Source Water Assessment

A Hydrogeologic Susceptibility and Vulnerability Assessment for Scenic View Trailer Court, Anchorage, Alaska PWSID # 210477.001

DRINKING WATER PROTECTION PROGRAM REPORT 699

Alaska Department of Environmental Conservation

September 2002

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The Drinking Water Protection Program is producing Source Water Assessments in compliance with the Safe Drinking Water Act Amendments of 1996. Each assessment includes a delineation of the source water area, an inventory of potential and existing contaminant sources that may impact the water, a risk ranking for each of these contaminants, and an evaluation of the potential vulnerability of these drinking water sources.

These assessments are intended to provide public water systems owners/operators, communities, and local governments with the best available information that may be used to protect the quality of their drinking water. The assessments combine information obtained from various sources, including the U.S. Environmental Protection Agency, Alaska Department of Environmental Conservation (ADEC), public water system owners/operators, and other public information sources. The results of this assessment are subject to change if additional data becomes available. If you have any additional information that may affect the results of this assessment, please contact the Program Coordinator of DWPP, (907) 269-7521.

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Drinking Water Protection Program
Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The public water system for Scenic View Trailer Court is a Class A (community) water system consisting of one well in the Anchorage area. Identified potential and current sources of contaminants for Scenic View Trailer Court includes: sewer lines, residential areas, roads, recreational trails, Leaking Underground Storage Tank (LUST) sites ADEC recognized contaminated sites, medical facilities, gasoline stations, print shop, hardware store, chemical manufacturing, motor vehicle supply store, and various commercial and industrial activities. These identified potential and existing sources of contamination are considered sources of bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals and other organic chemicals. Overall, Scenic View Trailer Court received a vulnerability rating of **Medium** for bacteria and viruses, nitrates and/or nitrites and **High** for volatile organic chemicals, inorganic chemicals, synthetic organic chemicals and other organic chemicals.

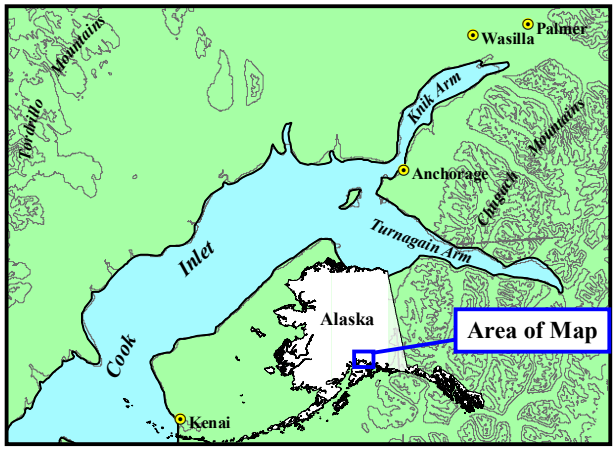

Figure 1. Index map showing the location of Anchorage, Alaska

INTRODUCTION

The Alaska Department of Environmental Conservation (ADEC) is completing source water assessments for all public drinking water sources in the State of Alaska. The purpose of this assessment is to provide public water system owners and/or operators, communities, and local governments with information they can use to preserve the quality of Alaska's public drinking water supplies. The results of this source water assessment can be used to decide where voluntary protection efforts are needed and feasible, and what efforts will be most effective in reducing contaminant risks to your water system.

This source water assessment combines a review of the natural conditions at the site and the potential and existing contaminant risks. These are combined to determine the overall vulnerability of the drinking water source to contamination.

DESCRIPTION OF THE ANCHORAGE AREA, ALASKA

Location

Anchorage, located in south-central Alaska, encompasses 1,698 square miles of land and 264 square miles of water. The area containing a majority of the urban development, commonly referred to as the Anchorage Bowl, encompasses approximately 180 square miles [*Partick, Brabets, and Glass, 1989*] and envelopes the low lands of the area. This area is bounded on the east by the Chugach Mountains and the north, west, and south by the Knik and Turnagain Arm of Cook Inlet (Figure 1). In recent times, urban development has extended eastward along the flanks of the Chugach Mountains. This area, known locally as the Anchorage Hillside, contains development at elevations exceeding 3,700 feet in elevation above sea level.

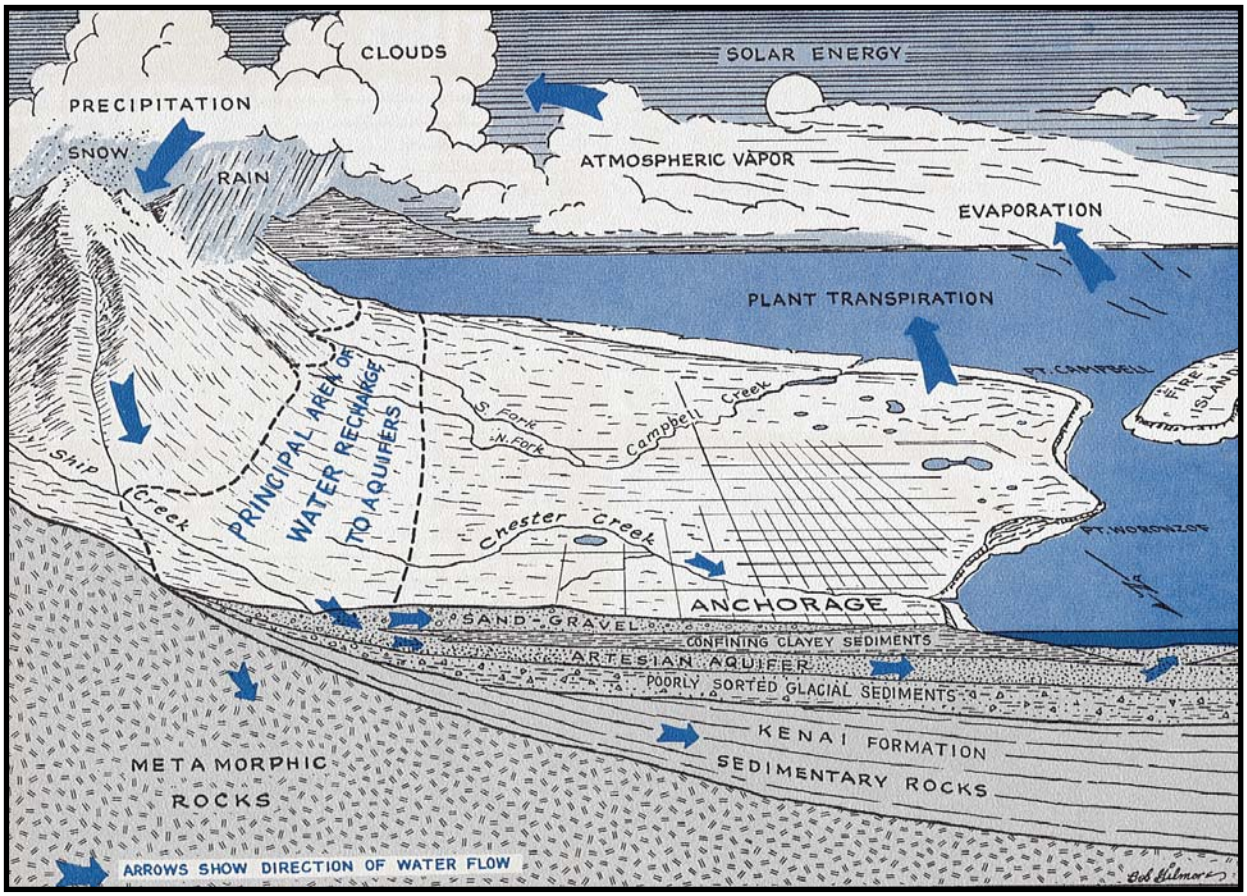

Figure 2. Generalized hydrologic cycle in the Anchorage area [*Barnwell, George, Dearborn,Weeks, and Zenone*, 1972].

Climate

The Anchorage area climate is somewhat transitional in that it does not experience large daily and annual temperature fluctuations like those experienced in the interior of Alaska nor does it experience high amounts of precipitation typified by gulf coast regions. Mean annual precipitation at the Anchorage International Airport is approximately 16 inches per year. On average, Anchorage receives a total snow accumulation of 69 inches per year. Precipitation generally increases inland toward the Chugach Mountains where annual precipitation may exceed 160 inches per year [*Barnwell, George, Dearborn, Weeks, and Zenone*, 1972]. Mean daily temperature ranges from 65^{o} F during July to 8^{o} F in January [*Western Regional Climate Center*, 2000].

Physiography and Groundwater Conditions

Surface elevations in the Anchorage area range from sea level at Knik and Turnagain Arms to well over 5,000 feet in the peaks that bound the area. Glacial moraine and outwash deposits primarily mantle the surface of the Anchorage Bowl.

The backbone of the Chugach Mountains is composed primarily of metamorphic marine and volcanic rocks (bedrock). These high peaks that bound Anchorage's east side are flanked with colluvium or slope deposits. These slope deposits eventually grade into the glacial and stream deposits at lower elevations in the Anchorage Bowl.

In the Anchorage area, two principal groundwater flow systems or aquifers exist (see Figure 2). The upper unconfined aquifer or water-table aquifer is separated from a lower confined aquifer system by layers of silty, clayey glacially derived sediments (confining layer) [*Ulery and Updike*, 1983]. The lower confined aquifer system consists of a series of hydrologically interconnected layers and lenses of gravel, sand and silt that, collectively, form the confined aquifer. The confining layer ranges from 0 to 270 feet thick throughout the Anchorage area and generally thins with increasing distance from Cook Inlet, thus pinching out at the mountain front [*Patrick, Brabets, and Glass*, 1989].

Water enters or recharges these two aquifer systems in several different ways. Along the front of the Chugach Mountains, groundwater seeps from fractures in

bedrock into the sediments. At these higher elevations, rain and snowmelt also enters the sediments. This area along the mountain front is considered the principal recharge area for wells in the Anchorage area. Precipitation in the low lands may also percolate directly into the ground. Lastly, aquifers may also be recharged by streams where surface water percolates into surrounding permeable sediments (losing reaches of streams). Groundwater flow in the confined aquifer is generally east to west from the mountain front toward Cook Inlet and Turnagain Arm, except in areas where the direction of flow is influenced by large municipal or industrial production wells. The direction of groundwater flow in the upper unconfined aquifer is more variable due to the influence from surfacial topography as well as its close connection with surface water bodies.

SCENIC VIEW TRAILER COURT PUBLIC DRINKING WATER SYSTEM

Scenic View Trailer Court is a Class A (community) water system. The system one well in the Anchorage area. (See Map 1 of Appendix A). This area is at an elevation of approximately 100 feet above sea level.

The 1997 Sanitary Survey indicates that the wells are installed with caps providing a sanitary seal. A properly installed sanitary seal may provide protection against contaminants from entering the source waters at the well casing. The exact date which the well was installed is unknown. However, records indicate that it is a very old system and was likely drilled in the 1950's. Thus, the well was not grouted according to current ADEC regulations. Proper grouting provides added protection against contaminants traveling along the well casing and into source waters.

The well log was not located for this well. A nearby well log from a well, approximately ¼ mile, .was drilled to a depth of 65 feet below the surface (bls). The static water level of the nearby well was 14 feet bls at the time of drilling (1966). There appears to be a small confining layer from 35 to 38 ft bsl. This confining layer may provide protection from contaminates entering the aquifer. However, the clay layers tend to thin our towards the mountains allowing contaminants that enter the subsurface near the base of the mountains to enter the confined aquifer uninhibited by the absence of any protective layer.

This system operates 365 days per year and serves 60 non-residents through 24 service connections.

SCENIC VIEW TRAILER COURT PROTECTION AREA

In order to evaluate whether a drinking water source is at risk, we must first evaluate what are the most likely pathways for surface contamination to reach the groundwater. Some areas are more likely to allow contamination to reach the well than others. These areas are determined by looking at the characteristics of the soil, groundwater, aquifer, and well.

The most probable area for contamination to reach the drinking water well is the area that contributes water to the well, the groundwater recharge area. This area is designated as the Drinking Water Protection Area (DWPA). Because releases of contaminants within the DWPA are most likely to impact the drinking water well, this area will serve as the focus for voluntary protection efforts.

An outline of the immediate watershed was used to determine the size and shape of the DWPA for Scenic View Trailer Court. Available geology was also considered to take into account any uncertainties in groundwater flow and aquifer characteristics to arrive at a meaningful DWPA (Please refer to the Guidance Manual for Class A Public Water Systems for additional information).

The DWPAs established for wells by the ADEC are usually separated into four zones, limited by the watershed. These zones correspond to differences in the time-of-travel (TOT) of the water moving through the aquifer to the well. An analytical calculation was used to determine the size and shape of the DWPA. The input parameters describing the attributes of the aquifer in this calculation were adopted from the U.S. Geological Survey (*Patrick, Brabets, and Glass, 1989*), and State of Alaska Department of Water Resources (*Jokela et. al., 1991*).

The time of travel for contaminants within the water varies and is dependent on the physical and chemical characteristics of each contaminant. The following is a summary of the four DWPA zones and the calculated time-of-travel for each:

Table 1. Definition of Zones

Zone	Definition
A	¼ the distance for the 2-yr. TOT
B	Less than the 2 year TOT
C	Less Than the 5 year TOT
D	Less than the 10 year TOT

INVENTORY OF POTENTIAL AND EXISTING CONTAMINANT SOURCES

The Drinking Water Protection Program has completed an inventory of potential and existing sources of

contamination within Scenic View Trailer Court DWPA. This inventory was completed through a search of agency records and other publicly available information. Potential sources of contamination to the drinking water aquifer include a wide range of categories and types. Potential drinking water contaminants are found within agricultural, residential, commercial, and industrial areas, but can also occur within areas that have little or no development.

For the basis of all Class A public water system assessments, six categories of drinking water contaminants were inventoried. They include:

- Bacteria and viruses;
- Nitrates and/or nitrites;
- Volatile organic chemicals
- Heavy metals, cyanide, and other inorganic chemicals,
- Synthetic organic chemicals, and
- Other organic chemicals.

The sources are displayed on Maps 2 -3 in Appendix C and summarized in Table 1 of Appendix B.

RANKING OF CONTAMINANT RISKS

Once the potential and existing sources of contamination have been identified, they are assigned a ranking according to what type and level of risk they represent. Ranking of contaminant risks for a "potential" or "existing" source of contamination is a function of toxicity and volumes of specific contaminants associated with that source.

Tables 2 through 7 in Appendix B contain the ranking of potential and existing sources of contamination with respect to bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals, and other organic chemicals.

VULNERABILITY OF SCENIC VIEW TRAILER COURTDRINKING WATER SOURCE

Vulnerability of a drinking water source to contamination is a combination of two factors:

- Natural susceptibility; and
- Contaminant risks.

Each of the six categories of drinking water contaminants has been analyzed and an overall vulnerability score of 0 to 100 is ultimately assigned:

Natural Susceptibility (0 – 50 points)

+

Contaminant Risks (0 – 50 points)

=

Vulnerability of the

Drinking Water Source to Contamination (0 – 100).

A score for the Natural Susceptibility is achieved by analyzing the properties of the well and the aquifer.

Susceptibility of the Wellhead (0 – 25 Points)

+

Susceptibility of the Aquifer (0 – 25 Points)

=

Natural Susceptibility (Susceptibility of the Well) (0 – 50 Points)

Table 2 shows the Susceptibility scores and ratings for the wells serving Scenic View Trailer Court.

Table 2. Susceptibility of the well

	Score	Rating
Susceptibility of the Wellhead	5	Low
Susceptibility of the Aquifer	13	Medium
Natural Susceptibility	18	Low

Contaminant risks to a drinking water source depend on the type, number or density, and distribution of contaminant sources. This data has been derived from an examination of existing and historical contamination that has been detected at the drinking water source through routine sampling. It also evaluates potential sources of contamination. Table 3 summarizes the Contaminant Risks for each category of drinking water contaminants.

Table 3. Contaminant Risks

Category	Score	Rating
Bacteria and Viruses	25	Medium
Nitrates and/or Nitrites	30	High
Volatile Organic Chemicals	50	Very High
Heavy Metals, Cyanide, and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	42	Very High
Other Organic Chemicals	47	Very High

Appendix D contains fourteen charts, which together form the 'Vulnerability Analysis' for a source water

assessment for a public drinking water source. Chart 1 analyzes the 'Susceptibility of the Wellhead' to contamination by looking at the construction of the well and its surrounding area. Chart 2 analyzes the 'Susceptibility of the Aquifer' to contamination by looking at the naturally occurring attributes of the water source and influences on the groundwater system that might lead to contamination. Chart 3 analyzes 'Contaminant Risks' for the drinking water source with respect to bacteria and viruses. The 'Contaminant Risks' portion of the analysis considers potential sources of contaminants as well as a review of contamination that has or may have occurred, but has not arrived or been detected at the well. Lastly, Chart 4 contains the 'Vulnerability Analysis for Bacteria and Viruses'. Charts 5 through 14 contain the Contaminant Risks and Vulnerability Analyses for nitrates and nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals, and other organic chemicals, respectively.
Table 4 contains the overall vulnerability scores (0 – 100) and ratings for each of the six categories of drinking water contaminants. Note: scores are rounded off to the nearest five.

Table 4. Overall Vulnerability

Category	Score	Rating
Bacteria and Viruses	40	Medium
Nitrates and Nitrites	50	Medium
Volatile Organic Chemicals	70	High
Heavy Metals, Cyanide and Other Inorganic Chemicals	70	High
Synthetic Organic Chemicals	60	High
Other Organic Chemicals	65	High

Bacteria and Viruses
The contaminant risk for bacteria and viruses is medium with sewer lines and roads presenting the most significant risk to the drinking water well (See Chart 3 – Contaminant Risks for Bacteria and Viruses in Appendix D).

Sampling of the well indicates that no bacteria and viruses have been detected.

After combining the contaminant risk for bacteria and viruses with the natural susceptibility of the well, the overall vulnerability is medium.

Nitrates and Nitrites
The contaminant risk for nitrates and nitrites is high with sewer lines and roads presenting the most significant risk to the drinking water well.

Sampling of the well indicates that no nitrates/nitrites have been detected

After combining the contaminant risk for nitrates and nitrites with the natural susceptibility of the well, the overall vulnerability of the well to contamination is medium.

Volatile Organic Chemicals
The contaminant risk for volatile organic chemicals is very high with an ADEC recognize contaminated site, print shop, chemical manufacturing plant, motor vehicle repair shops and heavy equipment storage and underground fuel tanks presenting the most significant risk for volatile organic chemicals (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D).

A ADEC recognized contaminated site is located at , 8100 Old Seward Highway. ADEC records indicate that methylene chloride was detected by an EPA during a compliance inspection. The extent of the contamination is unknown.

Sampling indicates that no volatile organic chemicals have been detected in the source waters. (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D.) No further testing has occurred.

After combining the contaminant risk for volatile organic chemicals with the natural susceptibility of the wells, the overall vulnerability of the wells to contamination is high.

Heavy Metals, Cyanide, and Other Inorganic Chemicals
The contaminant risk for heavy metals, cyanide and other inorganic chemicals is very high with a motor vehicle repair shop, print shop, chemical manufacturing plant, roads and naturally existing contamination presenting the most significant risk to the drinking water source (See Chart 9 – Contaminant Risks for Heavy Metals, Cyanide, and Other Inorganic Chemicals in Appendix D).

Sampling on 10/25/01 detected 0.011 mg/l of arsenic (>100% the Maximum Contaminant Level).

The MCL is the maximum level of contaminant that is allowed to exist in drinking water and still be consumed by humans.

According to the EPA "Arsenic occurs naturally in rocks and soil, water, air, and plants and animals. It can be further released into the environment through natural activities such as volcanic action, erosion of rocks, and forest fires, or through human actions. Approximately

90 percent of industrial arsenic in the U.S. is currently used as a wood preservative, but arsenic is also used in paints, dyes, metals, drugs, soaps, and semi-conductors. Agricultural applications, mining, and smelting also contribute to arsenic releases in the environment." (EPA, 2001).

Studies have linked long-term exposure to arsenic in drinking water to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate. Non-cancer effects of ingesting arsenic include cardiovascular, pulmonary, immunological, neurological, and endocrine (e.g., diabetes) effects. Short-term exposure to high doses of arsenic can cause other adverse health effects, but such effects are unlikely to occur from U.S. public water supplies that are in compliance with the previous arsenic standard of 50 ppb. (EPA, 2001).

Sampling on 10/16/98 detected 0.002-mg/l thallium (100% of the 0.002 mg/l MCL)

According to the EPA, Thallium is a metal found in natural deposits as ores containing other elements. The greatest use of thallium is in specialized electronic research equipment. Beryllium is a metal found in natural deposits as ores containing other elements, and in some precious stones such as emeralds and aquamarine.

Studies have found that thallium has the potential to cause the following health effects from long-term exposures at levels above the MCL: changes in blood chemistry; damage to liver, kidney, intestinal and testicular tissues; hair loss. (EPA, 2002)

Combining the contaminant risk with the natural susceptibility of the wells leads to an overall vulnerability to heavy metals and other inorganic chemical contamination of high.

Synthetic Organic Chemicals
The contaminant risk for synthetic organic chemicals is very high with motor vehicle and a chemical manufacturing plant presenting the most significant risk. (See Chart 11 – Contaminant Risks for Synthetic Organic Chemicals in Appendix D, respectively).

Sampling of synthetic organic chemicals has not occurred.

Combining the contaminant risk with the natural susceptibility of the wells, the overall vulnerability to synthetic organic chemicals is High.

Other Organic Chemicals
The contaminant risk for other organic chemicals is very high with a motor vehicle repair shop and a chemical manufacturing plant presenting the most significant risk.

Sampling of other organic chemicals has not occurred. After combining the contaminant risk with the natural susceptibility of the wells, the overall vulnerability to other organic chemicals is high. (See Chart 13 – Contaminant Risks for Other Organic Chemicals in Appendix D, respectively).

SUMMARY

A *Source Water Assessment* has been completed for the source of public drinking water serving Scenic View Trailer Court. The overall vulnerability of this source to contamination is **Medium** for bacteria/viruses, nitrates and nitrites and **High** for volatile organic chemicals heavy metals, inorganic chemicals, synthetic organic chemicals and other organic chemicals. This assessment of contaminant risks can be used as a foundation for local voluntary protection efforts as well as a basis for the continuous efforts on the part of Scenic View Trailer Court to protect public health. It is anticipated that *Source Water Assessments* will be updated every five years to reflect any changes in the vulnerability and/or susceptibility of Scenic View Trailer Court public drinking water source.

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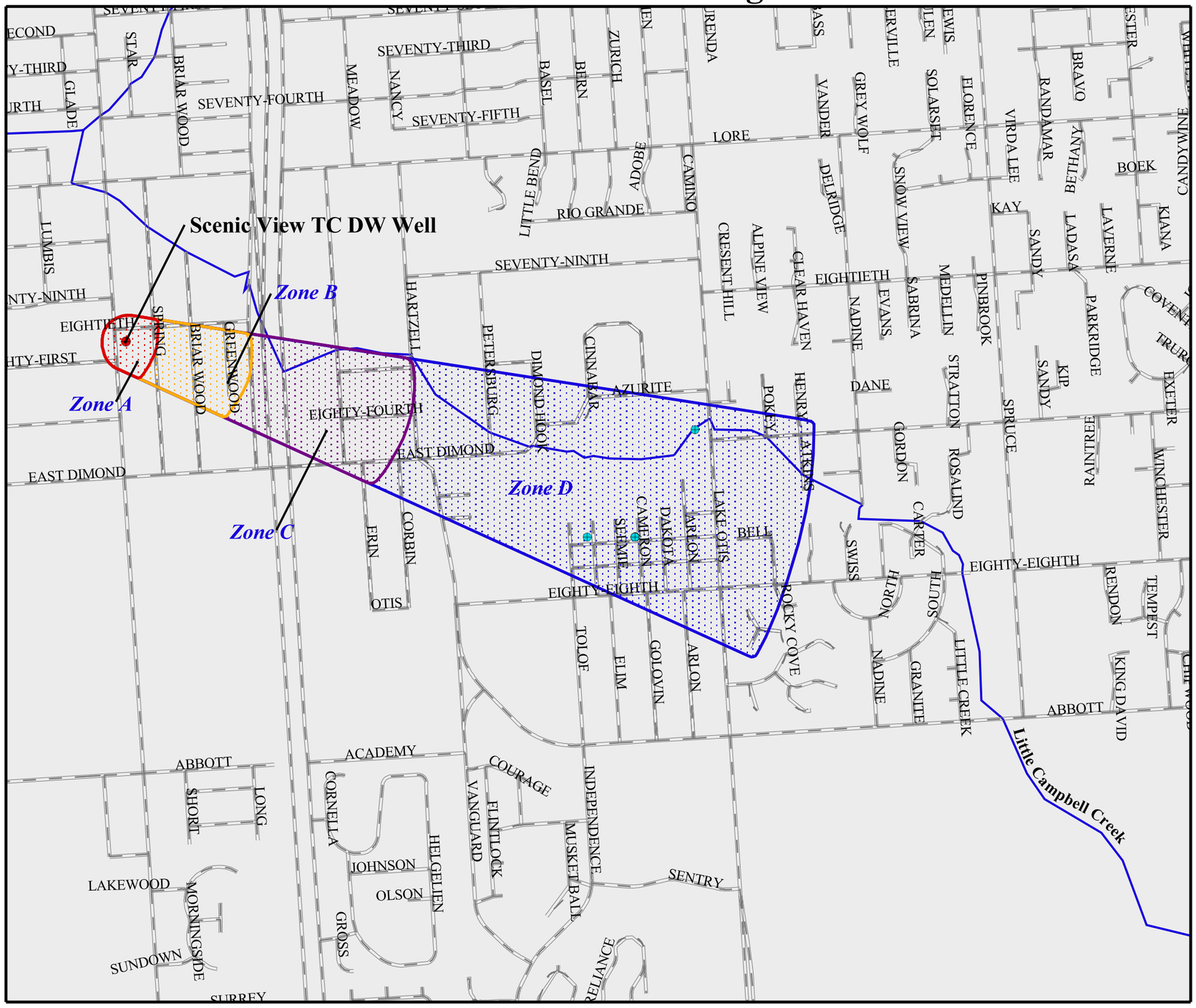
APPENDIX A

Scenic View Trailer Court
Drinking Water Protection Area Location Map
(Map 1)

Scenic View Trailer CourtDrinking Water Protection Area and Potential & Existing Contaminant Sources



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Legend

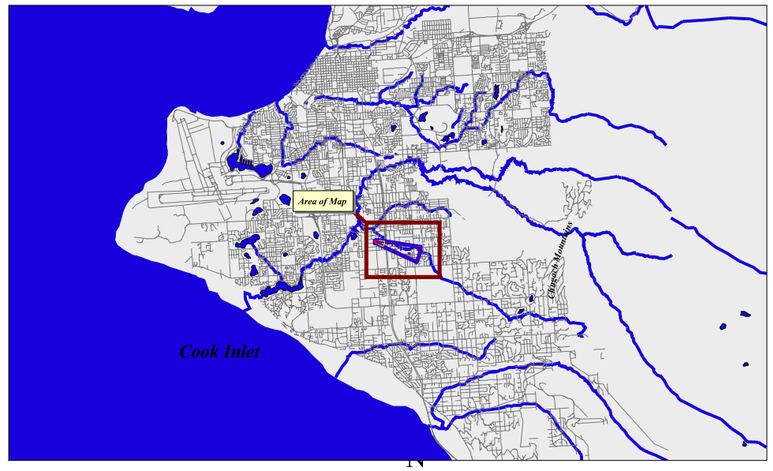
- Scenic View TC DW Well
- Private & Public DW Wells

Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time
- Anchorage Roads
- Anchorage Streams



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Map 1

APPENDIX B

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court (Tables 1-7)

Table 1

Contaminant Source Inventory for ***Scenic View Trailer Court***

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Construction trade areas and materials	C09	C9-1	A	3	
Motor /motor vehicle repair shops	C31	C31-1	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	3	
Residential Areas	R01	R1-1	A	2	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-1	A	3	8100 Old Seward-Midas Auto. Records indicate that mythlene choride was detected at an EPA compliance inspection. No further information is available at this time..
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-1	A	3	File No. L55.173 1111 E. 80th Ave. Removed 500 gal. and 250 gal gasoline tanks. Contaminated soil was disposed of. Status: Closed Priority: Low
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	2	
Dog walking areas/foot trails	X46	X46-1	A	3	
Construction trade areas and materials	C09	C9-2	B	3	
Construction trade areas and materials	C09	C9-3	B	2	
Hardware stores	C17	C17-1	B	3	
Motor/motor vehicle supplies stores	C28	C28-1	B	3	
Printers, publishers, copiers	C37	C37-1	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	3	
Organic chemicals manufacturing	I29	I29-1	B	3	
Residential Areas	R01	R1-2	B	2	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	2	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	B	3	
Dog walking areas/foot trails	X46	X46-2	B	3	
Construction trade areas and materials	C09	C9-4	C	4	
Construction trade areas and materials	C09	C9-5	C	4	
Construction trade areas and materials	C09	C9-6	C	5	
Gasoline stations (without repair shop)	C15	C15-1	C	4	
Hardware stores	C17	C17-2	C	5	
Hardware stores	C17	C17-3	C	5	
Heavy equipment rental/storage	C18	C18-1	C	5	
Heavy equipment rental/storage	C18	C18-2	C	5	
Heavy equipment rental/storage	C18	C18-3	C	5	
Heavy equipment rental/storage	C18	C18-4	C	5	
Laboratories (chemical, soils, and research)	C20	C20-1	C	5	
Motor /motor vehicle repair shops	C31	C31-1	C	4	
Motor /motor vehicle repair shops	C31	C31-2	C	4	
Windshield/glass shops	C44	C44-1	C	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	C	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	C	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	C	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	C	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	C	5	

Table 2

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Bacteria and Viruses

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Medium	3	
Residential Areas	R01	R1-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Dog walking areas/foot trails	X46	X46-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Medium	3	
Residential Areas	R01	R1-2	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	B	Medium	3	
Dog walking areas/foot trails	X46	X46-2	B	Low	3	
Residential Areas	R01	R1-3	C	Low	4	
Dog walking areas/foot trails	X46	X46-3-5	C	Low	4	

Table 3

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Nitrates/Nitrites

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Medium	3	
Residential Areas	R01	R1-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Dog walking areas/foot trails	X46	X46-1	A	Low	3	
Hardware stores	C17	C17-1	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Medium	3	
Residential Areas	R01	R1-2	B	Low	2	
Residential Areas	R01	R1-2	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	B	Low	3	
Dog walking areas/foot trails	X46	X46-2	B	Low	3	
Hardware stores	C17	C17-2	C	Low	5	
Hardware stores	C17	C17-3	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	C	Medium	5	

Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Nitrates/Nitrites

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	C	Medium	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	C	Medium	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	C	Medium	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	C	Medium	5	
Storm water basins and overflows	D19	D19-1	C	Low	4	
Residential Areas	R01	R1-3	C	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-8-15	C	Low	4	
Dog walking areas/foot trails	X46	X46-3-5	C	Low	4	

Table 4

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Volatile Organic Chemicals

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Motor /motor vehicle repair shops	C31	C31-1	A	Medium	3	
Construction trade areas and materials	C09	C9-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	3	
Residential Areas	R01	R1-1	A	Low	2	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-1	A	High	3	8100 Old Seward-Midas Auto. Records indicate that mythlene choride was detected at an EPA compliance inspection. No further information is available at this time..
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Hardware stores	C17	C17-1	B	Low	3	
Motor/motor vehicle supplies stores	C28	C28-1	B	Low	3	
Printers, publishers, copiers	C37	C37-1	B	High	3	
Construction trade areas and materials	C09	C9-2	B	Low	3	
Construction trade areas and materials	C09	C9-3	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	3	
Organic chemicals manufacturing	I29	I29-1	B	Very High	3	
Residential Areas	R01	R1-2	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Volatile Organic Chemicals

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	B	Low	3	
Gasoline stations (without repair shop)	C15	C15-1	C	High	4	
Hardware stores	C17	C17-2	C	Low	5	
Hardware stores	C17	C17-3	C	Low	5	
Heavy equipment rental/storage	C18	C18-1	C	Medium	5	
Heavy equipment rental/storage	C18	C18-2	C	Medium	5	
Heavy equipment rental/storage	C18	C18-3	C	Medium	5	
Heavy equipment rental/storage	C18	C18-4	C	Medium	5	
Laboratories (chemical, soils, and research)	C20	C20-1	C	Low	5	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Windshield/glass shops	C44	C44-1	C	Low	5	
Construction trade areas and materials	C09	C9-4	C	Low	4	
Construction trade areas and materials	C09	C9-5	C	Low	4	
Construction trade areas and materials	C09	C9-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	C	Low	5	

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Volatile Organic Chemicals

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Storm water basins and overflows	D19	D19-1	C	Medium	4	
Residential Areas	R01	R1-3	C	Low	4	
Tanks, gasoline (underground)	T12	T12-1	C	High	5	
Closed tanks, gasoline (underground)	T13	T13-1	C	Medium	5	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-2	C	Low	5	File No. L74.14 8401 Brayton Drive Superior Mill Works Removed 2,000 gal gasoline tank in the summer of 1991. Additional excavation and assessment done in 1992. 3 monitoring wells show no groundwater contamination. Status: Closed
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-3	C	Low	5	File No. L55.24 1601 E. 84th Ct. After the removal of a 750 gallon tank soil contamination was found then backfilled. Level & extent of contamination unknown. Status: Closed, Priority: Low
Highways and roads, paved (cement or asphalt)	X20	X20-8-15	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-1	C	Low	4	
Car washes with engine or undercarriage cleaning	C08	C8-1	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	D	High	6	
Machine and metal work shops	I23	I23-1	D	High	6	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-5	D	Low	6	File No. L55.247 8221 Petersburg Street. Removed two motor oil and one used oil tanks. Low levels of contamination found. Status: Closed, Priority: Low
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-6	D	High	6	File No. L55.268 8221 Petersburg Street Monitoring well/soil boring installed at ES-5. All soil and groundwater meet default cleanup levels. Priority: High
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-7	D	Low	6	File No. L55.304 2440 E. 88th Ave. De minimus loss of gas discovered during closure of 2,000 gallon tank. Status: Closed, Priority: Low

Table 5

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Motor /motor vehicle repair shops	C31	C31-1	A	Medium	3	
Construction trade areas and materials	C09	C9-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	3	
Residential Areas	R01	R1-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Hardware stores	C17	C17-1	B	Low	3	
Motor/motor vehicle supplies stores	C28	C28-1	B	Low	3	
Printers, publishers, copiers	C37	C37-1	B	Medium	3	
Construction trade areas and materials	C09	C9-2	B	Low	3	
Construction trade areas and materials	C09	C9-3	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	3	
Organic chemicals manufacturing	I29	I29-1	B	High	3	
Residential Areas	R01	R1-2	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	B	Low	3	
Hardware stores	C17	C17-2	C	Low	5	
Hardware stores	C17	C17-3	C	Low	5	
Heavy equipment rental/storage	C18	C18-1	C	Low	5	
Heavy equipment rental/storage	C18	C18-2	C	Low	5	
Heavy equipment rental/storage	C18	C18-4	C	Low	5	
Laboratories (chemical, soils, and research)	C20	C20-1	C	Low	5	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Windshield/glass shops	C44	C44-1	C	Low	5	
Construction trade areas and materials	C09	C9-4	C	Low	4	
Construction trade areas and materials	C09	C9-5	C	Low	4	
Construction trade areas and materials	C09	C9-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	C	Low	5	
Residential Areas	R01	R1-3	C	Low	4	
Tanks, gasoline (underground)	T12	T12-1	C	Medium	5	
Highways and roads, paved (cement or asphalt)	X20	X20-8-15	C	Low	4	

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	D	High	6	
Machine and metal work shops	I23	I23-1	D	High	6	
Tanks, lubricants or other petroleum products (underground)	T20	T20-1	D	Medium	6	

Table 6

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Synthetic Organic Chemicals

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	3	
Residential Areas	R01	R1-1	A	Low	2	
Printers, publishers, copiers	C37	C37-1	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	3	
Organic chemicals manufacturing	I29	I29-1	B	Very High	3	
Residential Areas	R01	R1-2	B	Low	2	
Residential Areas	R01	R1-2	B	Low	2	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	C	Low	5	
Residential Areas	R01	R1-3	C	Low	4	

Table 7

Contaminant Source Inventory and Risk Ranking for Scenic View Trailer Court Sources of Other Organic Chemicals

PWSID 210477.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Motor /motor vehicle repair shops	C31	C31-1	A	Medium	3	
Construction trade areas and materials	C09	C9-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	3	
Residential Areas	R01	R1-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Hardware stores	C17	C17-1	B	Low	3	
Construction trade areas and materials	C09	C9-2	B	Low	3	
Construction trade areas and materials	C09	C9-3	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	3	
Organic chemicals manufacturing	I29	I29-1	B	Very High	3	
Residential Areas	R01	R1-2	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Gasoline stations (without repair shop)	C15	C15-1	C	Low	4	
Hardware stores	C17	C17-2	C	Low	5	
Hardware stores	C17	C17-3	C	Low	5	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Heavy equipment rental/storage	C18	C18-1	C	Medium	5	
Heavy equipment rental/storage	C18	C18-2	C	Medium	5	
Heavy equipment rental/storage	C18	C18-3	C	Medium	5	
Heavy equipment rental/storage	C18	C18-4	C	Medium	5	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Construction trade areas and materials	C09	C9-4	C	Low	4	
Construction trade areas and materials	C09	C9-5	C	Low	4	
Construction trade areas and materials	C09	C9-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	C	Low	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	C	Low	5	
Storm water basins and overflows	D19	D19-1	C	Medium	4	
Residential Areas	R01	R1-3	C	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-8-15	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-1	C	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	D	High	6	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Machine and metal work shops	I23	I23-1	D	High	6	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Storm water basins and overflows	D19	D19-1	C	4	
Residential Areas	R01	R1-3	C	4	
Tanks, gasoline (underground)	T12	T12-1	C	5	
Closed tanks, gasoline (underground)	T13	T13-1	C	5	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-2	C	5	File No. L74.14 8401 Brayton Drive Superior Mill Works Removed 2,000 gal gasoline tank in the summer of 1991. Additional excavation and assessment done in 1992. 3 monitoring wells show no groundwater contamination. Status: Closed
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-3	C	5	File No. L55.24 1601 E. 84th Ct. After the removal of a 750 gallon tank soil contamination was found then backfilled. Level & extent of contamination unknown. Status: Closed, Priority: Low
Highways and roads, paved (cement or asphalt)	X20	X20-8-15	C	4	
Motor vehicle/general storage yards/facilities	X27	X27-1	C	4	
Dog walking areas/foot trails	X46	X46-3-5	C	4	
Car washes with engine or undercarriage cleaning	C08	C8-1	D	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	D	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	D	6	
Machine and metal work shops	I23	I23-1	D	6	
Tanks, lubricants or other petroleum products (underground)	T20	T20-1	D	6	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-4	D	6	File No. L55.198 8220 Petersburg Street. : Waste oil spill discovered during tank closure.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-5	D	6	File No. L55.247 8221 Petersburg Street. Removed two motor oil and one used oil tanks. Low levels of contamination found. Status: Closed, Priority: Low
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-6	D	6	File No. L55.268 8221 Petersburg Street Monitoring well/soil boring installed at ES-5. All soil and groundwater meet default cleanup levels. Priority: High
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-7	D	6	File No. L55.304 2440 E. 88th Ave. De minimus loss of gas discovered during closure of 2,000 gallon tank. Status: Closed, Priority: Low

APPENDIX C

Scenic View Trailer Court
Drinking Water Protection Area
and Potential and Existing Contaminant Sources
(Maps 2 - 6)

Scenic View Trailer Court Drinking Water Protection Area and Potential & Existing Contaminant Sources

PWSID 210477

Legend

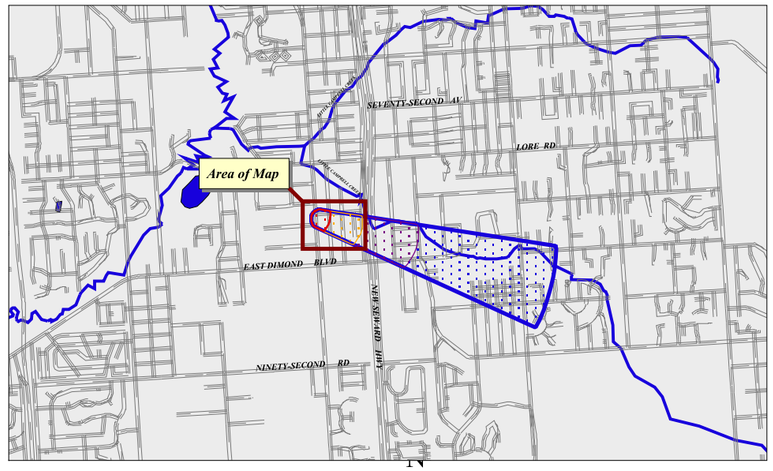
- Scenic View TC DW Well

Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time
- Anchorage Land Parcels
- Construction Trade Areas and Materials (C9)
- Lawns and Gardens (R1)
- Anchorage Roads (X20)



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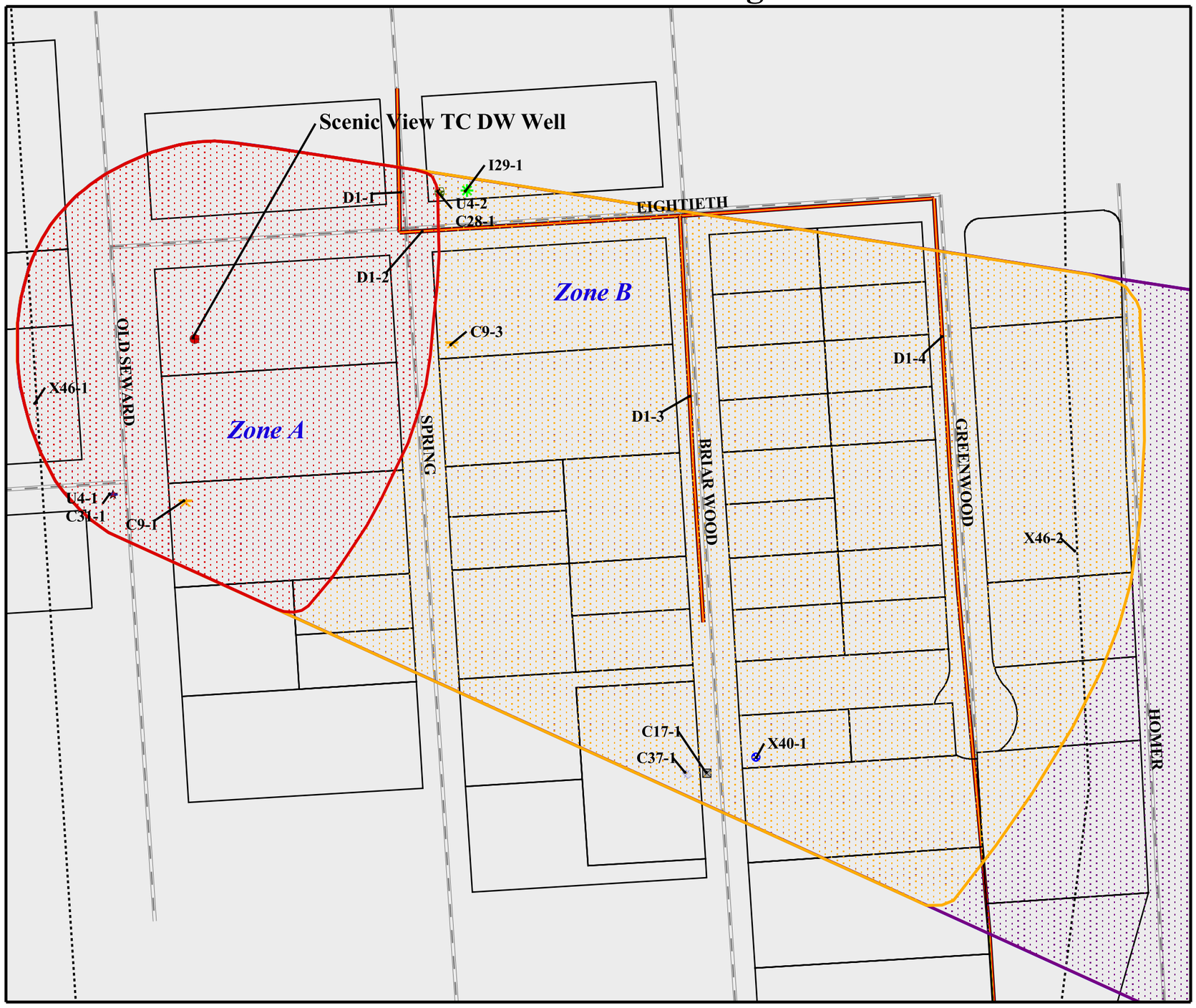
Map 2

Scenic View Trailer Court Drinking Water Protection Area and Potential & Existing Contaminant Sources



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PWSID 210477

Legend

- Scenic View TC DW Well

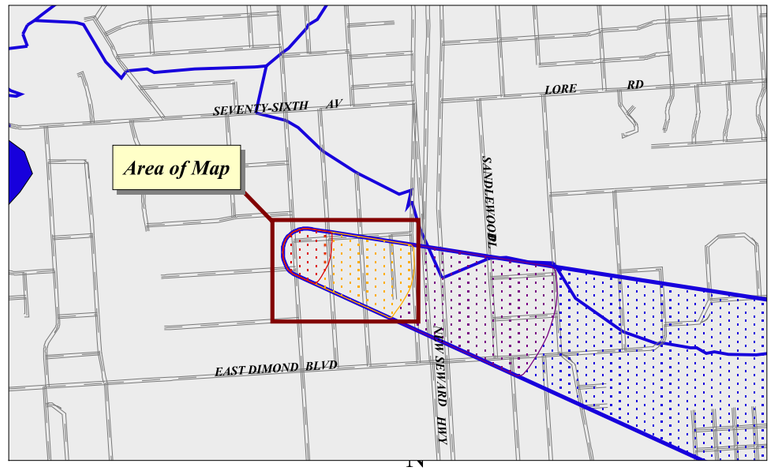
Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time

Potential Contaminant Sources
- Hardware Stores (C17)
- Heavy Equipment Rental/Storage (C18)
- Laboratories - Chemical, Soils and Research (C20)
- Motor/Morot Vehicle Supply Stores (C28)
- Motor/Motor Vehicle Repair Shops (C31)
- Printers, Publishers, Copiers (C37)
- Windshield/Glass Shops (C44)
- Body Shops - Automotive (C5)
- Car Washes with Engine/Undercarriage Cleaning (C8)
- Construction Trade Areas/Materials (C9)
- Class V Injection Wells - Motor Vehicle Waste Dispposal (D42)
- Machine and Metal Work Shops (I23)
- Metal Foundaries (I27)
- Organic Chemicals Manufacturing (I29)
- Plastics and Synthetic Fibers Manufacturing (I36)
- Closed Tanks - Gasoline, underground (T13)
- Tanks, Lubricants, Other Petroleum Products (T20)
- Closed Tanks - Diesel, Underground (T9)
- Contaminated Sites, DEC Recognized (U4)
- Petroleum Product Bulk Stations/Terminals (X11)
- Government Vehicle Maintenance Facilities (X19)
- Medical/Vetrinary Facilities (X40)
- Anchorage Land Parcels
- Trails (X46)
- Sewer Lines (D1)
- Anchorage Roads (X20)



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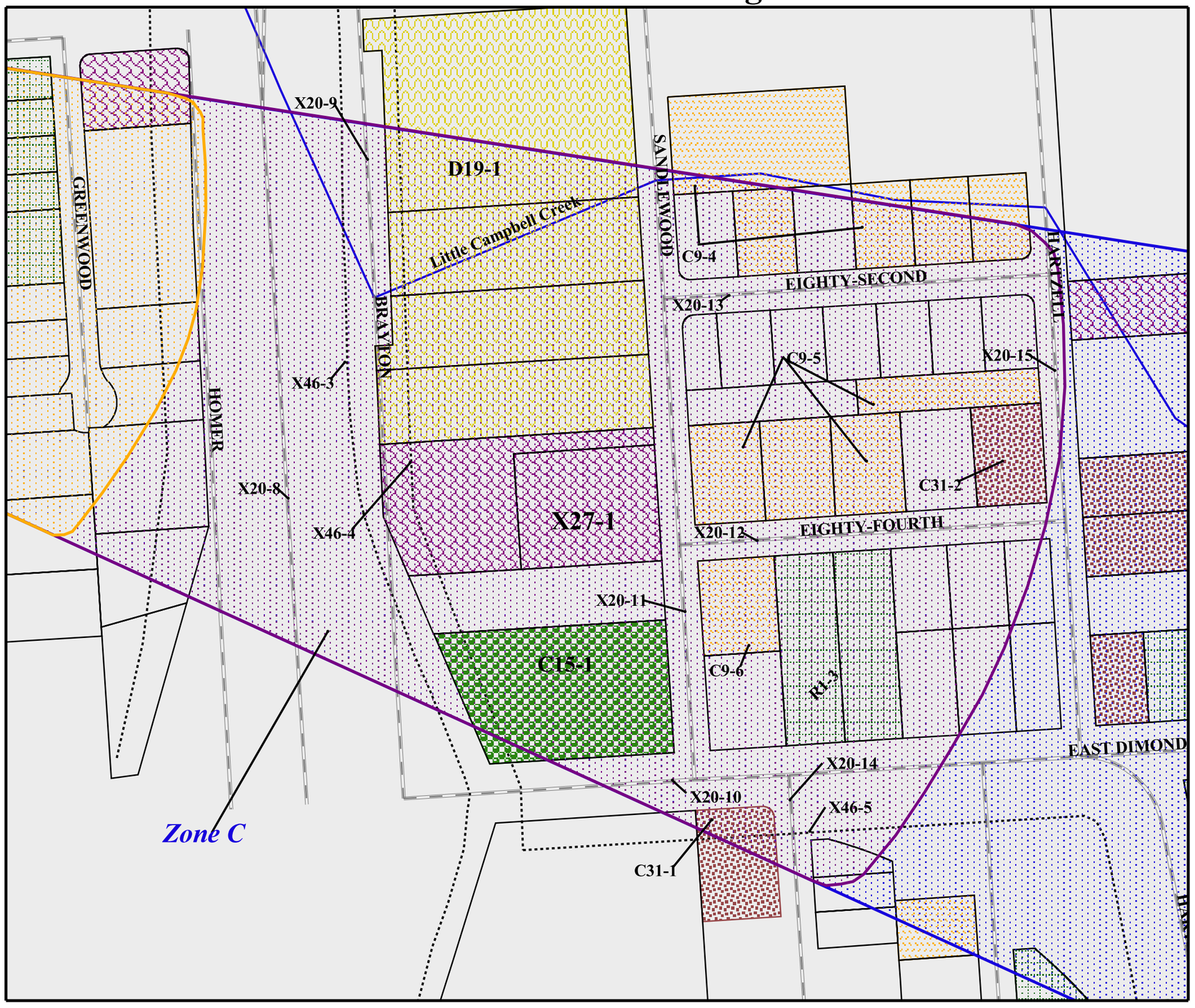
Map 3

Scenic View Trailer Court Drinking Water Protection Area and Potential & Existing Contaminant Sources



PWSID 210477

Legend

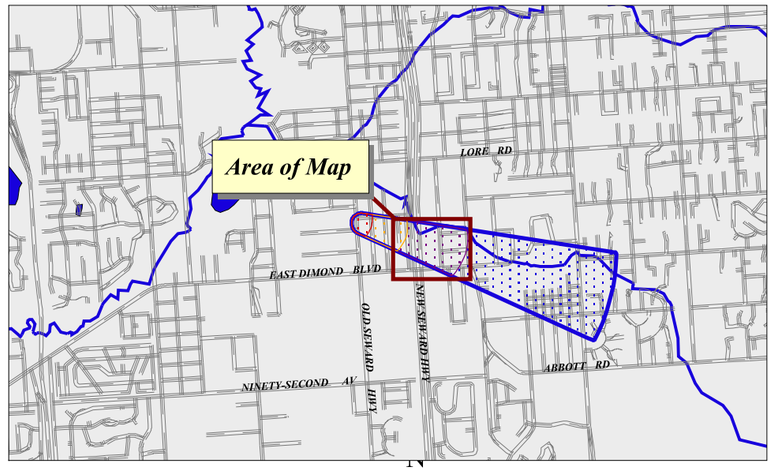
- Scenic View TC DW Well

Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time
- Anchorage Land Parcels
- Construction Trade Areas and Materials (C9)
- Gasoline Stations - Without Repair Shops (C15)
- Lawns and Gardens (R1)
- Motor Vehicle/General Storage Yards/Facilities (X27)
- Motor/Motor Vehicle Repair Shops (C31)
- Storm Water Basins or Overflows (D19)
- Anchorage Roads (X20)
- Trails (X46)
- Anchorage Streams



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Map 4

Scenic View Trailer Court Drinking Water Protection Area and Potential & Existing Contaminant Sources

Legend

- Scenic View TC DW Well

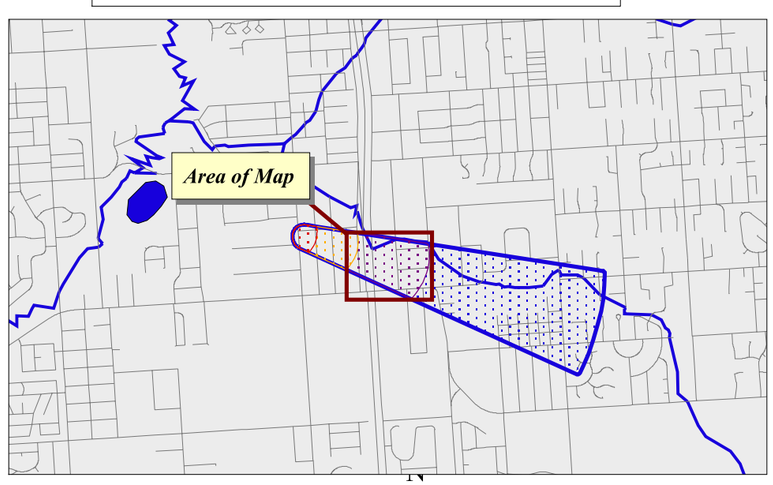
Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time

Potential Contaminant Sources
- Hardware Stores (C17)
- Heavy Equipment Rental/Storage (C18)
- Laboratories - Chemical, Soils and Research (C20)
- Motor/Morot Vehicle Supply Stores (C28)
- Motor/Motor Vehicle Repair Shops (C31)
- Printers, Publishers, Copiers (C37)
- Windshield/Glass Shops (C44)
- Body Shops - Automotive (C5)
- Car Washes with Engine/Undercarriage Cleaning (C8)
- Construction Trade Areas/Materials (C9)
- Class V Injection Wells - Motor Vehicle Waste Dispposal (D42)
- Machine and Metal Work Shops (I23)
- Metal Foundaries (I27)
- Organic Chemicals Manufacturing (I29)
- Plastics and Synthetic Fibers Manufacturing (I36)
- Closed Tanks - Gasoline, underground (T13)
- Tanks, Lubricants, Other Petroleum Products (T20)
- Closed Tanks - Diesel, Underground (T9)
- Contaminated Sites, DEC Recognized (U4)
- Petroleum Product Bulk Stations/Terminals (X11)
- Government Vehicle Maintenance Facilities (X19)
- Medical/Vetrinary Facilities (X40)
- Tanks - Gasoline Underground (T12)
- Anchorage Land Parcels
- Anchorage Roads (X20)
- Sewer Lines (D1)
- Anchorage Streams



N
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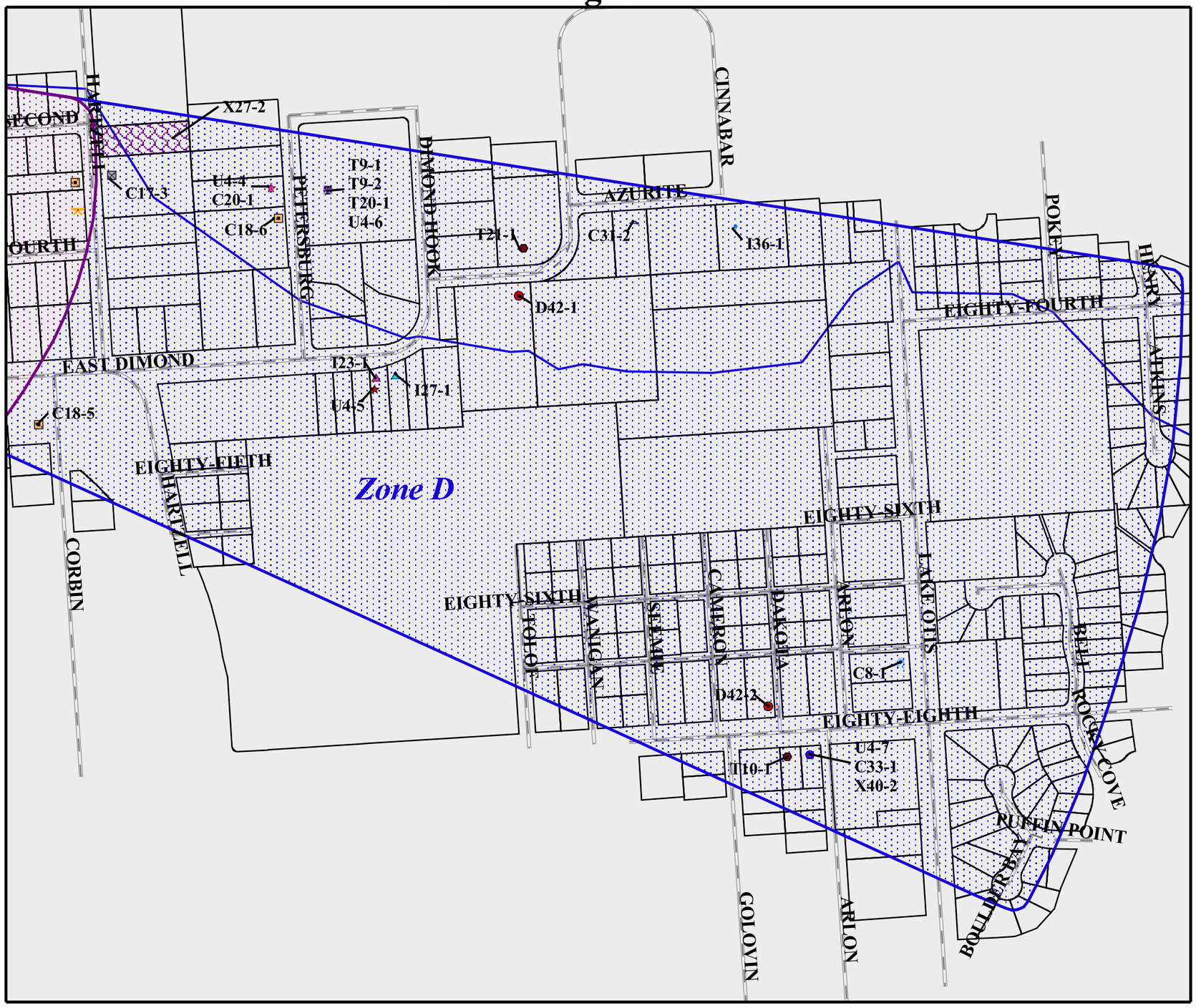
S

300 0 300 600 Feet

PWSID 210477

Map 5

Country Lane Apartments Drinking Water Protection Area and Potential & Existing Contaminant Sources



500 0 500 1000 Feet

PWSID 211164

Legend

- Scenic View TC DW Well
- Zone A Protection Area
- Several Months Travel Time
- Zone B Protection Area
- Less Than 2 Years Travel Time
- Zone C Protection Area
- Less Than 5 Years Travel Time
- Zone D Protection Area
- Less Than 10 Years Travel Time
- Storage Tanks
- Potential Contaminant Sources
- Hardware Stores (C17)
- Heavy Equipment Rental/Storage (C18)
- Laboratories - Chemical, Soils and Research (C20)
- Motor/Morot Vehicle Supply Stores (C28)
- Motor/Motor Vehicle Repair Shops (C31)
- Printers, Publishers, Copiers (C37)
- Windshield/Glass Shops (C44)
- Body Shops - Automotive (C5)
- Car Washes with Engine/Undercarriage Cleaning (C8)
- Construction Trade Areas/Materials (C9)
- Class V Injection Wells - Motor Vehicle Waste Dispposal (D42)
- Machine and Metal Work Shops (I23)
- Metal Foundaries (I27)
- Organic Chemicals Manufacturing (I29)
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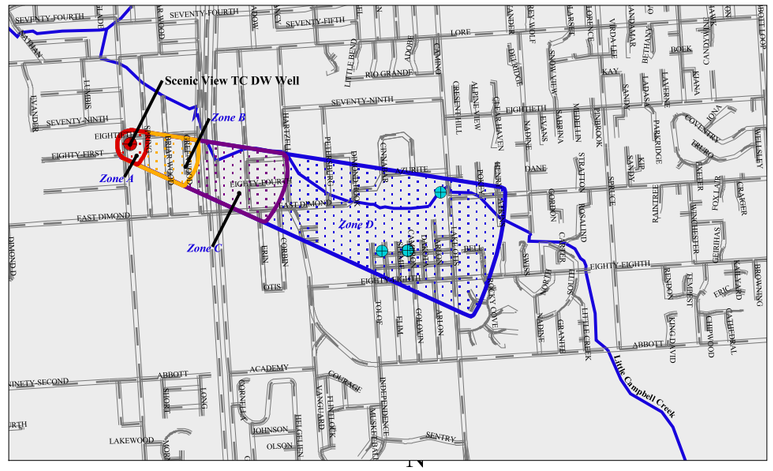
- Closed Tanks - Gasoline, underground (T13)
- Tanks, Lubricants, Other Petroleum Products (T20)
- Closed Tanks - Diesel, Underground (T9)
- Contaminated Sites, DEC Recognized (U4)
- Petroleum Product Bulk Stations/Terminals (X11)
- Government Vehicle Maintenance Facilities (X19)
- Medical/Vetrinary Facilities (X40)
- Anchorage Land Parcels
- Motor Vehicle/General Storage Yards/Facilities (X27)
- Anchorage Roads (X20)
- Anchorage Streams



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Map 6

APPENDIX D

Vulnerability Analysis for Scenic View Trailer Court

(Charts 1-14)

Chart 1. Susceptibility of the wellhead - Scenic View Trailer Court

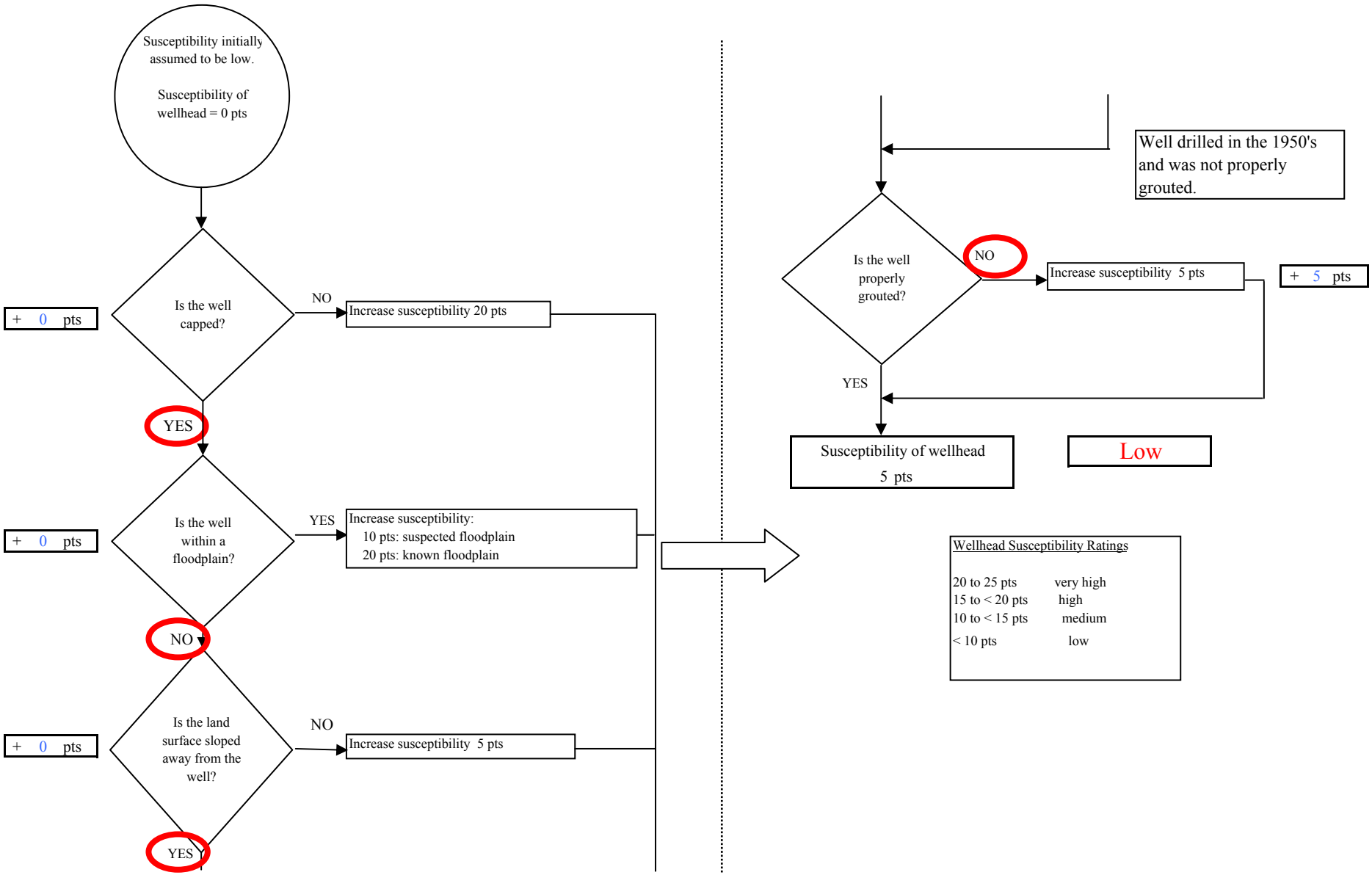


Chart 2. Susceptibility of the aquifer - Scenic View Trailer Court

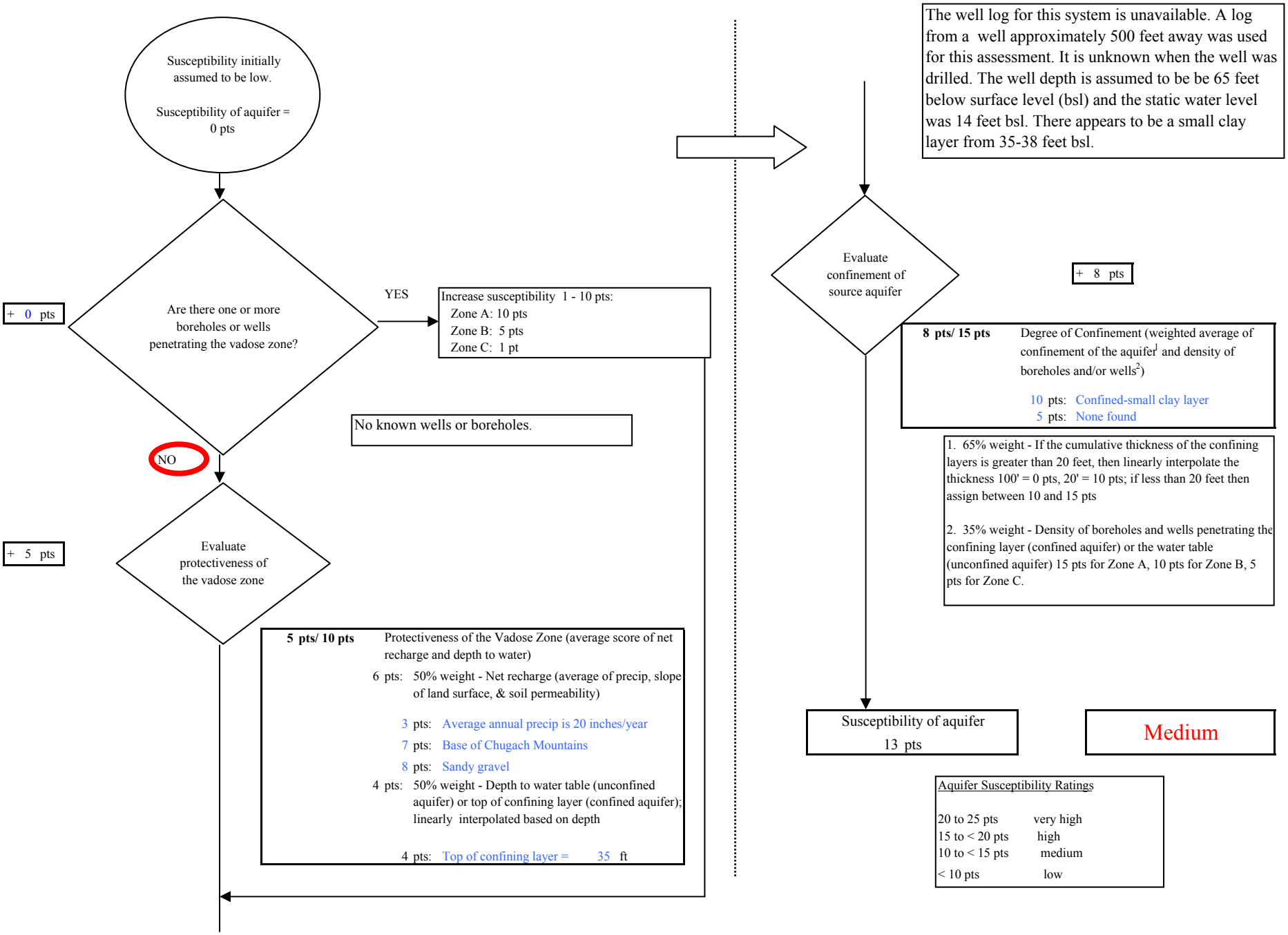
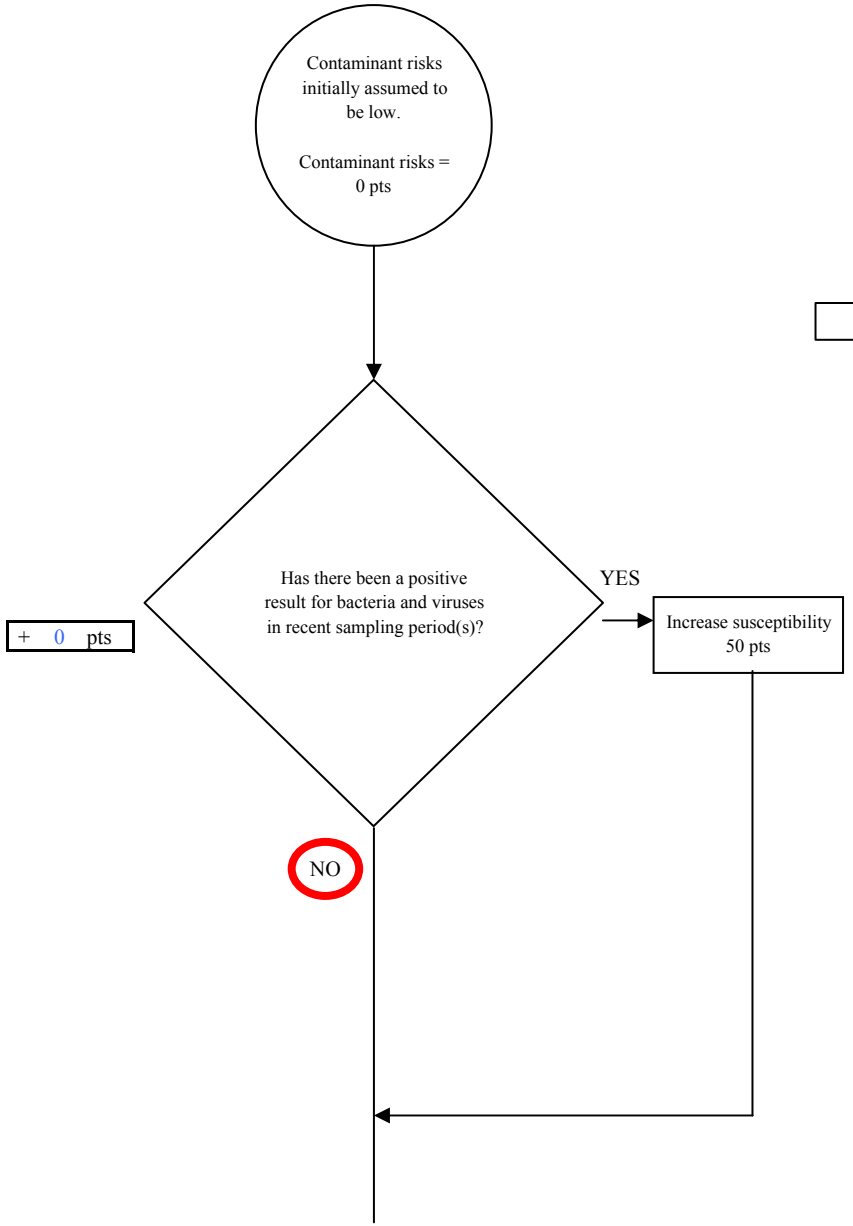
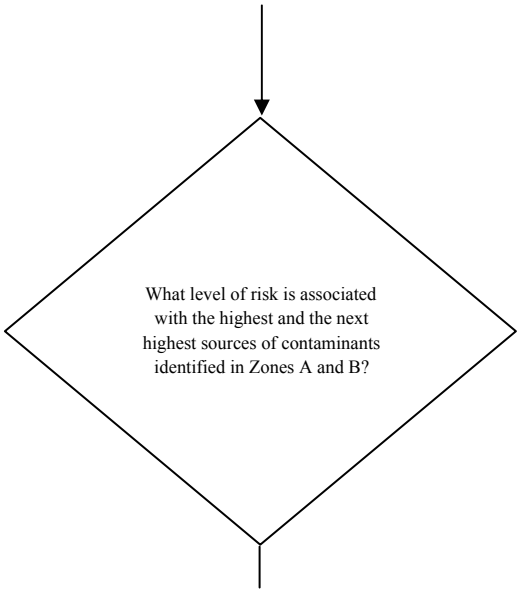


Chart 3. Contaminant risks for Scenic View Trailer Court- Bacteria & Viruses





+ 20 pts

Risk Rankings for Contaminant Sources Identified in Zones A and B

	Zone A	Zone B	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	1	1	2
Low(s)	3	4	7

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 20

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

Chart 3. Contaminant risks for Scenic View Trailer Court- Bacteria & Viruses

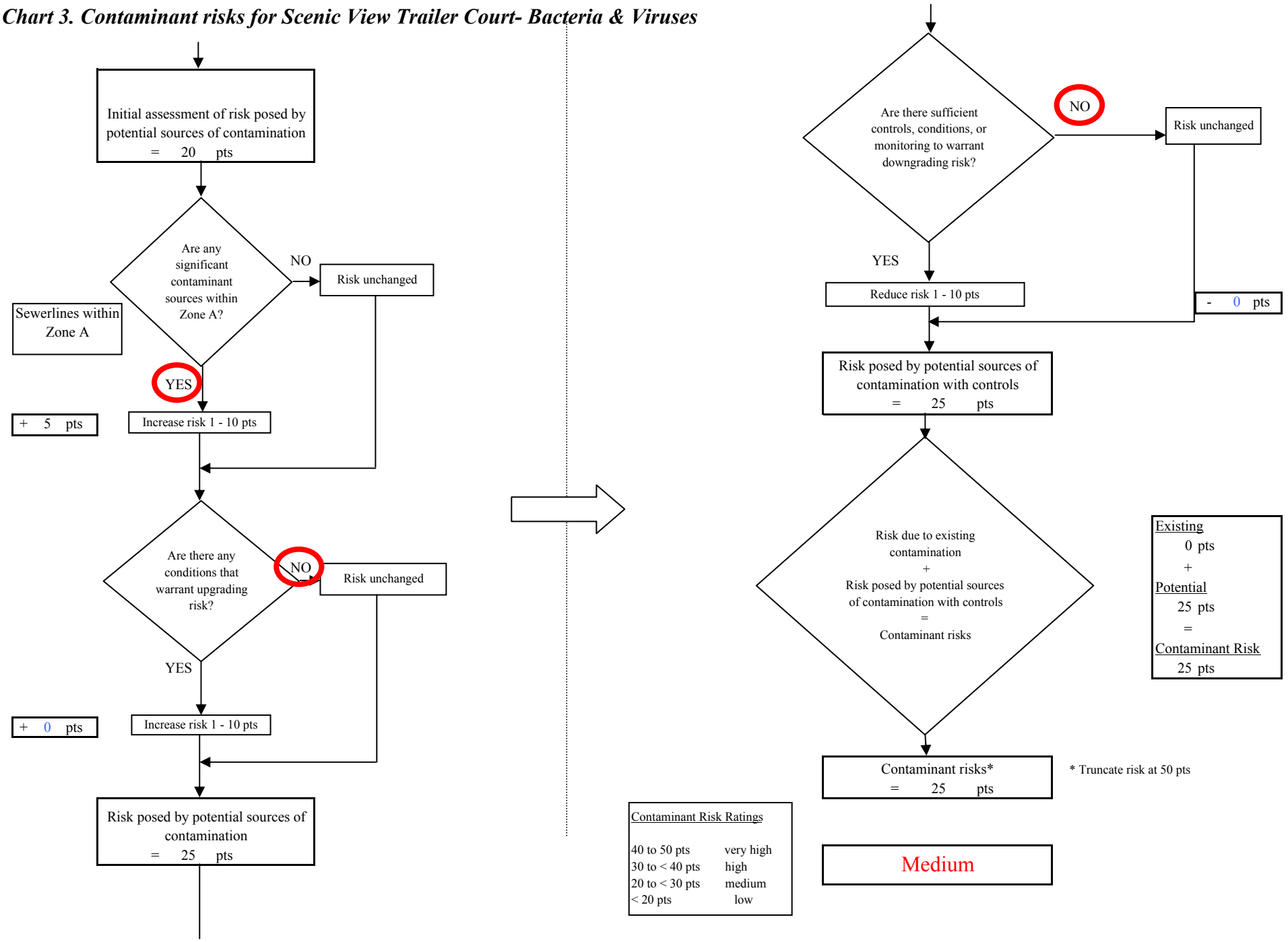


Chart 4. Vulnerability analysis for Scenic View Trailer Court- Bacteria & Viruses

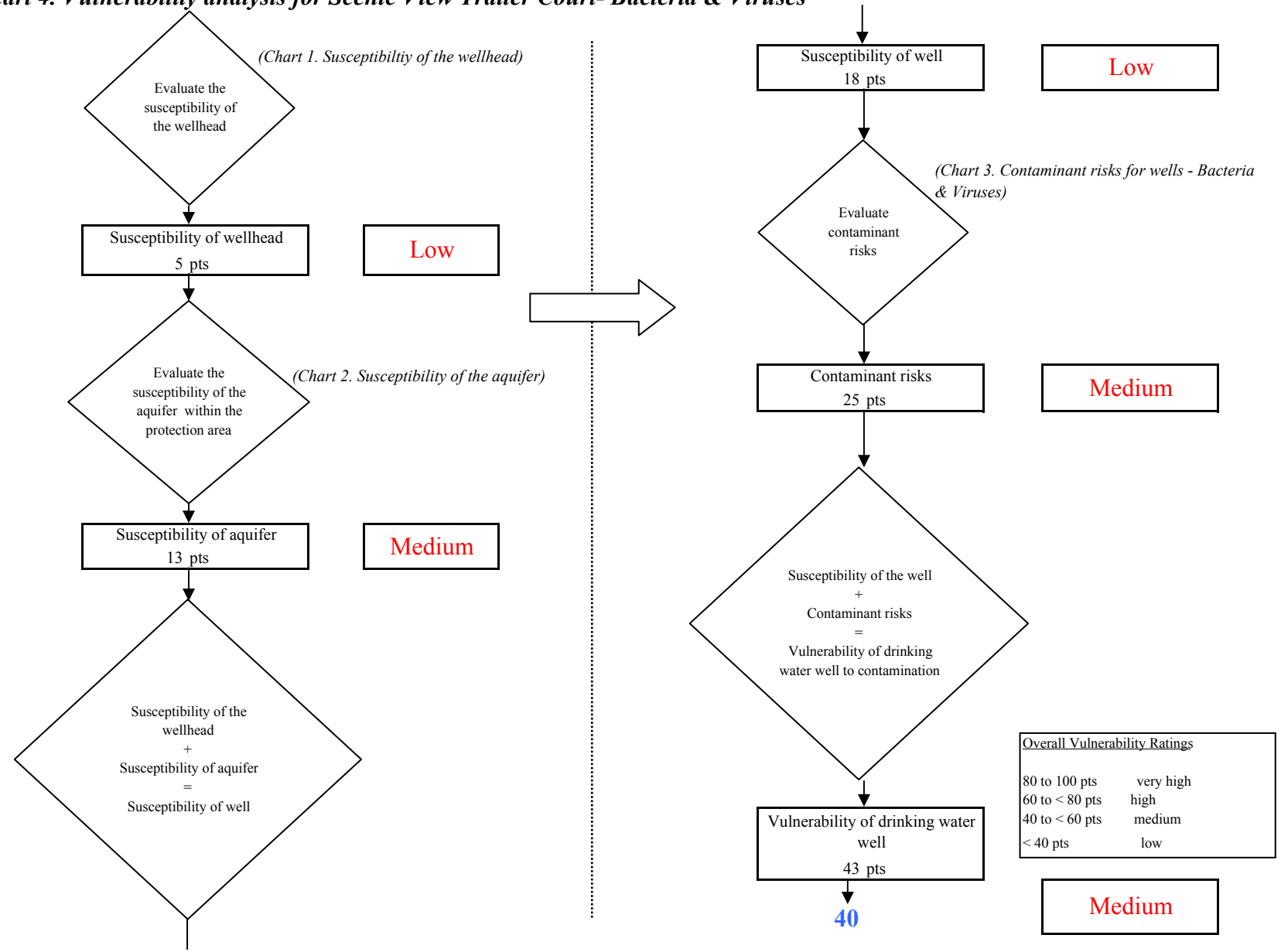


Chart 5. Contaminant risks for Scenic View Trailer Court- Nitrates and Nitrites

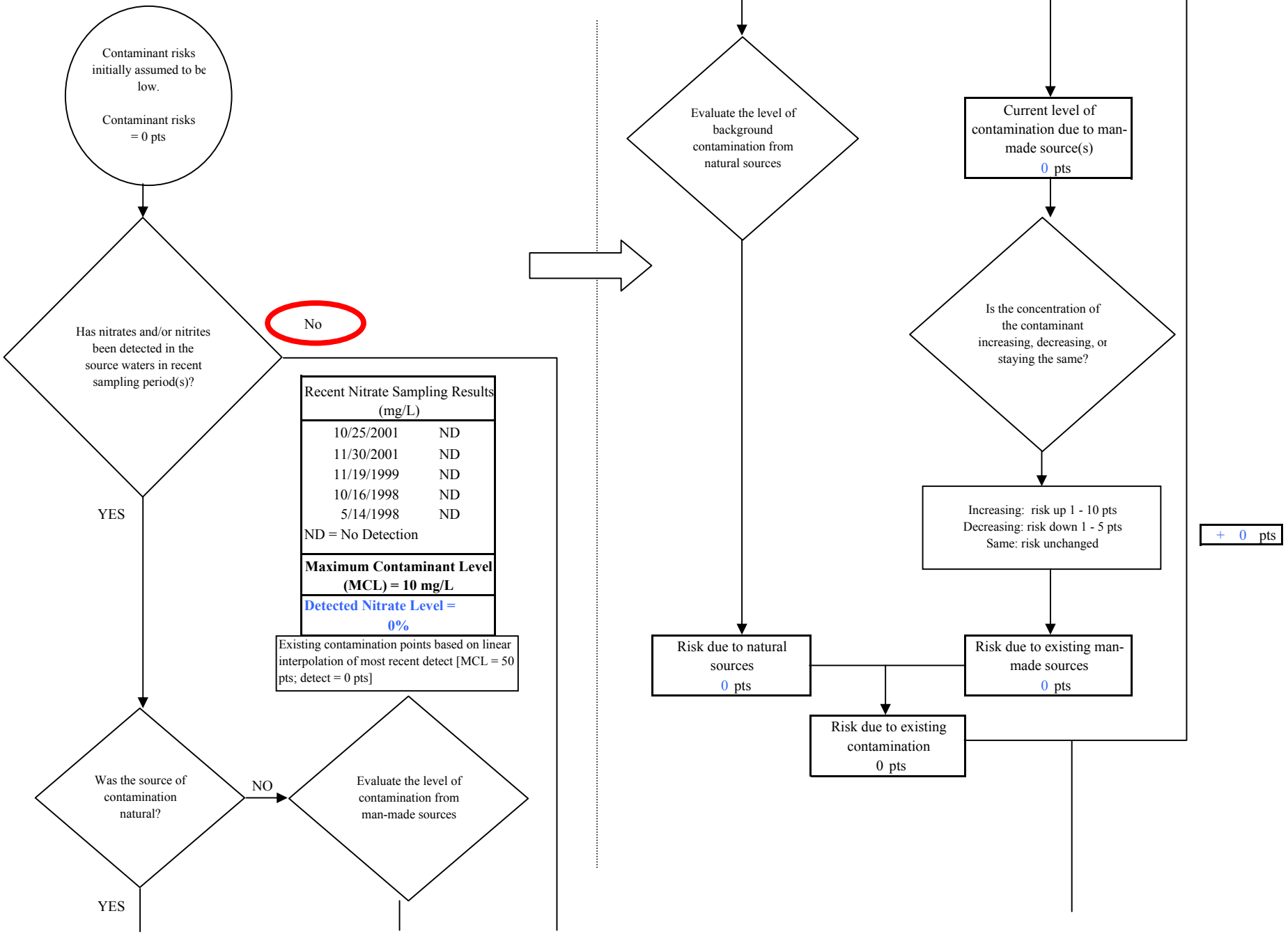


Chart 5. Contaminant risks for Scenic View Trailer Court- Nitrates and Nitrites

+ 25 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	1	0	1
Low(s)	3	11	14

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 25

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

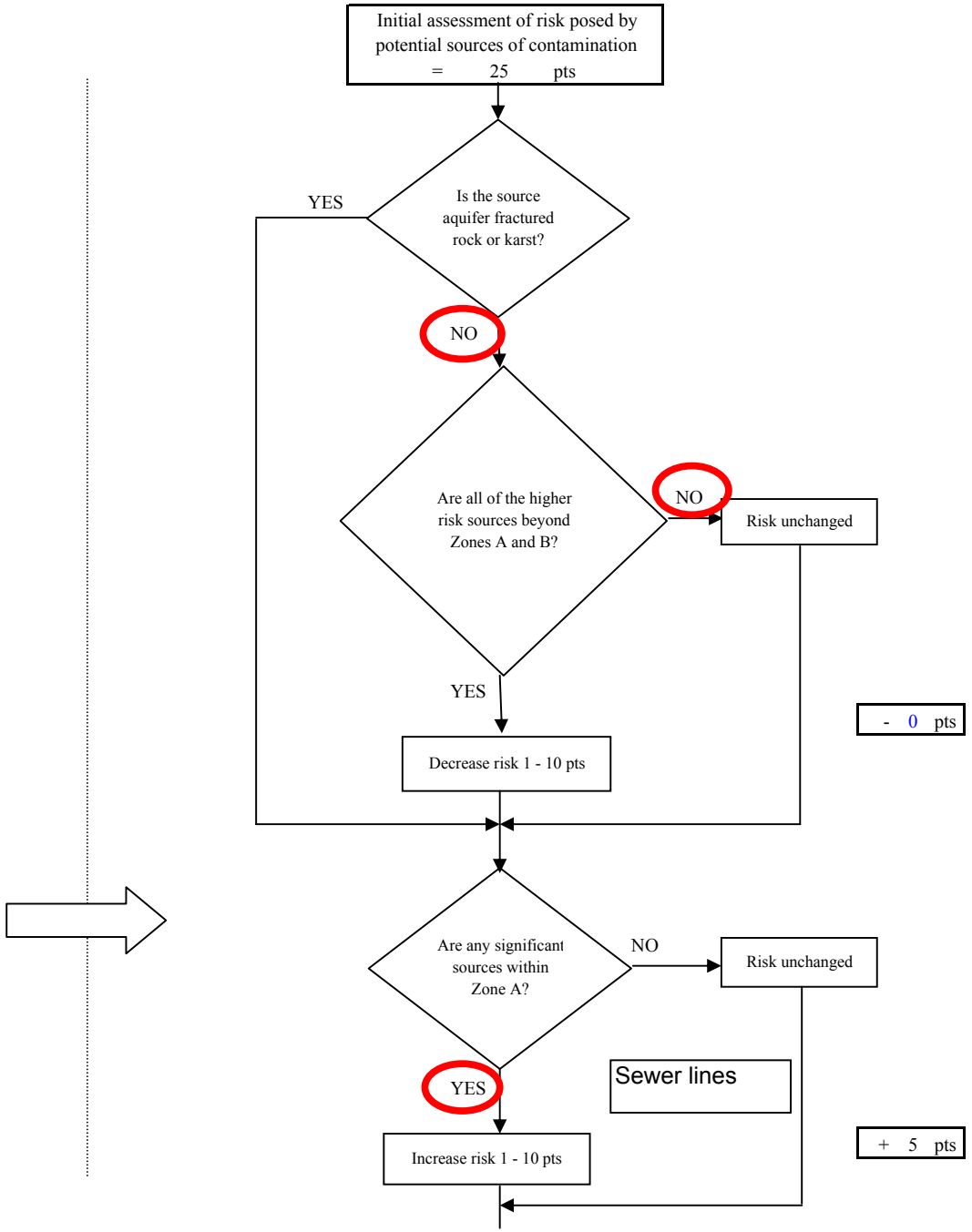


Chart 5. Contaminant risks for Scenic View Trailer Court- Nitrates and Nitrites

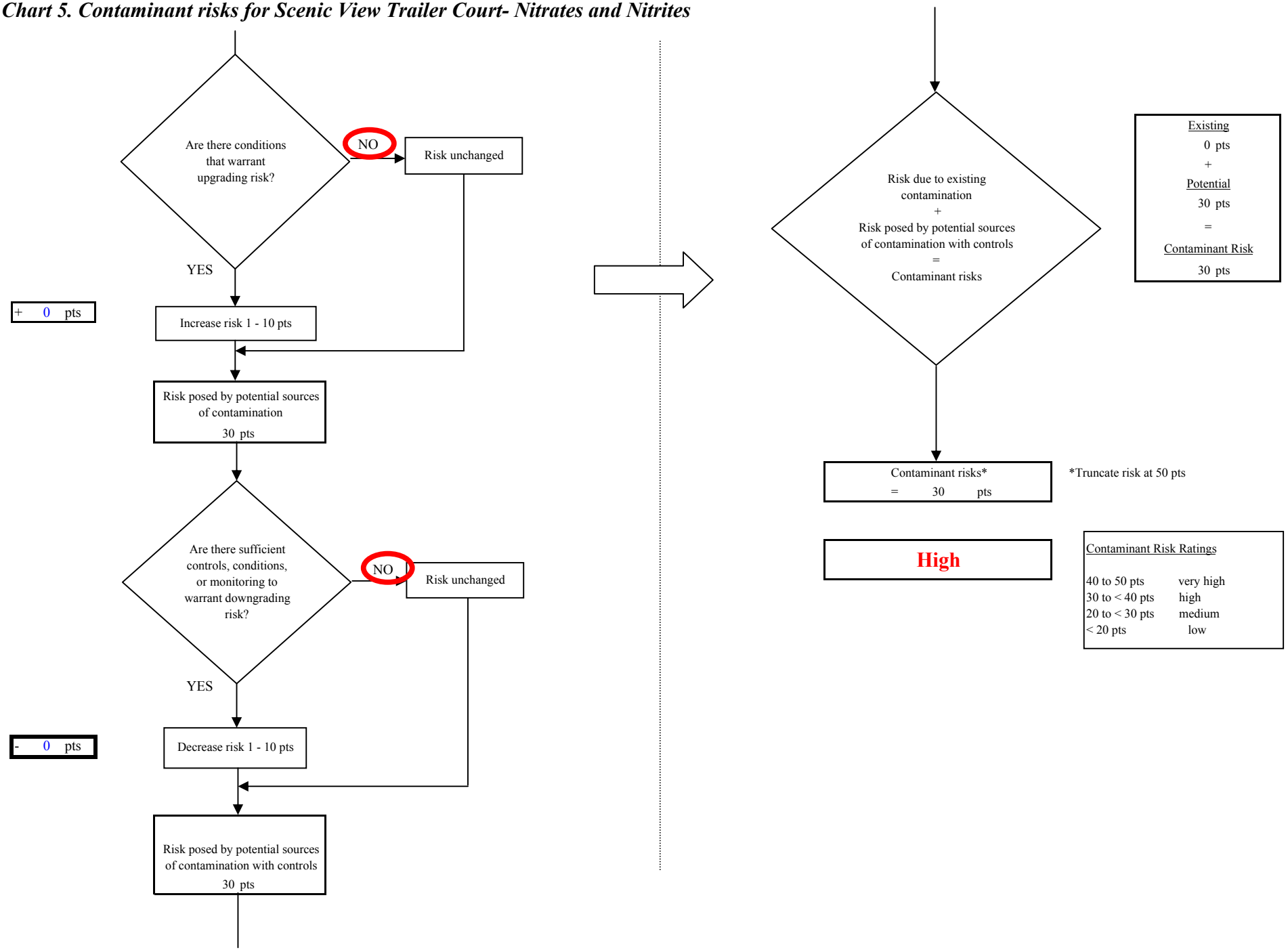


Chart 6. Vulnerability analysis for Scenic View Trailer Court- Nitrates and Nitrites

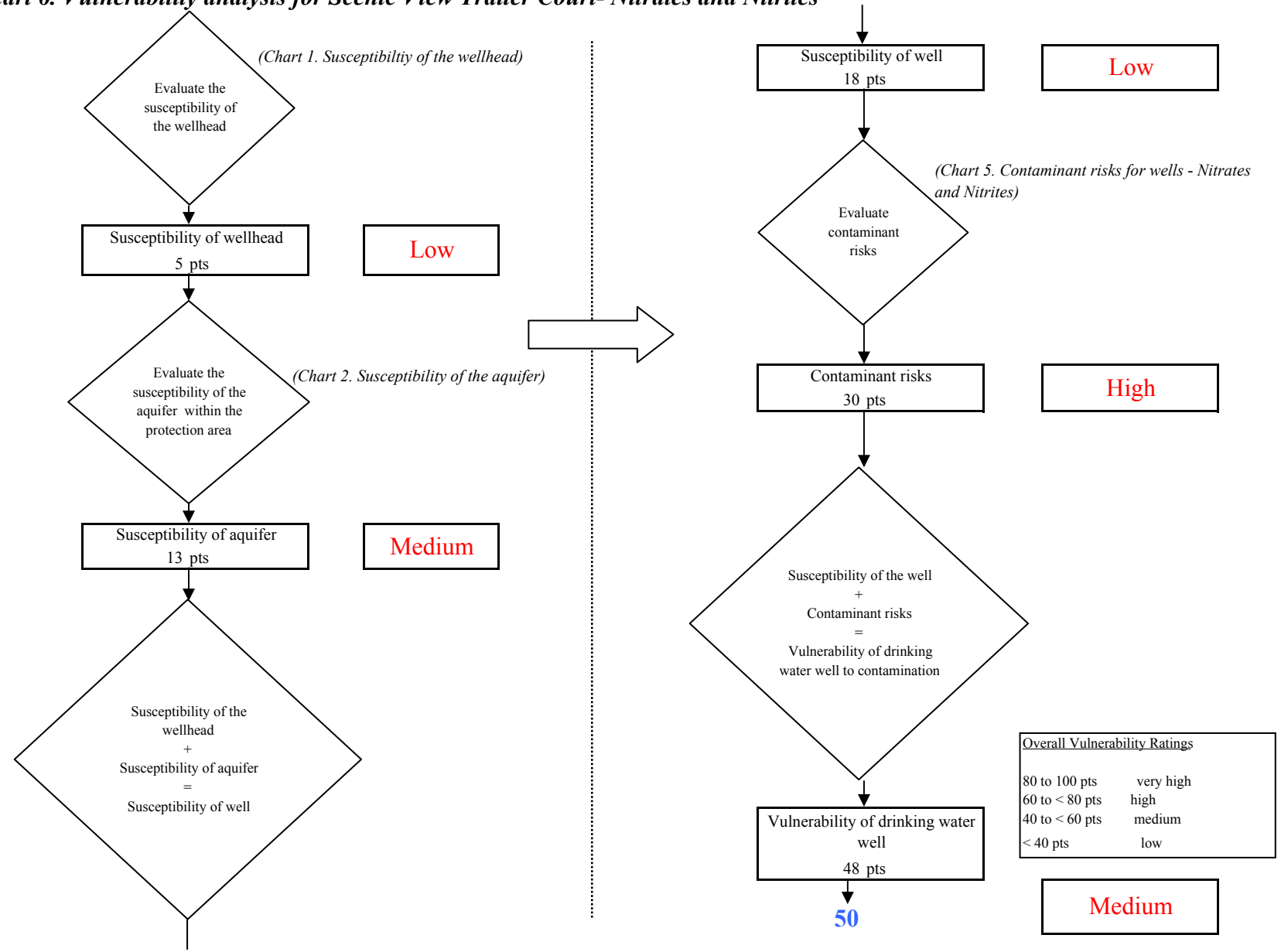


Chart 7. Contaminant risks for Scenic View Trailer Court- Volatile Organic Chemicals

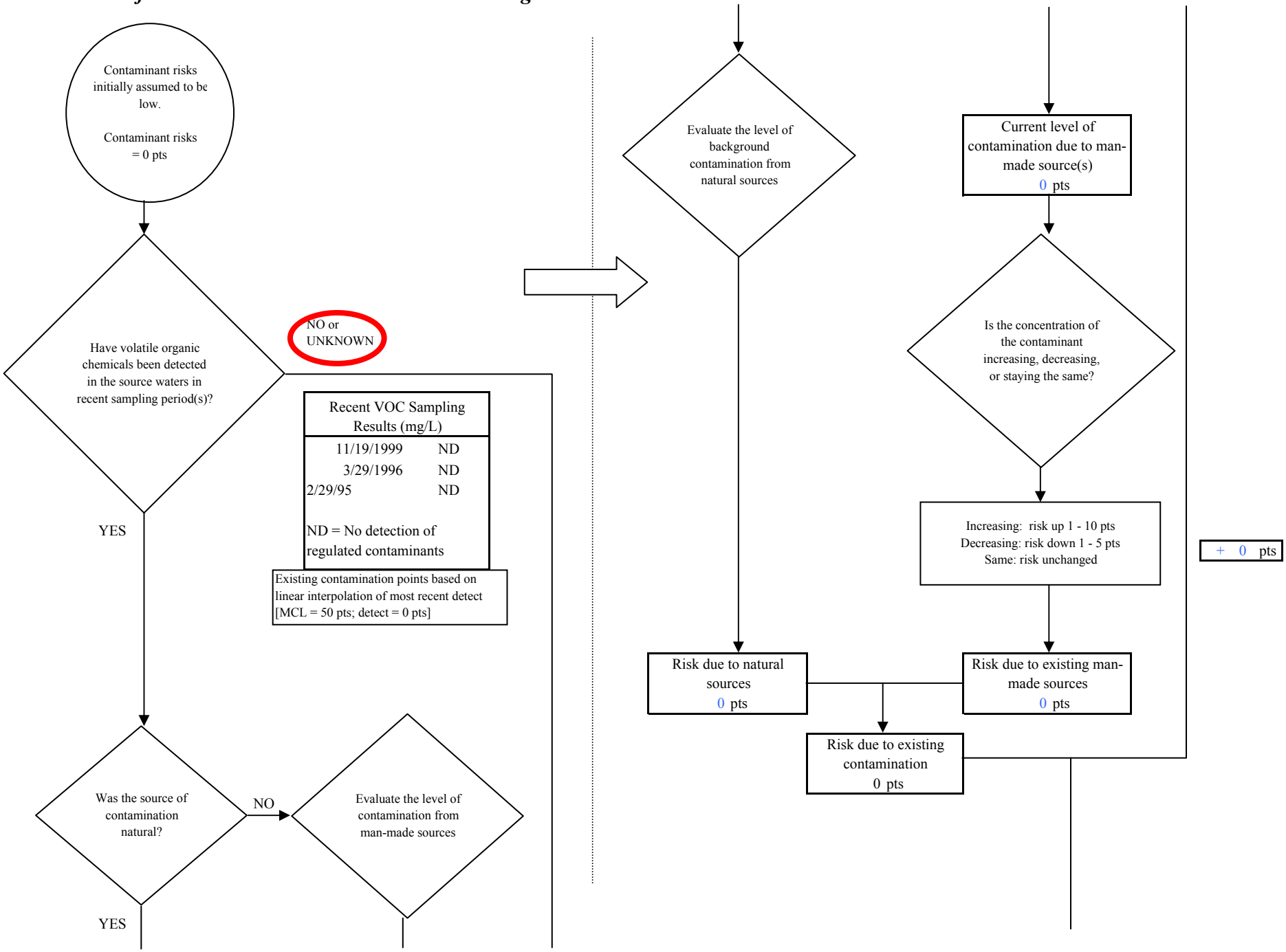


Chart 7. Contaminant risks for Scenic View Trailer Court- Volatile Organic Chemicals

+ 50 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	0	1	1
High(s)	1	3	4
Medium(s)	1	8	9
Low(s)	4	18	22

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 50

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

Initial assessment of risk posed by potential sources of contamination = 50 pts

Is the source aquifer fractured rock or karst?

YES

NO

Are all of the higher risk sources beyond Zones A and B?

NO

Risk unchanged

YES

Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO

Risk unchanged

YES

Increase risk 1 - 10 pts

+ 10 pts

Chart 7. Contaminant risks for Scenic View Trailer Court- Volatile Organic Chemicals

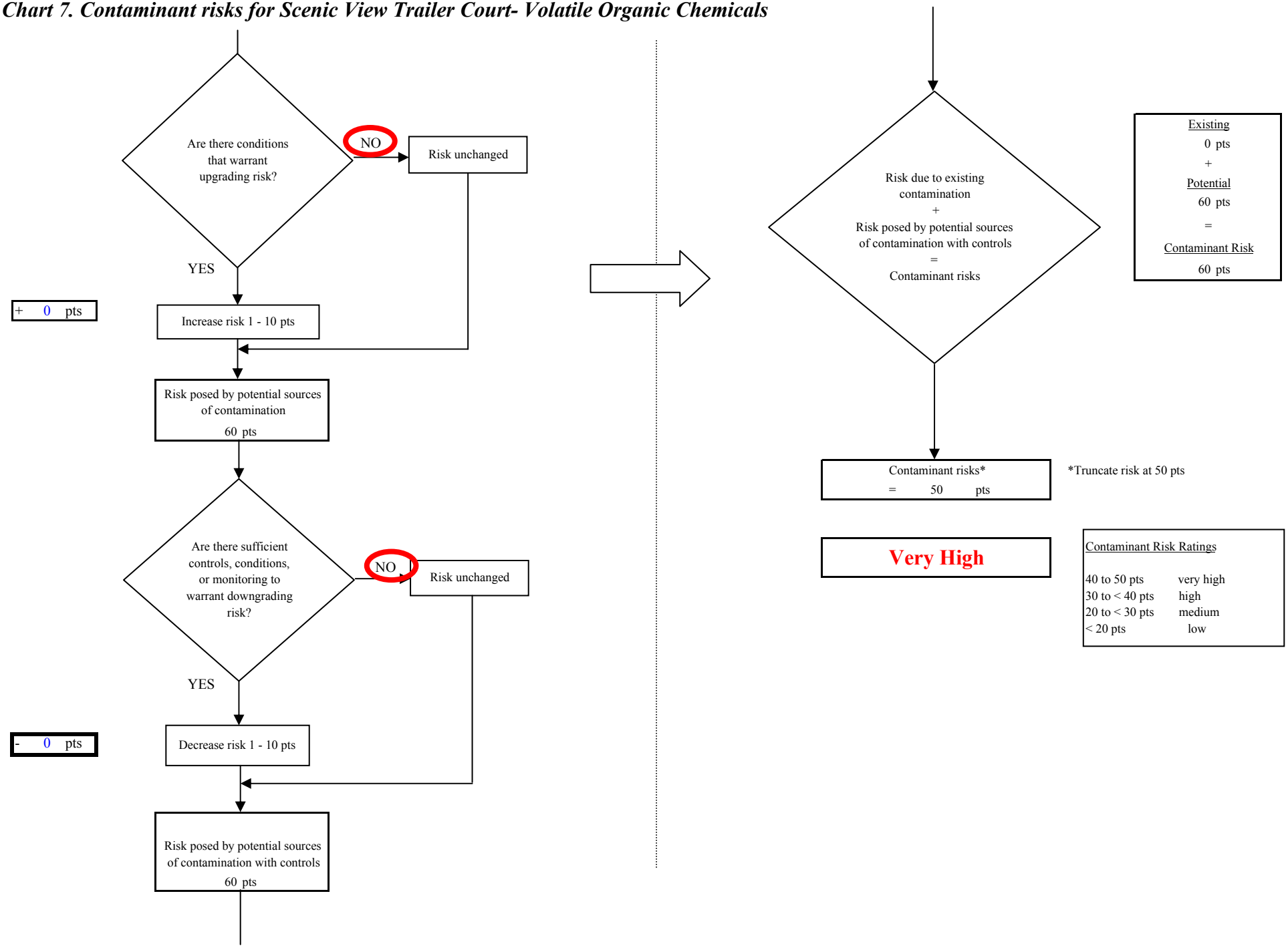


Chart 8. Vulnerability analysis for Scenic View Trailer Court- Volatile Organic Chemicals

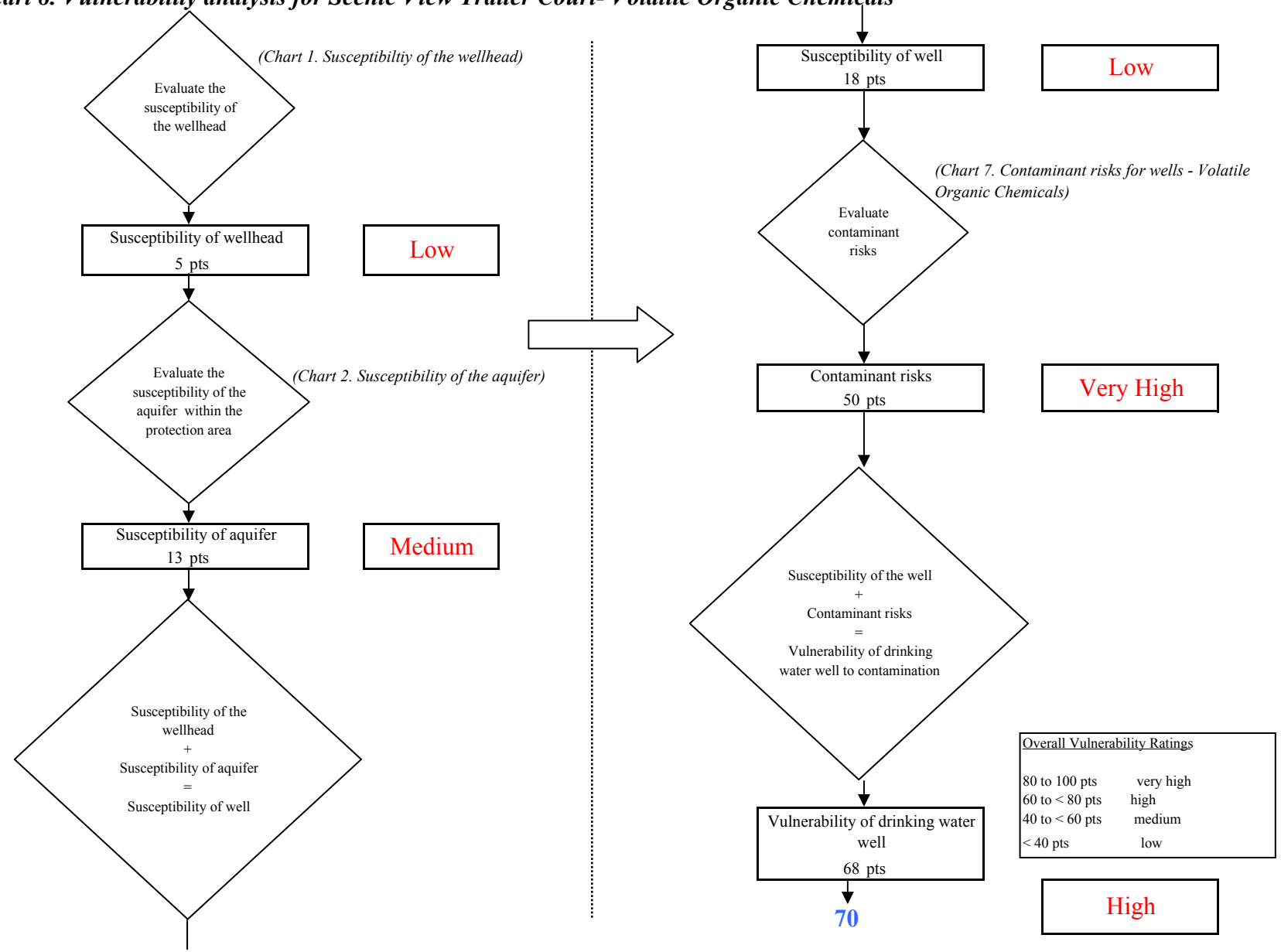


Chart 9. Contaminant risks for Scenic View Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

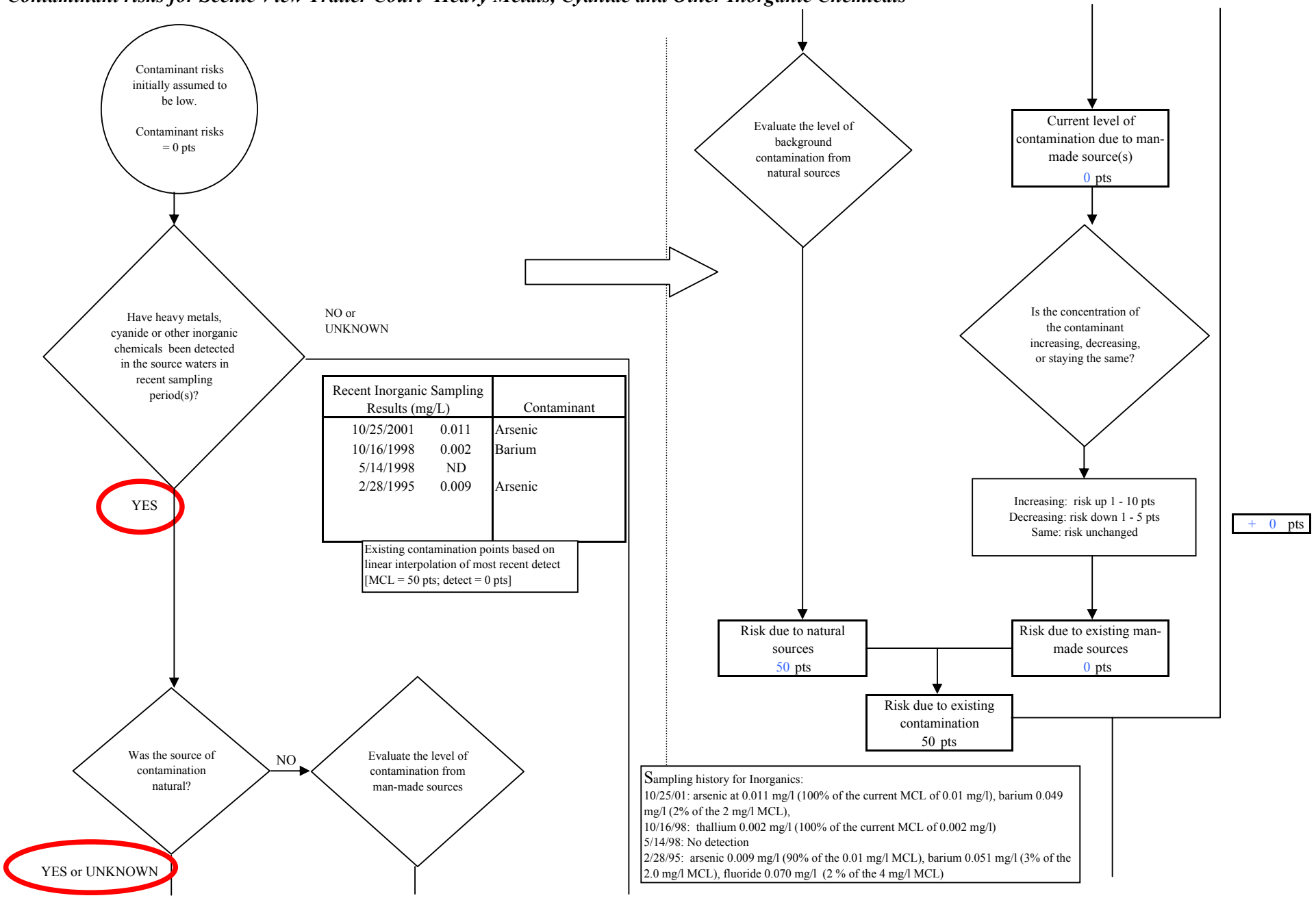


Chart 9. Contaminant risks for Scenic View Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

+ 35 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	1	1
Medium(s)	1	4	5
Low(s)	4	18	22

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score	35

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

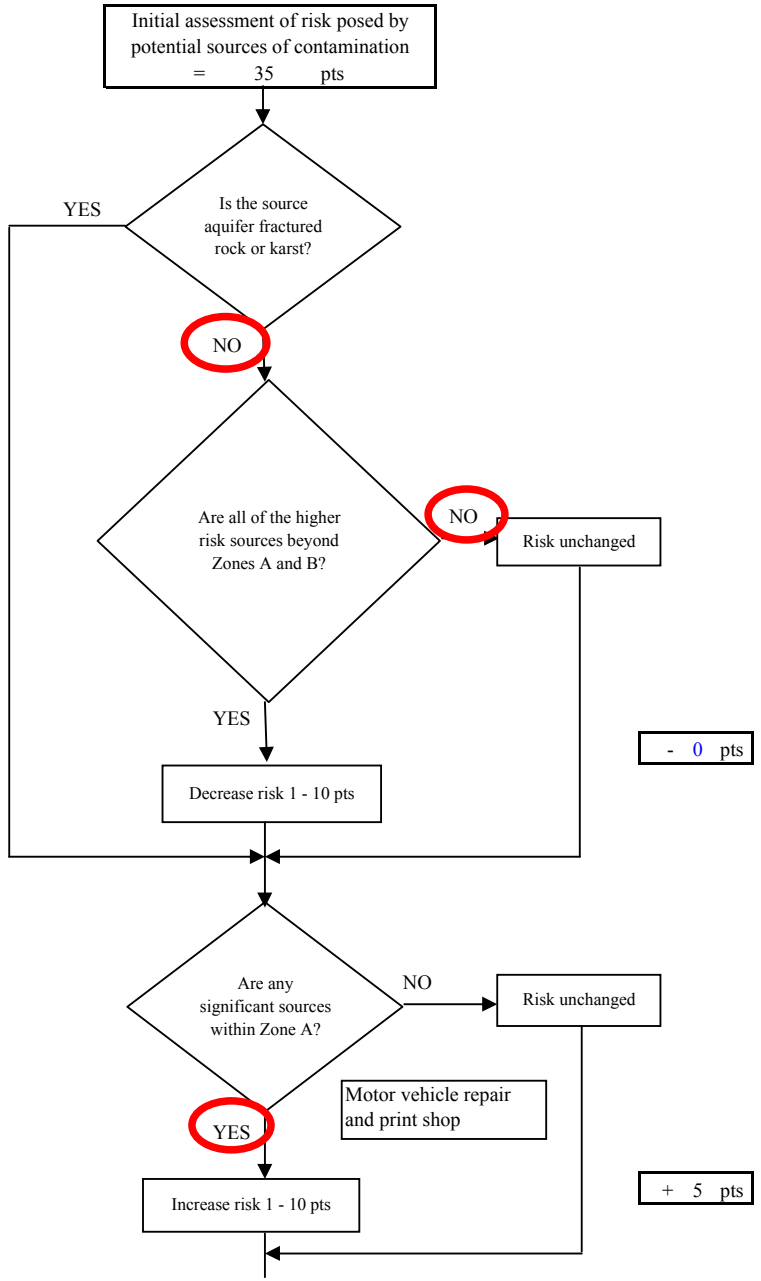


Chart 9. Contaminant risks for Scenic View Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

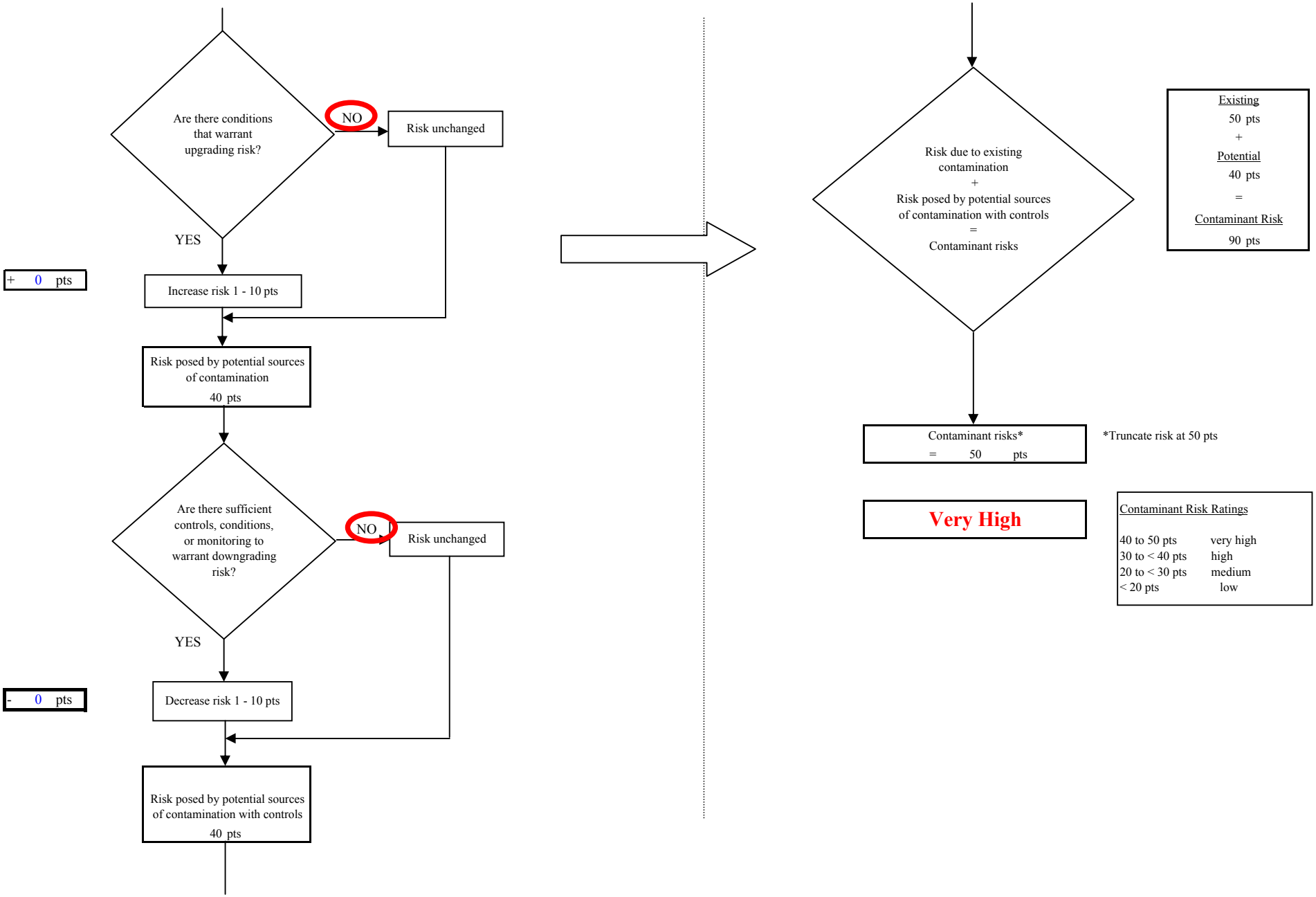


Chart 10. Vulnerability analysis for Scenic View Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

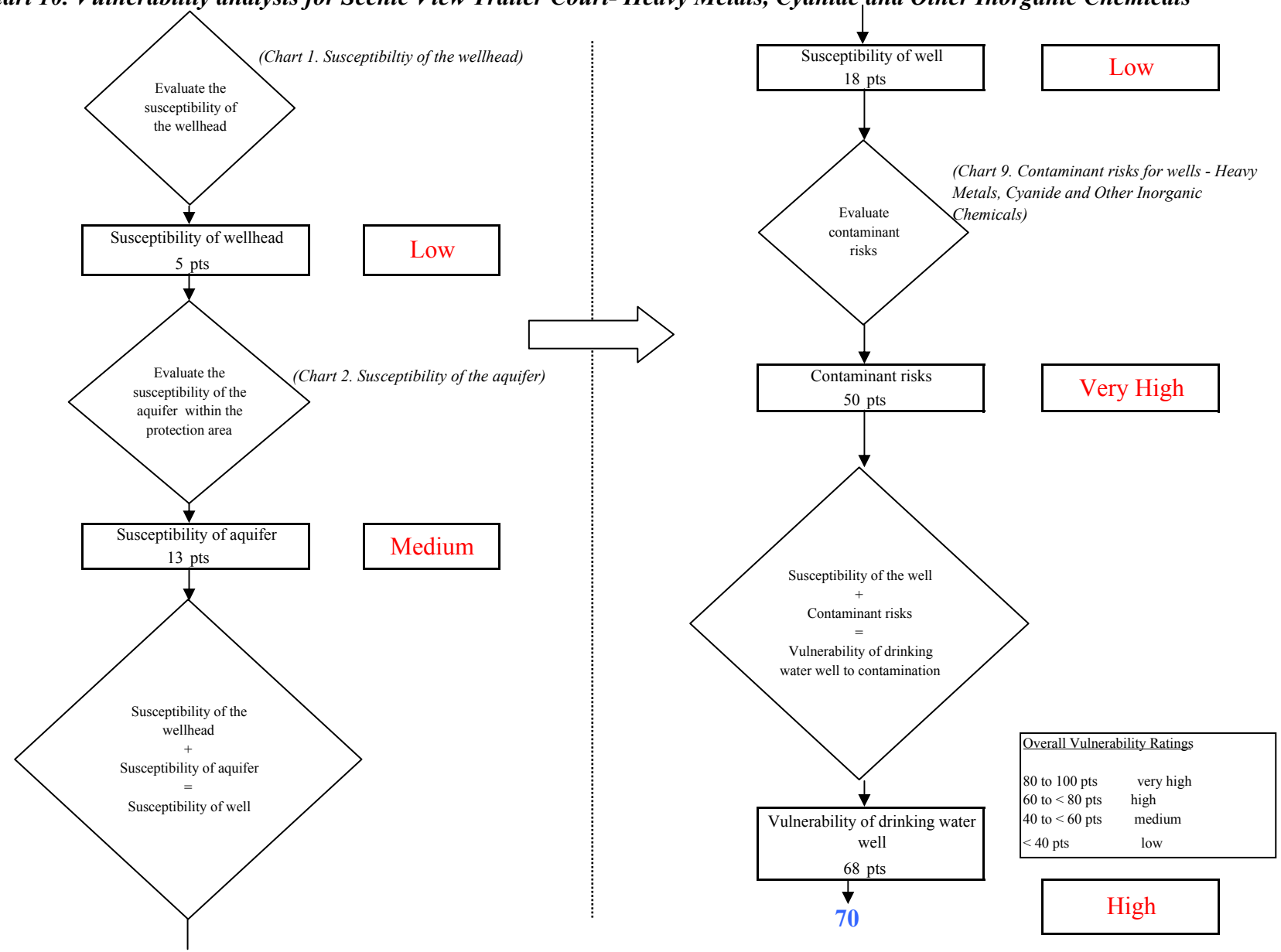


Chart 11. Contaminant risks for Scenic View Trailer Court- Synthetic Organic Chemicals

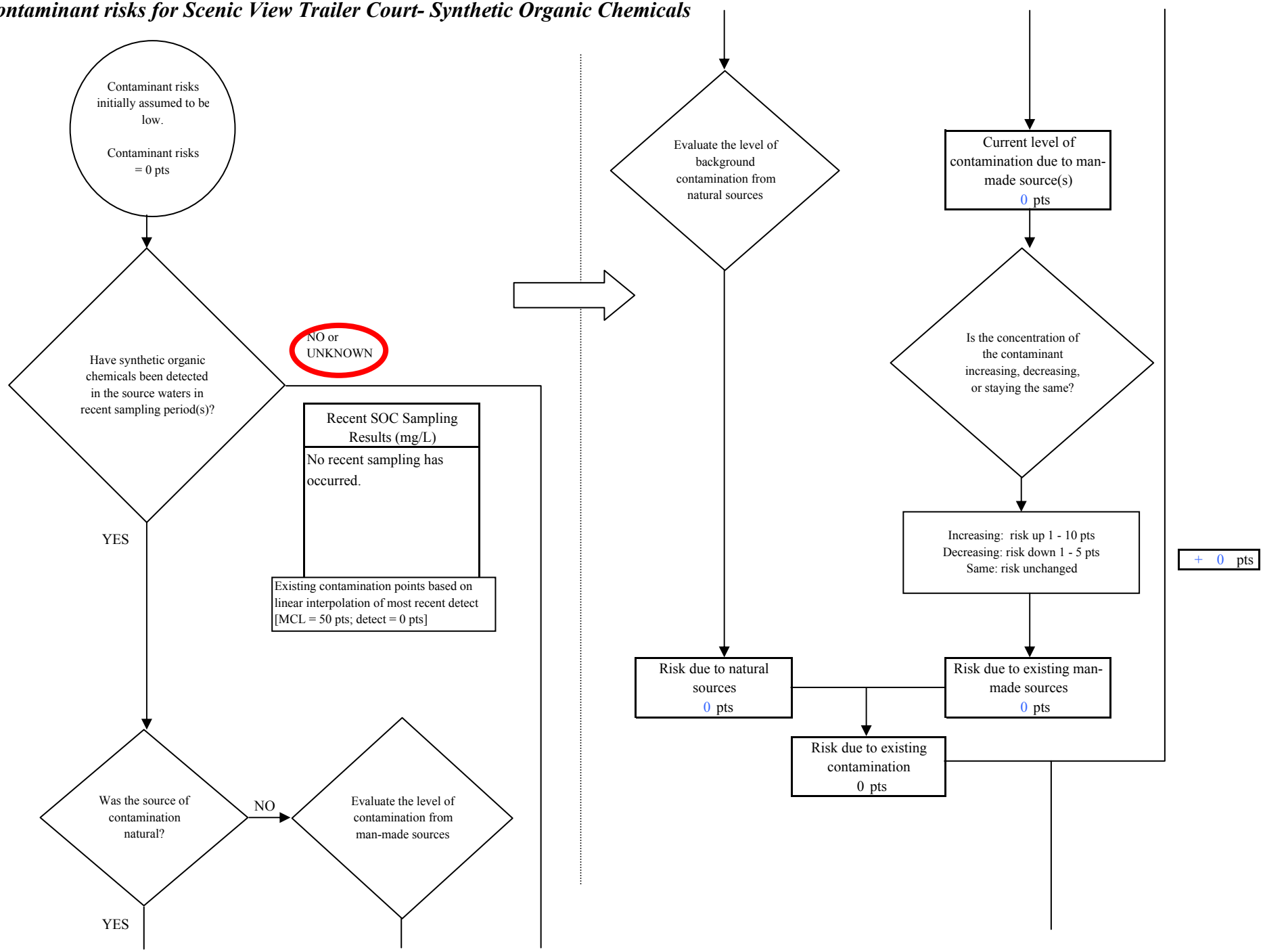


Chart 11. Contaminant risks for Scenic View Trailer Court- Synthetic Organic Chemicals

+ 40 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	0	1	1
High(s)	0	0	0
Medium(s)	0	0	0
Low(s)	2	5	7

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 40

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

Initial assessment of risk posed by potential sources of contamination = 40 pts

Is the source aquifer fractured rock or karst?

YES

NO

Are all of the higher risk sources beyond Zones A and B?

NO

Risk unchanged

YES

Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO

Risk unchanged

YES

Increase risk 1 - 10 pts

+ 2 pts

Chart 11. Contaminant risks for Scenic View Trailer Court- Synthetic Organic Chemicals

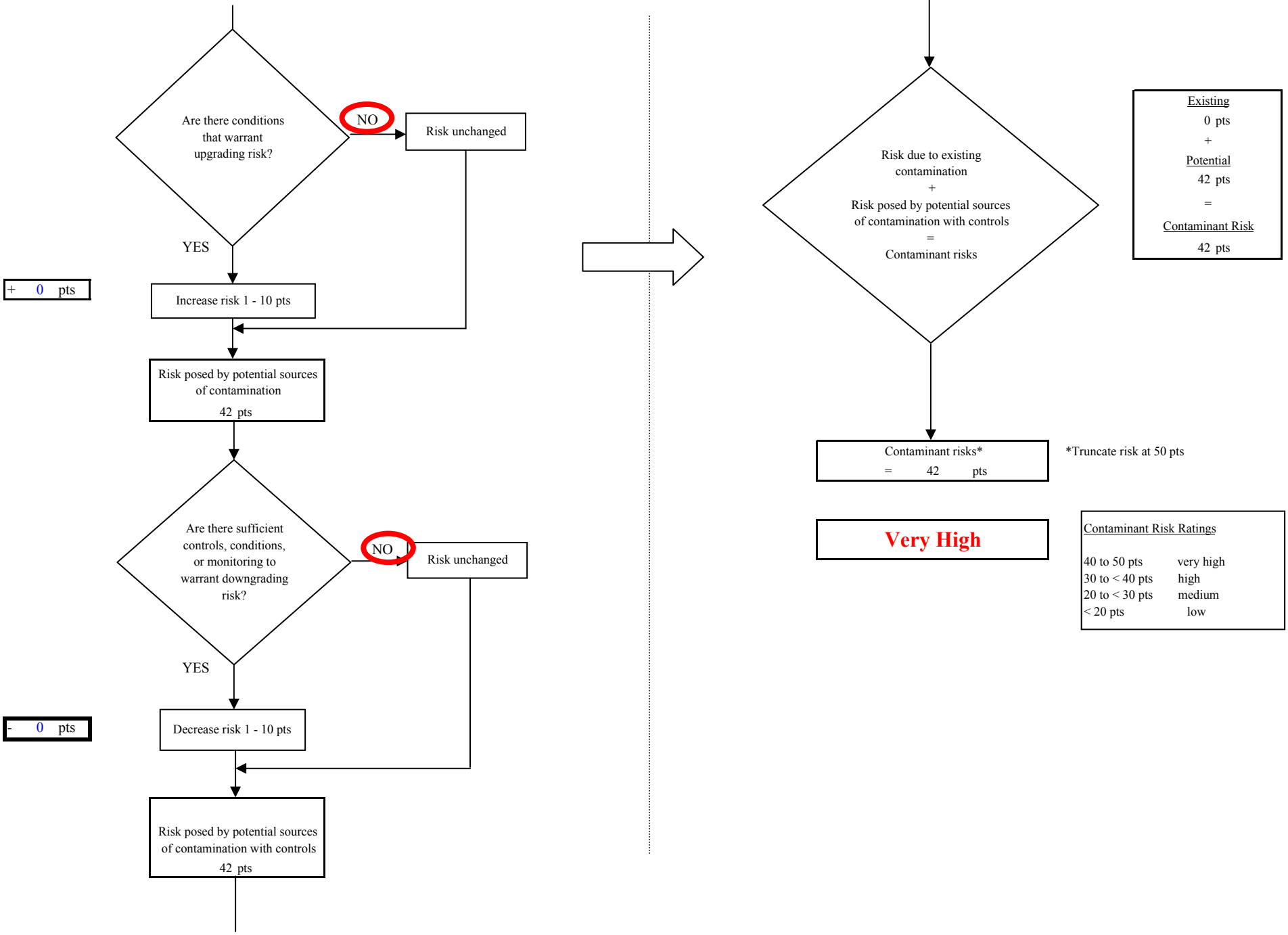


Chart 12. Vulnerability analysis for Scenic View Trailer Court- Synthetic Organic Chemicals

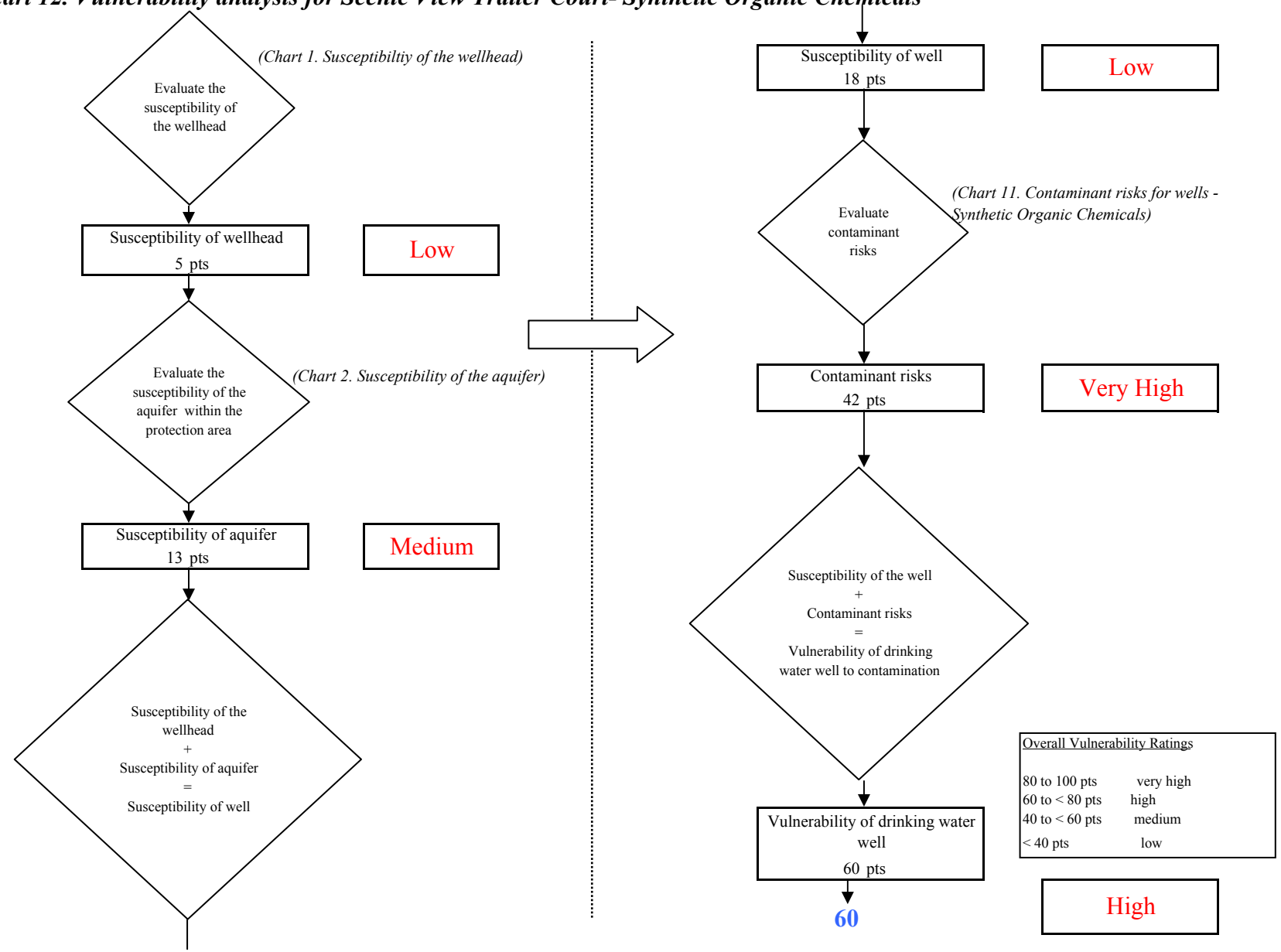


Chart 13. Contaminant risks for Scenic View Trailer Court- Other Organic Chemicals

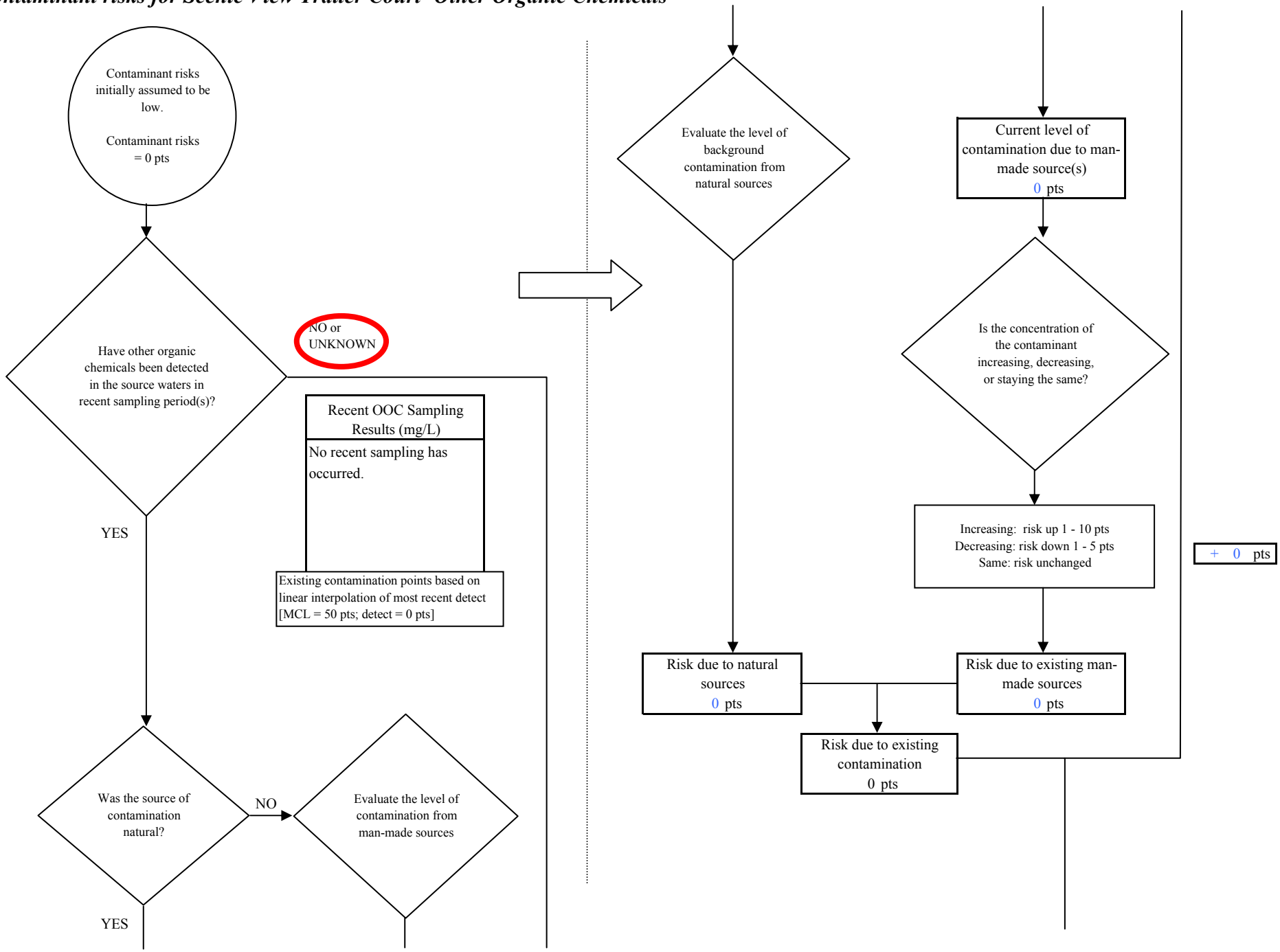
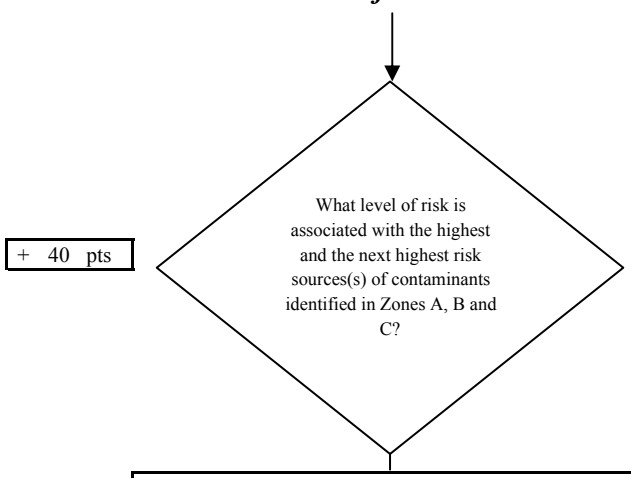


Chart 13. Contaminant risks for Scenic View Trailer Court- Other Organic Chemicals



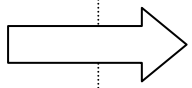
Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	0	1	1
High(s)	0	0	0
Medium(s)	1	7	8
Low(s)	4	12	16

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 40

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



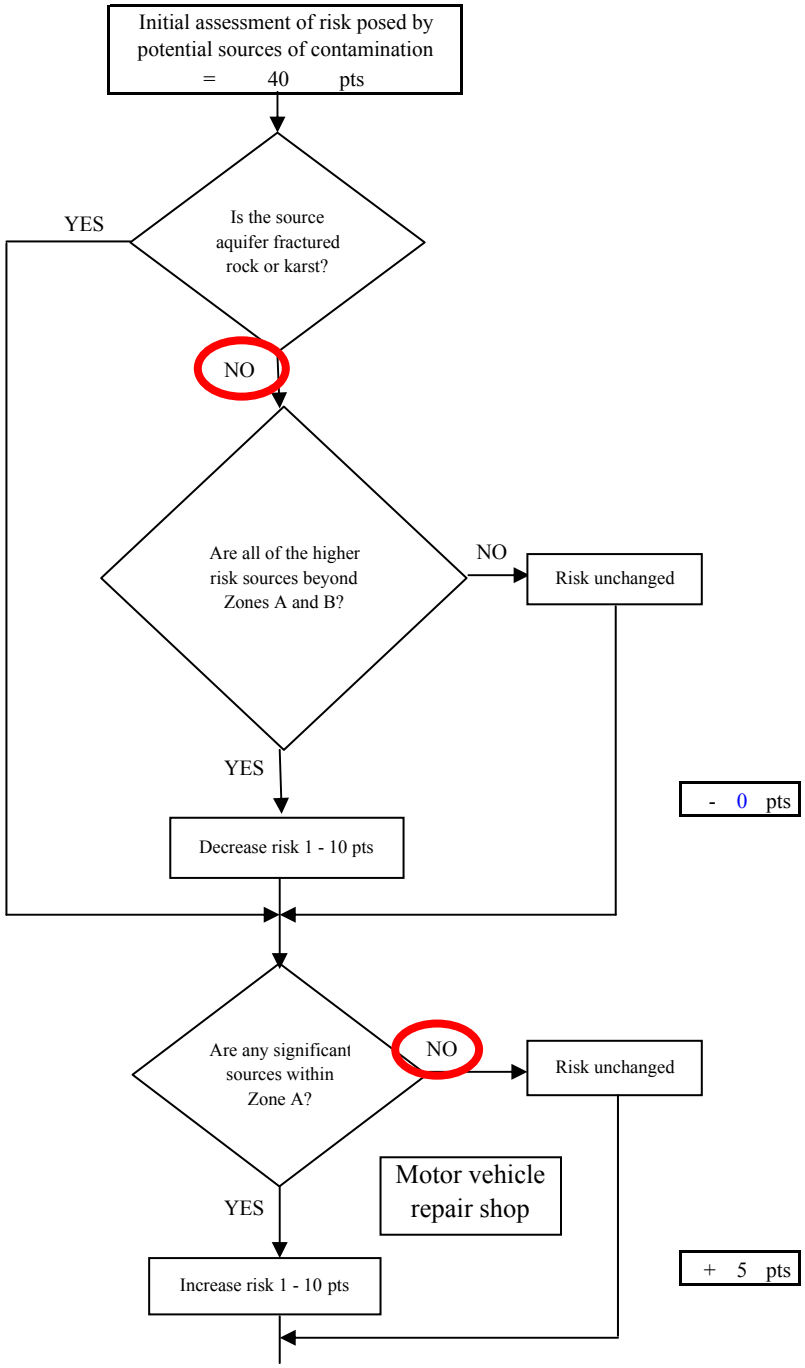


Chart 13. Contaminant risks for Scenic View Trailer Court- Other Organic Chemicals

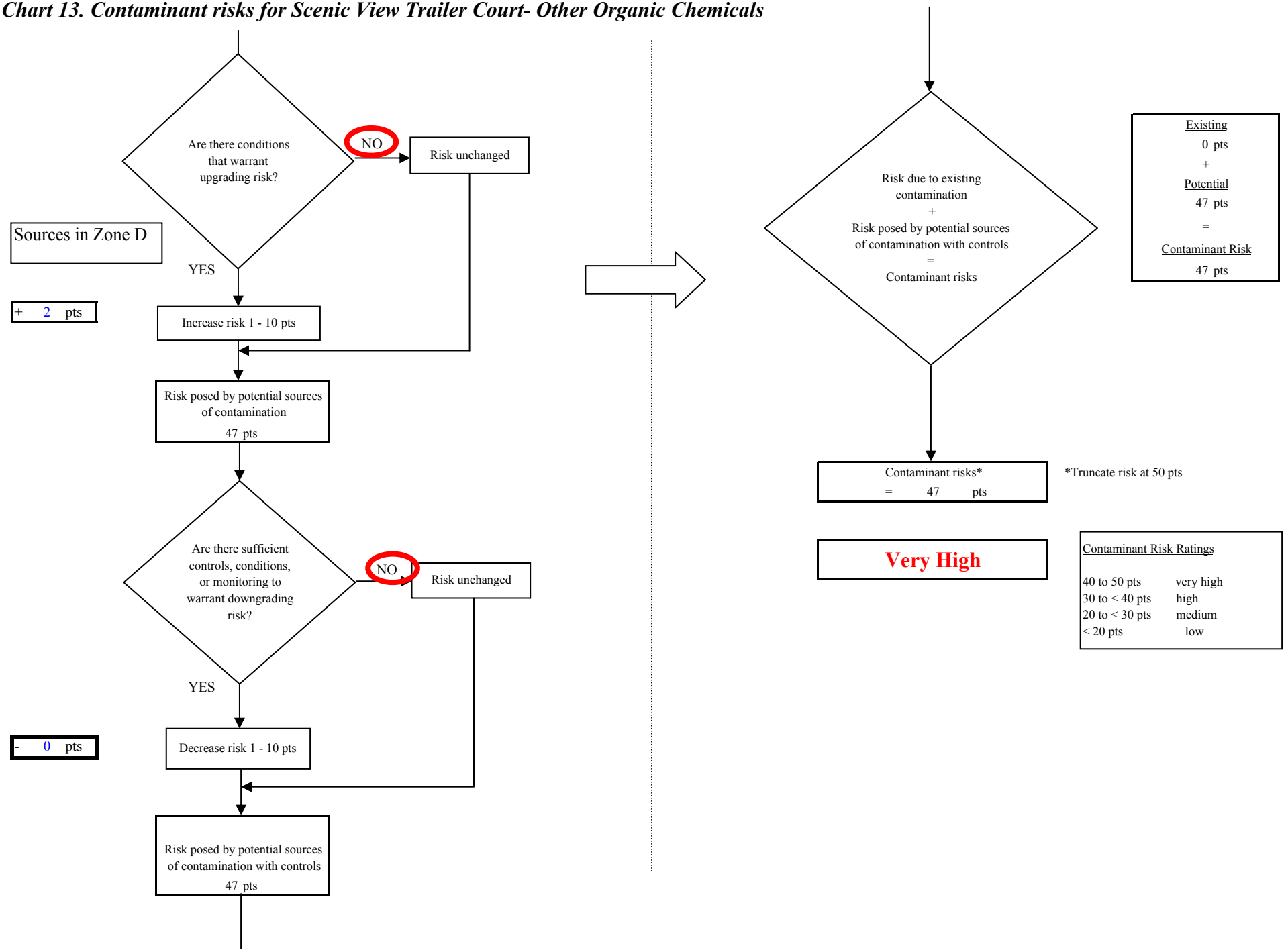


Chart 14. Vulnerability analysis for Scenic View Trailer Court- Other Organic Chemicals