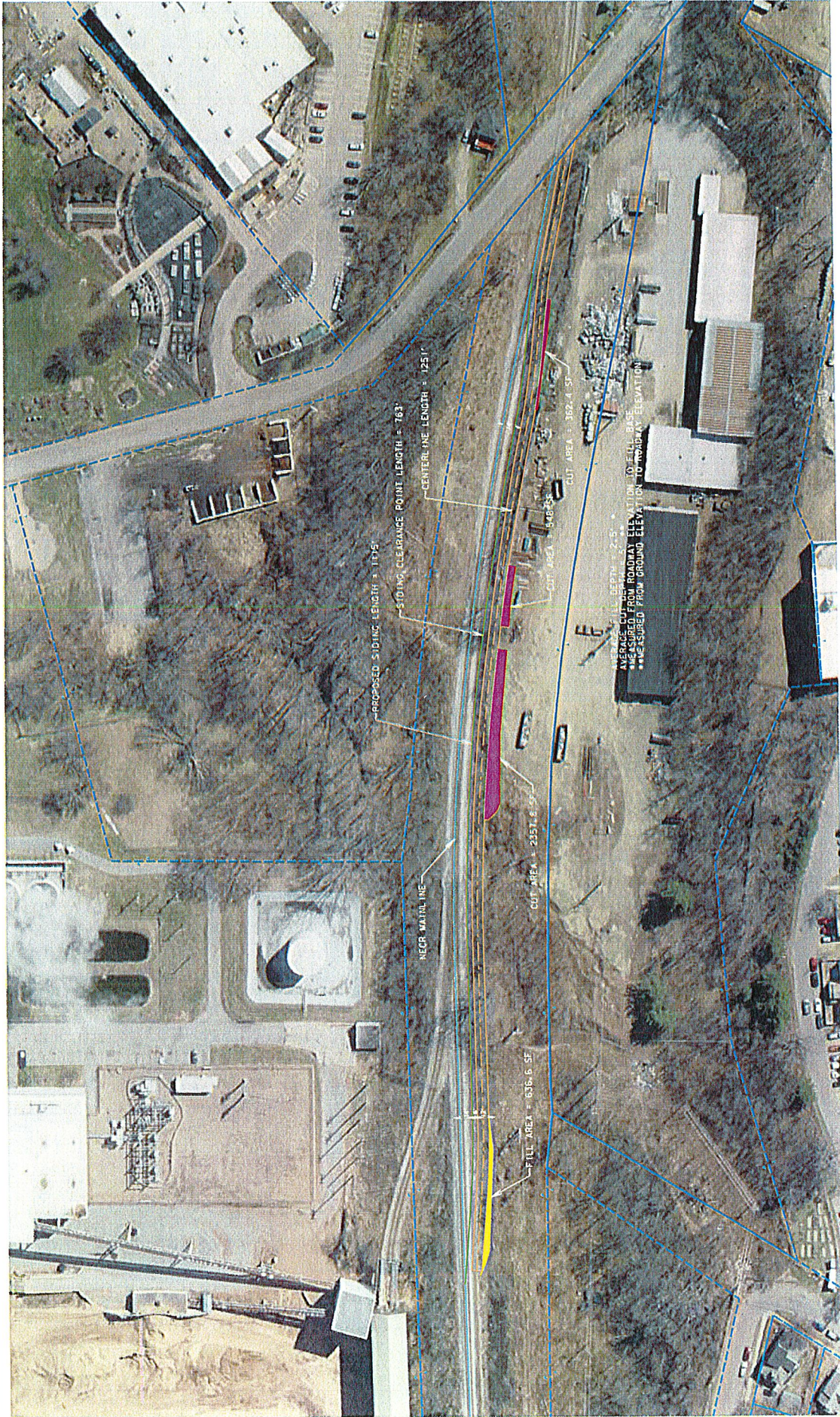
Appendix A - Concept Plan and Maps

Appendix B - Amtrak Design Criteria

Appendix C - Noise and Air Evaluation

Appendix D - Conceptual Cost Estimate

Appendix A - Concept Plan and Maps



PROJECT NAME: VAO1 PROJECT NAME
 PROJECT NUMBER: PROJECT NUMBER

FILE NAME: poms/Section/-----dgn
 PLOT DATE: 10/24/2019
 PROJECT LEADER: DRAWN BY: -----
 DESIGNED BY: CHECKED BY: -----
 SHEET 1 OF 1



vermont.gov



Wetland - VSMI

- Class 1 Wetland
- Class 2 Wetland
- Buffer

Hazardous Site

Hazardous Waste Generators

Rare Threatened or Endangered

- Threatened or Endangered
- Rare

Parcels (standardized)

Roads

- Interstate
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local
- Not part of function Classification S

Map created using ANR's Natural Resources Atlas



DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

165.0 0 82.00 165.0 Meters
WGS_1984_Web_Mercator_Auxiliary_Sphere
1" = 271 Ft. 1cm = 33 Meters
THIS MAP IS NOT TO BE USED FOR NAVIGATION
© Vermont Agency of Natural Resources

Appendix B – Amtrak Design Criteria

Burlington, VT

Amtrak Design Criteria for Proposed Layover Facility

In preparation for extended service of the Ethan Allen line from Rutland to Burlington with two intermittent stops at Vergennes and Middlebury, Amtrak operations requests a designated layover siding, separated from passenger boarding platforms, for train turnovers with the following recommended components:

Lighting:

Brightness Level: 2fc to 5 fc when inactive / 20 fc when active

Type: LED with step dimming control by motion sensors highly recommended

Electrical Power:

Air Compressor: 480V, 3 phase service (30 amp breaker)

Train Disconnect Panel: 480V, 3 phase service (800 amp breaker)

Location: Near rear of engine

Water Service:

Service Station: One (1) Snyder service station for every two (2) coaches.

Assume six (6) coaches for Ethan Allen line for three (3) stations.

Location: 112' from the front of the engine / 170' intervals thereafter.

Sanitary: Provide sanitary sewer dump station for 'honey dipper' truck usage.

Water Supply Lines: Provide 2" water lines to each service station.

Power: 120 VAC, 40 amp service to each water service station.

General: Provide tap, meter, and backflow preventer per codes.

Air:

Compressor: Saylor Beall Air Compressor (model 735-80, Series 5-96-R04) with 80 gallon tank and 5hp motor.

Locate in 10'x10' shed.

Provide 480v, 3 phase service with disconnect switch.

Platform:

Height: Low level 8" ATR – *assume access by on-board stairways*

Length: 600' - *Based on existing Ethan Allen Amfleet coaches.*

Covering: 75'-long roof shed for Locomotive. See Amtrak SDP for specific design criteria.

Access, ROW, Storage:

Storage: Provide enclosed, lockable storage for cleaners and equipment.

Exact sizes and quantities TBD, estimated two or three 10'x10'sheds.

Yard: Parking for one (1) Honey Dipper truck, three (3) to five (5) service vans.

Access Driveway: 12' wide access road along track.

Crew Base / Staff Facilities:

Not needed at this location. Crew procedure is taxi to off-site accommodations.

Appendix C – Noise and Air Evaluation



To: VTrans

Date: November 30, 2019

Memorandum

Project #: 57981.00

From: VHB

Re: Burlington Amtrak Storage Facility
Noise Analysis

The Chittenden County Regional Planning Commission (CCRPC), the City of Burlington (COB), the Vermont Agency of Transportation (VTrans), and Vermont Rail Systems (VRS), are collaborating on a study to identify an overnight storage and servicing location for the future Amtrak passenger train in the greater Burlington area. A component of evaluating the feasibility of the six potential storage sites are potential noise effects from idling locomotives at nearby sensitive locations including residences. This memorandum presents background information on noise, summarizes the assessment methodology, and presents results of the noise analysis.

Noise Background

Sound is the rapid fluctuations of air pressure above and below ambient pressure levels. Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, communication or recreation. How people perceive sound depends on several measurable physical characteristics including:

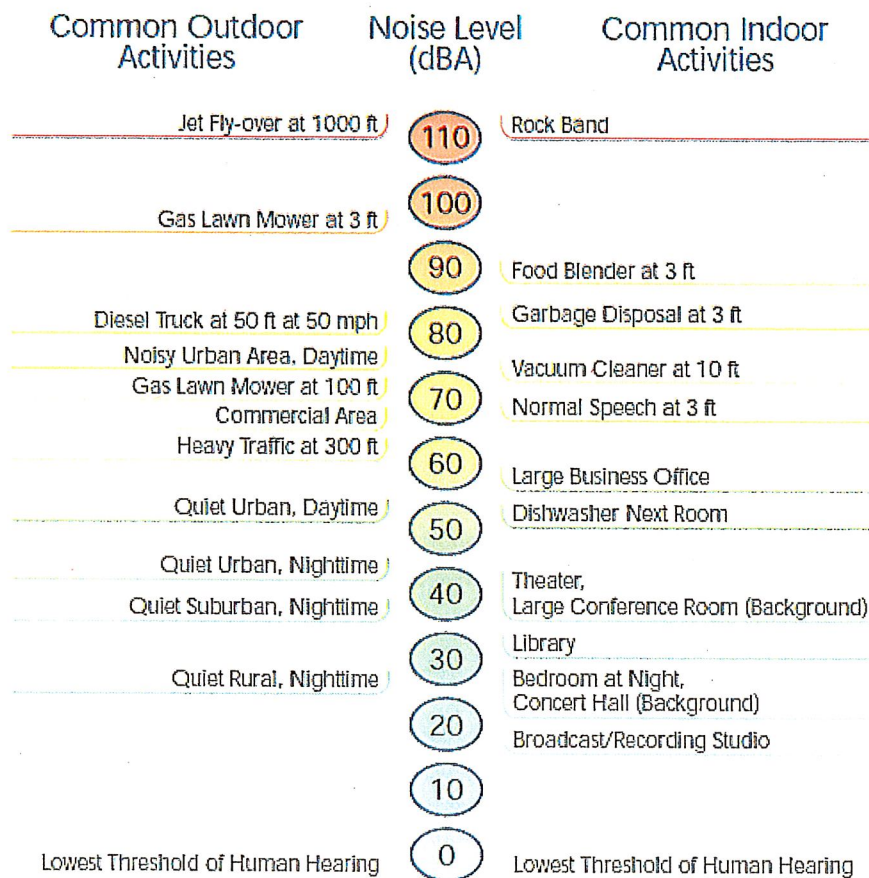
- **Sound Level** - Sound level is based on the amplitude change in pressure and is related to the loudness or intensity. Human hearing covers a wide range of changes in sound pressure amplitude. Therefore, sound levels are most often measured on a logarithmic scale of decibels (dB) relative to 20 micro-pascals. The decibel scale compresses the audible range of acoustic pressure levels, which can vary from the threshold of hearing (0 dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. For example, adding two equal sound levels results in a 3 dB increase in the overall level. Research indicates the general relationships between sound level and human perception are as follows:
 - › A 3-dB increase is a doubling of acoustic energy and is approximately the smallest difference in sound level that can be perceived in most environments.
 - › A 10-dB increase is a tenfold increase in acoustic energy and is generally perceived as a doubling in loudness to the average person.
- **Frequency** - Sounds are comprised of acoustic energy distributed over a range of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz. Human hearing generally ranges from 20 to 20,000 Hz; however, the human ear does not perceive sound levels from each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A-weighting [dBA] is commonly used to evaluate environmental noise levels.
 - › Sound levels reported in octave or one-third-octave frequency bands are often used to describe the frequency content of different sounds. Some sources of sound can generate "pure tones" which is when there is a concentration of sound within a narrow frequency range such as a whistle. Humans can hear pure tones very well and such conditions can be a cause of increased annoyance.

A variety of sound level descriptors can be used for environmental noise analyses. These descriptors relate to the way sound varies in level over time. The following is a list of common sound level descriptors:

- The *Maximum A-weighted Level* (Lmax) represents the highest sound level generated by a source. For mobile sources, the maximum level typically occurs when the source is closest to the measurement or analysis location.
- The *Energy-average Level* (Leq) is a single value that is equivalent in sound energy to the fluctuating levels over a period of time. The Leq accounts for how loud events are during the period, how long they last, and how many times they occur. Typically, Leq sound levels are used to describe the time-varying sound level over a 1-hour period and may be denoted as Leq_{1h}. Leq is commonly used to describe environmental noise and relates well to human annoyance.

Figure 1 shows typical A-weighted sound levels for common outdoor and indoor activities.

Figure 1 Typical Ambient Outdoor and Indoor Sound Levels



Source: Caltrans, 2016.

Regulatory Context

Noise generated by the proposed locomotive storage has been evaluated according to the Federal Railroad Administration (FRA) equipment regulations and Burlington Noise Ordinance.

FRA Equipment Regulations

Noise is generated by diesel-electric locomotives while it is providing head end power (HEP) to the passenger coaches while idling. The HEP provides power to the rail cars without providing power to the traction motors. The FRA has equipment noise standards for all locomotives operating under stationary conditions with an idle throttle setting. As defined in 40 CFR 201.11, no locomotive manufactured after December 31, 1979 may exceed a maximum sound level of 70 dBA when operated at idle at a distance of 100 feet from the locomotive center. Since the Amtrak trains operate on a railroad subject to FRA jurisdiction, locomotives must comply with this noise standard.

Burlington Noise Ordinance

The City of Burlington has established a Noise Ordinance to preserve the public health, safety and welfare of its citizens. The purpose of the ordinance is to prohibit excessive and disturbing noise. The Burlington Noise Ordinance does not establish quantitative noise limits, but instead primarily focuses on restricting certain noise sources to specific times of day. The ordinance specifies express prohibitions on noise originating from parties, machinery, construction, loud speakers, radios, televisions and other sound amplification devices (including those in motor vehicles). A general prohibition is placed on any noise that disturbs, injures, or endangers the peace or health of any person or the community.

The Burlington Noise Ordinance does not prohibit noise generated from locomotives. Additionally, since noise from the locomotives is controlled by federal regulation, the local ordinance is not applied.

Analysis Methodology

Noise from the locomotives has been evaluated at each study location including nearby residential receptors.

Receptor Identification

Noise receptors were identified at all residential parcels experiencing sound levels 40 dBA and greater from the idling locomotives using a combination of available parcel data, aerial photography, and Google Street View™. Noise receptors were identified at single-family residences and multi-family residences and are tabulated according to the number of dwelling units. The number of residences that would be exposed to sound levels between 40 to 50 dBA, 50 to 60 dBA, and greater than 60 dBA.

Noise Sources

Noise was analyzed assuming one idling locomotive at each potential storage site. The reference sound level of the idling locomotive used in the study is provided in Table 1. The reference sound level was determined using measurements of an idling Amtrak P32AC Locomotive at the Amtrak Station in Rutland, Vermont on September 7, 2018. Measurements were conducted using ANSI Type I sound level meter (Larson Davis Model 831) and employed best measurement practices.

Table 1 Locomotive Idling Emissions at 100 feet (dBA)

Source	Overall	Frequency (Hz)							
		63	125	250	500	1,000	2,000	4,000	8,000
Idling Locomotive	77	72	63	66	68	68	67	65	64

Source: VHB measurements of an Amtrak P32AC Idling Locomotive on September 7, 2018.

Noise Model

Sound generated by the idling locomotive has been predicted using Cadna-A¹ sound prediction software which utilizes the methods outlined in the International Standards Organization (ISO) Standard 9613-2:2006². This prediction method considers the topography, ground cover, wind conditions, and intervening objects such as buildings. The following summarizes the principal assumptions:

- Moderate downwind conditions are assumed which conservatively predict efficient sound propagation from the source to receptors in all directions.
- Sound attenuation is affected by shielding and diffraction provided by local buildings intervening the propagation path between the source and receptors.
- Ground cover in the study area depends on site-specific conditions. The McNeil site was assumed to be surrounded by earth, grass, and other vegetation which provide acoustically soft ground.

Analysis Results

Site 6, McNeil Siding Site, is located near the Joseph C. McNeil Generating Station. There are residences near this site along Riverside Avenue, Manhattan Drive, and Intervale Avenue which are elevated relative to the tracks. The terrain provides acoustic shielding from the idling locomotives. There would be no residences exposed to noise greater than 60 dBA. There would be approximately 85 residences exposed to sound levels between 50 and 60 dBA and 229 residences exposed to sound levels between 40 and 50 dBA.

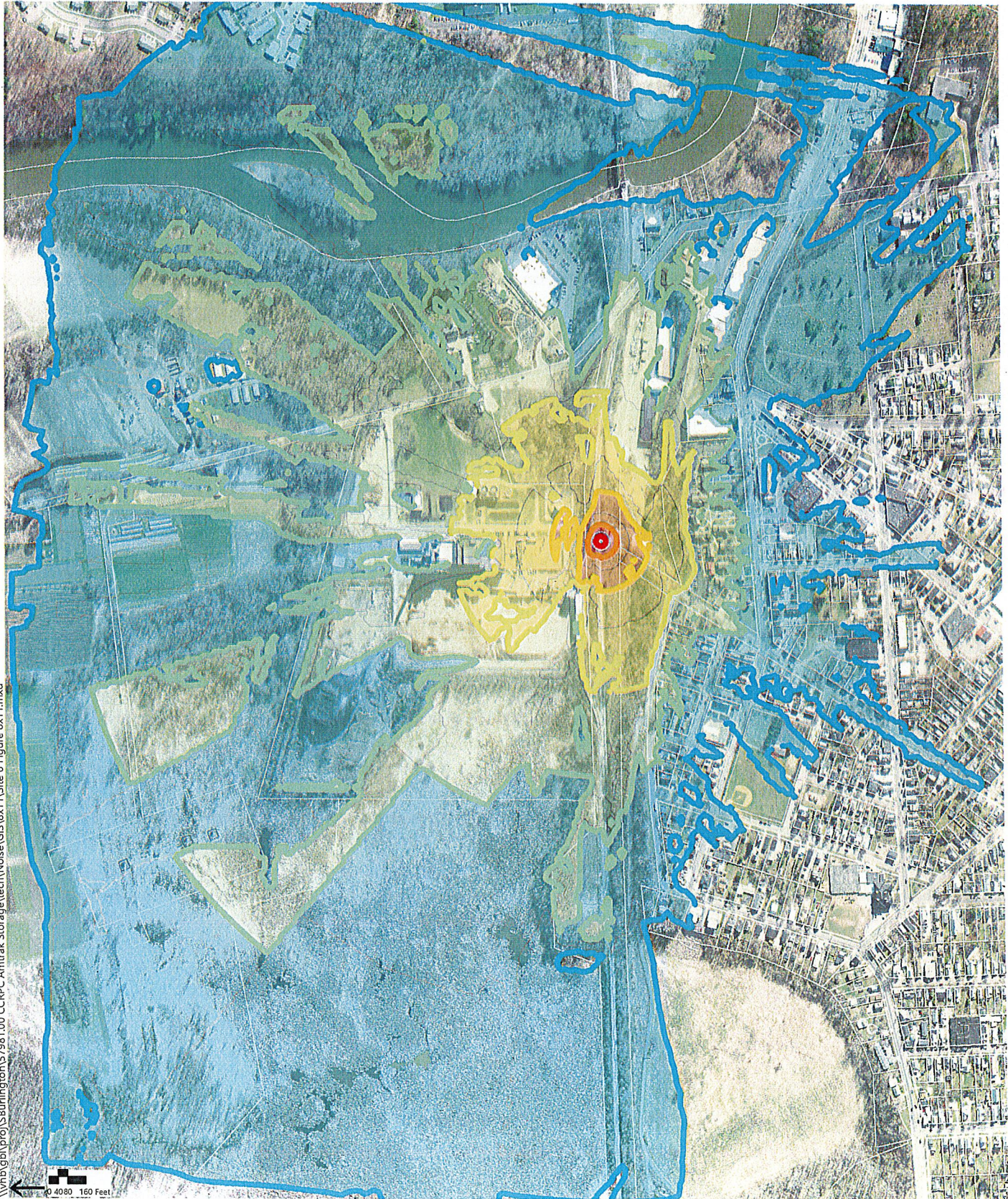
Table 2 presents the number of residences experiencing maximum (Lmax) sound levels between 40 and 50 dBA, between 50 and 60 dBA, between 60 and 70 dBA, between 70 and 80 dBA and greater than 80 dBA from the idling locomotive.

Table 2 Residential Receptors Exposed to Locomotive Sound

Site	Site Description	Number of Residences				
		40-50 dBA	50-60 dBA	60-70 dBA	70-80 dBA	>80 dBA
6	McNeil Siding	229	85	0	0	0

¹ Computer Aided Noise Abatement (Cadna-A). DataKustik GmbH. Version 2017. <http://www.datakustik.com/en/products/cadnaa>.

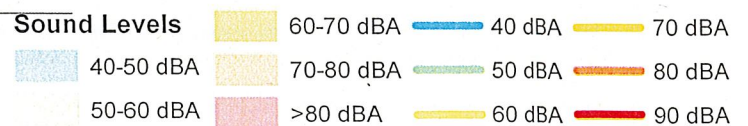
² "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation" ISO 9613-2:2006. 2006.



**Burlington Amtrak Servicing &
Storage Facility Study**

Burlington, Vermont

**Sound Level Contours
McNeil Generating Station Siding**





To: VTrans

Date: November 30, 2019

Memorandum

Project #: 57981.00

From: VHB

Re: Burlington Amtrak Storage Facility
Air Quality Analysis

The Chittenden County Regional Planning Commission (CCRPC), the City of Burlington (COB), the Vermont Agency of Transportation (VTrans), and Vermont Rail Systems (VRS), are collaborating on a study to identify an overnight storage and servicing location for the future Amtrak passenger train in the greater Burlington area. A component of evaluating the feasibility of the six potential storage sites is potential air quality effects from idling locomotives at nearby sensitive locations including residences. This memorandum presents background information on air quality, summarizes the assessment methodology, and presents the results of the air quality analysis.

Regulatory Context

The air quality statutes and regulations that are applicable to the Storage Facility include the 1990 Clean Air Act Amendments (CAAA) and the National Ambient Air Quality Standards (NAAQS). The CAAA is the basis for most Federal air pollution control programs. The purpose of the CAAA is to preserve air quality and protect the public's health and welfare. Under the authority of the CAAA, the Environmental Protection Agency (EPA) regulates air quality nationally. EPA delegates authority to the Department of Environmental Conservation (DEC) for monitoring and enforcing air quality regulations in the State of Vermont. Conformity with the State Implementation Plan is not assessed in this analysis because the Storage Facility is located in Chittenden County, which is designated by the EPA as in Attainment (i.e., in compliance with applicable standards) for all criteria pollutants. Therefore, this area is exempt from conformity requirements.

Under authority of the CAAA, the EPA established the NAAQS that define allowable limits for atmospheric concentrations of various criteria air pollutants including particulates. Primary standards are established at levels designed to protect the public health. Secondary standards are established at levels designed to protect the public welfare by accounting for the effects of air pollution on vegetation, soil, materials, visibility, and other aspects of the general welfare. The EPA has set the NAAQS for criteria pollutants to protect the public health and welfare. Table 1 presents the NAAQS for these pollutants.

40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403-7771
P 802.497.6100

Table 1 National Ambient Air Quality Standards

Pollutant	Averaging Period	Primary Standard	Secondary Standard	Form
Carbon Monoxide (ppm)	8-hour	9	-	Not to be exceeded more than once per year
	1-hour	35	-	
Nitrogen Dioxide (ppb)	1-hour	100	-	98 th percentile of daily maximum concentrations, averaged over 3 years
	Annual ^a	53	53	Annual Mean
Ozone (ppm)	8-hour ^b	0.070	0.070	Annual 4 th highest daily maximum concentration, averaged over 3 years
Particulate Matter 2.5 (µg/m ³)	Annual	12	15	Annual mean, averaged over 3 years
	24-hour	35	35	98 th percentile, averaged over 3 years
Particulate Matter 10 (µg/m ³)	24-hour	150	150	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (ppb)	1-hour ^c	75	-	99 th percentile of daily maximum concentrations, averaged over 3 years
	3-hour	-	0.5	Not to be exceeded more than once per year
Lead (µg/m ³)	3-month average ^d	0.15	0.15	Not to be exceeded

Source: US Environmental Protection Agency

^a The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

^b Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

^c The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 C.F.R. §50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

^d In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.
(ppm) – parts per million; (ppb) – parts per billion; (µg/m³) – micrograms per meter cubed

Air Quality Methodology

Air Quality from the locomotives has been evaluated at each study location for nearby residential receptors and locations of ambient air.

Background Concentrations

Background concentrations were obtained from the DEC, who maintain a network of ambient air monitors across the state in response to the CAAA. Background concentrations are added to project emission sources to determine the total pollutant concentration at a receptor location for comparison to the NAAQS. The most current background

concentrations were obtained from the DEC's recommended background concentrations for air quality monitoring.¹ Concentrations were chosen from the monitoring location closest to the Storage Facility (the Burlington monitoring site). Only pollutants that were considered in the air quality modeling are presented in Table 2. The criteria pollutants not considered in the air quality modeling (Ozone, Sulfur Dioxide, and Lead) are not studied because they are not substantially emitted by locomotives. All background concentrations are well below the NAAQS and demonstrate Chittenden County's Attainment designation by the EPA.

Table 2 Background Concentrations

Pollutant	Units	Averaging Period	Background Concentration	NAAQS Standard
Carbon Monoxide	ppm	8-hour	0.6	9
	ppm	1-hour	1.2	35
Nitrogen Dioxide	ppb	1-hour	33	100
	ppb	Annual	6.5	53
Particulate Matter	µg/m ³	Annual	6.0	12
2.5	µg/m ³	24-hour	10	35
Particulate Matter	µg/m ³	24-hour	32	150
10				

Source: Vermont Department of Environmental Conservation.

Emission Sources

Locomotive emissions were analyzed assuming one idling locomotive at each potential storage site for 40 minutes. The reference emission factors of the idling locomotive used in the study were retrieved from "Emission Factors for Locomotives", an EPA guidance document.² The emission factors are for an Amtrak P32AC Locomotive under the Tier 0 emission standard and with an engine power representative of idling conditions.

Dispersion Model

Pollutant dispersion modeling was conducted using the AERSCREEN dispersion model.³ AERSCREEN is a screening model that uses worst-case meteorology to conservatively estimate pollutant concentrations. Dispersion modeling was conducted for receptors located 6 feet above the ground that were placed between the locomotive stack and 500 feet for NO₂ and 150 feet for other pollutants. These ranges were sufficient to capture the distance that experiences the maximum pollutant concentration from locomotive emissions. Additionally, models were developed with the appropriate geometry for homes along Manhattan Drive and Riverside Avenue near the McNeil Site as these receptors

¹ "Ambient Monitoring Background Data For Use In Air Quality Impact Evaluation". Vermont Department of Environmental Conservation. <http://dec.vermont.gov/air-quality/permits/construction/background-data>. Accessed October 4, 2018.

² "Emission Factors for Locomotives". US Environmental Protection Agency. EPA-420-F-09-025. April 2009.

³ AERSCREEN Dispersion Model, Version 16121r, US Environmental Protection Agency.

are elevated relative to the tracks. Pollutant concentrations with averaging periods other than 1-hour were modeled using the recommended persistence factors from the "AERSCREEN User's Guide".⁴

Analysis Results

The results of the dispersion modeling for the Storage Facility show pollutant concentrations from the idling locomotive for all criteria pollutants and averaging periods are below the NAAQS criteria at all receptor locations at the McNeil site. The potential to exceed the NAAQS for each site is summarized in Table 3.

Table 3 Potential for Air Quality Impact by Site

Site	Site Description	Potential to Exceed NAAQS?	Potential Exceedance Location
6	McNeil Siding	All Pollutants: No	N/A

⁴ "AERSCREEN User's Guide". US Environmental Protection Agency. EPA-454/B-16-004. December 2016.

Appendix D – Conceptual Cost Estimate



Computations

Project:	Amtrak Storage	Project #:	57981.00
Location:	Burlington, VT	Sheet:	
Calculated by:	JDA	Date:	12/27/2017
Checked by:	ELQ	Date:	3/27/18
Revised	EC	Revised:	5/10/19
Revised	JDS	Revised:	11/25/19
Title: Conceptual Cost Estimates			

Conceptual Cost Estimates Summary

Site #	Description	Estimated Costs
1	Northern Reserve	\$2,290,000
2	Urban Reserve	\$2,240,000
3	Train Station	\$300,000
4	Railyard	\$50,000,000
5	City Market	\$1,500,000
6	McNeil Generating Station	\$1,500,000



Computations

Project: <u>Amtrak Storage</u>	Project #: <u>57981.00</u>
Location: <u>Burlington, VT</u>	Sheet: _____
Calculated by: <u>JDA</u>	Date: <u>12/27/2017</u>
Checked by: <u>ELQ</u>	Date: <u>3/27/18</u>
Revised: <u>EC</u>	Date: <u>5/10/19</u>
Title: <u>Burlington Amtrak Storage Cost Estimates</u>	

1. Northern Urban Reserve

		length (EST), ft	unit cost (\$/mi)	unit cost (\$/ft)	Cost (\$)
Roadway	New road segment	1200	\$3,000,000	\$568	\$681,818
Utilities	Electrical Connection	1		\$300,000	\$300,000
Railroad	New Siding	700		\$250	\$175,000
	New Track north College St	200		\$250	\$50,000
	New Signal and Gates	1		\$1,000,000	\$1,000,000
	New Switch	1		\$75,000	\$75,000
Subtotal:					\$2,281,818
Rounded total:					\$2,290,000

2. Urban Reserve

		length (EST), ft	unit cost (\$/mi)	unit cost (\$/ft)	Cost (\$)
Roadway	New road segment	500	\$3,000,000	\$568.18	\$284,091
Utilities	Electrical Connection	1		\$300,000	\$300,000
Railroad	New Siding and Retaining Wall	700		\$750	\$525,000
	New Track north College St	200		\$250	\$50,000
	New Signal and Gates	1		\$1,000,000	\$1,000,000
	New Switch	1		\$75,000	\$75,000
Subtotal:					\$2,234,091
Rounded total:					\$2,240,000

3. Train Station

		length (EST), ft	unit cost (\$/mi)	unit cost (\$/ft)	Conc. Cost (\$)
Roadway	New road segment	n/a			
	Rehab road segment	n/a			
Utilities	Electrical Connection	1		\$300,000	\$300,000
Railroad	New Track	n/a			
	New Switch	n/a			
Subtotal:					\$300,000
Rounded total:					\$300,000



Project: Amtrak Storage Project #: 57981.00
Location: Burlington, VT Sheet: _____
Calculated by: JDA Date: 10/13/17
Checked by: ELQ Date: 3/27/18
Title: Unit Costs for Reference

Conceptual Cost Estimates: Unit Costs

Estimated Railroad Siding Cost

	Est. Cost	Cost Unit
Two Lane Roadway	\$250	Foot

Unit Cost: \$250 per foot

Estimated Railroad Switch Cost

	Est. Cost	Cost Unit
Railroad turn out	\$75,000	Each

Unit Cost: \$75,000 each

Estimated New Two Lane Roadway Cost

	Est. Cost	Cost Unit
Two Lane Roadway	\$3,000,000	Mile

* Source: American Road & Transportation Builders Association FAQs

Unit Cost: \$3,000,000 per mile

Estimated Conversion of existing Road Segment

	Est. Cost	Cost Unit
Two Lane Roadway	\$1,000,000	Mile

* Source: American Road & Transportation Builders Association FAQs

Unit Cost: \$1,000,000 per mile

Estimated Cost to Remove Road Segment

	Est. Cost	Cost Unit
Remove Road	\$400,000	Mile

\$75.76 per foot

Unit Cost: \$400,000 per mile



Project: Amtrak Storage
Location: Burlington, VT
Calculated by: JDA
Checked by: ELQ
Title: Unit Costs for Reference

Project #: 57981.00
Sheet:
Date: 10/13/17
Date: 3/27/18

Conceptual Cost Estimates: Unit Costs

Bike Path Relocation

	unit \$ / ft
New 10' Shared Use Path, per ft*	\$250
Remove existing bike path, per ft**	\$32
Subtotal:	\$282
Rounded total:	\$290 per foot

Estimated Water Line Costs

	Est. Cost	Cost Unit
Water Line	\$190	Each

* Source: Previous VHB Project Estimates

Unit Cost: \$190 each

Estimated Sewer Line Costs

	Est. Cost	Cost Unit
Sewer Line	\$150	Feet

* Source: Research and Engineering Judgement

Unit Cost: \$150 per foot

Estimated Electrical Connection

	Est. Cost	Cost Unit
Electrical Connection	\$300,000	Each

* Source: Research and Engineering Judgement

Unit Cost: \$300,000 each

Estimated Rail Crossing Signal Cost

	Est. Cost	Cost Unit
Rail Crossing Signal	\$1,000,000	Each

Unit Cost: \$1,000,000 each



Computations

Project: Amtrak Train Storage
Location: Burlington, VT
Calculated by: S.E. Burbank
Checked by:
Title: McNeil Generating Station Site

Project #: 57981.00
Sheet: 1 of 1
Date: 11/25/2019
Date:

		<u>Unit</u>	<u>Qty</u>	<u>Unit Cost</u>	<u>Cost</u>
Roadway	New Road Segment	LF	1300	\$ 568	\$738,636
Utilities	Electrical Connection	EA	1	\$ 300,000	\$300,000
Railroad	Railroad Siding	LF	1200	\$ 250	\$300,000
	Railroad turn out	EA	2	\$ 75,000	\$150,000
Subtotal					\$1,488,636
Rounded total:					\$1,500,000



November 25, 2019

Secretary Flynn, Chairman
Vermont Rail Advisory Council
Vermont Agency of Transportation
219 North Main Street
Barre, VT 05641

Re: Amtrak Servicing and Storage Study

Dear Secretary Flynn and Members of Rail Advisory Council:

We are excited to be a part of the effort to bring long awaited daily passenger train service to Burlington and write to offer comments on the CCRPC analysis of potential locations to store and service Amtrak's Ethan Allen after its nightly arrival at Union Station in Burlington. As you already know, VRS has been publicly working for several years now with VTrans and others to help identify how and where to accommodate Amtrak, and we believe it is important to recall that this has been a long-standing work in progress that dates in some manner as far as back as the Champlain Flyer. Detailed engineering plans for double-tracking in Burlington were shared with City officials more than three years ago in 2016, and Main Street Landing has already acknowledged that the CCRPC assessment process included public meetings in 2017 with the Burlington Public Works Commission at which the owner of Main Street Landing raised her concerns about overnight site locations and the potential for a negative impact on her Main Street Landing development project. Main Street Landing expressed similar reservations at Rail Council in November, 2017 so it is hardly appropriate to suggest that these questions have only recently been brought forward for public discussion.

As a first matter, we agree with CCRPC that the railyard and the siding south of Flynn Avenue are the least appropriate of the alternatives considered, but otherwise have no real operational preference as to whether Amtrak overnights at Union Station or other locations north of Maple Street. In light of claims by representatives of Main Street Landing LLC suggesting that the railyard is a more appropriate location than Union Station or points north, we believe it would be helpful to understand

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Washington County Railroad Company - New York & Ogdensburg Railway Company, Inc.

November 25, 2019

Page Two

two key issues from our point of view: our inability to build new track in an already congested railyard; and the operational difficulties of accommodating Amtrak within the existing footprint when we have to interchange with the NECR every night. As detailed below, overnighing Amtrak south of Flynn Avenue would cause similar interference with existing freight operations, doubling the time Amtrak requires VRS freight and passenger trains to stand down and clear the main line, and doubling the number of train movements blocking city streets every morning and every evening.

We also want to set the record straight and advise Rail Council that VRS considers construction of a second passenger siding at Union Station essential to the return of Amtrak passenger service to Burlington – and would intend to proceed with necessary track work regardless of any eventual decision about where Amtrak will overnigh. None of the work planned by VRS between Maple and College Street will extend beyond the right-of-way that existed long before Main Street Landing's development began, and all of the work can be coordinated with the City of Burlington's longstanding plan to relocate and rehabilitate the bike path. Main Street Landing LLC or others who suggest that Amtrak service can return to Burlington without construction of a second siding at Union Station or that track construction somehow depends upon the site selected for Amtrak storage and service appear uninformed about the realities of railroad operations. As we stated more than eighteen months ago in a letter to attorneys representing Main Street Landing only weeks after the State of Vermont completed the multi-million dollar purchase of the train station, "[r]econstruction of the siding to allow passenger service can't possibly be a surprising development to your clients and will be a necessary element of rail service regardless of where the train overnights." A copy of this March 19, 2018 letter to attorneys for Main Street Landing, VTrans and the City is attached for your convenience, not having been included in the materials presented to Rail Council at your prior meeting.

1. Rail Yard Congestion: In evaluating possible site locations for overnighing Amtrak, the CCRP study reviewed the operational and cost implications of overnighing Amtrak's Ethan Allen in the railyard. As those familiar with the CCRP Study (See Fig. 8) already understand, the existing Burlington railyard is squeezed between Lake Champlain and properties along Pine Street and there is no room to build new track for Amtrak's Ethan Allen (two locomotives and five or six passenger cars) within the existing footprint and current track configuration. In that confined area, freight trains arriving south from Rutland and from the north over the NECR have to be received,

November 25, 2019

Page Three

reorganized, maneuvered, loaded and unloaded every day. Track space needs to accommodate locomotive and freight car maintenance, inspection and repair work as well as switching and loading activities for daily freight trains and for special trains such as those associated with December's Polar Express or large scale rail movements by the Vermont Army National Guard. See attached photo of VTANG loading in April, 2019. The railyard also includes buildings, storage facilities and the infrastructure needed to transload freight that cannot be moved to build new tracks.

Ms. Moulton and others are also wrong to suggest that the railyard is active only during the day, and that nothing is going on at night that would be impacted by Amtrak storage. VRS operates 24 hours/day, and every night the NECR brings a train with inbound railcars from the NECR past the Union Station passenger platform and into the Burlington yard to set off cars for us, and to pick up outbound cars. Two of the railyard tracks that might appear to be open or empty to those unfamiliar with railroad operations are needed during this interchange process to accept inbound railcars for our customers while the other track is kept open to "run around" their train and get onto the north end of the outbound cars the NECR is collecting.

Whether night or day, we need to have tracks to move around on as part of regular daily operations; not all tracks can have railcars on them. As it is, we separate our passenger trains into two or three parts when operating in Burlington so we can fit the passenger coaches on tracks that already have freight cars – all in order to keep our operating tracks open. Shuffling Amtrak passenger coaches in this manner is not feasible because Amtrak requires that the train be kept as a single unit and will not allow it to be split up onto separate tracks each night and reassembled every morning.

2. Flynn Avenue: Storing or siting the Amtrak train outside of the railyard and south of Flynn Avenue would not require track space in the railyard for storage, but presents other operational problems and would double the number of times each morning and each evening when VRS needs to clear out of the way for Amtrak to cross through the yard. Storage south of Flynn Avenue would also double the number of times that traffic will be blocked at Flynn Ave., Maple Street and King Street – impacts that are minimized if the Amtrak train remains north of Maple Street because VRS freight and passenger trains would be able to get back to work quickly as soon as Amtrak gets through the yard limits each morning and each evening.

November 25, 2019

Page Four

If Amtrak does not stay north of Maple Street and was required to come back in the yard to tie up for the night at a siding south of Flynn Avenue, our own train crews would need to stay clear of the mainline and stand by while Amtrak unloads passengers and then eventually makes a backup move over King Street, Maple Street and through the yard past Flynn Ave., all the time waiting for Amtrak to clear up on an "open" track. The result is that our employees and train crew could easily be waiting over an hour extra every night for all this to occur even in the best of circumstances. In the morning the reverse process would need to occur with our crews and local freight service again waiting until Amtrak could clear through the yard limits from Flynn Ave. up to Union Station and then south again after boarding passengers.

As it is, accommodating Amtrak through the yard every morning will not be simple or straightforward since we have a very limited window to maneuver the freight cars received overnight at interchange and building the outbound freight quickly enough to meet schedules. Most of these daily activities must happen between 7:00 AM and Noon in order to make connections, so requiring Amtrak to make multiple moves in or through yard limits during this time will be exponentially difficult for our operations and customer service. Remaining north of Maple Street after arrival is the only way to reasonably minimize yard interference.

* * * * *

A real estate developer intentionally choosing to build so close to active railroad tracks, fully aware and advocating for the return of passenger rail service to Burlington, and receiving more than \$3.0 million in payments from the State of Vermont to secure the train station for public use, should not be surprised to encounter railroad activity in the vicinity of a train station and within the boundaries of a pre-existing right-of-way. We continue to believe that the return of passenger service to Burlington is cause for celebration, and would be glad to provide additional information on our operations if helpful to your understanding.

Regards,

Selden Houghton

Vice President

FACT SHEET- RAILROAD OPERATIONS

- 1. No Amtrak Refueling Anticipated:** Amtrak's Ethan Allen does not currently refuel in Rutland during overnight servicing, has not refueled in Rutland, and there have never been plans to include refueling as part of overnight service for the Ethan Allen when scheduled passenger service begins to Burlington.
- 2. Shore Power eliminates or greatly reduces any need for idling.** Amtrak has advised VRS and VTrans that locomotive idling for extended or overnight periods will no be part of normal or ordinary Amtrak operations in Burlington regardless of site location.
- 3. Amtrak Train Length.** Amtrak requires that its train (680') be overnighed as a single unit and not separated to be shuffled around the railyard, unlike freight and passenger trains currently operated by VRS. When Amtrak service was initiated to Rutland, a new siding was built at the Rutland train station specifically to accommodate overnight storage and service requirements.
- 4. Nightly Freight Interchange.** VRS and NECR interchange freight daily in Burlington south of Maple Street and freight trains arriving from and departing to the north use the single track adjacent to Union Station. Every night, track must be kept open and available in the railyard for VRS to accept inbound freight trains and prepare outbound trains for nightly departure. VRS operations also regularly include freight movements north of Maple and beyond College Street as well.
- 5. Northern Urban Reserve (Site 1)** The City of Burlington realigned the path through the Northern Urban Reserve in 2016 to follow the lake shore as part of its Bike Path Rehabilitation Project (Phase 1b). <https://enjoyburlington.com/burlington-greenway-project>. After the City moved the path, VRS identified the Northern Urban Reserve as a potential and practical site within the right-of-way and adjacent to an existing 1200' siding.

6. **Crossing impacts and crew time.** Overnight storage of Amtrak at the station platform where passengers embark in the mornings and disembark in the evening minimizes the number of times that passenger train movements block crossings and delay traffic at King Street and Maple Street, and eliminates additional run time for train crews subject to hour of service limitations.

7. **Burlington City Referendum to Realign Bicycle/Pedestrian Path.** The City is actively working to finalize the bike path's new design and relocation to the west side of the rail right of way. Relocating the bike path away from the Union Station passenger loading platform was the subject of a public vote by Burlington residents in 2016 after a 2012 City Bike Path Task Force Study recommended realigning the path to improve safety.

“Should the Mayor of Burlington and the City Council be advised to relocate the Burlington Bicycle Path to the west side of the railroad tracks between College and King streets even if that means utilizing the public trust doctrine or eminent domain to accomplish this task?”

APPROVED- November 2016

8. **Public Ownership of Train Station:** The State of Vermont owns the train station in Burlington and has paid Main Street Landing approximately \$3.0 million to secure public use of the train station for Amtrak at platform level - the final payment of \$500,000 toward the purchase having been made to Main Street Landing in February, 2018.

9. **Siding Reconstruction at Union Station.** Vermont Railway intends to reactivate a second track for passenger service at Union Station to accommodate both Amtrak and existing railroad operations, and considers it fortunate that we can fully construct a second track within the existing right-of-way. VRS gave specific notice of this intention to Main Street Landing, VTrans and the City of Burlington more than eighteen months ago by the attached letter dated March 19, 2018.

Without a second siding, Amtrak will block the mainline and potentially interfere with freight operations. The absence of a second siding could also require that VRS curtail popular passenger operations such as Polar Express, the Ronald McDonald House Jingle Bell Express, and even the

Burlington Fireworks trains in order to avoid conflicts over track authority since non-Amtrak trains could not lawfully be occupying the same track at the Burlington passenger loading platform.

The need to preserve railroad flexibility to operate over the pre-existing right-of-way in the event it became necessary or desirable to resume operations was a key element of the original 1985 Agreement with the City and the State of Vermont, and use as a bike path has always been acknowledged as temporary.

”... Lessee further expressly acknowledges that it is aware that it again may be necessary or desirable for the [State] or the Railroad to terminate this Lease Agreement *and to relay railroad tracks and resume railroad operations over all or a portion of the lands and premises herein leased to the Lessee.*” (emphasis added).

1985 Bike Path Lease Agreement, Article IX, Paragraph 1

See Also 1985 Bike Path Lease Agreement, p.2. (An allowed use “*during the period of time that such portion of the LESSOR’s lands and premises is not immediately required for railroad operations.*”);

See Also Amendment No. 2 (1996) (“...the CITY has arranged to lease, *for interim use* as a bicycle and pedestrian path....);

See Also Amendment No. 3 (2015) (“In accordance with 49 C.F.R. §1152.29 (Prospective use of rights-of-way for *interim trail use* and rail banking), the City acknowledges that use of the VTR’s North Burlington Branch right-of-way *is subject to possible reconstruction and reactivation of the right of way for rail service*”).

10. Bike Path Relocation – Not Destruction: Well before construction of the Wing Building, the 1994 Agreement with Main Street Landing explicitly referenced the 1985 Bike Path Lease Agreement, and specifically acknowledged that the Railroad retains the right “to relocate existing railroad tracks and facilities” to within eight feet of the building, if not closer. 1994 Main Street Landing Agreement, Para.11.

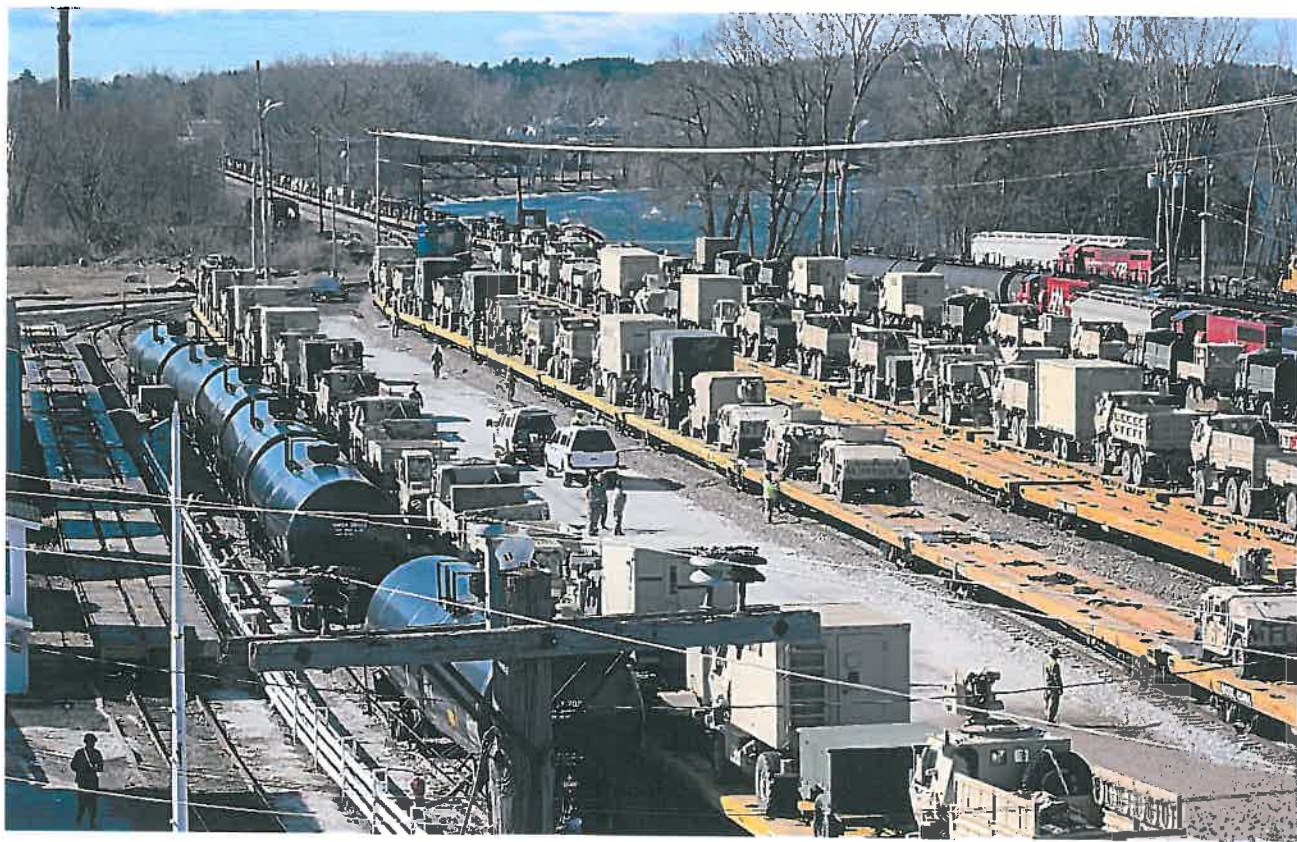
VRS track work planned for Union Station will take place entirely within the existing railroad right of way and fully coordinated with the City’s ongoing upgrade and planned relocation of the bike

path. The completed project will maintain eight feet of pedestrian access for businesses while improving platform safety for railroad passengers and the public.

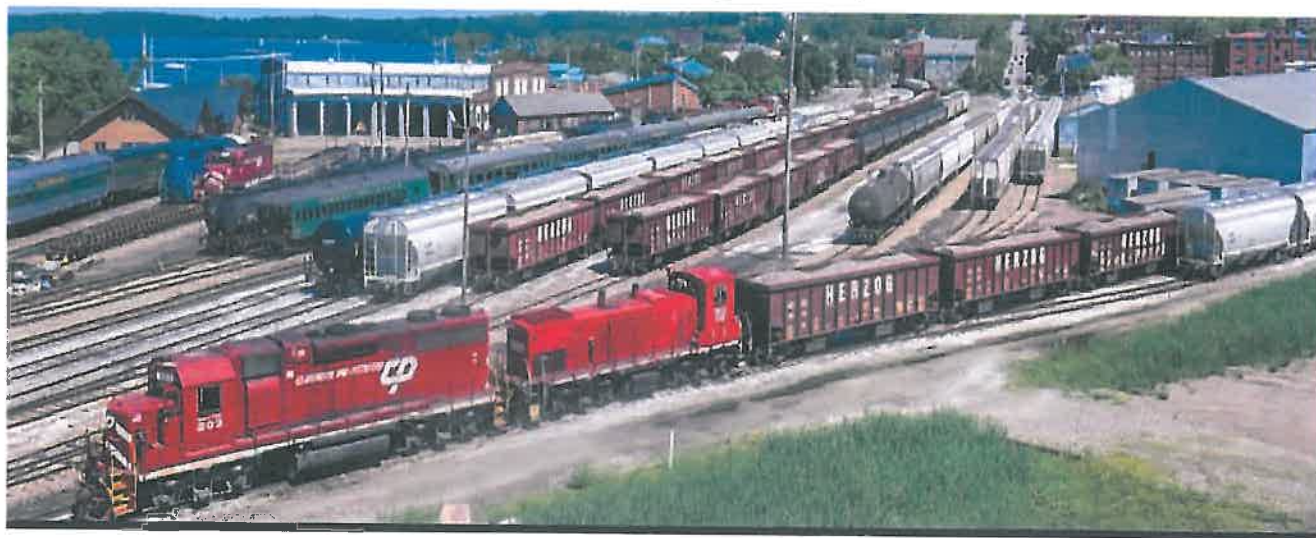
11. Wing Building Proximity to Active Rail. Main Street Landing LLC chose to site new construction without a setback and as close as possible to active railroad tracks with full knowledge that the railroad could reactivate tracks within the right of way. The 1994 Agreement signed by Ms. Moulton does not restrict the right of the Railroad to rebuild a second track and does not provide that the bike path is to remain on the passenger platform on anything other than an interim basis. Purchasers of condominiums from Main Street Landing should have been aware that the owner had agreed that the Railroad has the right “to relocate existing railroad tracks and facilities” and that relocated track could be expected to come as close as, if not closer than, eight feet of the building according to that 1994 Agreement.

12. Main Street Landing Support for Relocation Efforts to relocate the bike path did not begin with the 2016 City vote, and even those who do not favor selecting Union Station for overnighting should recognize these are two separate issues and support relocating the bike path away from the train station loading platform for safety reasons.

“We need to move ahead ASAP on the relocation of the bike path....we don’t want pedestrians and bikers to collide....so the City needs to proceed poste (sic) haste – what is the hold up with the State getting the money to the City to do this work? –let’s coordinate the spur at the same time.” Excerpt from Melinda Moulton Email (8/3/99) to Brian Searles at VTrans and Burlington Mayor Peter Clavelle.



Burlington Railyard Looking South - April 2019



Burlington Railyard looking North



One Railway Lane, Burlington, VT 05401
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Mathew Byrne, Esq.
Gravel & Shea
P.O. Box 369
Burlington, VT 05402-0369

March 19, 2018

Re: Main Street Landing, LLC

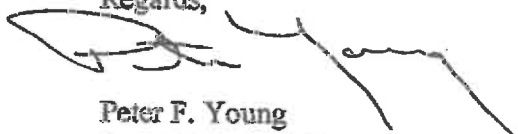
Dear Matt:

I am in receipt of your letter of March 8, 2018 noting concerns by Main Street Landing LLC with bringing Amtrak passenger service to Union Station, and more than a bit dismayed by the contentious tone of your correspondence. As you well know, it has been a long standing goal of many in Vermont (and your client in particular) to bring back regularly scheduled passenger rail service between Burlington and New York City. Reconstruction of the siding to allow passenger service can't possibly be a surprising development to your clients and will be a necessary element of rail service regardless of where the train overnights. I would be happy to explain further if you would like to meet and discuss, but suffice it to say that it is inaccurate for you to characterize the reconstruction effort as building a "new rail siding" or a breach of any agreement or promise by Vermont Railway, Inc. The 1994 Agreement you referenced does not support your allegations. Moreover, the law is perfectly clear that any interim use is subject to possible reconstruction and reactivation of the right-of-way for rail service.

As to your suggestion that other locations be considered for Amtrak locomotives during the overnight hours, your client should have already advised you that a formal analysis of the several options available has not yet been completed. It is therefore premature and inaccurate for you to write that an overnight location has already been selected. I would be pleased to forward you a copy when that analysis is received so that it can inform future discussions with your client.

Please call directly if you have any concerns you would like to discuss.

Regards,



Peter F. Young
Deputy General Counsel

Cc: Office of the City Attorney
Vermont Agency of Transportation

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www.vrs.us.com



Mathew Byrne, Esq.
Gravel & Shea
P.O. Box 369
Burlington, VT 05402-0369

June 8, 2018

Re: Main Street Landing, LLC

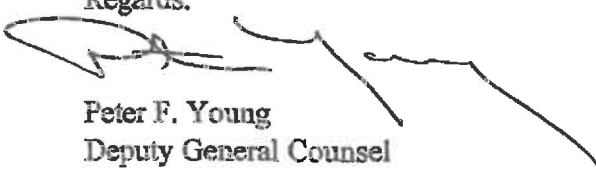
Dear Matt:

I am writing to reiterate our offer to meet with Ms. Moulton to discuss the concerns she has expressed about railroad passenger operations at Union Station and Amtrak's efforts to return regular passenger service to Burlington, and to update her on the various operational changes we have implemented over the past few weeks. These include a shift in locomotive and generator placement farther away from the passenger platform and residents, a reduced reliance on locomotive generating power in meeting train requirements for electric power, as well as changes to the automated at-grade signals at King Street. You should also know that another change we have implemented is that the locomotive itself is not running until approximately fifteen minutes before the scheduled departure, reducing idle time further.

Whether it's our weekend dinner train or Vermont Children Foundation's Polar Express, Ronald McDonald House Jingle Bell Express, Kids Day rides or Mothers' Day Brunch Excursions, locomotive power is obviously an essential part of our ongoing train service at Union Station. As your client will recall, the Champlain Flyer brought daily service to that passenger platform for a number of years as well.

We would be glad of the opportunity to learn more about your clients concerns, and hope to have the chance to meet to discuss these matters directly.

Regards.



Peter F. Young
Deputy General Counsel

Cc: David Wulfson

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(<https://enjoyburlington.com/>)

Blog

Burlington Greenway: Bike Path Rehabilitation Project



Bike Path Re-Opens as Burlington Greenway



Recent aerial drone photo.

Update 12/16

Burlington Parks, Recreation and Waterfront is pleased to announce major construction of Phase 1b of the Burlington Greenway is complete and the beloved lakeshore path is once again open to the public! Thank you for your patience and understanding during the construction closure, which began in late June of this year. One mile of the path, through what's known as the Urban Reserve (just north of the Skatepark), has been completely rebuilt to new, higher standards, and in the southern portion of the project, realigned to hug the Lake Champlain shoreline.

Additionally, three new 'pause places' have been developed, including one new mini park at Texaco Beach. The Waterfront Dog Park received a facelift, and extensive areas of industrial pavement have been removed, soils capped, and extensive landscaping is completed that includes native trees, shrubs and perennials, and a special seed mix of mostly native, resilient grasses and flowering perennials.

"It is with great pleasure and excitement that we open the path back up to the Burlington community." Says BPRW Director Jesse Bridges. "We have transformed abandoned industrial land and rehabilitated it into a gem for the City's park system. Beyond just a path repaving project this project created a true linear park, the Burlington Greenway, that will continue to be the City's defining feature supporting passive and active recreation, tourism and multi-modal transportation."