



Federal Transit
Administration

Madison Street Corridor Bus Rapid Transit (BRT)

Hazardous Materials Discipline Report

Prepared for
**Seattle Department of Transportation
Federal Transit Administration**

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1 Introduction

The purpose of this discipline report is to evaluate the Project Study Area for potential hazardous materials that may create risk or liability for the Seattle Department of Transportation (SDOT) during construction of the Madison Street Corridor Bus Rapid Transit (Madison BRT) Project. This evaluation is based on information contained in federal and state environmental regulatory databases, and site reconnaissance on May 24, 2016. The term “hazardous materials” is used to describe waste materials that require special handling and disposal. The term covers all types of contaminated or hazardous media, including dangerous waste (WAC 173-303-070 through 173-303-100), hazardous waste (40 CFR 261), problem waste (WAC 173-304), hazardous substances (42 USC 9601[14] and 40 CFR 116), and petroleum products. The Federal Transit Administration (FTA) is the federal agencies responsible for reviewing the proposal for compliance with the National Environmental Policy Act (NEPA).

2 Project Description

2.1 Background

The City of Seattle’s Department of Transportation (SDOT) proposes to provide new Bus Rapid Transit (BRT) service on Madison Street between 1st Avenue and Martin Luther King, Jr. Way East (MLK Jr. Way E.), Spring Street between 1st Avenue and 9th Avenue, and 1st Avenue and 9th Avenue between Madison Street and Spring Street as part of the Madison Street Corridor Bus Rapid Transit (Madison BRT) Project.

The Madison BRT Project is located in a dense and rapidly developing area that includes portions of Madison Valley, the Central District, Capitol Hill, First Hill, and Downtown Seattle. These areas are among the densest residential neighborhoods in the City and are sizable employment centers due to the presence of two major medical centers and Seattle University. Providing BRT service along this 2.4-mile corridor is identified in the Seattle Transit Master Plan and listed as a near-term action in the 2016 Move Seattle Strategic Vision. This project would improve transit capacity, travel time, reliability, and connectivity in an area that is highly urbanized and has a lower rate of automobile ownership than other parts of the city.

The Madison BRT Project would connect with dozens of bus routes, the Center City Connector Streetcar, the South Lake Union Street Car, and First Hill Streetcar, and would improve access to ferry service at the Colman Dock Ferry Terminal, First Hill medical institutions and housing, Seattle University, and Link light rail. As part of the project, pedestrian and bicycle access along the corridor would also be improved and enhancements would be made to the streetscape and public realm to increase comfort, visibility, and legibility in the Madison Street corridor.

2.2 Project Location

The project site is located in Seattle, Washington (Figure 1). The 2.4-mile corridor would begin and end at MLK Jr. Way E in the east. Figure 2 shows that from MLK Jr. Way E the Madison BRT Project would head west on Madison Street for 2.26 miles to 1st Avenue, head north on 1st Avenue for 290 feet, head east on Spring Street for 0.43 mile, south on 9th Avenue for 290 feet, and head east on Madison Street for 1.78 miles.

The project corridor traverses several Seattle neighborhoods: Downtown, First Hill, Capitol Hill, Central Area, and Madison Valley.

Downtown

The Downtown neighborhood is located at the westernmost end of the project corridor from 1st Avenue to the Interstate 5 (I-5) crossing. Downtown Seattle is primarily commercial, including large office towers in the city center, and is the largest employment center in the city.

First Hill

Moving east to First Hill, from I-5 to Broadway Avenue, the density decreases and there is a greater mixture of mid- and low-rise buildings with mixed residential-commercial uses. On the summit of First Hill, and heading east toward Broadway, institutional uses line the south side of Madison and commercial uses line the north. Virginia Mason Hospital and Swedish Hospital both have several large medical facility buildings adjacent to, or within, one block of the Madison Street corridor.

Capitol Hill

North of the project corridor, the Capitol Hill neighborhood runs from Broadway Avenue to 26th Avenue. The Pike-Pine corridor, Madison Valley, and Broadway areas are located along the Madison Street corridor. It includes mid-rise development, transitioning into low-rise and mixed commercial and residential development.

The Central Area

South of the project corridor, the Central Area neighborhood also runs from Broadway Avenue to 26th Avenue. It includes mid-rise development, transitioning into low-rise and mixed commercial and residential development. The Seattle University campus is adjacent to the Madison Street corridor.

Madison Valley

The Madison Valley neighborhood is located between 26th Avenue to MLK Jr. Way and east of the project corridor to Madison Park. Low-rise and mixed commercial and residential development dominates the corridor in this neighborhood.



SOURCE:
 Wa. Dept. of Ecology 2016; ESA 2016; OSM 2015.

SDOT Madison BRT Design . 150820
Figure 1
 Project Vicinity



SOURCE:
 Wa. Dept. of Ecology 2016; ESA 2016; OSM 2015.

SDOT Madison BRT Design . 150820
Figure 2
 Project Alignment

2.3 Description of Proposed Work

The Project would create a new BRT line along the Madison Street corridor. It would include approximately 11 BRT station areas with 21 directional platforms along the project corridor, new Transit Only Lanes (TOLs) and Business Access & Transit (BAT) lanes, pedestrian and bicycle improvements, and signal and utility upgrades along the corridor. The Madison BRT Project would replace portions of the King County Metro Route 12 where they would otherwise overlap. Metro anticipates they will revise Route 12 to compliment the BRT and continue to serve the east Capitol Hill areas as it currently does.

The Madison BRT Project would use nine new buses, seven of which would be on the road at any one time. The buses would be 60-foot articulated low-floor vehicles with three doors on the right side and two on the left. The BRT would operate Monday through Saturday from 5 a.m. to 1 a.m. and on Sundays and holidays from 6 a.m. to 11 p.m. They would run every six minutes between 6 a.m. and 7 p.m. on weekdays and every 15 minutes during all other hours of operation.

Construction would start in 2018 and conclude in the fall of 2019.

Stations

There would be a total of approximately 11 station areas with 21 directional platforms. Each stop would typically have a shelter (except the 1st Avenue stop), off-board fare payment machines, and real-time arrival information. The level-boarding platforms would be approximately 13 inches in height (1st Avenue stop would have 10-inch platform to accommodate the streetcar) and ADA-accessible to the maximum extent feasible.

1st Avenue

The western end would be located on 1st Avenue and would be shared with Center City Connector streetcars. It would include a northbound island station.

Spring Street

On Spring Street, all of the BRT buses would be eastbound. Three stops would be provided on Spring Street, one at 3rd Avenue, one at 5th Street, and one on the nearside of 8th Avenue. The Route 2 bus would also utilize the stop at 5th Avenue.

Madison Street

On Madison Street, BRT buses would be westbound only between 1st Avenue and 9th Avenue and bidirectional between 9th Avenue and MLK Jr. Way E. Ten sidewalk stops would be provided. Westbound-only sidewalk stations would be provided on the western side of 3rd Avenue and the eastern side of 5th Avenue. Sidewalk stations would be provided in both directions at the intersections with 17th Avenue, E Denny Way, 24th Avenue and the western side of MLK Jr. Way E.

What is a Sidewalk Station?

A sidewalk station is a station that would be located at the curb. They are typically 60 feet long.

What is an Island Station?

An island station is a platform in the center median of the street. Island stations are at least 60 feet long and approximately 9 feet wide.

There would be six island stations. One island station, on the western side of 8th Avenue would provide westbound service only. There would be two island station pairs (westbound island adjacent to eastbound island station) at Terry Avenue and the east side of Summit Avenue. One bidirectional transit island would be east of the 12th Avenue intersection.

One westbound curbside bus layover stall would be provided on Madison Street, west of the intersection with MLK Jr. Way E.

Layover

On MLK Jr. Way E, two curbside bus layover stalls would be provided at the intersection with E Harrison Street, and a third curbside layover would be provided on westbound Madison Street, just west of MLK Jr. Way E.

Right-of-Way Improvements

Reconfiguration of Lanes

As part of the project, new TOLs and BAT lanes would be provided. TOLs can be located anywhere within the right-of-way and only allow transit use. They are typically painted red to inform all corridor users that this lane is for transit only. BAT lanes are a type of bus lane located on the curbside and permit general traffic use for accessing driveways or crossing streets (but not for through travel).

For the Madison BRT Project, 1.98 miles of new TOLs would be provided. Between 5th Avenue and 9th Avenue there would be 0.24 mile of center, unidirectional TOL. Between 9th Avenue and 15th Avenue there would be 0.80 mile of center TOLs heading in both directions (1.60 miles total). TOLs would also be provided throughout the corridor (about another 0.14 mile cumulatively) to ensure adequate transit flow. This would include TOLs being placed in front of transit stops, to keep them from being blocked, and on 9th Avenue to ensure buses can easily make the transition from Spring Street to Madison Street.

Approximately 0.82 mile of BAT lanes would be provided under the project. Unidirectional BAT lanes would be provided on Spring Street between 1st Avenue and 6th Avenue (0.3 mile heading east) and on Madison Street between 1st Avenue and 5th Avenue (0.24 mile heading west) and between 15th Avenue and 17th Avenue (0.14 heading east). BAT lanes would be provided for both directions on Madison Street between 17th Avenue and 18th Avenue (0.14 mile total).

Paving

Approximately 10 acres of roadway and sidewalk pavement would be replaced under the project. The TOL pavement would be replaced with Portland cement concrete pavement (PCCP) to increase the life of the BRT travel lanes.

Alterations to Existing Street Corridor

According to APTA standards, bus lanes must be at least 10.5 feet wide (APTA, 2010). Many of the existing rights-of-way within the corridor would not allow for the addition of a new 10.5-foot-wide bus lane without the narrowing of other existing lanes. In certain sections of the

roadway, existing general purpose lanes may need to be converted for BRT use. A list of the changes to the existing street corridor is provided below:

- Roadway curb widening on seven blocks of Madison Street;
- Full depth PCCP roadway restoration under proposed BRT travel lanes corridor wide;
- Sidewalk restoration and repairs impacting approximately 75 block faces;
- Storm water detention system construction underneath Madison Street (up to 72" detention pipe diameter);
- Corridor wide roadway restriping;
- Remove north/south crossing of Madison Street via Terry Avenue; and
- Remove left turn lanes on Madison Street to Minor Avenue, Summit Avenue, and Boylston Avenue.

Signal and Utility Improvements

As part of the Madison BRT Project, Transit Signal Priority (TSP) would be provided at most signalized corridor intersections between 7th Avenue and MLK Jr Way. Signal priority would be used to hold lights green for approaching BRT vehicles and shorten red times for BRT vehicles at intersections. Separate "queue jump" transit only phases would be employed where BRT vehicles need to go in advance of general purpose traffic. In addition, two new signals would be provided on Spring Street: one at the 8th Avenue intersection and one at the 9th Avenue intersection.

The vehicles would be electrically powered using either electric trolleybus (ETB) technology requiring overhead contact systems (OCS) or some combination of ETB/OCS and emerging battery-powered technology allowing for substantial "off wire" operation. In order to power the line, new overhead wires would need to be installed in the following areas:

- 1st Avenue from Madison Street to Spring Street (approximately 300 feet)
- Spring Street from 1st Avenue to 3rd Avenue, and from 7th Avenue to 9th Avenue (approximately 0.5 mile);
- 9th Avenue from Spring Street to Madison Street (approximately 300 feet);
- Madison Street from 19th Avenue to MLK Jr. Way E (approximately 0.7 miles); and
- MLK Jr. Way E from Madison Street to E Harrison Street (approximately 800 feet).

In addition, a new traction-powered substation (TPSS) would be needed somewhere near the eastern end of the project, where the existing overhead catenary system would need to be extended.

Landscaping Improvements

In order to complete construction of the stations, lane widening, utility relocations, and sidewalk and other frontage improvements, some existing street trees would be removed. The

project may remove approximately 70; however, this number would be refined during final design. All trees removed would be replaced in accordance with the City of Seattle's Tree Replacement Standards (SMC 15.43) and in coordination with SDOT Urban Forestry.

As part of the project, SDOT would be installing a new 2,600 square-foot Pocket Plaza with sidewalk and landscaping at the intersection of Madison Street, E Pike Street and 14th Avenue.

Stormwater Improvements

The project would replace existing stormwater infrastructure impacted by the Madison BRT Project. The majority of storm drainage impacts would be from proposed curbside bus stations.

The Project would address the City's stormwater code, improving stormwater quality and detention where required. The project passes through three basins and each would be addressed appropriately. The project is required to provide flow control for two of the five stormwater basins. The basins that require flow control are the Combined Sewer West basin and the Combined Sewer East basin. Combined Sewer West basin is in the downtown area on Spring Street and Madison Street from 1st Avenue to Interstate 5. The Combined Sewer East basin is from 17th Avenue to the end of the project at MLK Jr. Way E. The project would evaluate stormwater BMPs including rain gardens and pervious surfaces to meet requirements of the City of Seattle 2016 Stormwater Manual.

Utility Relocations

Utilities are anticipated to be relocated where the roadway would be widened to accommodate BRT bus lanes and stations. There are approximately eight blocks that are proposed for widening. Utilities that would be relocated include roadway lighting, overhead contact systems, signals, storm drainage, overhead and underground power, and overhead and underground telecommunications. There are conflicts with proposed bus station amenities and existing utility systems that would require utility modifications and relocations.

3 Methodology

The study area for the hazardous material analysis consists of a one-half mile radius around the project corridor. The project study area was evaluated for the presence of potentially hazardous materials that may affect the environment during construction or create risk or liability for the City of Seattle during construction of the proposed Madison BRT project. For the purposes of this analysis, the term "hazardous materials" describes waste materials that require special handling and disposal, and covers all types of contaminated or hazardous media including dangerous waste (WAC 173-303-070 through 173-303-100), hazardous waste (40 CFR 261), problem waste (WAC 173-304), hazardous substances (42 USC 9601[14] and 40 CFR 116), and petroleum products.

Contaminated and potentially contaminated sites were identified through the federal and state contaminated site databases (US EPA and Ecology). Common federal and state regulations applicable to management of hazardous materials in Washington State are outlined in Section 4.1.

4 Affected Environment

4.1 Regulatory Framework

Federal Laws and Regulations

- All Appropriate Inquiries, 40 CFR Part 312
- Clean Water Act, 33 USC 1251 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601 et seq.
- National Emission Standards for Hazardous Air Pollutants, 40 CFR Parts 61 to 71
- National Environmental Policy Act, 42 USC 4321 et seq.
- Oil Pollution Prevention, 40 CFR Part 112
- Occupational Safety and Health Act, 29 USC 651 et seq.
- Resource Conservation and Recovery Act, 42 USC 6901 et seq.
- Safe Drinking Water Act, 42 USC 300f et seq.
- Toxic Substances Control Act, 15 USC 2601

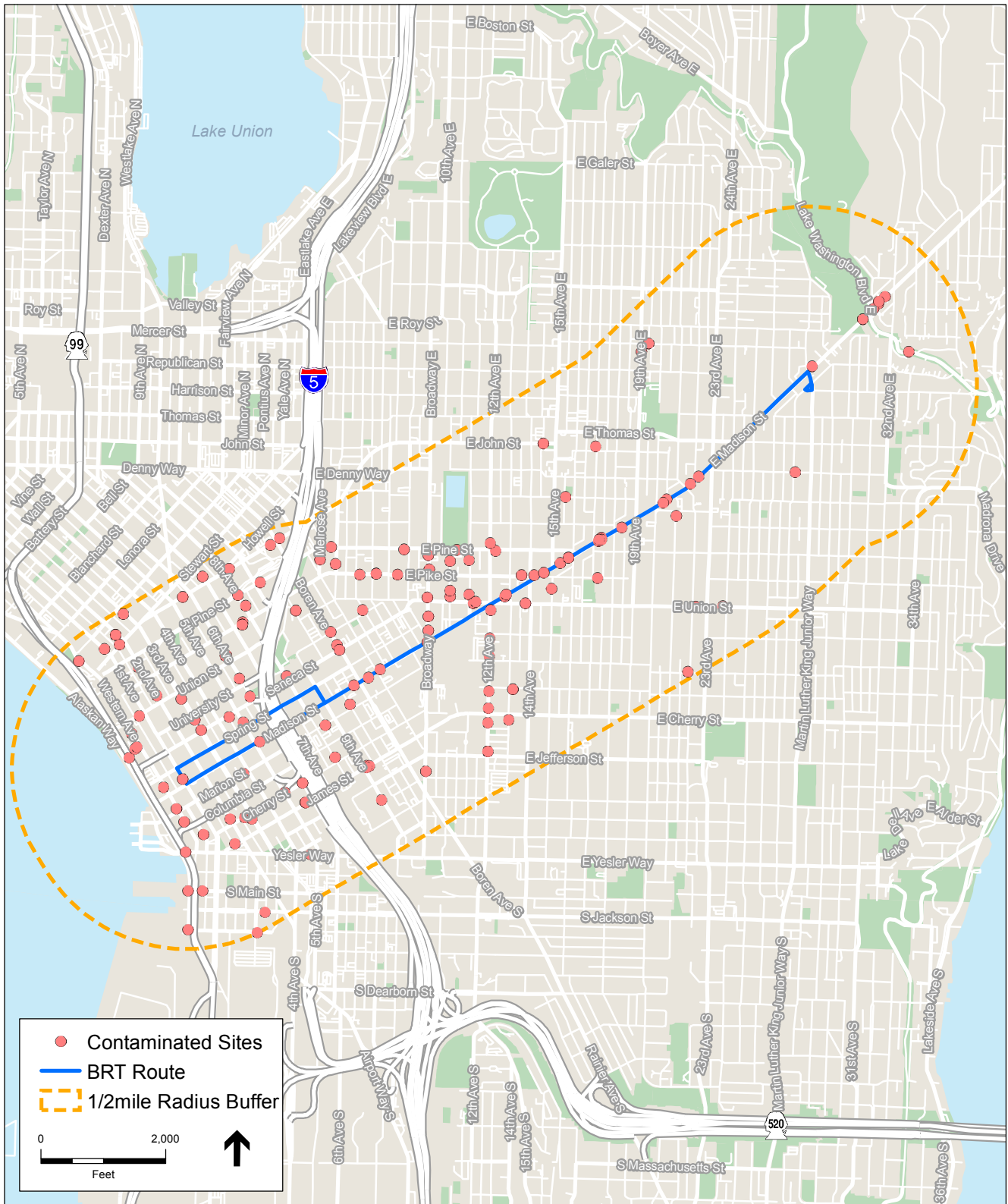
State Regulations

- Dangerous Waste Regulations, Chapter 173-303 WAC
- General Occupational Health Standards, Chapter 296-62 WAC
- Hazardous Waste Operations, Chapter 296-843 WAC
- Minimum Standards for Construction and Maintenance of Wells, Chapter 173-160 WAC
- Model Toxics Control Act, Chapter 173-340 WAC
- Safety Standards for Construction Work, Chapter 296-155 WAC
- Sediment Management Standards, Chapter 173-204 WAC
- Solid Waste Handling Standards, Chapter 173-350 WAC
- State Environmental Policy Act, Chapter 197-11 WAC
- Underground Storage Tank Regulations, Chapter 173-360 WAC
- Water Quality Standards for Groundwaters of the State of Washington, Chapter 173-200 WAC
- Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC

4.2 Suspected and Known Hazardous Materials Sites

There are 153 sites with known contamination within approximately one-half mile of the project site. In some cases, more than one of these 'sites' occur on the same property or overall site and are shown on Figure 3. The complete list of these sites is included in Appendix A. Table 1 below lists the 34 sites that are located adjacent to the project alignment and may warrant further investigation to confirm the potential for the project to encounter contamination within the rights-of-way (i.e., those sites within the footprint for potential ground disturbance). However, 16 of these sites have completed clean-up operations and have received No Further Action letters from Ecology. Although these sites may still have low levels of contamination, the levels are below the threshold for requiring clean up and the risk of encountering hazardous materials is minimal. No US EPA Superfund sites were identified within the study area.

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SOURCE:
Wa. Dept. of Ecology 2016; ESA 2016; OSM 2015.

SDOT Madison BRT Design . 150820
Figure 3
Hazardous Materials

Of the sites listed in Table 1, two are known to have monitoring wells within areas that will likely be disturbed by the project. One of the proposed BRT stations is located adjacent to site #11906, known as The Pony Bar. This site, or a portion of it, will likely be acquired by the City for placement of right-of-way improvements. Because of this, SDOT may be required to conduct further investigation, such as a Phase I Environmental Site Assessment, and coordinate with Ecology on the maintenance and monitoring of the on-site wells.

Site #6488, 7-Eleven, also contains monitoring wells. No property or easement acquisition is proposed at this location; however, work required for the construction of BRT facilities may necessitate the removal or relocation of the existing monitoring wells within the sidewalk. SDOT will coordinate with the property owner and Ecology once the extent of construction disturbance can be quantified (i.e., during final design).

Table 1 Status of Contaminated Sites in Close Proximity to Project

Cleanup Site ID	Site Name	Address	Contaminant	Media Contamination*	Cleanup in Progress
5389	1500 Madison LLC	1500 E Madison Street	Non-halogenated Solvents	Soil – C	No Further Action
			Petroleum-Diesel		
			Petroleum-Gasoline		
			Petroleum-Other		
6488	7-Eleven 23020	1522 E Madison St	Benzene	Groundwater – C Soil – C	Cleanup Started
			Non-Halogenated Solvents		
			Petroleum-Gasoline		
889	East Madison Valet Cleaners	2034 E Madison St	Halogenated Organics	Groundwater – C Soil – C	Cleanup Started
			Petroleum Products-Unspecified		
11336	GULL STATION 0270	1701 E Madison St	Benzene	Soil – S	No Further Action
			Petroleum-Diesel	Soil – B	
			Petroleum-Gasoline	Soil – RB	
			Petroleum-Other	Soil – S	
5160	HOSPITAL CORP OF AMERICA 1140	1140 12th Ave	Petroleum-Other	Groundwater – C Soil – C	No Further Action
516	Joe Spates The Cleaner	1722 E Madison	Halogenated Organics	Groundwater – C Soil – C	Awaiting Cleanup
9676	KSTW TELEVISION	1715 E Madison St	Petroleum-Diesel	Soil – RB	No Further Action
390	QUALMAN APARTMENTS	1421 15th Ave	Petroleum Products-Unspecified	Soil – R	No Further Action
12550	Royal Cleaners Seattle	1406 E Pike St	Halogenated Solvents	Groundwater – C Soil – C	Awaiting Cleanup
12304	Seattle Madison LLC	1111 E Union St	Benzene	Soil – B	Cleanup Started
			Other Non-Halogenated Organics		
			Petroleum-Gasoline	Soil – C	

Cleanup Site ID	Site Name	Address	Contaminant	Media Contamination*	Cleanup in Progress
12333	Seattle University (Garrand Building; Old Foundry Building)	Broadway & E Madison	Petroleum-Other	Soil – C	Awaiting Cleanup
811	Taco Time Northwest Restaurant	1420 E Madison St	Other Non-Halogenated Organics Petroleum-Diesel	Groundwater – C Soil – C	Cleanup Started
11906	The Pony (Superior Cleaners)	1221 E Madison St	Non-Halogenated Solvents Other Halogenated Organics Petroleum-Other	Groundwater – B Groundwater – C Soil – C Soil – B	Awaiting Cleanup
5665	Unocal 5471	1700 E Madison	Benzene Halogenated Organics LUST – Other Hazardous Substance Non-Halogenated Solvents Petroleum-Diesel Petroleum-Gasoline Petroleum-Other	Groundwater – C Soil – C Groundwater – C Soil – S Groundwater – C Soil – C	No Further Action
7072	UNOCAL SS 5919	1100 Broadway	Benzene Lead LUST – Other Hazardous Substance Non-Halogenated Solvents Other Non-Halogenated Organics Petroleum-Diesel	Groundwater – C Soil – C Soil – B Groundwater – C Soil – C	Cleanup Started

Cleanup Site ID	Site Name	Address	Contaminant	Media Contamination*	Cleanup in Progress
			Petroleum-Gasoline	Groundwater – B Soil – C	
			Petroleum-Other	Soil – C	
3009	Views At Madison	1823 E Madison St	Petroleum Products – Unspecified	Soil – C	No Further Action
8751	WALLACE ONCORP PROPERTY (Walts Radiator & Muffler)	1222 E Madison St	Benzene	Soil – S	No Further Action
			Petroleum-Gasoline		
			Petroleum-Other		
6442	WB Sprague Co	2005 E Madison St	Petroleum-Other	Soil – C	Cleanup Started
11951	Aegis Living Madison Street Property	2200 E Madison St	Petroleum-Other	Soil – C	No Further Action
3699	Courtesy Tire Madison	2102 E Madison St	Metals – Other	Soil – S	Awaiting Cleanup
			Metals Priority Pollutants	Soil – S	
			Petroleum Products – Unspecified	Surface Water – S Soil – S	
1164	L & E FRENCH CLEANERS (Consolidated Real Estate)	2800 E Madison	Halogenated Organics	Groundwater – C Surface Water – S Soil – C Air – S	Awaiting Cleanup
12070	1200 Madison St	1000 Minor Ave & 1200 Madison St	Lead	Soil – RB	No Further Action
			Petroleum-Diesel		
			Petroleum-Gasoline		
			Petroleum-Other		
5299	Alexis Hotel (Arlington Hotel)	1007 1st Ave	Benzene	Groundwater – C Soil – C	Awaiting Cleanup
			Lead	Soil – C	
			Metals Priority Pollutants		
			Non-Halogenated Solvents	Groundwater – C	
			Petroleum-Gasoline	Soil – C	

Cleanup Site ID	Site Name	Address	Contaminant	Media Contamination*	Cleanup in Progress
3840	Chijako Restaurant	1016 Madison St	Halogenated Organics	Soil – C	Cleanup Started
12953	Madison Centre (College Club of Seattle)	505 Madison St	Benzene	Soil – RB	Cleanup Started
			Metals – Other	Soil – B	
			Other Non-Halogenated Organics	Soil – RB	
			Petroleum-Diesel		
			Petroleum-Gasoline	Soil – C	
			Polynuclear Aromatic Hydrocarbons	Soil – RB	
7499	SAINT CABRINI HOSPITAL	920 Terry Ave	Petroleum-Diesel	Soil – RB	No Further Action
9743	SWEDISH HOSPITAL GAS STATIONS	1101 Madison Ave Madison Minor Marion Boren	Benzene	Soil – S	No Further Action
			Petroleum-Diesel		
			Petroleum-Gasoline		
			Petroleum-Other		
7668	Kennedy Hotel Garage	1100 5 th Ave	Benzene	Groundwater – B Soil – B	Cleanup Started
			Petroleum-Gasoline	Groundwater – S Soil – C	
			Petroleum-Other	Groundwater – B Soil – B	
7136	Hines Interests 4 th Ave Parking Garage	1001 4 th Ave	Benzene	Soil – C	No Further Action
			Non-Halogenated Solvents		
			Petroleum-Diesel		
			Petroleum-Other		
11934	Nettleton Apartments	1000 8 th Ave	Benzene	Soil – RB	Cleanup Started
			Lead		
			Other Non-Halogenated Organics		
			Petroleum-Gasoline	Soil – C	

Cleanup Site ID	Site Name	Address	Contaminant	Media Contamination*	Cleanup in Progress
4368	Downtown YMCA	909 4 th Ave	Petroleum Products-Unspecified	Soil – R	No Further Action
13058	Epstein Family LLC	1002 E Seneca St	Petroleum-Diesel	Soil – RB	No Further Action
			Petroleum-Other		
3796	Olympian Apartments	1605 E Madison St	Petroleum Products-Unspecified	Groundwater – S Surface Water – S Soil – C	Awaiting Cleanup
4790	Cabrini Center	1000 Block SW Madison & Boren	Petroleum Products-Unspecified	Soil – R	No Further Action

* CONTAMINANT KEY: B - Below MTCA Cleanup Level After Assessment; C - Confirmed Above Cleanup Level; S – Suspected; R - Remediated, RA - Remediated-Above Cleanup Level, RB - Remediated-Below Cleanup Level

5 Project Effects

5.1 Construction Impacts

Project construction itself is not expected to generate any type of hazardous waste; however, there is the potential for hazardous wastes to be released during channelization (removal of pavement and application of paint or thermoplastic materials for restriping) or if construction-related hazardous materials (fuels, oil, or uncured concrete) are spilled during construction.

Pre-existing contaminated material may be encountered during site grading or subsurface work. Figure 3 shows that a number of sites where hazardous materials have been identified are located along the proposed alignment. Depending on the nature and extent of previous contamination and the status of remediation actions, contamination could be encountered in two ways: either through the acquisition of property or temporary construction easements; or the possible migration of contaminated groundwater or other media from adjacent sites into the project area.

To avoid potential effects related to site contamination, SDOT would include this report and any additional studies required in bid documents and the construction contract to properly address management of hazardous materials, whether anticipated to be encountered or not. The agency would make their contractor aware of known hazardous material sites in the project vicinity. The contractor would be required to have training in recognition of potential hazardous materials during project work. In the event that any hazardous materials, either in soils or groundwater, were encountered on the project site during construction, the contractor would be required to conduct appropriate characterization and prepare and implement excavation and treatment/disposal plans for those materials. Materials including contaminated soils would be disposed of only at approved landfills and only after any treatment required. Contaminated water would be treated and discharged or hauled away and disposed of as required by state and federal codes.

The contractor would be required to ensure that any hazardous materials used during construction are managed and disposed of appropriately. Any accidental spills of hazardous materials during construction would be reported to Ecology, if required, and contained and cleaned up appropriately to prevent surface or groundwater contamination. The contract specifications would not allow maintenance of vehicles or equipment on site since this type of activity represents a relatively high likelihood of spill or release.

5.2 Operational Impacts

Operation of the Madison BRT Project is not expected to generate any hazardous wastes. Maintenance of buses or other equipment that would be used along the route would occur at King County maintenance facilities and any wastes that might be generated at those locations would be managed and disposed of in accordance with waste management procedures.

In keeping with FTA standard procedures, SDOT will conduct due diligence to limit liability in accordance with USEPA's "All Appropriate Inquires" (AAI) rule prior to obtaining any

contaminated properties, beginning excavation, or starting any structure demolition or modification.

6 Mitigation

This report, along with subsequent studies completed as part of the Madison BRT Project to document existing conditions, will be included in the construction bid package in order to inform the contractor of potential hazardous conditions. Construction impacts will be avoided or minimized by following the City's standard specifications for cleanup. The Contractor will develop a spill prevention plan that meets City standards to control spills on the site (Standard specifications A 1-07.15(1)8-01.3(2)C) and a waste management plan that follows City Standard Specification 1-07.3, Discoveries of Contaminated Materials, Dangerous Waste(s) and TSCA Waste(s)). The plan will include procedures for identifying and characterizing unanticipated hazardous materials.

7 References

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Appendix A

Suspected and Known Hazardous Materials Sites

SDOT Madison Street BRT Project
Suspected and Known Hazardous Materials Sites

CS ID	Cleanup Site Name	Address	City	Zip	State
11384	1200 E Jefferson	500 12th Ave	Seattle	98122	WA
369	12th & Columbia	734 12th Ave	Seattle	98122	WA
5389	1500 MADISON LLC	1500 E Madison St	Seattle	98122	WA
6488	7-Eleven 23020	1522 E Madison St	Seattle	98122	WA
3160	A1 BRAKE	1520 10th Ave	Seattle	98122	WA
2994	Aoki Property	1314 E Pike St	Seattle	98122	WA
1055	BMW SEATTLE PIKE ST	714 E Pike St	Seattle	98122	WA
12090	Broadstone Capitol Hill Venture LLC	1414 10th Ave	Seattle	98122	WA
12580	Capitol Hill Park	1514 E Howell St	Seattle	98122	WA
12650	CK Graphics	501 E Pike St	Seattle	98122	WA
315	Coleman Building	2203 E Union St	Seattle	98122	WA
12529	Cue Apartments	721 725 E Pine St 1527 Harvard Avenue	Seattle	98122	WA
889	East Madison Valet Cleaners	2034 E Madison St	Seattle	98122	WA
9289	FOLEY SIGN CO	1205 E Pine St	Seattle	98122	WA
4180	GIRLIE PRESS PROPERTY	1658 21st Ave	Seattle	98122	WA
11336	GULL STATION 0270	1701 E Madison St	Seattle	98122	WA
5160	HOSPITAL CORP OF AMERICA 1140	1140 12th Ave	Seattle	98122	WA
5154	HOSPITAL CORP OF AMERICA 904	904 12th Ave	Seattle	98122	WA
516	Joe Spates The Cleaner	1722 E Madison	Seattle	98122	WA
12509	Key Bank E Union St	2320 E Union St	Seattle	98122	WA
7461	KFC	1001 E Pine St	Seattle	98122	WA
9676	KSTW TELEVISION	1715 E Madison St	Seattle	98122	WA
7133	Lous Chevron	1531 Broadway	Seattle	98122	WA
12059	Marion Apartments	320 E Pine St	Seattle	98122	WA
12301	Melrose & Pine Development	1527 1535 Bellevue Ave E, 1530 Melrose Ave, 301 E Pine St	Seattle	98122	WA
3691	MELROSE APARTMENTS	1520 Melrose Ave	Seattle	98122	WA
1311	METAL LAUNDRY INCORPORATED	614 12th	Seattle	98122	WA
5159	Moss Alley Motors	932 12th Ave	Seattle	98122	WA

SDOT Madison Street BRT Project
Suspected and Known Hazardous Materials Sites

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453	PARKER BLDG	1134 Broadway	Seattle	98122	WA
1355	PASCIUTO PROPERTY	1314 E Union St	Seattle	98122	WA
5490	Pearson Site 426 Broadway	412 414 416 418 420 426 Broadway Ave	Seattle	98122	WA
9178	PHIL SMART MERCEDES (1994)	600 E Pike St	Seattle	98122	WA
9177	PHIL SMART MERCEDES BMW	600 E Pike St	Seattle	98122	WA
12647	Pit Lot Capitol Hill	1427 11th Ave	Seattle	98122	WA
390	QUALMAN APARTMENTS	1421 15th Ave	Seattle	98122	WA
5681	Qwest Corporation W00291	1313 E Columbia	Seattle	98122	WA
6108	QWEST E CENTRAL PIKE ST OFFICE	1708 E Pike St	Seattle	98122	WA
3298	RECREATIONAL EQUIPMENT INC SEATTLE	1525 11th Ave	Seattle	98122	WA
12550	Royal Cleaners Seattle	1406 E Pike St	Seattle	98122	WA
2985	RUTH ASHBROOK BAKERY	1416 10th Ave	Seattle	98122	WA
12304	Seattle Madison LLC	1111 E Union St	Seattle	98122	WA
12333	Seattle University	Broadway & E Madison	Seattle	98122	WA
10862	SEATTLE UNIVERSITY BLUE WHALE	610 13th Ave	Seattle	98122	WA
7868	Shell 120682	1500 Broadway	Seattle	98122	WA
6988	Shell Station 121499	700 12th Ave	Seattle	98122	WA
811	Taco Time Northwest Restaurant	1420 E Madison St	Seattle	98122	WA
11860	The Douglas at Seattle University	1223 E Cherry St & 13th Ave	Seattle	98122	WA
11906	The Pony	1221 E Madison St	Seattle	98122	WA
10968	TOMLINSON INC	1100 E Union St	Seattle	98122	WA
12342	Twelfth Ave Arts	1608 1620 12th Ave	Seattle	98122	WA
4499	United Graphics Seattle	1401 Broadway	Seattle	98122	WA
5665	Unocal 5471	1700 E Madison	Seattle	98122	WA
7072	UNOCAL SS 5919	1100 Broadway	Seattle	98122	WA
3009	Views At Madison	1823 E Madison St	Seattle	98122	WA

SDOT Madison Street BRT Project
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8751	WALLACE ONCORP PROPERTY	1222 E Madison St	Seattle	98122	WA
6442	WB Sprague Co	2005 E Madison St	Seattle	98122	WA
12156	19th & Mercer Partners LLC	526 19th Ave E	Seattle	98112	WA
11951	Aegis Living Madison Street Property	2200 E Madison St	Seattle	98112	WA
2635	Arboretum Court 1	3127 E Madison St	Seattle	98112	WA
6286	Arboretum Court III	3115 E Madison St	Seattle	98112	WA
11433	Buckley Apartments	201 17th Ave E	Seattle	98112	WA
3699	Courtesy Tire Madison	2102 E Madison St	Seattle	98112	WA
2787	Hyde Candy Co	1912-1916 E Mercer St	Seattle	98112	WA
1164	L & E FRENCH CLEANERS	2800 E Madison	Seattle	98112	WA
6348	MOBIL 99008	3101 E Madison	Seattle	98112	WA
3317	RYE RESIDENCE	2702 E Denny Way	Seattle	98112	WA
6925	Safeway Store 1551	1410 E John St	Seattle	98112	WA
7131	Shell Station 121083	3100 E Madison St	Seattle	98112	WA
11974	Spotless Cleaners II	3015 E Madison St	Seattle	98112	WA
3240	STERN RESIDENCE	548 Lake Washington Blvd	Seattle	98112	WA
12070	1200 Madison St	1000 Minor Ave & 1200 Madison St	Seattle	98104	WA
5299	Alexis Hotel	1007 1st Ave	Seattle	98104	WA
12674	Argens	80 S Main St	Seattle	98104	WA
8790	BUTLER GARAGE	114 James St	Seattle	98104	WA
9512	CHERRY STREET GARAGE	213 Cherry St	Seattle	98104	WA
3840	Chijako Restaurant	1016 Madison St	Seattle	98104	WA
2571	Clarwood Apartments	805 Marion St	Seattle	98104	WA
11129	COMMUTER CENTER GARAGE	801 809 Western Ave	Seattle	98104	WA
6069	Dean Straleys 9th & James BP	914 James St	Seattle	98104	WA
3150	Dexter Horton Building	710 2nd Ave	Seattle	98104	WA

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4316	EASTERN HOTEL	506 1/2 Maynard St	Seattle	98104	WA
4254	Happy Gardens	925 James St	Seattle	98104	WA
8076	HARBORVIEW HOSPITAL	325 9th Ave / 908 Jefferson St	Seattle	98104	WA
3288	King County Facilities Management	905 James St	Seattle	98104	WA
7961	KING COUNTY YESLER BUILDING	400 Yesler Way	Seattle	98104	WA
7711	KING STREET CENTER	201 S Jackson St	Seattle	98104	WA
9977	KINGDOME	201 S King St	Seattle	98104	WA
7724	LASALLE PARTNERS PROPERTY	6th Ave & Cherry	Seattle	98104	WA
12953	Madison Centre	505 Madison St	Seattle	98104	WA
214	MARITIME BUILDING	911 Western	Seattle	98104	WA
1966	North Lot Development	201 255 S King St	Seattle	98104	WA
5152	PACIFIC HOTEL LTD PARTNERSHIP	317 Marion St	Seattle	98104	WA
7499	SAINT CABRINI HOSPITAL	920 Terry Ave	Seattle	98104	WA
9954	SEATTLE CITY CHERRY ST SITE	5th & Cherry	Seattle	98104	WA
1076	Seattle Port Term 48	101 Alaskan Way S	Seattle	98104	WA
1330	SEATTLE STEAM CO POST AVE	700 Post Ave	Seattle	98104	WA
1535	Skyline At 1st Hill Property	710 8th Ave	Seattle	98104	WA
4407	St Charles Hotel	619 3rd Ave	Seattle	98104	WA
9743	SWEDISH HOSPITAL GAS STATIONS	1101 Madison Ave Madison Minor Marion Boren	Seattle	98104	WA
3858	UNION STATION	S Jackson St & 4th Ave S	Seattle	98104	WA
7872	US WEST SEATTLE	1200 3rd Ave	Seattle	98104	WA
264	WA DOT KING & ALASKAN WY S	King & Alaskan Way S	Seattle	98104	WA
11482	WA DOT R O W Yesler & Alaskan	Yesler Way & Alaskan Way	Seattle	98104	WA
12505	WA DOT South Atlantic St	S Atlantic St & Alaskan Way S	Seattle	98104	WA
4032	Wa St Football Soccer Stadium & Expo Cen	Former Kingdome Site	Seattle	98104	WA

SDOT Madison Street BRT Project
Suspected and Known Hazardous Materials Sites

CS ID	Cleanup Site Name	Address	City	Zip	State
7889	WALGREEN PROJECT	23rd & S Jackson	Seattle	98104	WA
1078	WATERFRONT PLACE	1011 Western Ave	Seattle	98104	WA
933	1214 8TH AVE	1214 8th Ave	Seattle	98101	WA
4036	1521 2nd Ave	1521 2nd Ave	Seattle	98101	WA
4588	1700 Seventh	1700 7th Ave	Seattle	98101	WA
8111	AAMPCO Jones Bldg Parking	1331 3rd Ave	Seattle	98101	WA
4045	Barg French Cleaners	1929 3rd Ave	Seattle	98101	WA
2545	Central Seattle Waterfront	Piers 53-58 Alaskan Way	Seattle	98101	WA
2780	Diamond Parking Services	809 Olive Way	Seattle	98101	WA
12452	First & Stewart Hotel Owner LLC	1916 1st Ave	Seattle	98101	WA
8362	Four Seasons Olympic Garage	415 Seneca St	Seattle	98101	WA
7954	Freeway Garage	1512 8th Ave	Seattle	98101	WA
5831	Heliparker Garage	95 Union St	Seattle	98101	WA
9453	Hertz Rent a Car Seattle	722 Pike St	Seattle	98101	WA
7560	Honda of Seattle Olive Way	1015 Olive Way	Seattle	98101	WA
11818	Immunex Corporation 51 U	51 University St	Seattle	98101	WA
7668	Kennedy Hotel Garage	1100 5th Ave	Seattle	98101	WA
5498	Marlborough House	1220 Boren Ave	Seattle	98101	WA
8592	Medical Dental Building	509 Olive Way Ste 1062	Seattle	98101	WA
4376	Pacific Place	6th & 7th & Olive Way & Pine	Seattle	98101	WA
12839	Panorama House Apartments	1100 University St	Seattle	98101	WA
2110	Paramount Theatre	911 Pine St	Seattle	98101	WA
7419	Parkade 2nd & Union	1400 2nd Ave	Seattle	98101	WA
12982	Pike Place Market PDA	1901 Western Ave	Seattle	98101	WA
436	Seattle Hilton Hotel Parking Garage	1301 6th Ave	Seattle	98101	WA
5075	Seattle Steam Co Western Ave	1319 Western Ave	Seattle	98101	WA
8999	Seattle Tower	1212 3rd Ave	Seattle	98101	WA
7242	Second Avenue Garage	1915 2nd Ave	Seattle	98101	WA

SDOT Madison Street BRT Project
Suspected and Known Hazardous Materials Sites

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6302	Sheraton Seattle Hotel & Towers	1400 6th Ave	Seattle	98101	WA
7913	Smith Gandy Building	1100 Olive Way	Seattle	98101	WA
3981	St Regis Hotel	116 Stewart St	Seattle	98101	WA
7527	Terry Ave Apartments	1823 Terry Ave	Seattle	98101	WA
7075	Viktoria Apartments	1915 2nd Ave	Seattle	98101	WA
2000	Virginia Mason East Campus Addition	Seneca St & Boren Ave	Seattle	98101	WA
9524	WA DOT 1205 6th Ave S	1205 6th Ave	Seattle	98101	WA
1842	WA State Convention & Trade Center	8th & Pine	Seattle	98101	WA
10062	Washington Athletic Club Garage	1405 6th Ave	Seattle	98101	WA
12477	Western & University Property	50 University St	Seattle	98101	WA
6019	Westlund Building	1309 Summit Ave	Seattle	98101	WA
9682	Yedor Property	SW Corner Olive Way & Bellevue	Seattle	98101	WA
11972	7 Eleven Food Store 23020	1522 East Madison St	Seattle	98122	WA
11384	1200 E Jefferson	500 12th Avenue	Seattle	98122	WA
7136	Hines Interests 4th Ave Parking G	1001 4 th Ave	Seattle	98154	WA
11934	Nettleton Apartments	1000 8 th Ave	Seattle	98104	WA
4368	Downtown YMCA	909 4 th Ave	Seattle	98104	WA
13058	Epstein	1002 E Seneca St	Seattle	98122	WA
3796	Olympian Apartments	1605 E Madison St	Seattle	98122	WA
4790	Cabrini Center	1000 Block SW Madison & Bore	Seattle	98120	WA