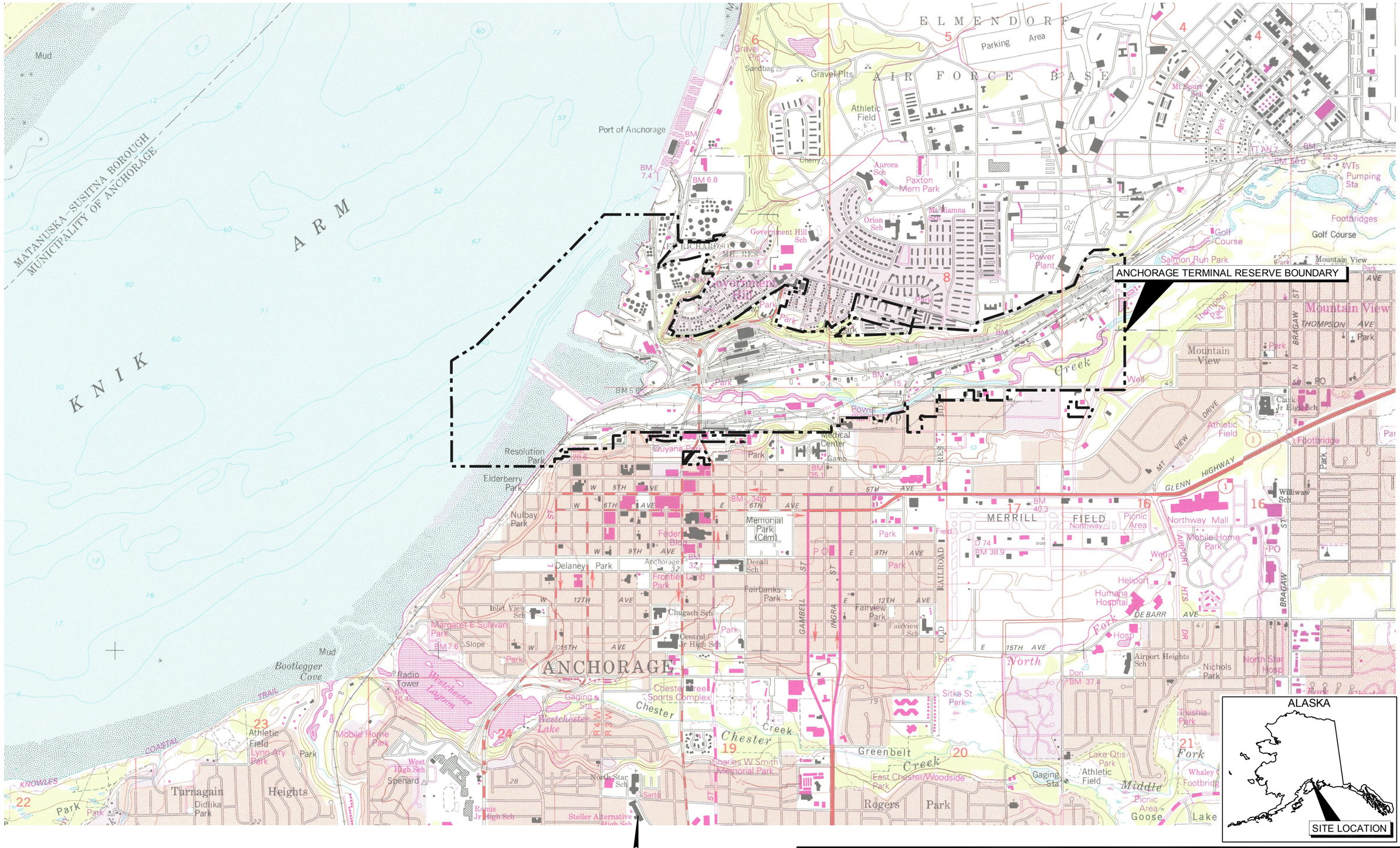


REFERENCE: USGS QUADRANGLE MAPS
ANCHORAGE (A-8) NW, ALASKA, 1994 AND
ANCHORAGE (A-8) NE, ALASKA, 1994

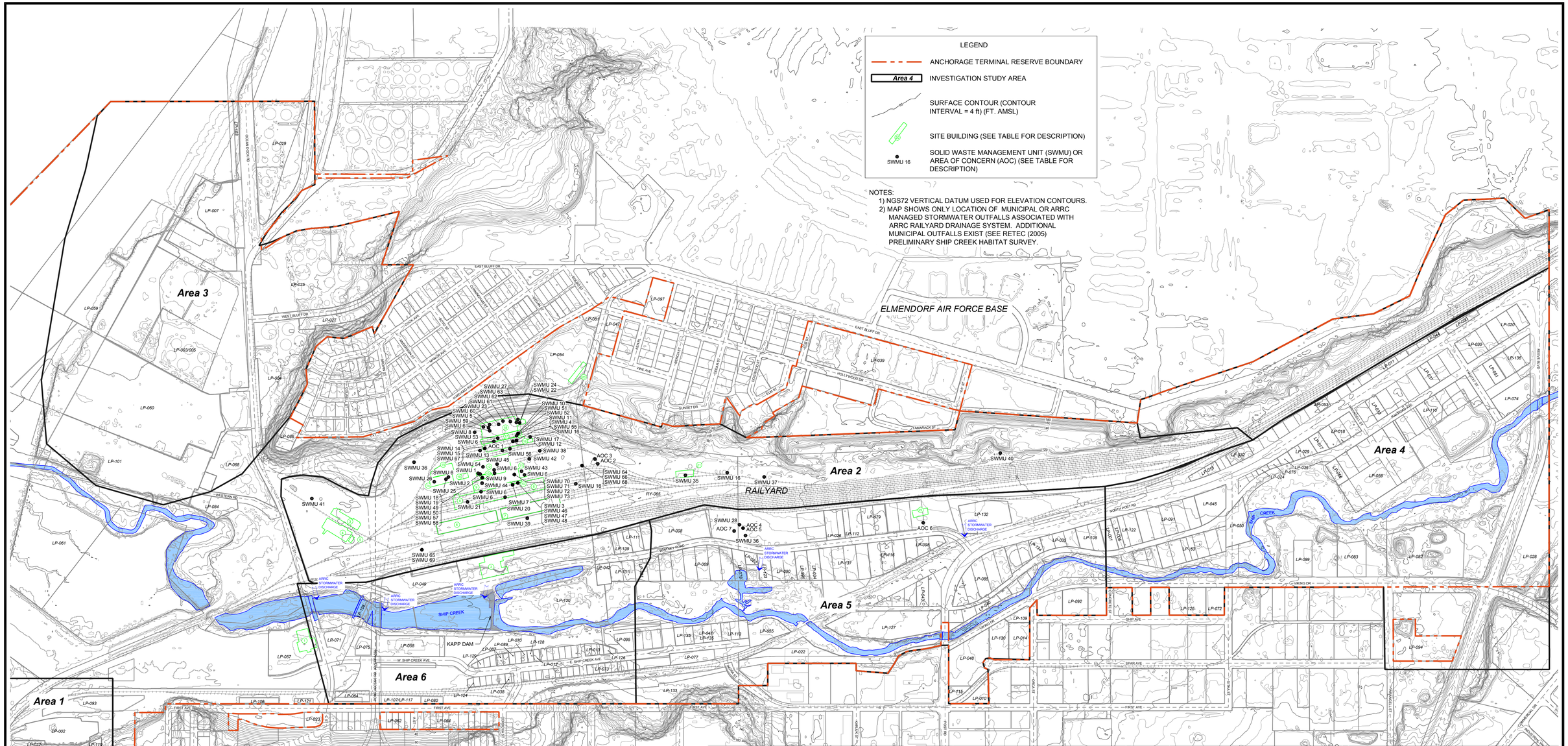
1000 0 2000
1"=2000'

N

RETEC

Remedial Investigation/ Feasibility Study Work Plan	SITE LOCATION MAP
Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska	
DATE: 06/16/05 DRWN: E.S.S./DEN	FIGURE 1-1

File: M:\ARRC\DWGS\DWGS\ARRC-RI-FS-WP_1-1.DWG Layout: FIGURE 1-1 User: eschwartz Plotted: Jun 17, 2005 - 8:29am Xref's:



Building ID	BUILDING NAME
1	ALASKA RAILROAD HEADQUARTERS
2	SHIP CREEK POWER PLANT
3	BLDG 03 - WAREHOUSE #3
4	BLDG 01 - WAREHOUSE #1 (RECEIVING)
5	WAREHOUSE BOILER BLDG.
6	WESTOURS AREA
7	PRINCESS TOURS AREA
8	BLDG 22 - CAR SHOP
9	BLDG 25 - WHEEL SHOP & WHEEL TRUING
10	AIR BRAKE SHOP
11	BLDG 29 - BOILER SHOP
12	BLDG 27 - GENERAL REPAIR SHOP
13	BLDG 88 - BEARING SHOP
14	BLDG 06 - ENGINEERING BLDG.
15	ASPHALT PAD
16	ELECTRIC SHOP
17	DIESEL SHOP
18	BLDG 26 - HEAVY EQUIPMENT SHOP
19	BLDG 63 - MP&E
20	GOVERNMENT HILL RECREATION CENTER
21	BLDG 56 - DOLL HOUSE
22	BLDG 02 - TOFC BLDG

SWMU ID	SWMU NAME
AOC 1	Refueling Area
AOC 2	Former Refueling Area
AOC 3	Above Ground Storage Tank
AOC 4	Former Diesel UST
AOC 5	Former Unleaded Gasoline UST
AOC 6	Former Gasoline UST
AOC 7	Former Heating Oil UST
SWMU 1	Former General Repair Shop Absorbent Pad Accumulation Drum
SWMU 2	General Repair Shop Sandblasting Machine and Drum
SWMU 3	Car Shop Air Brake Room Sandblasting Machine and Drum
SWMU 4	Electric Shop Sandblasting Machine and Drum
SWMU 5	Heavy Equipment Shop Sandblasting Machine
SWMU 6	Scrap Metal Containers
SWMU 7	Aerosol Can Collection Containers
SWMU 8	Dumpsters
SWMU 9	General Repair Shop Waste Storage Area
SWMU 10	Diesel Shop Satellite Accumulation Area
SWMU 11	Diesel Shop Drum
SWMU 12	Electric Shop Caustic Accumulation Drum
SWMU 13	Electric Shop Oil Collection Sump
SWMU 14	Electric Shop Oil Storage Tank
SWMU 15	Former Oil Storage Container
SWMU 16	Oil Storage Tank Cars
SWMU 17	Electric Shop Traction Motor Cleaning Area
SWMU 18	Bearing Shop Centrifugal Degreaser

SWMU ID	SWMU NAME
SWMU 19	Bearing Shop Waste Grease Drum
SWMU 20	Car Shop Air Room Hazardous Waste Storage Area
SWMU 21	Car Shop Floor Drain
SWMU 22	Heavy Equipment Shop Floor Drain
SWMU 23	Heavy Equipment Shop Drum Storage Area
SWMU 24	Heavy Equipment Shop Former Drum Storage Area
SWMU 25	Engineering Shop Former Drum Storage Area
SWMU 26	Engineering Shop Equipment Wash Area
SWMU 27	Used Battery Totes
SWMU 28	Former Bridges and Buildings Shop Drum Storage
SWMU 35	Welding Shop Waste Storage
SWMU 36	PCB Storage Area
SWMU 37	Contaminated Soil Stockpile
SWMU 38	Former Stockpile of Fuel Rack Soil
SWMU 39	Former Stockpile of Westours and Princess Tours Soil
SWMU 40	Former Onsite Landfill
SWMU 41	Railroad Tie Storage Area
SWMU 42	Barrel Farm
SWMU 43	Boiler Plant
SWMU 44	Wheel Shop Dip Tank
SWMU 45	General Repair Shop Dip Tank (20-gal)
SWMU 46	Car Shop Air Room Dip Tank (11.25-gal)
SWMU 47	Car Shop Air Room Dip Tank (12-gal)
SWMU 48	Car Shop Air Room Dip Tank (3-gal)
SWMU 49	Bearing Shop Dip Tank (25-gal)

SWMU ID	SWMU NAME
SWMU 50	Bearing Shop Dip Tank (20-gal)
SWMU 51	Diesel Shop Air Room Dip Tank (5-gal)
SWMU 52	Diesel Shop Air Room Dip Tank (20-gal)
SWMU 53	Diesel Shop Dip Tank (50-gal)
SWMU 54	General Repair Shop Dip Tank (3,725-gal)
SWMU 55	Electric Shop Dip Tank (50-gal)
SWMU 56	Electric Shop Dip Tank (150-gal)
SWMU 57	Bearing Shop Dip Tank (170-gal)
SWMU 58	Bearing Shop Dip Tank (210-gal)
SWMU 59	Heavy Equipment Shop Dip Tank (35-gal)
SWMU 60	Heavy Equipment Shop Dip Tank (35-gal)
SWMU 61	Heavy Equipment Shop Dip Tank (35-gal)
SWMU 62	Heavy Equipment Shop Dip Tank (35-gal)
SWMU 63	Heavy Equipment Shop Former Dip Tank (400-gal)
SWMU 64	Tank Car Steaming Area
SWMU 65	Former Tank Car Steaming Area
SWMU 66	Former Temporary Tank Car Steaming Area
SWMU 67	Electric Shop Oil Water Separator
SWMU 68	Tank Car Steaming Area Oil/Water Separator
SWMU 69	Former Tank Car Steaming Area Oil/Water Separator
SWMU 70	Former Blowdown Sump
SWMU 71	Compressor Room Drum
SWMU 72	Former Waste Oil UST
SWMU 73	Former Waste Oil UST

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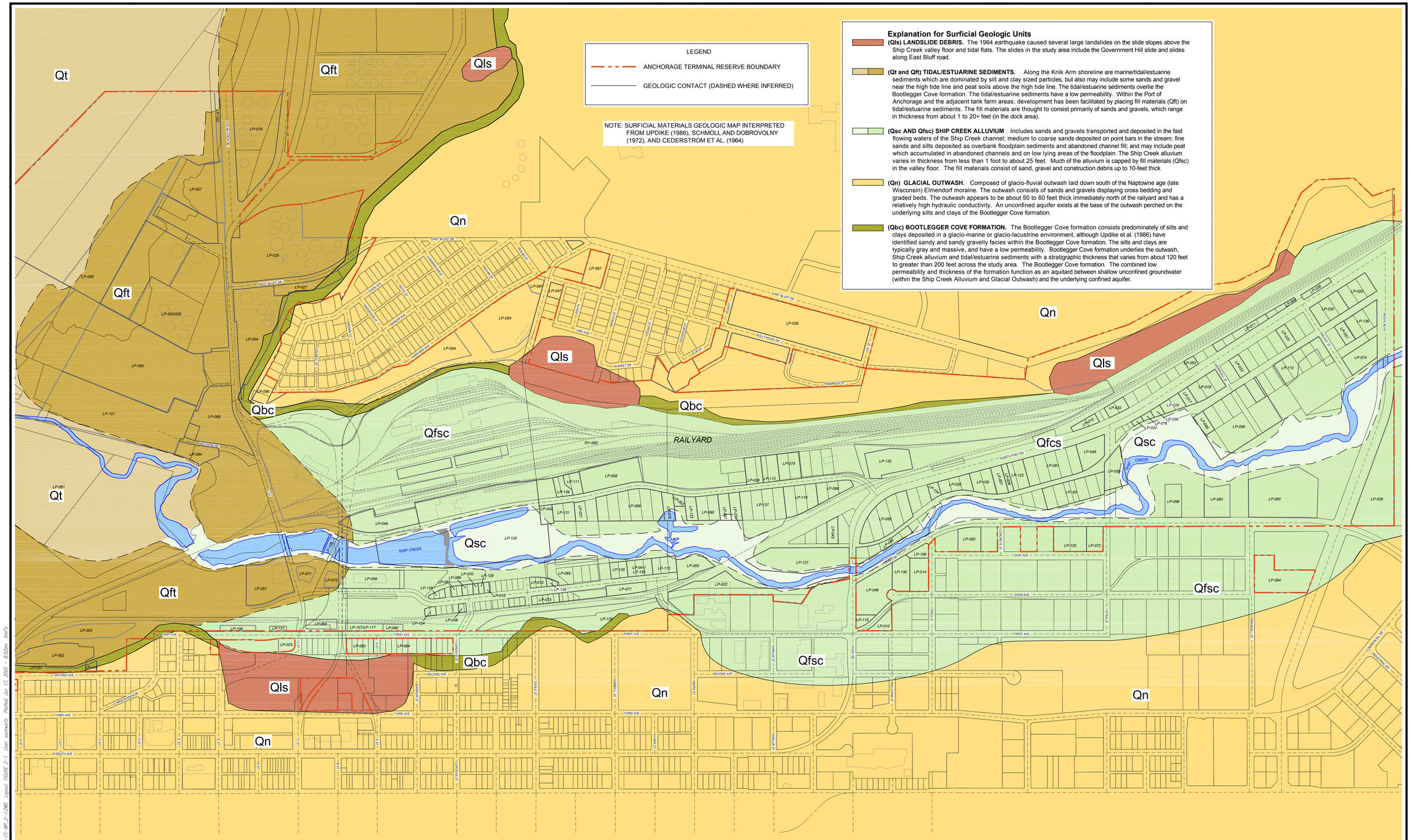
Remedial Investigation/ Feasibility Study Work Plan

Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 08/12/05 DRWN: E.S.S./DEN

INVESTIGATION AREA

FIGURE 1-2



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Remedial Investigation/ Feasibility Study Work Plan

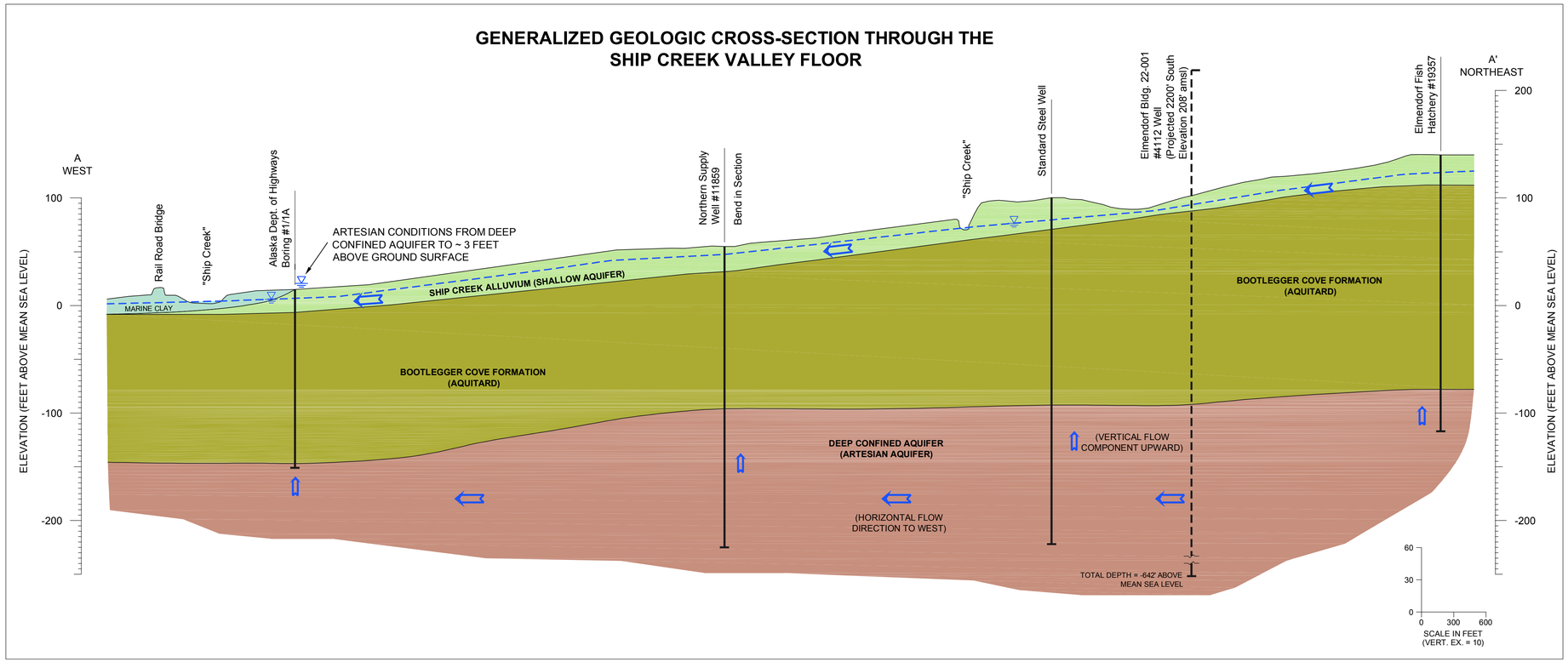
Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

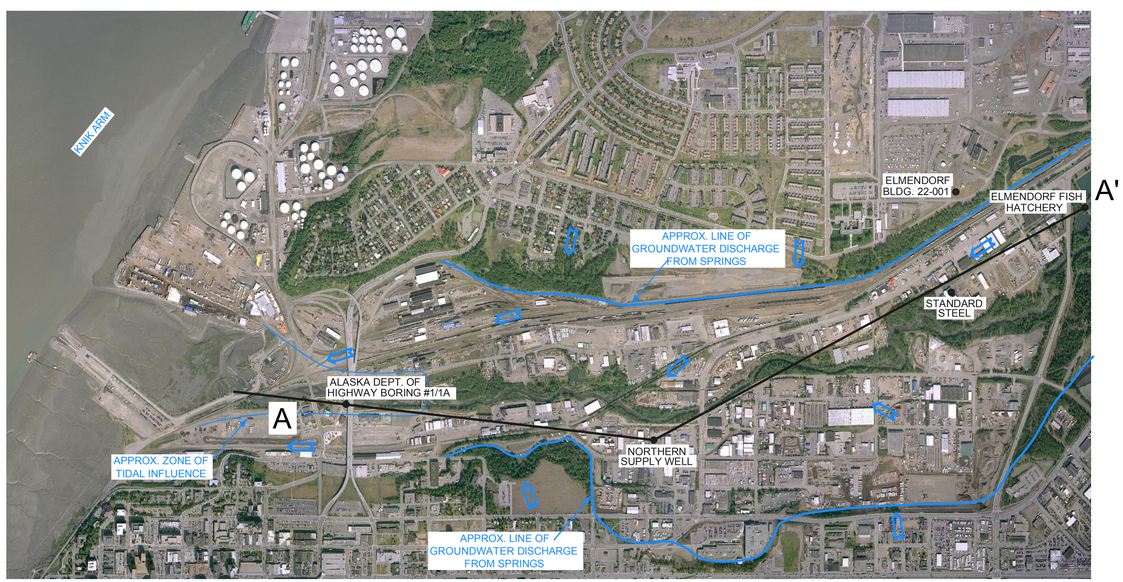
DATE: 06/16/05 | DRWN: E.S.S./DEN

SITE SURFICIAL GEOLOGY

FIGURE 2-1

File: M:\ARRC\ARRC1\ARRC1\ARRC-GI-FS-WP_2-1.DWG Layout: FIGURE 2-1 User: eschwartz Plotted: Jun 17, 2005 8:50am Xref:





NOTES:

1) CROSS SECTION AND INSET MAP ILLUSTRATE THE HYDROGEOLOGY DISCUSSED IN SECTION 1.4.1 OF THE SITE BACKGROUND REPORT. (RETEC. 2004F)
2) WATER SUPPLY WELL INFORMATION DERIVED FROM ALASKA DEPARTMENT OF NATURAL RESOURCES WELL LOG TRACKING SYSTEM DATABASE (WELT)
3) BASED ON THE LATERAL EXTENT AND THICKNESS OF THE BOOTLEGGER COVE FORMATION ACROSS THE SITE AND THE ARTESIAN NATURE (UPWARD HYDRAULIC GRADIENT) OF THE UNDERLYING DEEP CONFINED AQUIFER, IMPACTS FROM THE SHALLOW AQUIFER TO THE DEEP CONFINED AQUIFER ARE UNLIKELY.

LEGEND

SHIP CREEK ALLUVIUM / FILL / Marine Clay. Ship Creek alluvium occupies the bottom of the Ship Creek valley and within the study area overlies and is incised into the silts and clays of the Bootlegger Cove formation. The Ship Creek alluvium varies in texture but includes sands and gravels transported and deposited in the fast flowing waters of the Ship Creek channel; medium to coarse sands deposited on point bars in the stream; fine sands and silts deposited as overbank floodplain sediments and abandoned channel fill; and may include peat which accumulated in abandoned channels and on low lying areas of the floodplain. The Ship Creek alluvium varies in thickness from less than 1 foot to about 25 feet. Much of the alluvium is capped by fill material in the valley floor. The Fill material above the Ship Creek Alluvium consists of reworked silt, sand, and gravel, and rail ballast. The Marine Clay consists of gray to black silty clay of low plasticity with up to 5% organic material.

BOOTLEGGER COVE FORMATION. The Bootlegger Cove formation consists predominately of silts and clays deposited in a glacio-marine or glacio-lacustrine environment, although Updike et al. (1986) have identified sandy and sandy gravelly facies within the Bootlegger Cove formation. The silts and clays are typically gray and massive, and have a low permeability. Bootlegger Cove formation underlies the outwash, Ship Creek alluvium, and tidal/estuarine sediments with a stratigraphic thickness that varies from about 120 feet to greater than 200 feet across the study area. The combined low permeability and thickness of the formation function as an aquitard between shallow unconfined groundwater (within the Ship Creek Alluvium and Glacial Outwash) and the underlying confined aquifer.

DEEP CONFINED AQUIFER. Sequence of sands, gravels, and till several hundred feet thick that underlie the Bootlegger Cove formation. The sands and gravels underlying the Bootlegger Cove formation are saturated and constitute a confined aquifer. Geotechnical borings and wells that have been tapped into this aquifer within the study area exhibit artesian conditions.

GEOLOGIC CONTACT

POTENTIOMETRIC SURFACE OF SHALLOW AQUIFER

GROUNDWATER FLOW DIRECTION

SOIL BORING

OFFSET FROM TRANSECT

500 0 1000
1"=1000'

N

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Remedial Investigation/ Feasibility Study Work Plan

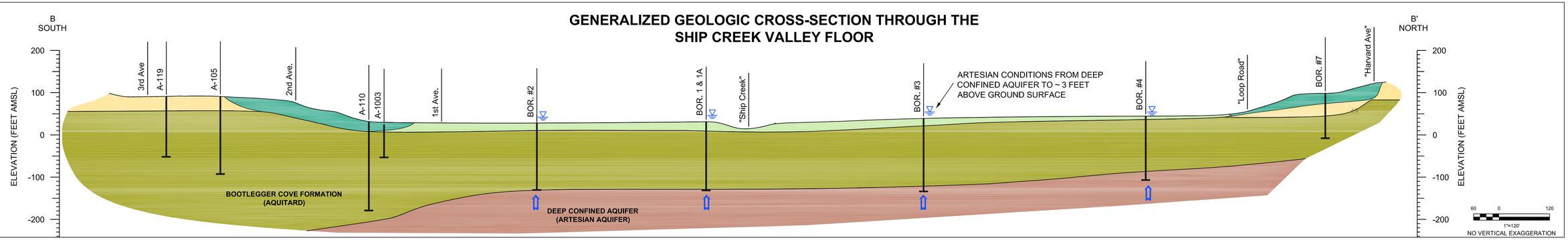
Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 08/12/05 | DRWN: E.S.S./DEN

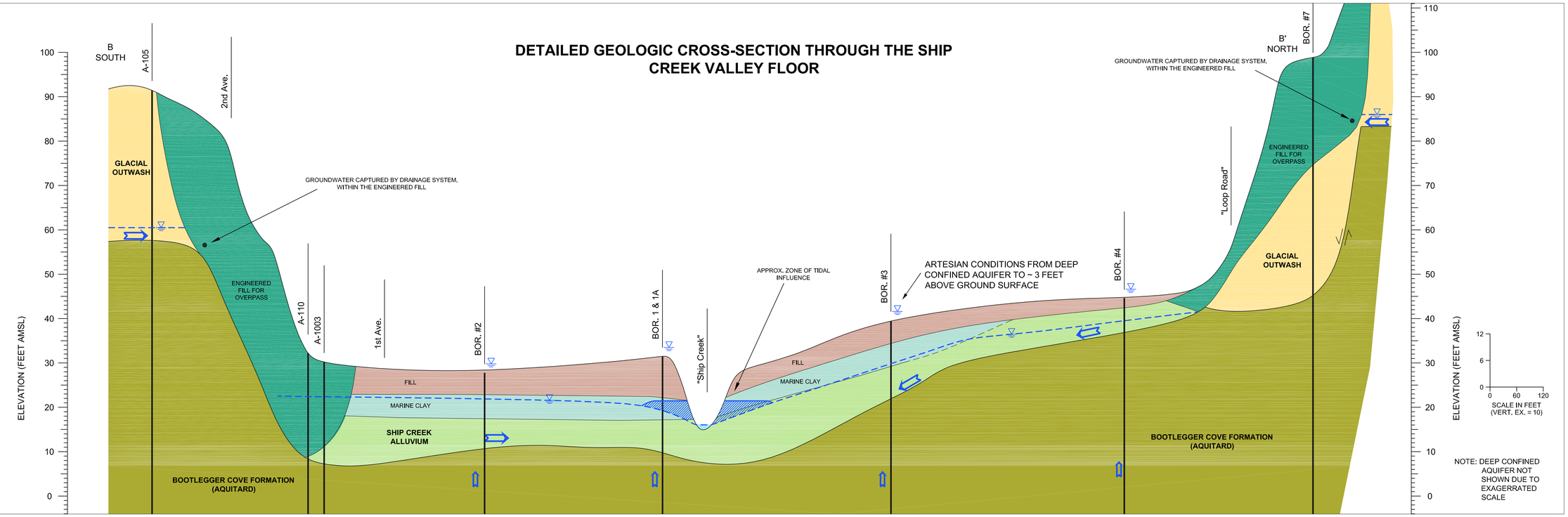
GENERALIZED HYDROSTRATIGRAPHIC SECTION OF THE SHIP CREEK VALLEY (A-A')

FIGURE 2-2

GENERALIZED GEOLOGIC CROSS-SECTION THROUGH THE SHIP CREEK VALLEY FLOOR



DETAILED GEOLOGIC CROSS-SECTION THROUGH THE SHIP CREEK VALLEY FLOOR



NOTES:

1) CROSS SECTIONS AND INSET MAP ILLUSTRATE THE HYDROGEOLOGY DISCUSSED IN SECTION 1.4.1 OF THE SITE BACKGROUND REPORT. (RETEC, 2004F)
2) SECTION BASED ON ALASKA DEPARTMENT OF HIGHWAYS, 1968, FOUNDATION REPORT ANCHORAGE PORT ACCESS VIADUCT, BRIDGE NO. 455, PROJECT NO. F-042-1 (23) PHASE I. JANUARY 1968.
3) BASED ON THE LATERAL EXTENT AND THICKNESS OF THE BOOTLEGGER COVE FORMATION ACROSS THE SITE AND THE ARTESIAN NATURE (UPWARD HYDRAULIC GRADIENT) OF THE UNDERLYING DEEP CONFINED AQUIFER, IMPACTS FROM THE SHALLOW AQUIFER TO THE DEEP CONFINED AQUIFER ARE UNLIKELY.

RETEC

LEGEND

GLACIAL OUTWASH. Composed of glacio-fluvial outwash laid down south of the Naptowne age (late Wisconsin) Elmendorf moraine. The outwash consists of sands and gravels displaying cross bedding and graded beds. The outwash appears to be about 50 to 60 feet thick immediately north of the railyard and has a relatively high hydraulic conductivity. An unconfined aquifer exists at the base of the outwash perched on the underlying silts and clays of the Bootlegger Cove formation.

SHIP CREEK ALLUVIUM / FILL / Marine Clay. Ship Creek alluvium occupies the bottom of the Ship Creek valley and within the study area overlies and is incised into the silts and clays of the Bootlegger Cove formation. The Ship Creek alluvium varies in texture but includes sands and gravels transported and deposited in the fast flowing waters of the Ship Creek channel; medium to coarse sands deposited on point bars in the stream; fine sands and silts deposited as overbank floodplain sediments and abandoned channel fill; and may include peat which accumulated in abandoned channels and on low lying areas of the floodplain. The Ship Creek alluvium varies in thickness from less than 1 foot to about 25 feet. Much of the alluvium is capped by fill material in the valley floor. The Fill material above the Ship Creek Alluvium consists of reworked silt, sand, and gravel, and rail ballast. The Marine Clay consists of gray to black silty clay of low plasticity with up to 5% organic material.

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GEOLOGIC CONTACT

POTENTIOMETRIC SURFACE OF SHALLOW AQUIFER

GROUNDWATER FLOW DIRECTION

SOIL BORING

Remedial Investigation/ Feasibility Study Work Plan

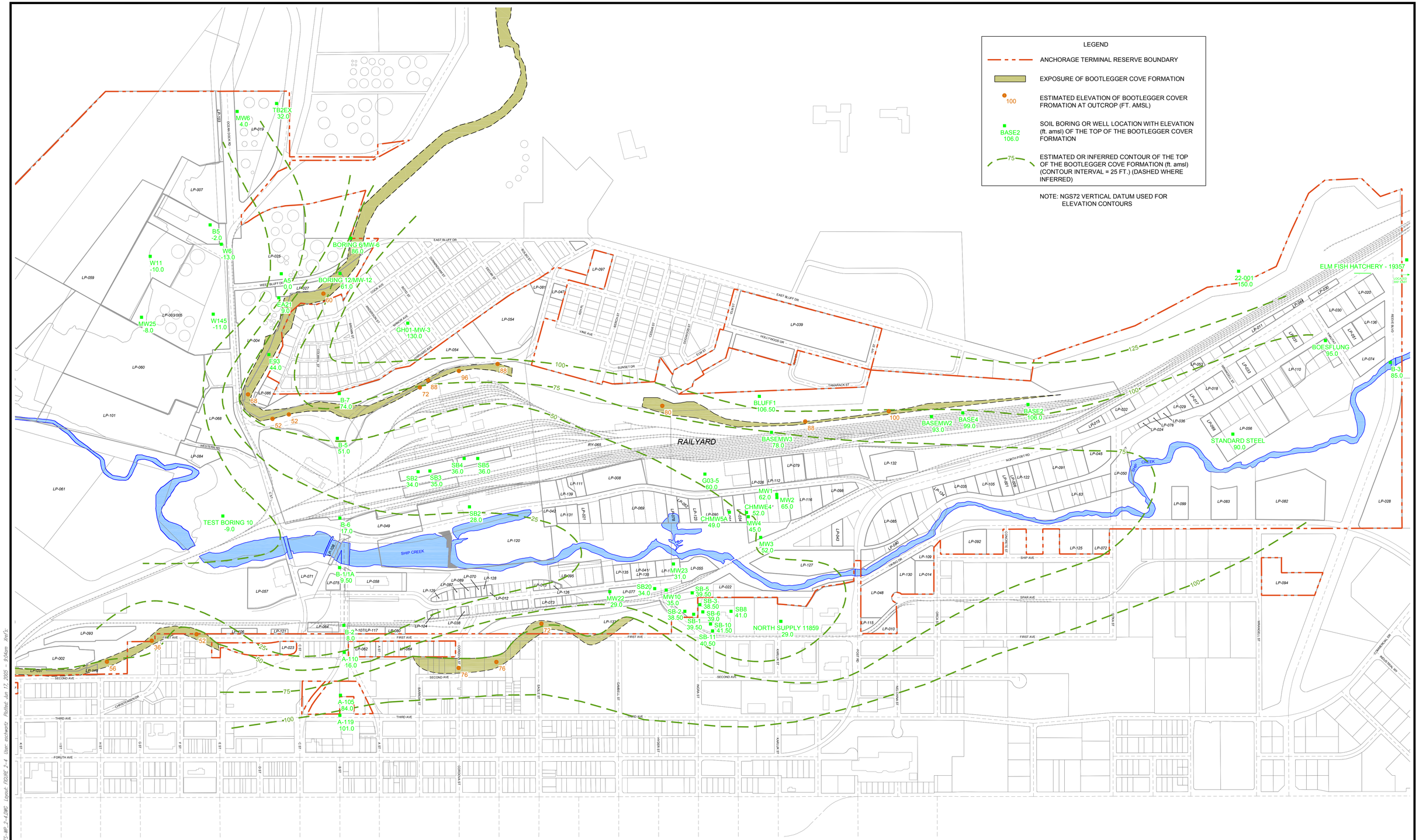
Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 08/12/05 | DRWN: E.S.S./DEN

GENERALIZED HYDROSTRATIGRAPHIC SECTIONS OF THE SHIP CREEK VALLEY (B-B')

FIGURE 2-3

File: ARRC-GR-FS-WP_2-3.DWG Layout: FIGURE 2-3 User: eschwartz Plotted: Aug 15, 2005 S:\figs\ Ref's:



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Remedial Investigation/ Feasibility Study Work Plan

Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 06/16/05 | DRWN: E.S.S./DEN

STRUCTURE CONTOUR OF THE BOOTLEGGER COVE FORMATION

FIGURE 2-4

File: M:\ARRC\ARRC1\ARRC1\ARRC-IR-FS-WP_2-4.DWG Layout: FIGURE 2-4 User: eschwartz Plotted: Jun 17, 2005 - 9:04am

LEGEND

ANCHORAGE TERMINAL RESERVE BOUNDARY

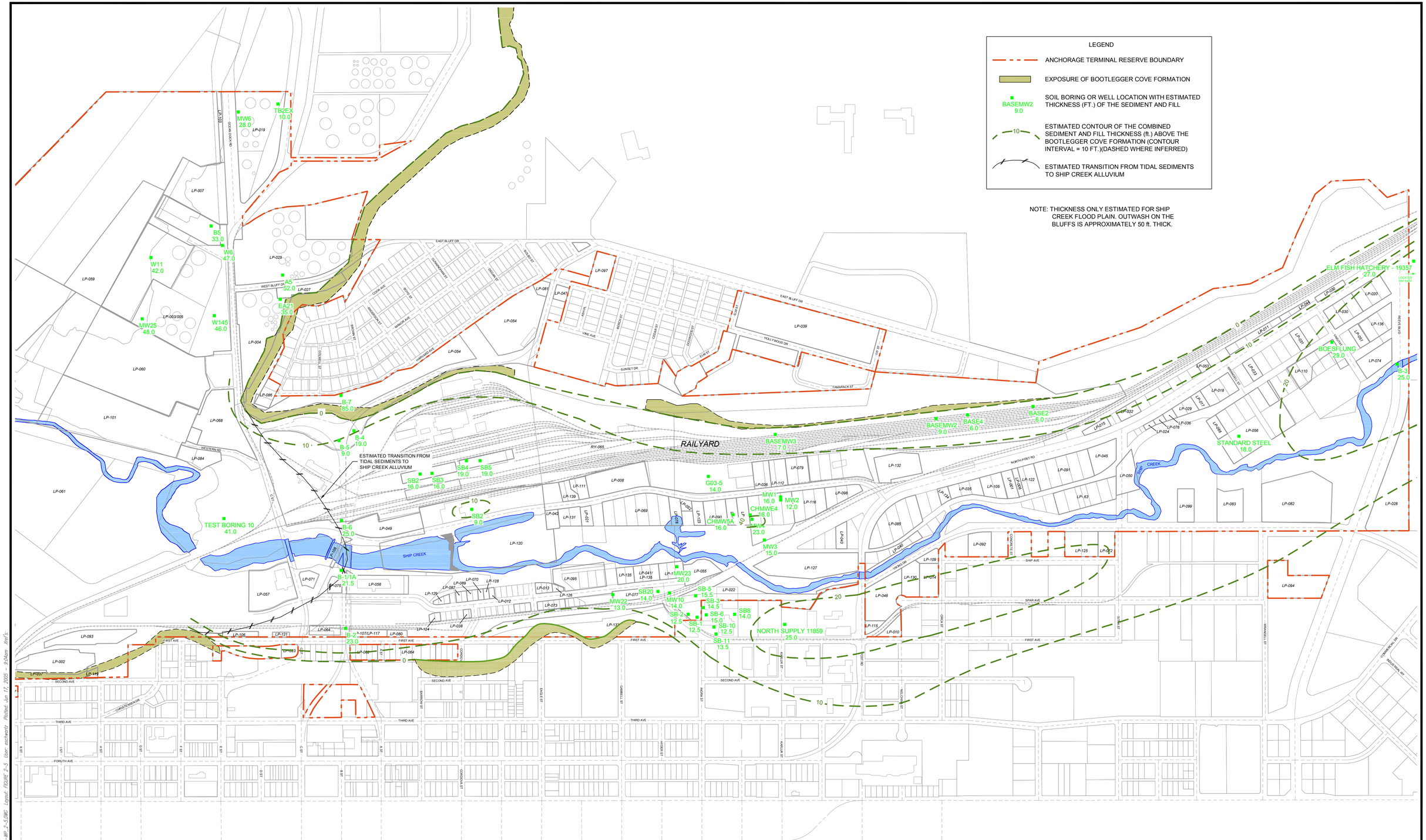
EXPOSURE OF BOOTLEGGER COVE FORMATION

BASEMW2 9.0 — SOIL BORING OR WELL LOCATION WITH ESTIMATED THICKNESS (FT.) OF THE SEDIMENT AND FILL

10 — ESTIMATED CONTOUR OF THE COMBINED SEDIMENT AND FILL THICKNESS (ft.) ABOVE THE BOOTLEGGER COVE FORMATION (CONTOUR INTERVAL = 10 FT.)(DASHED WHERE INFERRED)

ESTIMATED TRANSITION FROM TIDAL SEDIMENTS TO SHIP CREEK ALLUVIUM

NOTE: THICKNESS ONLY ESTIMATED FOR SHIP CREEK FLOOD PLAIN. OUTWASH ON THE BLUFFS IS APPROXIMATELY 50 ft. THICK.



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Remedial Investigation/ Feasibility Study Work Plan

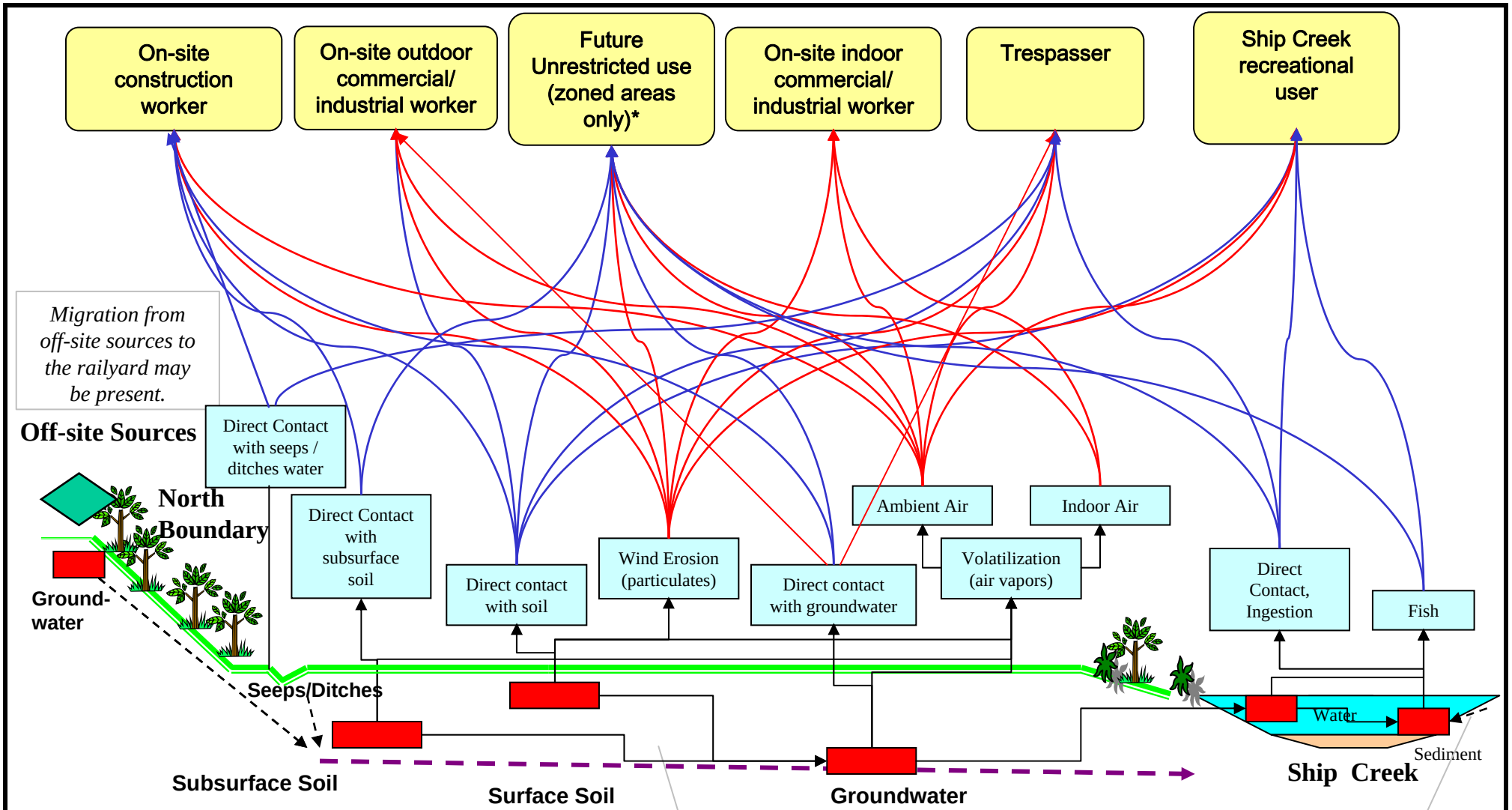
Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 06/16/05 | DRWN: E.S.S./DEN

ISOPACH OF SHIP CREEK ALLUVIUM AND TIDAL/ESTUARINE SEDIMENTS IN THE SHIP CREEK FLOOD PLAIN

FIGURE 2-5

File: W:\ARRC\ARCI\ARCI\ARRC-AR-FS-WP_2-5.fWC Layout: FIGURE 2-5 User: eschwartz PlotDate: Jun 17, 2005 9:04am Xref:



Note:. Yellow box indicates a complete and significant receptor to be evaluated in risk assessment.

SOLID LINE is a potentially complete exposure pathway to be evaluated in the risk assessment scoping meeting and risk assessment work plan if appropriate

BLUE line is direct contact and/or ingestion route of exposure

RED line is an inhalation route or exposure

Leaching / Migration

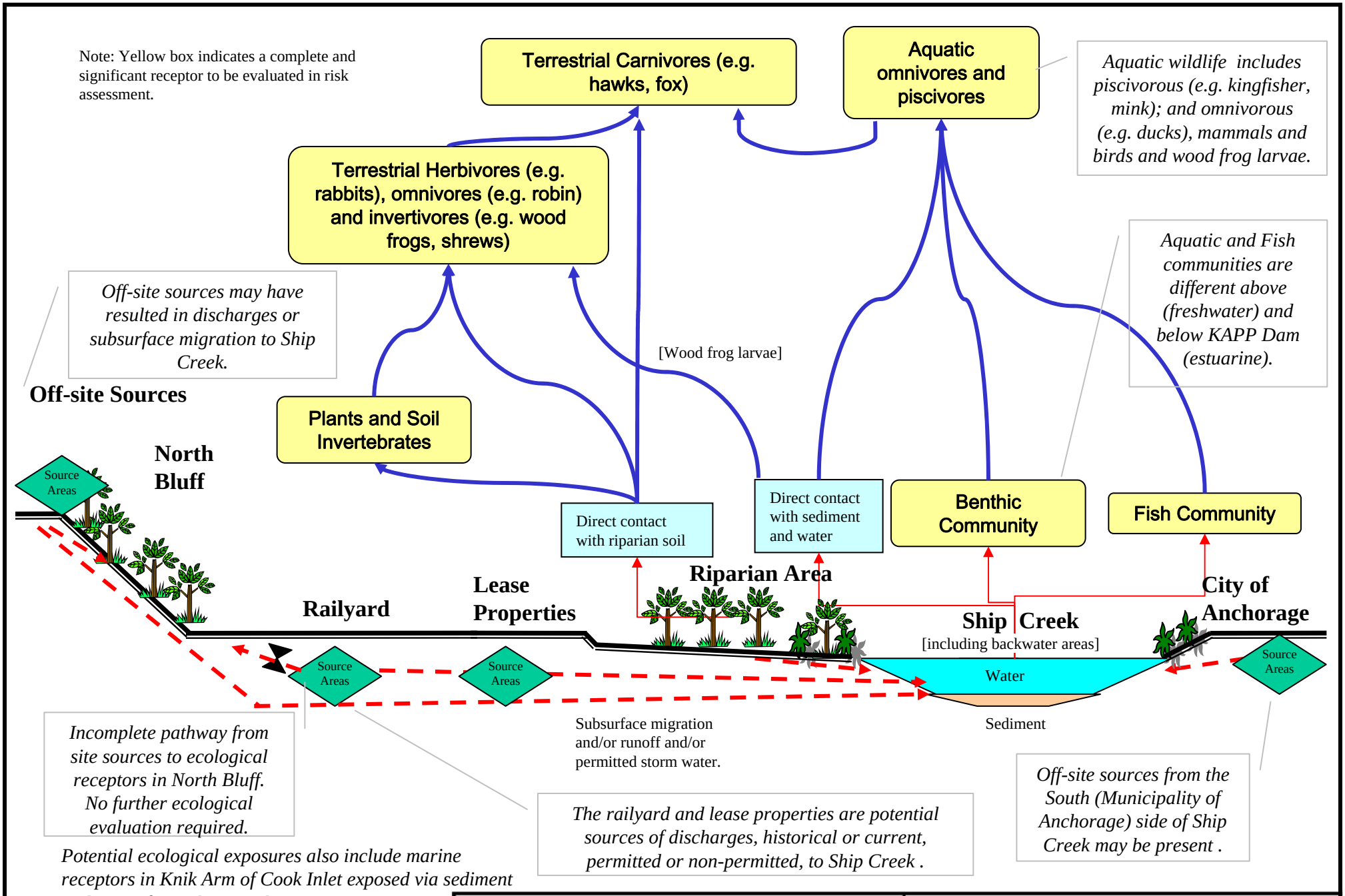
Railyard and Leased Properties

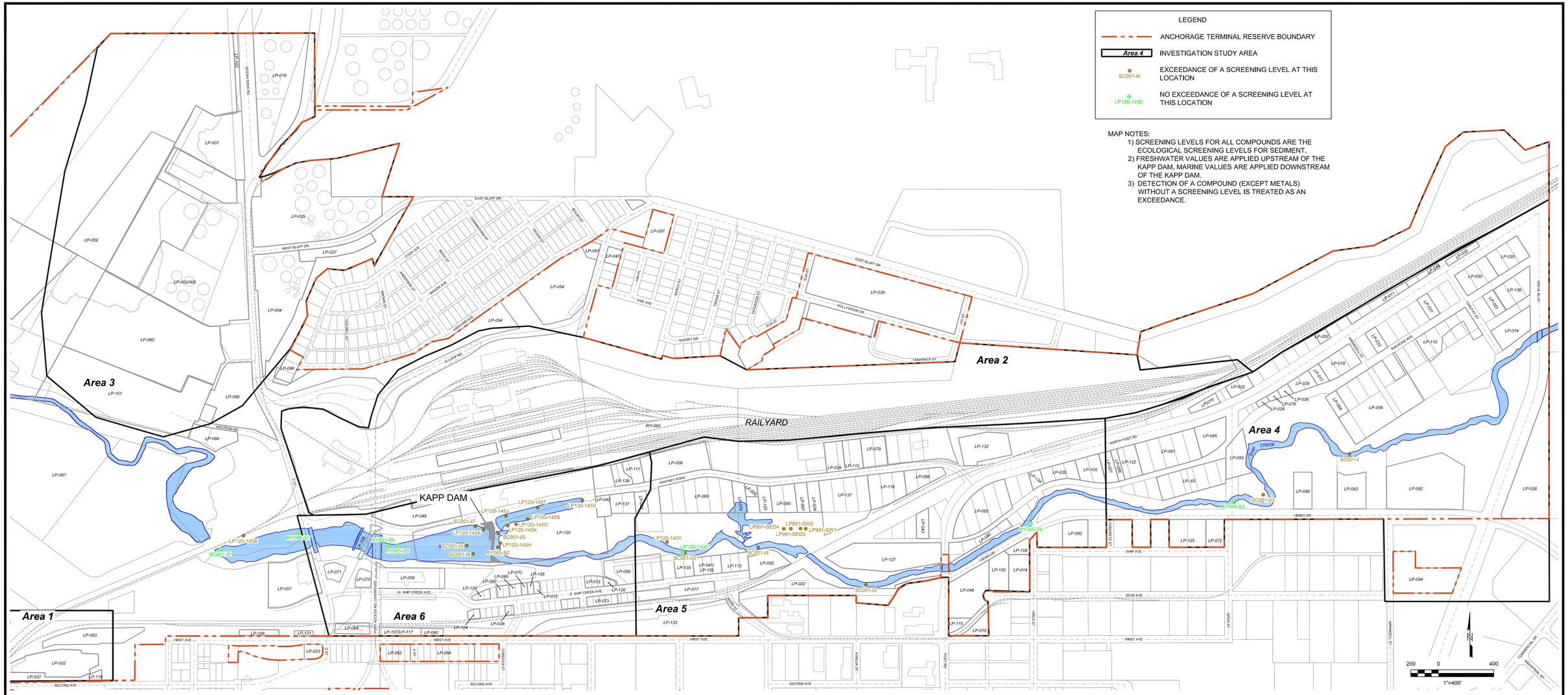
Off-site sources from the South (Municipality of Anchorage) side of Ship Creek may be present .

*Incomplete for current land use restricted to southwestern portion of site in future and very unlikely as ARRC Controls land use.

RETEC

RI / FS Sampling and Analysis Plan Alaska Railroad Corporation, Anchorage, Alaska	PRELIMINARY HUMAN HEALTH CONCEPTUAL SITE MODEL
DATE: 8/12/05 DRWN:	FIGURE 2-6


Note: Yellow box indicates a complete and significant receptor to be evaluated in risk assessment.
Terrestrial Carnivores (e.g. hawks, fox)
Aquatic omnivores and piscivores
Aquatic wildlife includes piscivorous (e.g. kingfisher, mink); and omnivorous (e.g. ducks), mammals and birds and wood frog larvae.
Terrestrial Herbivores (e.g. rabbits), omnivores (e.g. robin) and invertivores (e.g. wood frogs, shrews)
Aquatic and Fish communities are different above (freshwater) and below KAPP Dam (estuarine).
Off-site sources may have resulted in discharges or subsurface migration to Ship Creek.
[Wood frog larvae]
Off-site Sources
Plants and Soil Invertebrates
North Bluff
Source Areas
Direct contact with riparian soil
Direct contact with sediment and water
Benthic Community
Fish Community
Riparian Area
Lease Properties
Railyard
Ship Creek
[including backwater areas]
City of Anchorage
Source Areas
Source Areas
Water
Source Areas
Sediment
Subsurface migration and/or runoff and/or permitted storm water.
Incomplete pathway from site sources to ecological receptors in North Bluff. No further ecological evaluation required.
The railyard and lease properties are potential sources of discharges, historical or current, permitted or non-permitted, to Ship Creek .
Off-site sources from the South (Municipality of Anchorage) side of Ship Creek may be present .
Potential ecological exposures also include marine receptors in Knik Arm of Cook Inlet exposed via sediment and water from Ship Creek.
RETEC
RI / FS Sampling and Analysis Plan
Alaska Railroad Corporation, Anchorage, Alaska
DATE: 8/12/05
DRWN:
PRELIMINARY ECOLOGICAL CONCEPTUAL SITE MODEL
FIGURE 2-7



09/16/03	EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION
09/14/04	NO EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION

TABLE NOTES:
1) ONLY SAMPLING SITES WITH AT LEAST ONE EXCEEDANCE ARE SHOWN IN TABLE.
2) FOR EACH LOCATION WITH AN EXCEEDANCE, A DETAILED LIST OF THE COMPOUNDS THAT EXCEEDED SCREENING LEVELS AND THE ACTUAL CONCENTRATIONS CAN BE FOUND IN APPENDIX D.

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticides	Dioxin/Furan
RpFresh	LP120-145H	10/07/98	10/07/98	---	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
RpFresh	LP120-145J	01/01/98	01/01/98	---	01/01/98	01/01/98	01/01/98	01/01/98	01/01/98	---
RpFresh	LP120-145K	01/01/98	01/01/98	---	01/01/98	01/01/98	01/01/98	01/01/98	01/01/98	---
RpFresh	LP120-145O	10/07/98	10/07/98	---	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
RpFresh	LP120-145S	01/01/98	01/01/98	---	01/01/98	01/01/98	01/01/98	01/01/98	01/01/98	---
RpFresh	LP120-145T	01/01/98	01/01/98	---	01/01/98	01/01/98	01/01/98	01/01/98	01/01/98	---
RpFresh	LP120-145V	01/01/98	01/01/98	---	01/01/98	01/01/98	01/01/98	01/01/98	01/01/98	---
RpFresh	LP120-145Y	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
RpFresh	LP991-SED3	07/16/96	07/16/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96	---
RpFresh	LP991-SED4	07/16/96	07/16/96	---	06/04/96	---	06/04/96	06/04/96	06/04/96	---
RpFresh	LP991-SW1	07/16/96	07/16/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96	07/23/96
RpFresh	LP991-SW2	07/16/96	07/16/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96	07/23/96
RpFresh	RY065-S2	09/26/85	09/26/85	---	---	---	---	09/26/85	09/26/85	---
RpFresh	SC001-02	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---	---
RpFresh	SC001-03	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---	---
RpFresh	SC001-04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---	---
RpFresh	SC001-05	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---	---
RpFresh	SC001-I	10/24/97	10/24/97	---	---	---	---	---	---	---
RpFresh	SC001-I3	10/24/97	10/24/97	---	---	---	---	---	---	---
RpFresh	SC001-I4	10/24/97	10/24/97	---	---	---	---	---	---	---
RpFresh	SC001-I5	10/24/97	10/24/97	---	---	---	---	---	---	---
RpFresh	SC001-I6	10/24/97	10/24/97	---	---	---	---	---	---	---
RpFresh	SC001-I7	10/24/97	10/24/97	---	---	---	---	---	---	---
RpMarine	LP120-145A	10/05/98	10/05/98	---	01/01/98	01/01/98	10/05/98	10/05/98	10/05/98	---
RpMarine	LP120-145B	10/05/98	10/05/98	---	01/01/98	01/01/98	10/05/98	10/05/98	10/05/98	---
RpMarine	LP120-145C	10/05/98	10/05/98	---	01/01/98	01/01/98	10/05/98	10/05/98	10/05/98	---
RpMarine	RY065-S3	09/26/85	09/26/85	---	---	---	---	09/26/85	09/26/85	---
RpMarine	RY065-S4	09/26/85	09/26/85	---	---	---	---	09/26/85	09/26/85	---
RpMarine	RY065-S5	10/01/85	10/01/85	---	---	---	---	10/01/85	10/01/85	---
RpMarine	RY065-S6	09/26/85	09/26/85	---	---	---	---	09/26/85	09/26/85	---
RpMarine	RY065-S7	09/26/85	09/26/85	---	---	---	---	09/26/85	09/26/85	---

RETEC

Remedial Investigation/ Feasibility Study Work Plan

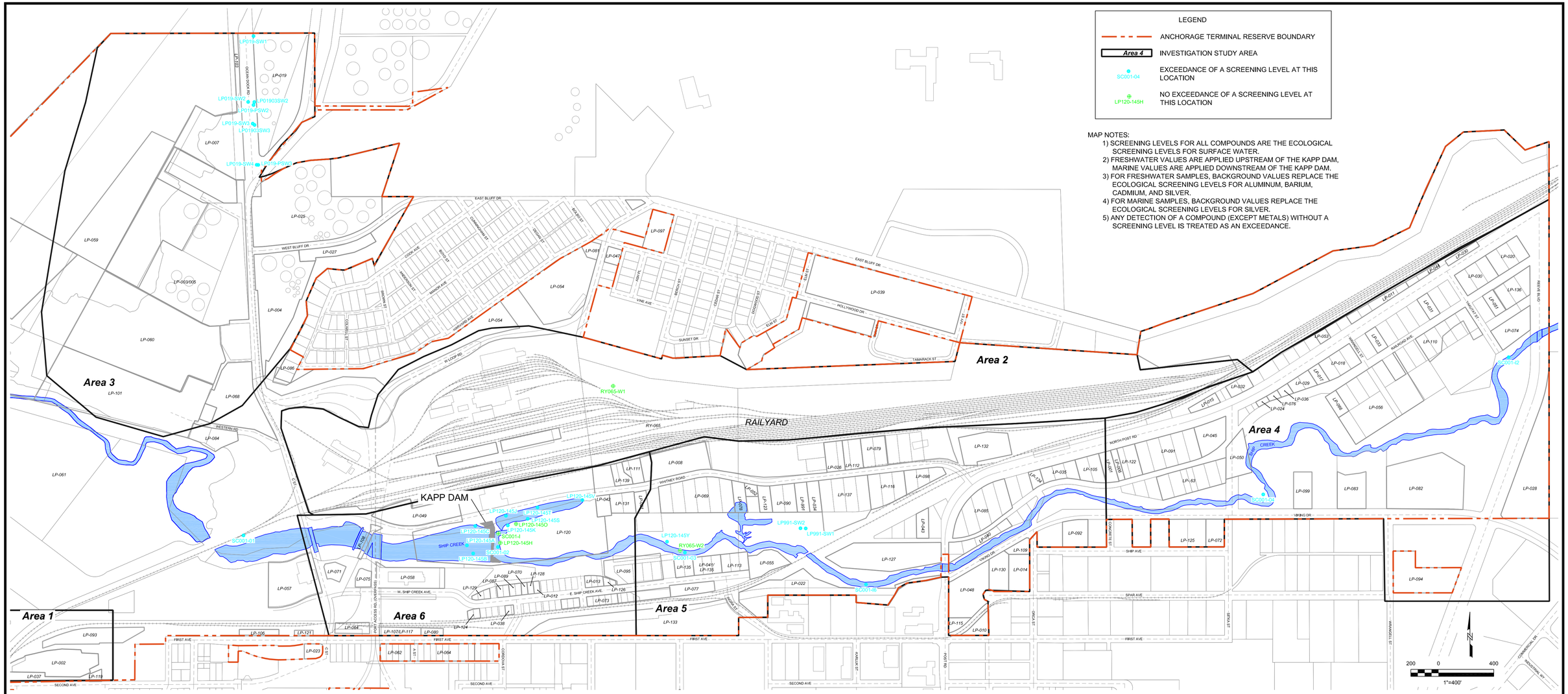
Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 08/12/05 | DRWN: E.S.S./DEN

DISTRIBUTION OF MOST RECENT EXCEEDANCES IN SEDIMENT

FIGURE 2-8

File: ARRC-Rr-FS-WP-A-ETWC Layout: FIGURE 2-8 User: estewart Plotted: Aug 16, 2005 - 5:10pm Xref's:



LEGEND	
11/01/94	EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION
09/14/04	NO EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION

TABLE NOTES:
1) ONLY SAMPLING SITES WITH AT LEAST ONE EXCEEDANCE ARE SHOWN IN TABLE.
2) FOR EACH LOCATION WITH AN EXCEEDANCE, A DETAILED LIST OF THE COMPOUNDS THAT EXCEEDED SCREENING LEVELS AND THE ACTUAL CONCENTRATIONS CAN BE FOUND IN APPENDIX D.

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticide
RipFresh	LP120-145J	10/06/98	10/06/98	---	---	---	10/06/98	10/06/98	10/06/98
RipFresh	LP120-145K	10/06/98	10/06/98	---	---	---	10/06/98	10/06/98	10/06/98
RipFresh	LP120-145S	01/01/98	10/06/98	---	---	---	10/06/98	10/06/98	10/06/98
RipFresh	LP120-145T	10/05/98	10/05/98	---	---	---	10/05/98	10/05/98	10/05/98
RipFresh	LP120-145V	10/05/98	10/05/98	---	---	---	10/05/98	10/05/98	10/05/98
RipFresh	LP120-145Y	01/01/98	01/01/98	01/01/98	01/01/98	---	01/01/98	---	01/01/98
RipFresh	LP991-SW1	06/04/96	07/16/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96
RipFresh	LP991-SW2	06/04/96	07/16/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96
RipFresh	SC001-02	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---
RipFresh	SC001-03	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---
RipFresh	SC001-04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---
RipFresh	SC001-05	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---
RipFresh	SC001-I2	10/23/97	10/23/97	---	---	---	10/23/97	10/23/97	---
RipFresh	SC001-I6	10/23/97	10/23/97	---	---	---	10/24/97	10/24/97	---
RipMarine	LP120-145A	10/05/98	10/05/98	---	---	---	10/05/98	10/05/98	10/05/98
RipMarine	LP120-145B	10/05/98	10/05/98	---	---	---	10/05/98	10/05/98	10/05/98
RipMarine	LP120-145C	10/05/98	10/05/98	---	---	---	10/05/98	10/05/98	10/05/98
RipMarine	SC001-01	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	---
RipOther	EL001-SC01	09/01/94	---	---	05/25/01	05/25/01	09/01/94	---	---
RipOther	EL001-SC02	11/01/94	---	---	---	---	09/01/94	---	---
RipOther	EL001-SC04	11/01/94	---	---	---	---	09/01/94	---	---
RipOther	EL001-SC05	09/01/94	---	---	---	---	09/01/94	---	---
RipOther	EL001-SC06	10/01/94	---	---	---	---	09/01/94	---	---
RipOther	EL001-SC07	09/01/94	---	---	---	---	09/01/94	---	---
RipOther	LP01903SW2	10/06/99	10/06/99	10/06/99	---	---	---	---	---
RipOther	LP01903SW3	10/06/99	10/06/99	10/06/99	---	---	---	---	---
RipOther	LP019-PSW2	08/13/98	08/13/98	08/13/98	---	---	---	---	---
RipOther	LP019-PSW3	08/13/98	08/13/98	08/13/98	---	---	---	---	---
RipOther	LP019-SW1	08/13/98	08/13/98	08/13/98	10/09/98	---	---	---	---
RipOther	LP019-SW2	06/05/01	---	06/05/01	---	---	---	---	---
RipOther	LP019-SW3	06/05/01	---	06/05/01	---	---	---	---	---

RETEC

ALASKA RAILROAD CORPORATION

Remedial Investigation/ Feasibility Study Work Plan

Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 08/12/05 | DRWN: E.S.S./DEN

DISTRIBUTION OF MOST RECENT EXCEEDANCES IN SURFACE WATER

FIGURE 2-9

File: ARRC-Rr-FS-WP-X-XTMC Layout: FIGURE 2-9 User: eschwartz Plotted: Aug 15, 2005 - 5:17pm Kofe

10/01/01 EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION

09/14/04 NO EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION

NOTES:
1) SCREENING LEVELS FOR GRO, DRO, AND RRO ARE THE ADEC GROUNDWATER CLEANUP LEVEL.
2) SCREENING LEVELS FOR ALL OTHER COMPOUND GROUPS ARE THE U.S. EPA REGION IX TAP WATER PRG.
3) ONLY SAMPLING SITES WITH AT LEAST ONE EXCEEDANCE ARE SHOWN IN TABLE.
4) FOR EACH LOCATION WITH AN EXCEEDENCE, A DETAILED LIST OF THE COMPOUNDS THAT EXCEEDED SCREENING LEVELS AND THE ACTUAL CONCENTRATIONS CAN BE FOUND IN APPENDIX D.

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticide
Area 2	LP065-4MW	06/05/92	---	06/05/92	**06/05/92**	---	**06/05/92**	06/05/92	---
Area 2	LP065-5MW	05/25/94	**05/25/94**	05/25/94	05/25/94	---	**05/25/94**	---	---
Area 2	LP065-MW1	**05/25/94**	**05/25/94**	05/25/94	05/25/94	---	05/25/94	06/05/92	---
Area 2	LP065-MW3	05/25/94	**05/25/94**	05/25/94	05/25/94	---	**05/25/94**	06/05/92	---
Area 2	LP120-145F	10/08/98	10/08/98	---	01/01/98	---	**10/08/98**	10/08/98	10/08/98
Area 2	RY065-10MW	02/07/01	02/07/01	02/07/01	**02/07/01**	02/07/01	**02/07/01**	---	---
Area 2	RY065-3MW	02/07/01	02/07/01	02/07/01	02/07/01	02/07/01	**02/07/01**	---	---
Area 2	RY065-6MW	02/07/01	02/07/01	02/07/01	02/07/01	02/07/01	**02/07/01**	---	---
Area 2	RY065-7MW	02/07/01	02/07/01	02/07/01	**02/07/01**	02/07/01	**02/07/01**	---	---
Area 2	RY065-8MW	02/07/01	02/07/01	02/07/01	02/07/01	02/07/01	**02/07/01**	---	---
Area 2	RY065-9MW	02/07/01	02/07/01	02/07/01	**02/07/01**	**02/07/01**	**02/07/01**	---	---
Area 2	RY065-B9	**05/17/89**	---	---	---	---	---	---	---
Area 2	RY065-BMW2	09/13/98	09/13/98	09/13/98	**09/13/98**	---	---	---	---
Area 2	RY065-C5	**05/16/89**	---	---	---	---	---	---	---
Area 2	RY065-C7	**05/15/89**	---	---	---	---	---	---	---
Area 2	RY065-C8	**05/15/89**	---	---	---	---	---	---	---
Area 2	RY065-MW2	06/05/92	---	06/05/92	06/05/92	---	**06/05/92**	06/05/92	---
Area 2	RY065-W5	**09/26/85**	09/26/85	---	---	---	---	09/26/85	09/26/85
Area 3	LP003-12MW	**10/17/03**	---	10/17/03	**10/17/03**	10/17/03	---	---	---
Area 3	LP003-13MW	08/20/02	---	08/20/02	08/20/02	08/20/02	**04/03/92**	---	---
Area 3	LP003-14MW	**08/19/02**	---	08/19/02	**08/19/02**	08/19/02	04/03/92	---	---
Area 3	LP003-15MW	04/03/92	---	---	---	---	**04/03/92**	---	---
Area 3	LP003-16MW	04/03/92	---	---	---	---	**04/03/92**	---	---
Area 3	LP003-6MW	**08/15/02**	---	08/15/02	08/15/02	08/15/02	---	---	---
Area 3	LP003-EX1	**03/18/88**	---	---	---	---	---	---	---
Area 3	LP003-MW13	**12/19/89**	---	---	---	---	---	---	---
Area 3	LP003MW13A	**04/12/94**	---	**04/12/94**	**04/12/94**	---	---	---	---
Area 3	LP003-MW14	04/30/04	---	04/30/04	**04/30/04**	**04/30/04**	---	---	---
Area 3	LP003-MW16	**10/26/93**	10/26/93	**10/26/93**	04/24/94	---	**10/26/93**	---	---
Area 3	LP003-MW17	**03/06/01**	---	03/06/01	03/06/01	03/06/01	---	---	---
Area 3	LP003-MW18	**10/26/93**	---	**10/26/93**	04/12/94	---	---	---	---
Area 3	LP003-MW19	**04/30/04**	10/26/93	**04/30/04**	**04/30/04**	04/30/04	**10/26/93**	---	---
Area 3	1	**01/20/92**	---	**01/20/92**	---	---	---	---	---
Area 3	LP003-MW20	08/15/02	---	08/15/02	10/17/03	10/17/03	**04/01/94**	---	---
Area 3	LP003MW20C	**04/12/94**	---	04/12/94	04/12/94	---	---	---	---
Area 3	LP003-MW24	04/30/04	**04/01/94**	04/30/04	04/30/04	04/30/04	04/01/94	---	---
Area 3	LP003-MW25	04/01/94	---	---	**04/12/94**	---	**04/01/94**	---	---
Area 3	LP003-MW26	04/29/04	**04/01/94**	04/29/04	04/29/04	04/29/04	**04/01/94**	---	---
Area 3	LP003-MW4	08/19/04	---	08/19/04	**08/19/04**	**08/19/04**	---	---	---
Area 3	LP003-MW5	**04/30/04**	---	**04/30/04**	**04/30/04**	04/30/04	---	---	---
Area 3	LP003-MW6	**04/30/04**	---	04/30/04	**04/30/04**	04/30/04	---	---	---
Area 3	LP003-MW9	04/29/04	---	04/29/04	**04/29/04**	**04/29/04**	---	---	---
Area 3	LP003-SDA	**11/09/95**	---	---	---	10/09/95	---	---	---
Area 3	LP004-MW2	**04/30/04**	---	**04/30/04**	**04/30/04**	04/30/04	---	---	---
Area 3	LP004-MW3	**10/17/03**	---	**10/17/03**	**10/17/03**	10/17/03	---	---	---
Area 3	LP016-MW6B	**06/08/04**	---	**06/08/04**	**06/08/04**	---	---	---	---
Area 3	LP019-MW1	**11/06/03**	---	11/06/03	**11/06/03**	**05/13/98**	---	---	---
Area 3	LP019-MW10	**10/26/93**	10/26/93	**10/26/93**	**10/26/93**	---	10/26/93	---	---
Area 3	LP019MW13A	**06/08/04**	---	**06/08/04**	**06/08/04**	---	---	---	---

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticide
Area 3	LP019-MW4	**11/06/03**	---	**11/06/03**	**11/06/03**	05/13/98	---	---	---
Area 3	LP019-MW5	**11/06/03**	---	**11/06/03**	**11/06/03**	05/13/98	---	---	---
Area 3	LP019-MW6	**11/06/03**	**10/22/99**	11/06/03	**11/06/03**	05/13/98	---	---	---
Area 3	LP019-MW9	10/21/02	---	10/21/02	11/06/03	**05/13/98**	---	---	---
Area 3	LP019-NS1	**08/12/98**	---	**08/12/98**	**08/12/98**	05/13/98	---	---	---
Area 3	LP019-PW1	**08/06/98**	---	**08/06/98**	**08/06/98**	---	---	---	---
Area 3	LP019-PW12	**08/07/98**	---	**08/07/98**	**08/07/98**	---	---	---	---
Area 3	LP019-PW13	**08/07/98**	---	**08/07/98**	**08/07/98**	---	---	---	---
Area 3	LP019-PW14	08/07/98	---	08/07/98	**08/07/98**	---	---	---	---
Area 3	LP019-PW15	11/06/03	10/22/99	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PW17	**08/10/98**	---	08/10/98	**08/10/98**	---	---	---	---
Area 3	LP019-PW18	**05/26/00**	---	05/26/00	11/03/99	---	---	---	---
Area 3	LP019PW19B	**11/06/03**	---	**11/06/03**	**11/06/03**	---	---	---	---
Area 3	LP019-PW20	**11/06/03**	---	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PW21	**11/06/03**	---	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PW22	11/06/03	---	10/02/01	**11/06/03**	---	---	---	---
Area 3	LP019-PW23	**11/06/03**	---	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PW24	11/06/03	**10/25/99**	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PW25	11/06/03	---	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PW3	**08/07/98**	---	**08/07/98**	**08/07/98**	---	---	---	---
Area 3	LP019-PW4	08/11/98	---	08/11/98	**08/11/98**	---	---	---	---
Area 3	LP019-PW5	**11/06/03**	---	11/06/03	11/06/03	---	---	---	---
Area 3	LP019-PW7	**08/12/98**	---	**08/12/98**	**08/12/98**	---	---	---	---
Area 3	LP019-PW9	11/06/03	---	11/06/03	**11/06/03**	---	---	---	---
Area 3	LP019-PWPL	**06/25/03**	---	06/25/03	**06/25/03**	05/13/98	---	---	---
Area 3	LP019-RWW	10/26/93	---	10/26/93	**10/26/93**	---	---	---	---
Area 3	LP019-SS2	**08/12/98**	---	**08/12/98**	**08/12/98**	05/13/98	---	---	---
Area 3	LP019TPGW1	**10/08/97**	---	**10/08/97**	---	---	---	---	---
Area 3	LP019TPGW3	**10/08/97**	---	**10/08/97**	---	---	---	---	---
Area 3	LP025-MW1	**06/08/04**	---	**06/08/04**	**06/08/04**	---	04/20/98	---	---
Area 3	LP025-MW14	**06/08/04**	---	**06/08/04**	**06/08/04**	---	04/20/98	---	---
Area 3	LP025-MW15	**10/26/93**	---	10/26/93	**10/26/93**	---	---	---	---
Area 3	LP025-MW15B	05/03/99	---	05/03/99	**05/03/99**	---	04/20/98	---	---
Area 3	LP025-MW16	**06/08/04**	---	**06/08/04**	**06/08/04**	---	04/20/98	---	---
Area 3	LP025-MW2	**06/08/04**	---	06/08/04	06/08/04	05/13/98	---	---	---
Area 3	LP025-MW20	**06/08/04**	---	06/08/04	**06/08/04**	---	04/20/98	---	---
Area 3	LP025-MW21	**10/16/98**	---	---	---	---	---	---	---
Area 3	LP025-MW3	**06/09/04**	---	**06/09/04**	**06/09/04**	---	---	---	---
Area 3	LP025-MW4	**06/08/04**	---	06/08/04	**06/08/04**	---	04/20/98	---	---
Area 3	LP025-MW5	**06/08/04**	---	06/08/04	**06/08/04**	---	04/20/98	---	---
Area 3	LP025-MW7	**05/03/99**	---	05/03/99	05/03/99	---	---	---	---
Area 3	LP027-MW19	**10/16/98**	---	---	---	---	---	---	---
Area 4	LP024-MW2	**09/18/00**	**09/18/00**	---	09/18/00	---	**09/18/00**	---	---
Area 4	LP024-MW3	**09/18/00**	**09/18/00**	---	10/16/00	---	**09/18/00**	---	---
Area 4	LP033-11MW	04/09/03	04/29/93	---	**04/09/03**	---	---	---	---
Area 4	LP033-22MW	04/09/03	---	11/19/01	**04/09/03**	---	---	---	---
Area 4	LP033-7MW	04/09/03	09/16/92	08/16/00	**04/09/03**	---	---	---	---
Area 4	LP125-6	**09/06/89**	---	---	---	---	---	---	---
Area 5	LP022-A1	**09/29/89**	---	---	---	---	---	---	---

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticide
Area 5	LP022-A2	**04/13/89**	---	---	---	---	---	---	---
Area 5	LP022-B2A	**09/12/02**	09/12/02	09/12/02	09/12/02	09/12/02	09/12/02	---	---
Area 5	LP022-MLS2	---	---	---	**09/29/94**	---	---	---	---
Area 5	LP022-MLS4	---	---	---	**09/29/94**	---	---	---	---
Area 5	LP022-MW28	11/19/99	08/27/99	---	**11/19/99**	---	---	---	---
Area 5	LP022SBG10	07/08/94	---	---	**07/08/94**	---	---	---	---
Area 5	LP022-SBG3	07/08/94	---	---	**07/08/94**	---	---	---	---
Area 5	LP022-SBG5	07/08/94	---	---	**07/08/94**	---	---	---	---
Area 5	LP022-SBG6	**07/08/94**	---	---	**07/08/94**	---	---	---	---
Area 5	LP022-SBG9	---	---	---	**07/08/94**	---	---	---	---
Area 5	LP022SBPZG2	---	---	---	**07/08/94**	---	---	---	---
Area 5	LP022SBPZG4	**07/08/94**	---	---	**07/08/94**	---	---	---	---
Area 5	LP077-MW22	11/17/99	---	---	**11/17/99**	---	---	---	---
Area 5	LP085-MW4	**07/09/98**	07/09/98	07/09/98	07/09/98	---	---	---	---
Area 5	LP085-MW5	**07/09/98**	07/09/98	07/09/98	07/09/98	---	04/30/98	---	---
Area 5	LP085-MW6	**07/09/98**	07/09/98	07/09/98	07/09/98	---	---	---	---
Area 5	LP085PIT2WW	**10/01/92**	---	**10/01/92**	---	---	---	---	---
Area 5	LP127-B1	08/31/99	---	08/31/99	08/31/99	08/31/99	**08/31/99**	08/31/99	---
Area 5	LP127-B2	08/31/99	---	08/31/99	08/31/99	08/31/99	**08/31/99**	08/31/99	---
Area 5	LP127-B3	08/31/99	---	08/31/99	**08/31/99**	**08/31/99**	**08/31/99**	08/31/99	---
Area 5	LP132-1MW	05/10/96	06/02/92	---	**08/07/91**	---	---	---	---
Area 5	LP132-2MW	07/09/01	---	---	**07/09/01**	---	---	---	---
Area 5	LP132-MW3	08/07/91	---	---	**08/07/91**	---	---	---	---
Area 5	LP134-MW1	03/30/04	07/09/98	03/30/04	07/09/98	---	**03/27/98**	---	---
Area 5	LP134-MW3	07/09/98	07/09/98	07/09/98	**07/09/98**	---	---	---	---
Area 5	1	**08/18/99**	08/18/99	08/18/99	08/18/99	08/18/99	**08/18/99**	---	---
Area 5	2	08/18/99	**08/18/99**	08/18/99	**08/18/99**	**08/18/99**	**08/18/99**	---	---
Area 5	3	**08/18/99**	08/18/99	08/18/99	08/18/99	**08/18/99**	**08/18/99**	---	---
Area 5	4	08/18/99	08/18/99	08/18/99	08/18/99	**08/18/99**	**08/18/99**	---	---
Area 5	5	**08/18/99**	08/18/99	08/18/99	**08/18/99**	**08/18/99**	**08/18/99**	---	---
Area 5	LP137-MW2	06/04/96	---	06/04/96	07/19/96	---	**07/18/96**	---	---
Area 5	LP137-MW2A	12/07/98	12/07/98	12/07/98	**12/07/98**	12/07/98	---	---	---

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticide
Area 5	LP137-MW3	**06/17/94**	---	**06/17/94**	06/17/94	---	---	---	---
Area 5	LP991CHHP1	**08/21/97**	**08/05/97**	**08/05/97**	**08/21/97**	---	**08/05/97**	---	---
Area 5	LP991CHMW1	09/28/00	**09/28/00**	**09/28/00**	**09/28/00**	**09/28/00**	---	---	---
Area 5	A	02/19/03	02/19/03	02/19/03	**02/19/03**	02/19/03	---	---	---
Area 5	LP991CHMW2	**09/29/00**	**09/29/00**	**09/29/00**	**09/29/00**	**09/29/00**	---	---	---
Area 5	LP991CHMW3	02/19/03	**02/19/03**	**02/19/03**	**02/19/03**	**02/19/03**	**08/18/99**	---	---
Area 5	LP991CHMW4	09/28/00	09/28/00	---	**11/04/97**	---	---	---	---
Area 5	LP991CHMW5	**09/28/00**	**09/28/00**	**09/28/00**	**09/28/00**	**09/28/00**	**11/07/97**	---	---
Area 5	A	02/19/03	**02/19/03**	**02/19/03**	**02/19/03**	**02/19/03**	---	---	---
Area 5	LP991CHSB6	**08/27/97**	**08/27/97**	**08/27/97**	**08/27/97**	---	---	---	---
Area 5	LP991CHSB8	**08/21/97**	**08/05/97**	**08/08/97**	**08/21/97**	---	---	---	---
Area 5	LP991-MW1	**12/22/97**	12/22/97	12/22/97	12/22/97	12/22/97	07/18/96	---	---
Area 5	LP991-MW3	07/18/96	07/18/96	06/04/96	07/18/96	---	**07/18/96**	---	---
Area 5	LP991-TR1	**11/13/97**	11/13/97	11/13/97	**11/13/97**	**11/13/97**	---	---	---
Area 5	LP991-TR2	11/13/97	---	11/13/97	**11/13/97**	**11/13/97**	---	---	---
Area 5	LP991-TR3	**11/13/97**	---	**11/13/97**	**11/13/97**	**11/13/97**	---	---	---
Area 5	LP991-TR4	11/13/97	---	11/13/97	**11/13/97**	**11/13/97**	---	---	---
Area 5	LP991-TR6	**11/18/97**	**11/18/97**	**11/18/97**	**11/18/97**	**11/18/97**	---	---	---
Area 5	LP991-TR7	---	11/18/97	---	**11/18/97**	**11/18/97**	---	---	---
Area 6	LP049-B1	**05/17/89**	---	---	---	---	---	---	---
Area 6	LP120-145N	10/08/98	10/08/98	---	**01/01/98**	---	**10/08/98**	10/08/98	10/08/98
Area 6	LP120-145U	10/08/98	10/08/98	---	01/01/98	---	**10/08/98**	10/08/98	10/08/98
Area 6	LP120-B6	**05/18/89**	---	---	---	---	---	---	---
BLUFFS	NB001-SP11	**10/09/01**	---	---	---	---	---	---	---
BLUFFS	NB001-SP9	**10/09/01**	---	---	---	---	---	---	---
BLUFFS	RETEC-SP12	09/13/04	09/13/04	09/13/04	**09/13/04**	**09/13/04**	09/14/04	---	---
BLUFFS	RETEC-SP35	**09/14/04**	**09/14/04**	**09/14/04**	**09/14/04**	09/14/04	09/14/04	---	---
BLUFFS	RETEC-SP41	**09/14/04**	09/14/04	09/14/04	09/14/04	09/14/04	09/14/04	---	---
BLUFFS	RETEC-SP48	**09/14/04**	09/14/04	09/14/04	09/14/04	09/14/04	09/14/04	---	---
BLUFFS	RETEC-SP49	**09/14/04**	09/14/04	09/14/04	09/14/04	09/14/04	09/14/04	---	---
BLUFFS	RY065SP1-2	**10/01/01**	10/01/01	---	---	---	10/01/01	---	---

200 0 400

1"=400'

RETEC

ALASKA RAILROAD CORPORATION

Remedial Investigation/ Feasibility Study Work Plan

Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska

DATE: 06/16/05 DRWN: E.S.S./DEN

DISTRIBUTION OF MOST RECENT EXCEEDANCES IN GROUNDWATER

FIGURE 2-10

09/16/03 — EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION

09/14/04 — NO EXCEEDANCE OF A SCREENING LEVEL AT THIS LOCATION

TABLE NOTES:

1) SCREENING LEVELS FOR GRO, DRO, AND RRO ARE THE ADEC "UNDER 40 INCH ZONE" METHOD 2 CLEANUP LEVEL FOR INGESTION.
2) SCREENING LEVELS FOR ALL OTHER COMPOUND GROUPS ARE THE U.S. EPA REGION IX INDUSTRIAL SOIL PRG. BACKGROUND VALUES WERE USED IN PLACE OF THE PRG FOR ARSENIC.
3) ONLY SAMPLING SITES WITH AT LEAST ONE EXCEEDANCE ARE SHOWN IN TABLE.
4) FOR EACH LOCATION WITH AN EXCEEDANCE, A DETAILED LIST OF THE COMPOUNDS THAT EXCEEDED SCREENING LEVELS AND THE ACTUAL CONCENTRATIONS CAN BE FOUND ON APPENDIX D.

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticides	Dioxin/Furan
Area 1	LP002-S10	06/20/89	---	06/20/89	06/20/89	---	---	---	---	---
Area 2	LP065-5MW	---	05/06/94	---	05/06/94	---	05/06/94	---	---	---
Area 2	LP065-GR1	---	---	---	06/03/92	---	06/03/92	06/03/92	---	---
Area 2	LP065-GR2	---	---	---	06/03/92	---	06/03/92	---	---	---
Area 2	LP065-SB4	05/06/94	05/06/94	05/06/94	05/06/94	---	05/06/94	06/02/92	---	---
Area 2	LP120-145F	10/05/98	10/05/98	01/01/98	01/01/98	01/01/98	10/05/98	10/05/98	10/05/98	01/01/98
Area 2	LP120-145X	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	01/01/98
Area 2	RY065-7MW	02/07/01	02/07/01	02/07/01	02/07/01	02/07/01	02/07/01	02/07/01	---	---
Area 2	RY065-SDE1	08/20/04	08/20/04	08/20/04	08/20/04	08/20/04	---	---	---	---
Area 3	LP003-16MW	03/31/92	---	03/31/92	03/31/92	---	03/31/92	---	---	---
Area 3	LP003-18	10/06/95	---	10/06/95	10/06/95	10/06/95	10/06/95	10/06/95	---	---
Area 3	LP003-B1	01/28/98	---	01/28/98	01/28/98	01/28/98	02/25/92	---	---	---
Area 3	LP003-B10	01/28/98	---	01/28/98	01/28/98	01/28/98	10/06/95	10/06/95	---	---
Area 3	LP003-B11	01/28/98	---	01/28/98	01/28/98	01/28/98	10/09/95	10/09/95	---	---
Area 3	LP003-B12	01/28/98	---	01/28/98	01/28/98	01/28/98	10/09/95	10/09/95	---	---
Area 3	LP003-B2	01/28/98	---	01/28/98	01/28/98	01/28/98	---	---	---	---
Area 3	LP003-B2A	10/10/95	---	10/10/95	10/11/95	10/10/95	10/10/95	10/10/95	---	---
Area 3	LP003-B3	01/28/98	---	01/28/98	01/28/98	01/28/98	---	---	---	---
Area 3	LP003-B4	01/28/98	---	01/28/98	01/28/98	01/28/98	---	---	---	---
Area 3	LP003-B5	01/28/98	---	01/28/98	01/28/98	01/28/98	10/10/95	10/10/95	---	---
Area 3	LP003-B6	01/28/98	---	01/28/98	01/28/98	01/28/98	02/25/92	02/25/92	---	---
Area 3	LP003-B6B	10/10/95	---	10/10/95	10/10/95	10/10/95	10/10/95	10/10/95	---	---
Area 3	LP003-B7	01/28/98	---	01/28/98	01/28/98	01/28/98	02/25/92	02/25/92	---	---
Area 3	LP003-B7B	10/09/95	---	10/09/95	10/09/95	10/09/95	10/09/95	10/09/95	---	---
Area 3	LP003-B8	01/28/98	---	01/28/98	01/28/98	01/28/98	02/26/92	02/26/92	---	---
Area 3	LP003-B9B	10/09/95	---	10/09/95	---	---	---	---	---	---
Area 3	LP003-E32	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-E33	04/01/94	---	04/01/94	---	---	---	---	---	---
Area 3	LP003-E35	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-E46	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-E55	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-MW1	10/21/95	---	10/11/95	10/11/95	10/11/95	10/11/95	10/11/95	---	---
Area 3	LP003PLOP1	08/19/02	---	08/19/02	08/19/02	08/19/02	---	---	---	---
Area 3	LP003PLOP2	08/19/02	---	08/19/02	08/19/02	08/19/02	---	---	---	---
Area 3	LP003-REX	08/19/02	---	08/19/02	08/19/02	08/19/02	---	---	---	---
Area 3	LP003RRTS	05/31/02	---	05/31/02	05/31/02	---	---	---	---	---
Area 3	LP003RRTS1	05/30/02	---	05/30/02	05/30/02	---	---	---	---	---
Area 3	LP003RRTS17	05/31/02	---	05/31/02	05/31/02	---	---	---	---	---
Area 3	LP003RRTS9	05/30/02	---	05/30/02	05/30/02	---	---	---	---	---
Area 3	LP003-S1	09/23/92	---	09/23/92	09/23/92	09/23/92	10/12/94	---	---	---
Area 3	LP003-W40	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-W65	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-W7	04/01/94	---	04/01/94	04/01/94	---	---	---	---	---
Area 3	LP003-W81		---	---	04/01/94	---	---	---	---	---
Area 3	LP004-S5	06/19/91	---	10/29/90	---	---	---	---	---	---
Area 3	LP019ESS10	06/01/99	---	06/01/99	06/01/99	06/01/99	---	---	---	---
Area 3	LP019ESS11	06/01/99	---	06/01/99	06/01/99	06/01/99	---	---	---	---
Area 3	LP019ESS12	06/01/99	---	06/01/99	06/01/99	06/01/99	---	---	---	---
Area 3	LP019ESS13	06/01/99	---	06/01/99	06/01/99	06/01/99	---	---	---	---

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticides	Dioxin/Furan
Area 3	LP019ESS20	06/07/99	---	06/07/99	06/07/99	---	---	---	---	---
Area 3	LP019ESS21	06/07/99	---	06/07/99	06/07/99	---	---	---	---	---
Area 3	LP019ESS7	06/01/99	---	06/01/99	06/01/99	---	---	---	---	---
Area 3	LP019ESS8	06/01/99	---	06/01/99	06/01/99	---	---	---	---	---
Area 3	LP019ESS9	06/01/99	---	06/01/99	06/01/99	06/01/99	---	---	---	---
Area 3	LP019FS9929	05/10/99	---	05/01/99	05/01/99	---	---	---	---	---
Area 3	LP019FS997	05/10/99	---	05/01/99	05/01/99	---	---	---	---	---
Area 3	LP019KPB10	09/29/97	---	08/15/97	08/15/97	---	---	---	---	---
Area 3	LP019KPB11	08/15/97	---	08/15/97	08/15/97	---	---	---	---	---
Area 3	LP019-KPB6	09/29/97	---	09/29/97	09/29/97	---	---	---	---	---
Area 3	LP019-KPB7	09/29/97	---	09/29/97	09/29/97	---	---	---	---	---
Area 3	LP019-KPG1	09/29/97	---	09/29/97	09/29/97	---	---	---	---	---
Area 3	LP019-KPG2	09/29/97	---	09/29/97	09/29/97	---	---	---	---	---
Area 3	LP019-KPG3	09/29/97	---	09/29/97	09/29/97	---	---	---	---	---
Area 3	LP019-PW12	07/29/98	---	07/29/98	07/29/98	---	---	---	---	---
Area 3	LP019-PW14	07/29/98	---	07/29/98	07/29/98	---	---	---	---	---
Area 3	LP019PW19B	07/31/98	---	07/31/98	07/31/98	---	---	---	---	---
Area 3	LP019-PW6	07/31/98	---	07/31/98	07/31/98	---	---	---	---	---
Area 3	LP019-PW7	07/31/98	---	07/31/98	07/31/98	---	---	---	---	---
Area 3	LP019-PWPL	07/15/89	---	07/15/89	07/15/89	---	---	---	---	---
Area 3	LP019-T1	---	---		07/12/94	---	---	---	---	---
Area 3	LP019-T2	---	---		07/12/94	---	---	---	---	---
Area 3	LP019-T5	---	---		07/12/94	---	---	---	---	---
Area 3	LP019TB1TR	07/10/89	---	07/10/89	07/10/89	---	---	---	---	---
Area 3	LP019TB4EX	07/12/89	---	07/15/89	07/12/89	---	---	---	---	---
Area 3	LP019TB5TR	07/13/89	---	07/13/89	07/13/89	---	---	---	---	---
Area 3	LP019TB6EX	07/15/89	---	07/15/89	07/15/89	---	---	---	---	---
Area 3	LP019-TBA	07/12/89	---		07/12/89	---	---	---	---	---
Area 3	LP019-TBD	07/15/89	---	07/15/89	07/15/89	---	---	---	---	---
Area 3	LP019-TPS1	10/08/97	---	10/08/97	---	---	---	---	---	---
Area 3	LP019TPS10	10/09/97	---	10/09/97	10/09/97	---	---	---	---	---
Area 3	LP019TPS16	10/09/97	---	10/09/97	10/09/97	---	---	---	---	---
Area 3	LP019-TPS2	10/08/97	---	10/08/97	---	---	---	---	---	---
Area 3	LP019TPS22	10/09/97	---	10/09/97	10/09/97	---	---	---	---	---
Area 3	LP019-TPS7	10/08/97	---	10/08/97	---	---	---	---	---	---
Area 3	LP019-TPS8	10/08/97	---	10/08/97	---	---	---	---	---	---
Area 4	LP024-MW3	08/12/98	08/12/98	08/12/98	08/14/98	08/12/98	08/12/98	08/12/98	---	---
Area 4	LP024PEC	---	---	---	08/11/99	08/11/99	06/11/99	---	---	---
Area 4	LP024PEC1	08/11/99	---	08/11/99	09/30/99	09/30/99	---	---	---	---
Area 4	LP024PEC19A	---	---	---	08/11/99	08/11/99	---	---	---	---
Area 4	LP024PEC20A	---	---	---	08/11/99	08/11/99	---	---	---	---
Area 4	LP024PEC26A	---	---	---	08/11/99	08/11/99	---	---	---	---
Area 4	LP024-SS2	08/12/98	08/12/98	08/12/98	08/12/98	08/12/98	08/12/98	08/12/98	---	---
Area 4	LP024-SS3	08/12/98	---	08/12/98	08/12/98	08/12/98	---	---	---	---
Area 4	LP024-SS4	08/12/98	---	08/12/98	08/12/98	08/12/98	---	---	---	---
Area 4	LP031-TP1	---	---	---	---	---	---	08/26/98	---	---
Area 4	LP031-TP3	---	---	---	---	---	---	09/21/98	---	---
Area 4	LP045NEWB2	08/20/01	---	08/20/01	08/20/01	08/20/01	08/20/01	---	---	---
Area 4	SC001-I2	10/23/1997	10/23/1997	---	---	---	10/23/1997	10/23/1997	---	---

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticides	Dioxin/Furan
Area 5	LP022-E7	04/04/89	---	---	---	---	---	---	---	---
Area 5	LP022-MW28	---	---	---	06/05/96	---	---	---	---	---
Area 5	LP022-SB26	---	---	---	06/04/96	---	---	---	---	---
Area 5	LP022-TH12	---	---	---	07/11/94	---	---	07/11/94	---	---
Area 5	LP085-MW5	---	---	---	---	---	05/13/97	---	---	---
Area 5	LP127-B3	08/31/99	---	08/31/99	08/31/99	08/31/99	08/31/99	08/31/99	---	---
Area 5	LP127-B5	08/31/99	---	08/31/99	08/31/99	08/31/99	08/31/99	08/31/99	---	---
Area 5	LP127-B7	09/21/99	---	---	---	---	---	---	---	---
Area 5	LP127-ESL4	---	---	---	---	---	---	10/01/91	---	---
Area 5	LP127-ESL7	---	---	---	---	---	---	10/01/91	---	---
Area 5	LP127-ESL8	---	---	---	---	---	---	10/01/91	---	---
Area 5	LP127-ESL9	---	---	---	---	---	---	10/01/91	---	---
Area 5	LP127-MW2	05/01/03	---	---	---	---	---	---	---	---
Area 5	LP127-MW3	05/01/03	---	---	---	---	---	---	---	---
Area 5	LP134-MW1	---	---	---	---	---	08/22/96	---	---	---
Area 5	LP137-10W	10/10/90	---	---	---	---	10/10/90	---	---	---
Area 5	LP137CHSB4	11/24/98	11/24/98	11/24/98	11/24/98	11/24/98	08/04/97	---	---	---
Area 5	LP137D215BN	---	---	10/11/90	10/11/90	---	---	---	---	---
Area 5	LP137-SS5	06/24/94	---	06/24/94	06/24/94	---	---	---	---	---
Area 5	LP137-SS6	06/24/94	---	06/24/94	06/24/94	---	---	---	---	---
Area 5	LP991-300	05/16/96	---	05/16/96	05/16/96	05/16/96	---	---	---	---
Area 5	LP991-301	05/16/96	---	05/16/96	05/16/96	05/16/96	05/16/96	---	---	---
Area 5	LP991-302	05/16/96	---	05/16/96	05/16/96	05/16/96	---	---	---	---
Area 5	LP991-303	05/16/96	---	05/16/96	05/16/96	05/16/96	---	---	---	---
Area 5	LP991-304	05/16/96	---	05/16/96	05/16/96	05/16/96	---	---	---	---
Area 5	LP991-AC4	09/20/95	09/20/95	---	---	---	10/08/96	09/20/95	---	---
Area 5	LP991-AC5	09/20/95	09/20/95	---	---	---	10/08/96	09/20/95	---	---
Area 5	LP991CHMW1	08/25/97	08/25/97	08/25/97	08/25/97	---	08/25/97	---	---	---
Area 5	LP991CHMW1A	12/04/97	---	12/04/97	12/04/97	---	12/04/97	---	---	---
Area 5	LP991CHMW2	08/05/97	08/05/97	08/05/97	08/05/97	---	08/05/97	---	---	---
Area 5	LP991CHMW5	10/28/97	10/28/97	10/28/97	10/28/97	10/28/97	10/28/97	---	---	---
Area 5	LP991CHSB5	08/04/97	08/04/97	08/04/97	08/04/97	---	08/04/97	---	---	---

Investigation Study Area	Site ID	VOC	SVOC	Fuels-GRO	Fuels-DRO	Fuels-RRO	Metals	PCBs	Pesticides	Dioxin/Furan
Area 5	LP991CHSB6	08/04/97	08/04/97	---	08/04/97	---	08/04/97	---	---	---
Area 5	LP991CHSB8	08/05/97	08/05/97	08/05/97	08/05/97	---	08/05/97	---	---	---
Area 5	LP991-EX2	10/24/00	10/24/00	---	---	---	---	---	---	---
Area 5	LP991-EX3	10/25/00	10/25/00	---	---	---	---	---	---	---
Area 5	LP991-SB4	07/16/96	07/16/96	05/30/96	05/30/96	---	05/30/96	05/30/96	07/15/96	---
Area 5	LP991-SB5	07/16/96	07/16/96	05/29/96	05/29/96	---	05/29/96	05/29/96	07/15/96	---
Area 5	LP991-SB7	07/15/96	07/15/96	05/28/96	05/28/96	---	05/28/96		07/15/96	---
Area 5	LP991-SB9	07/15/96	07/15/96	05/29/96	05/29/96	---	05/29/96	05/29/96	07/15/96	---
Area 5	LP991-SS3	07/18/96	07/18/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96	06/11/96
Area 5	LP991-SS5	07/18/96	07/18/96	06/04/96	06/04/96	---	06/04/96	06/04/96	06/04/96	06/11/96
Area 5	LP991-TR1	11/13/97	---	11/13/97	11/13/97	11/13/97	11/13/97	---	---	---
Area 5	LP991-TR3	11/13/97	11/13/97	11/13/97	11/13/97	11/13/97	11/13/97	---	---	---
Area 5	LP991-TR4	11/14/97	11/14/97	11/14/97	11/14/97	11/14/97	11/14/97	---	---	---
Area 5	LP991-TR7	11/18/97	11/18/97	11/18/97	11/18/97	11/18/97	11/18/97	---	---	---
Area 5	RY065-EX4	09/16/03	09/16/03	---	09/16/03	---	09/16/03	09/16/03	---	---
Area 5	RY065-SP13	09/16/03	09/16/03	09/16/03	09/16/03	---	---	09/16/03	---	---
Area 5	RY065-SP14	09/16/03	09/16/03	09/16/03	09/16/03	---		09/16/03	---	---
Area 5	RY065-SP5	09/16/03	09/16/03	09/16/03	09/16/03	---	09/16/03	09/16/03	---	---
Area 5	RY065-SP6	09/16/03	09/16/03	09/16/03	09/16/03	---	09/16/03	09/16/03	---	---
Area 5	RY065-SP9	09/16/03	09/16/03	09/16/03	09/16/03	---	09/16/03	09/16/03	---	---
Area 5	RY065-WR2	10/31/91	---	---	10/31/91	---	---	---	---	---
Area 6	LP120-145D	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
Area 6	LP120-145E	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
Area 6	LP120-145I	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
Area 6	LP120-145L	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
Area 6	LP120-145M	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
Area 6	LP120-145Q	10/07/98	10/07/98	01/01/98	01/01/98	01/01/98	10/07/98	10/07/98	10/07/98	---
Area 6	LP131-S2	12/06/95	---	---	---	---	---	12/06/95	---	---
Area 6	LP131-S7	12/06/95	---	---	---	---	---	12/06/95	---	---

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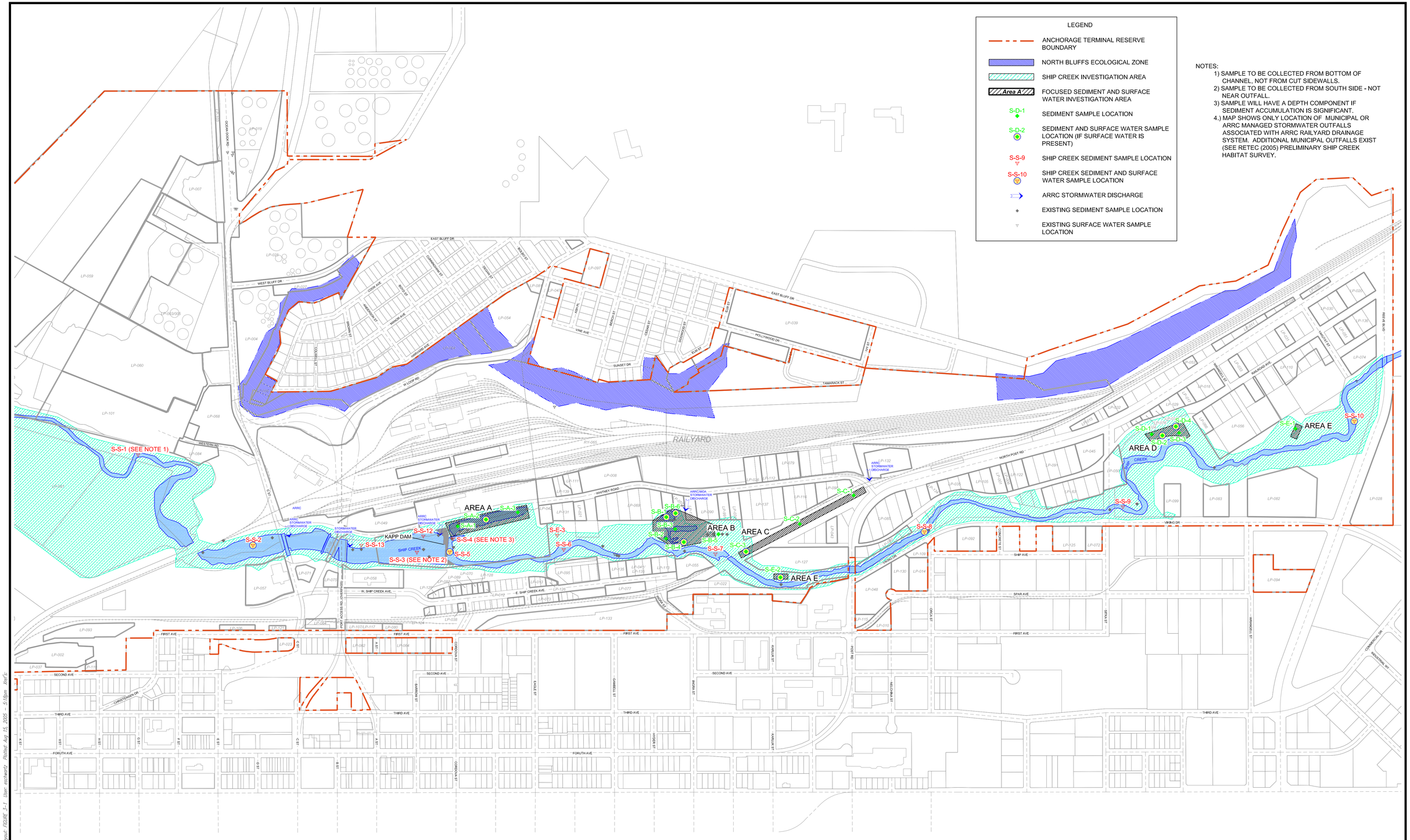
DISTRIBUTION OF MOST RECENT EXCEEDANCES IN SOIL

FIGURE 2-11



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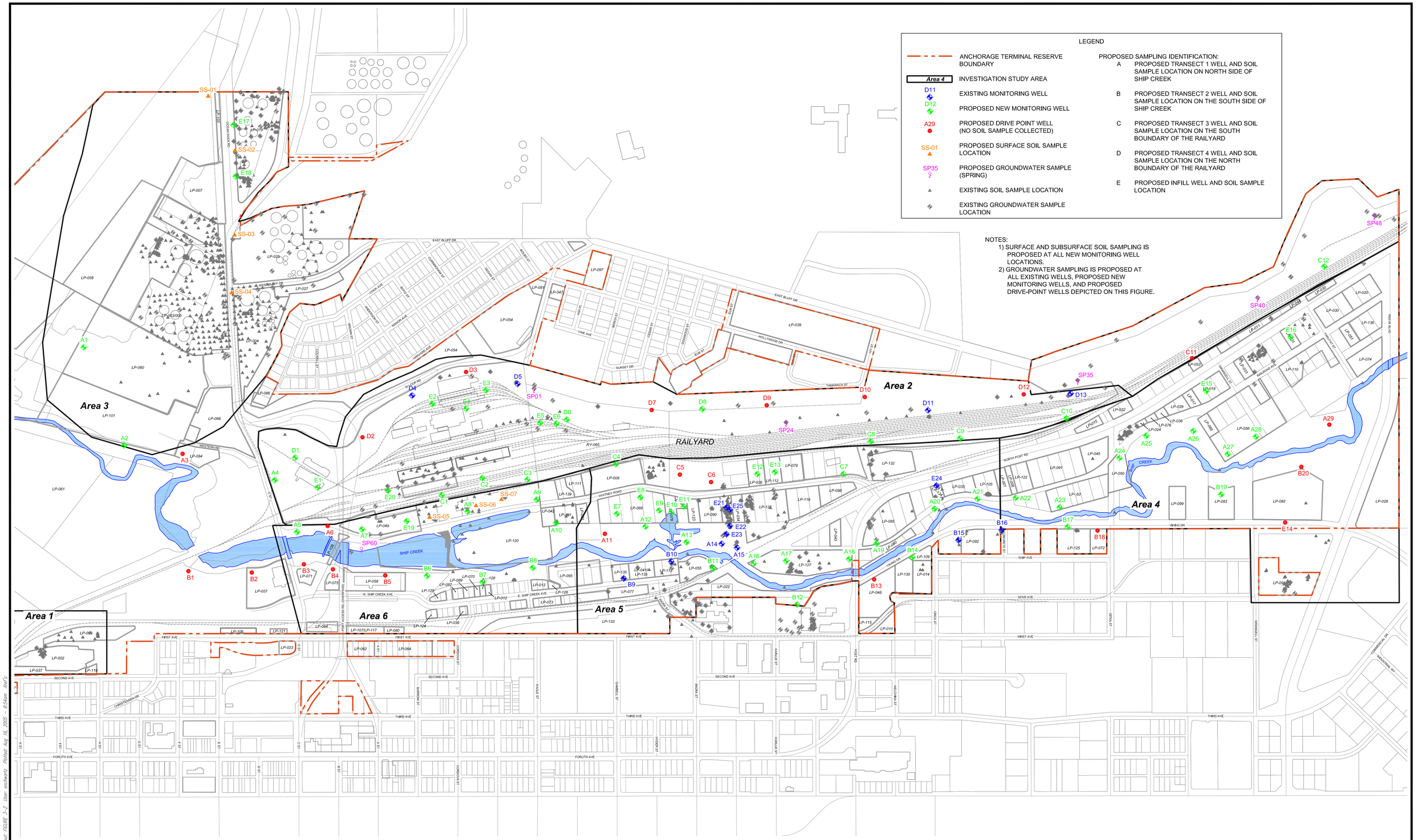
PROPOSED SEDIMENT AND SURFACE WATER SAMPLE LOCATIONS

FIGURE 3-1

File: ARRC-Ar-Fc-WP-3-1.DWG Layout: FIGURE 3-1 User: eschwartz Plotted: Aug 15, 2005 - 8:48am Xref:



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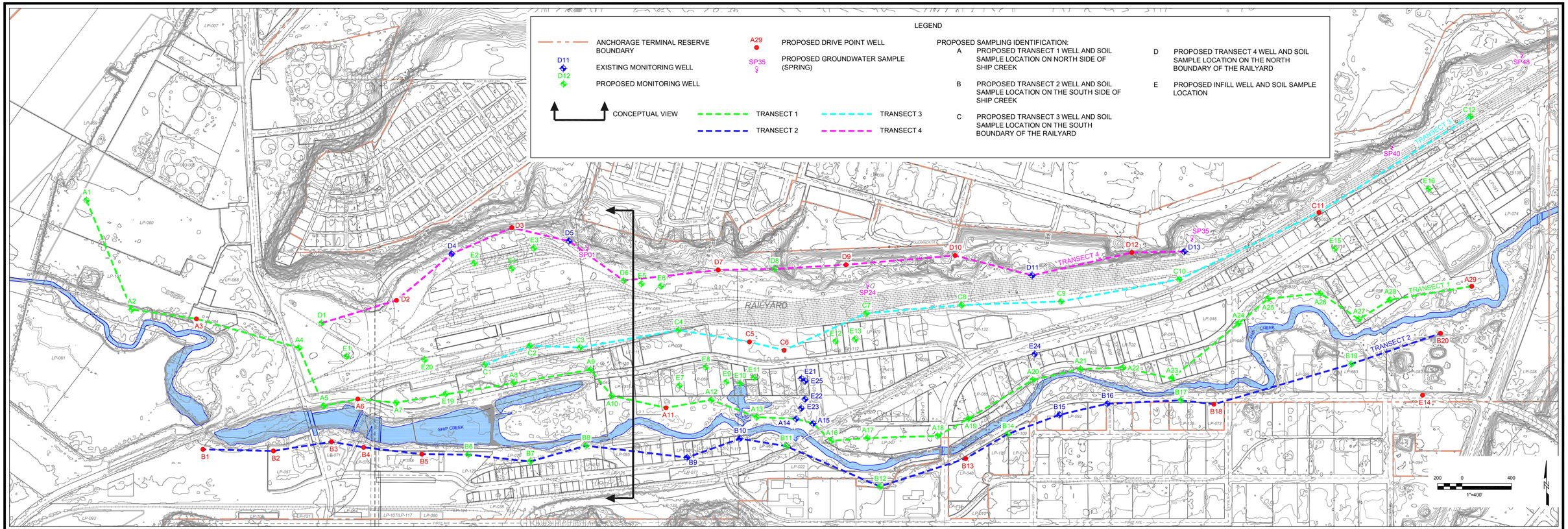
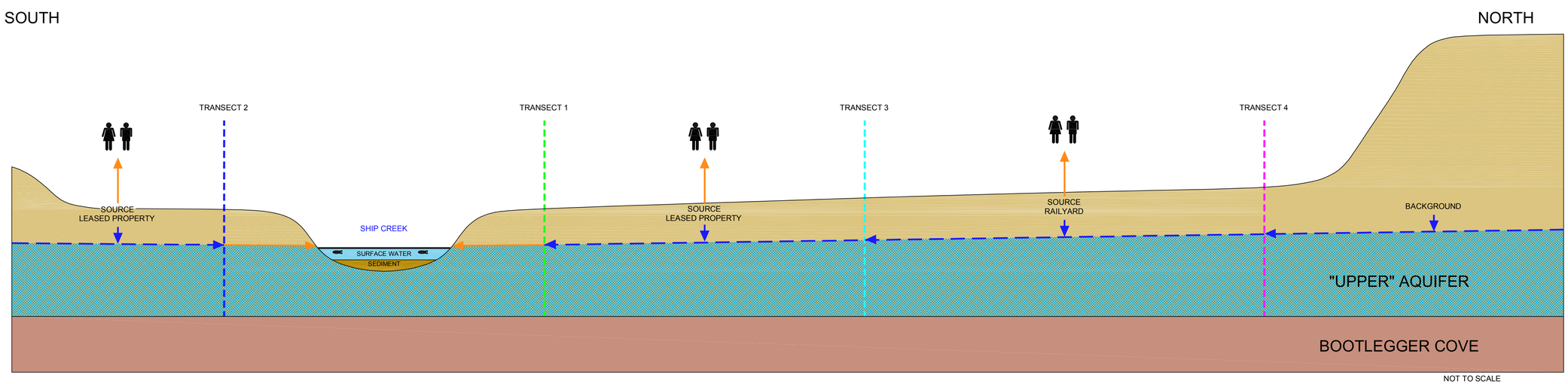
PROPOSED MONITORING WELL, DRIVE POINT WELL, GROUNDWATER AND SOIL SAMPLE LOCATION MAP

FIGURE 3-2

File: ARRC-RI-FS-WP_3-2.DWG Layout: FIGURE 3-2 User: eschwartz Plotted: Aug 16, 2005 - 8:54am



CONCEPTUAL VIEW



EXPOSURE PATHWAY TO BE EVALUATED
SOURCE TO GROUNDWATER PATHWAY
GROUNDWATER FLOW DIRECTION

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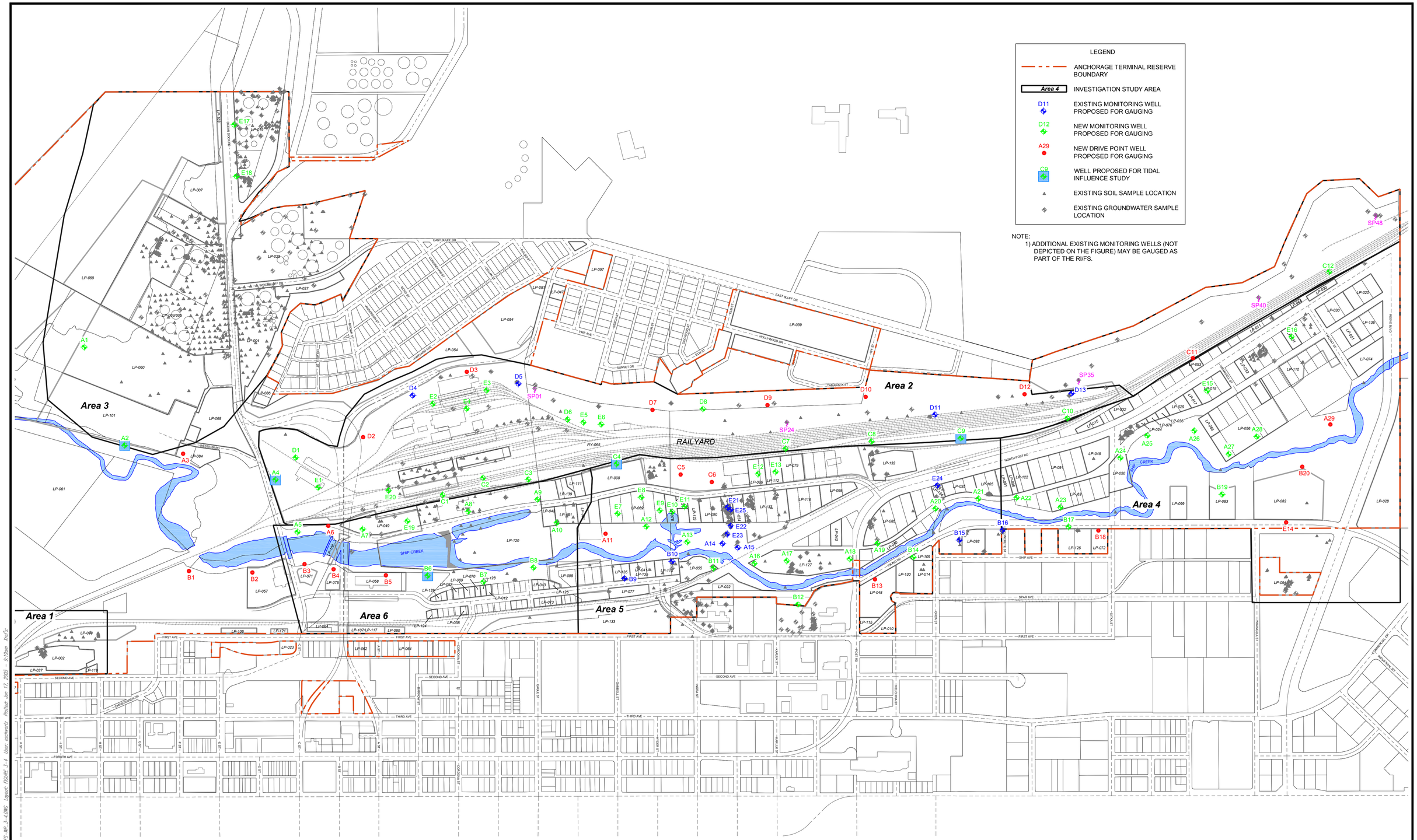
Remedial Investigation/ Feasibility Study Work Plan Alaska Railroad Corporation, Anchorage Terminal Reserve, Anchorage, Alaska	TRANSECT LOCATION MAP AND ILLUSTRATION ON INVESTIGATION APPROACH
DATE: 06/16/05 DRWN: E.S.S./DEN	FIGURE 3-3



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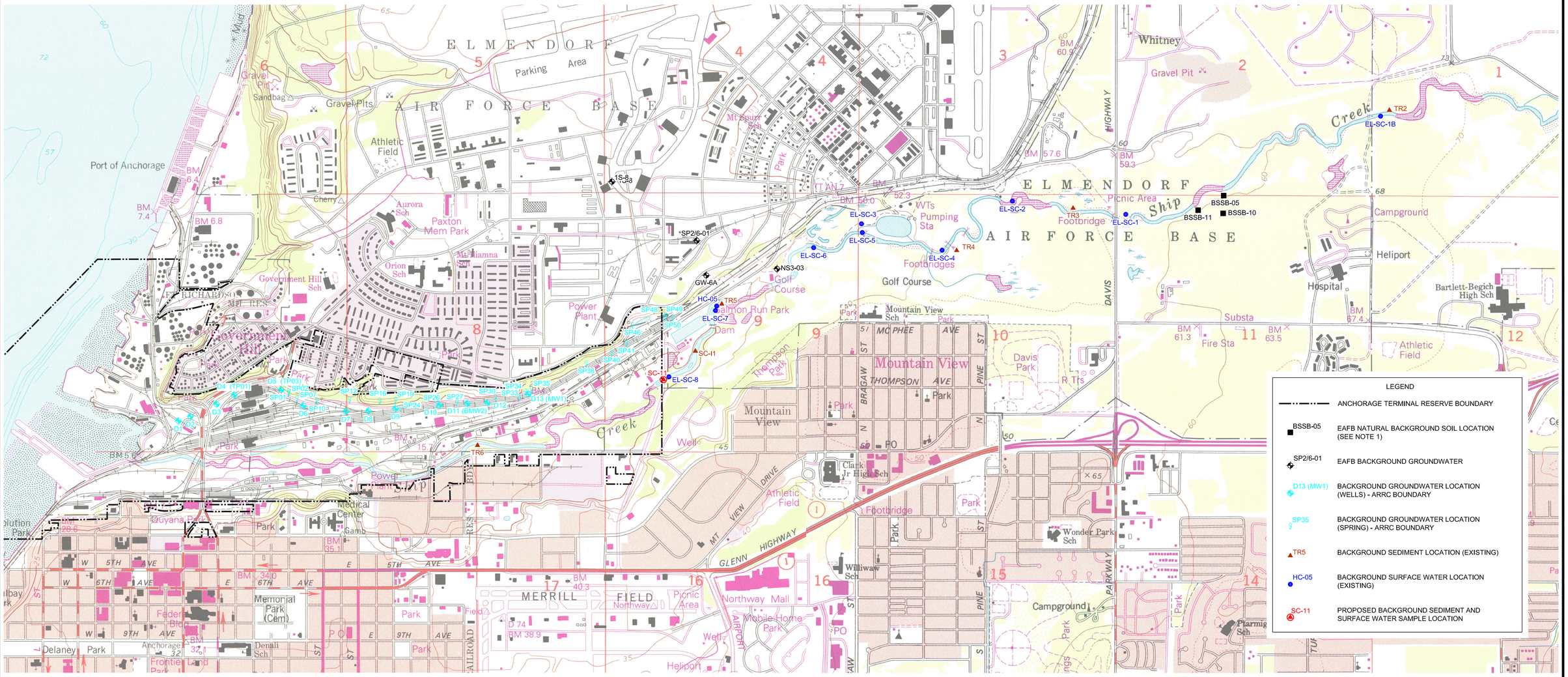
PROPOSED FLUID-LEVEL GAUGING AND TIDAL INFLUENCE STUDY LOCATION MAP

FIGURE 3-4

File: W:\ARRC\ARRC\ARRC-RI-FS-WP_3-4.DWG Layout: FIGURE 3-4 User: estlewis Plotted: Jun 13, 2005 @ 10:0am



NOTES:
1) ADDITIONAL SOIL BACKGROUND SAMPLES EXIST FROM MORAINAL AND ALLUVIAL DEPOSITS NORTH OF THE BOUNDARY OF THIS MAP.
2) ADDITIONAL SEDIMENT BACKGROUND LOCATIONS EXIST FURTHER UPSTREAM ON SHIP CREEK.

REFERENCE: USGS QUADRANGLE MAPS
ANCHORAGE (A-8) NW, ALASKA, 1994 AND
ANCHORAGE (A-8) NE, ALASKA, 1994

500 0 1000
1"=1000'

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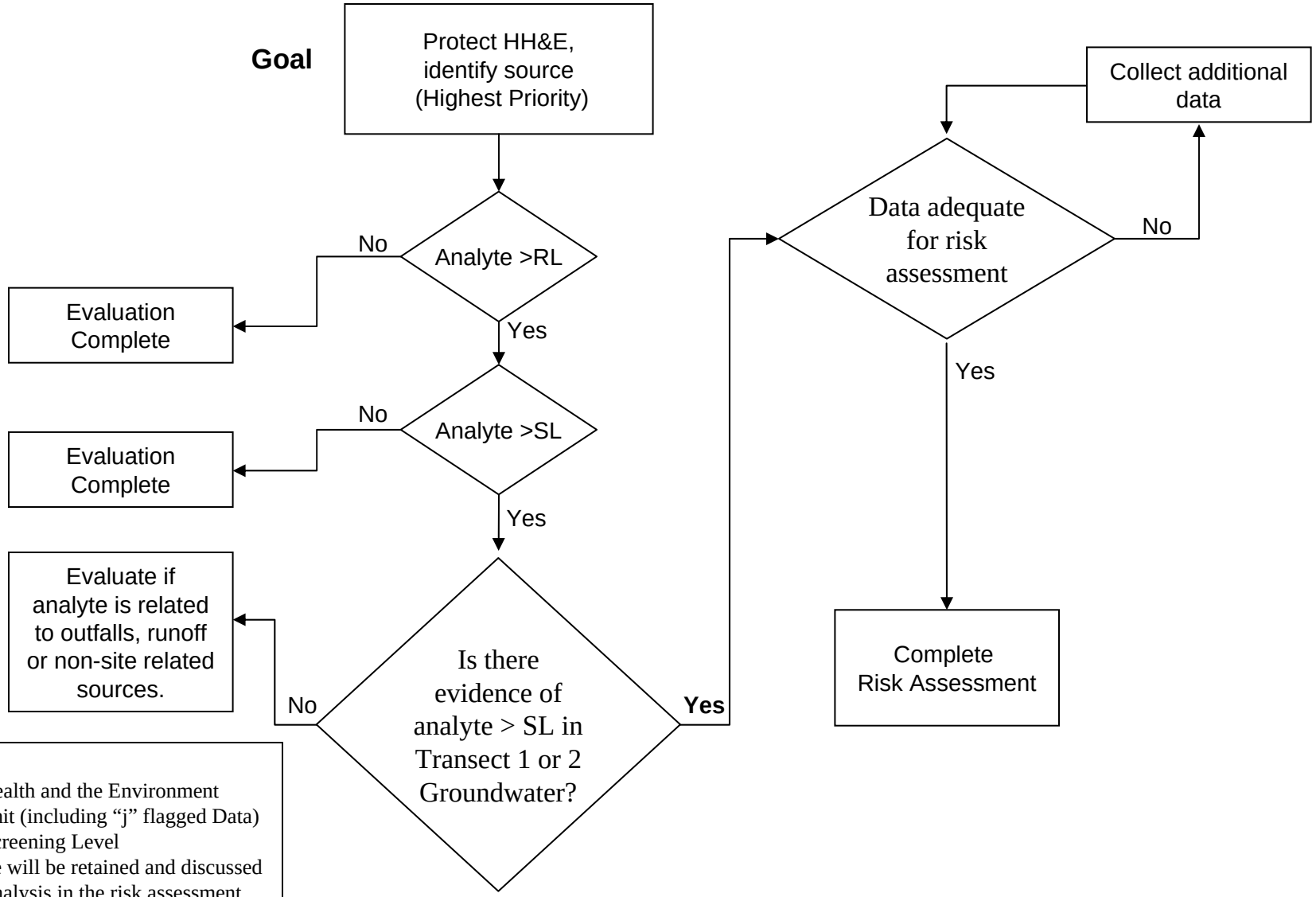
SITE BACKGROUND DATA LOCATIONS

FIGURE 3-5

File: ARRC-TR-FS-WP_3-5.DWG Layout: FIGURE 3-5 User: eschwartz Plotted: Aug 16, 2005 - 8:06am Pref:



Notes:
HH&E – Human Health and the Environment
RL – Reporting Limit (including "j" flagged Data)
SL – Preliminary Screening Level
If rl>sl, then analyte will be retained and discussed in the uncertainty analysis in the risk assessment

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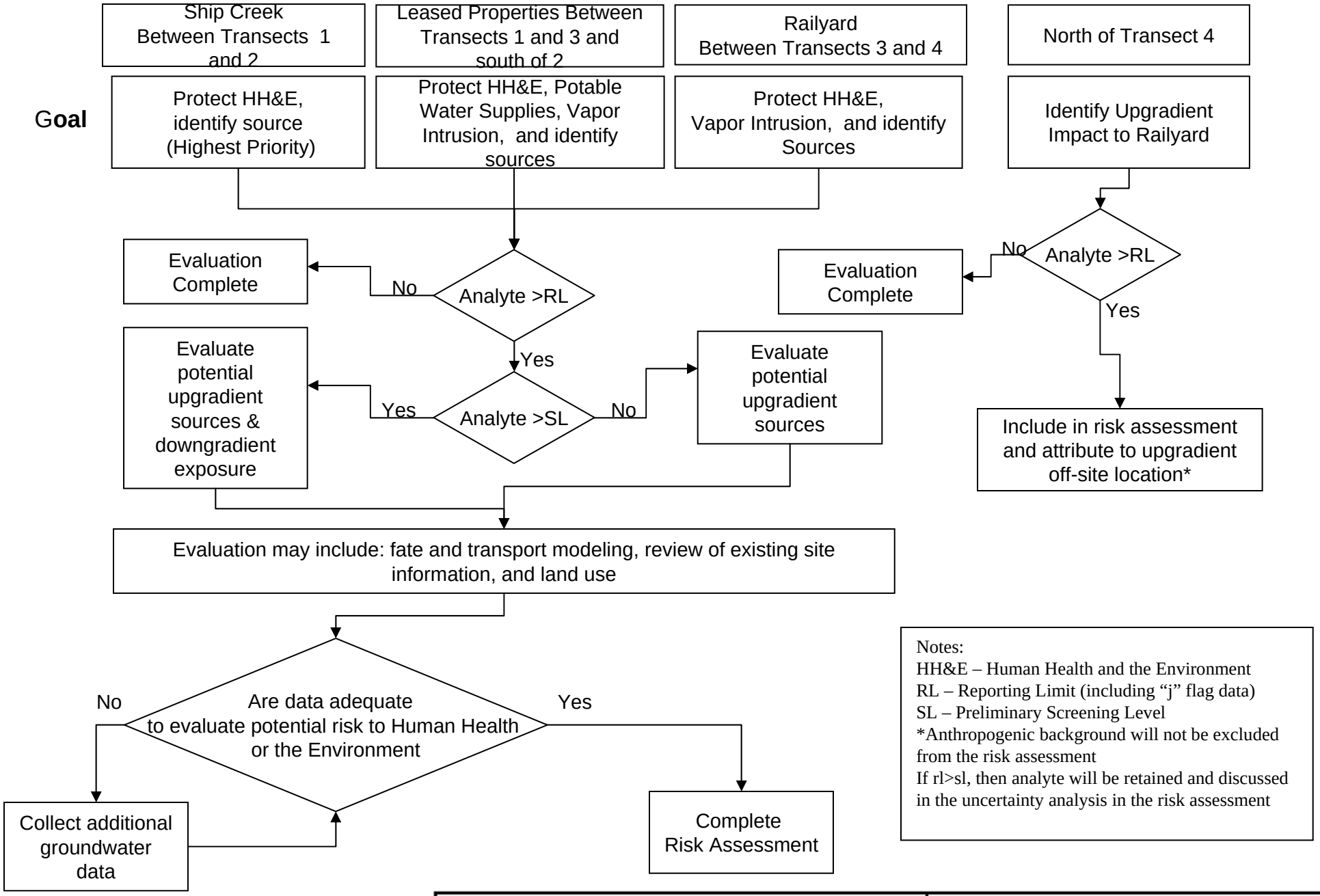
SEDIMENT AND SURFACE WATER DATA EVALUATION FLOW CHART

FIGURE 3-6



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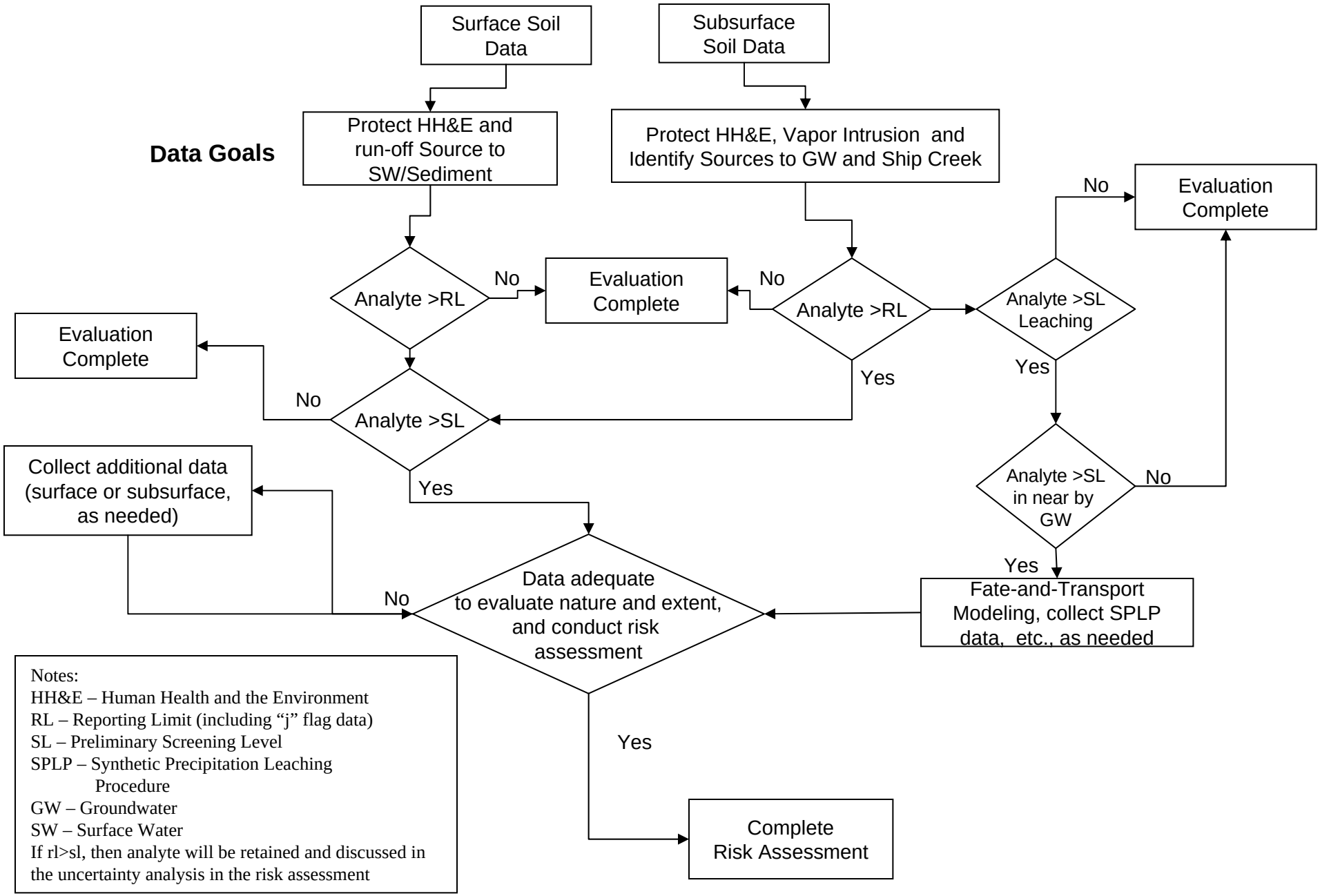
GROUNDWATER DATA EVALUATION FLOW CHART

FIGURE 3-7



Notes:
HH&E – Human Health and the Environment
RL – Reporting Limit (including "j" flag data)
SL – Preliminary Screening Level
SPLP – Synthetic Precipitation Leaching Procedure
GW – Groundwater
SW – Surface Water
If rl>sl, then analyte will be retained and discussed in the uncertainty analysis in the risk assessment

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SOIL DATA EVALUATION FLOW CHART

FIGURE 3-8