Source Water Assessment

A Hydrogeologic Susceptibility and Vulnerability Assessment for Quiet View Apartments Well No. 1, No. 2 and No. 3, Anchorage, Alaska PWSID # 217576.001 217576.002 and 217576.003

DRINKING WATER PROTECTION PROGRAM REPORT 781
Alaska Department of Environmental Conservation

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DRINKING WATER PROTECTION PROGRAM REPORT 781

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
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EXECUTIVE SUMMARY

The public water system for Quiet View Apartments is a Class A (community) water system consisting of three wells in the Anchorage area. Identified potential and existing sources of contaminants for Quiet View Apartments include: sewer lines, residential areas, roads, public utility corridors, recreational trails, motor vehicle repair shops, underground fuel tanks, various commercial and industrial activities, recognized contaminated sites and Leaking Underground Storage Tank (LUST) sites. Overall, Quiet View Apartments received a vulnerability rating of **Low** for bacteria and viruses**, Medium** for nitrate/nitrites and inorganic chemicals and synthetic organic chemicals, **High** for volatile organic chemicals, and other organic chemicals.

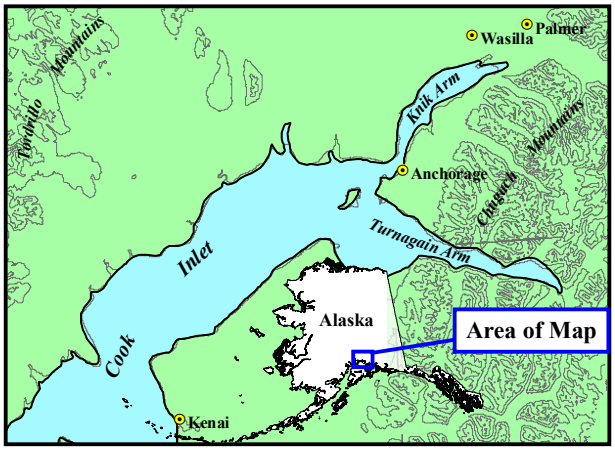


Figure 1. Index map showing the location of Anchorage, Alaska

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.

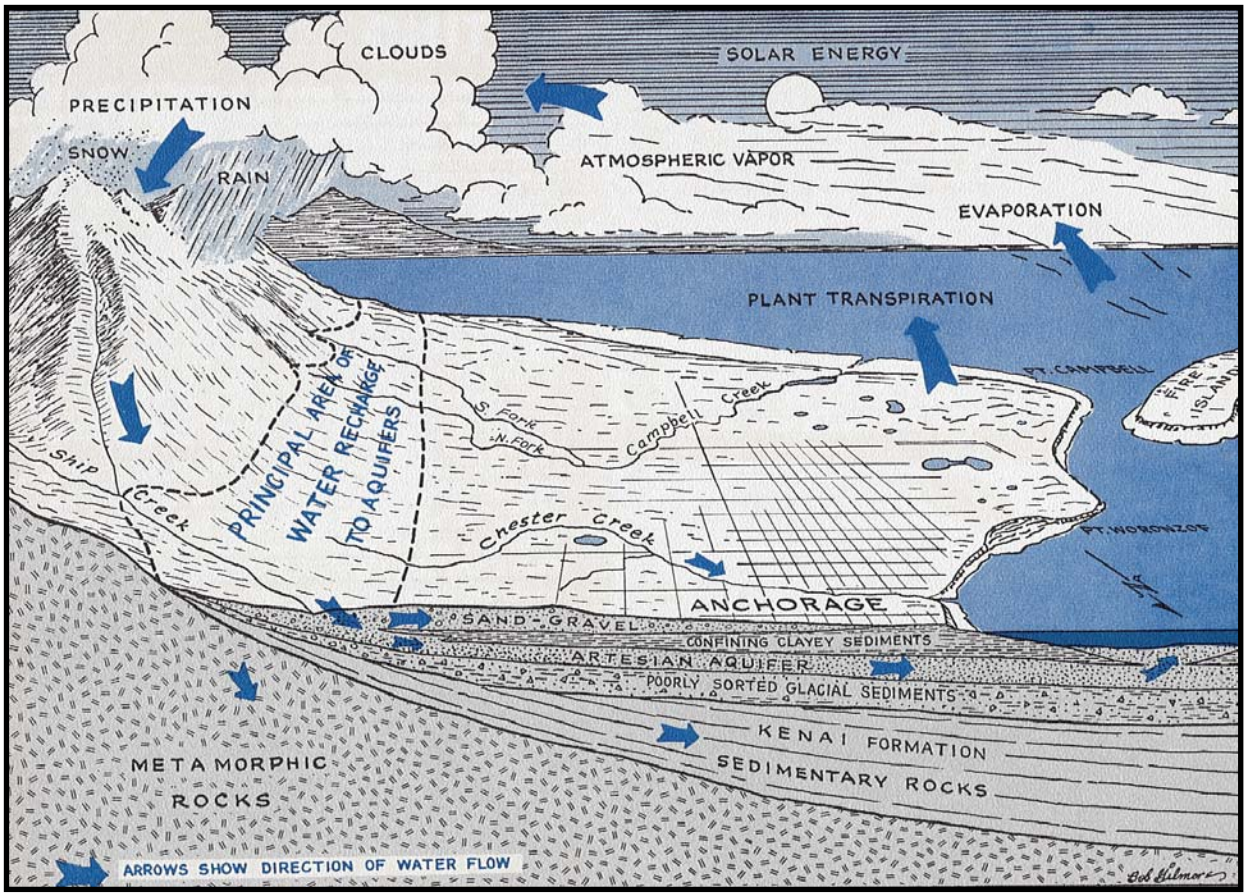


Figure 2. Generalized hydrologic cycle in the Anchorage area [*Barnwell, George, Dearborn,Weeks, and Zenone*, 1972].

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.

QUIET VIEW APARTMENTS PUBLIC DRINKING WATER SYSTEM

Quiet View Apartments is a Class A (community) water system. The system consists of three wells in the Anchorage area (See Map 1 of Appendix A).

The wells are located in the parking lot off Seventy Eight and the Old Seward Highway, at an elevation of approximately 100 feet above sea level.

The 1997 Sanitary Survey indicates that the well is 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. Due to the date that the well was installed, 1977, it is suspected that 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 1996 SOC/OOC Waiver application indicates that the depth of Well No. 1 is 176 feet and the static water level was 22 feet below surface level (bsl). The depth of Well No. 2 is 170 feet and had a static water level of 22 feet bsl. The depth of Well No. 3 is 175 feet and has a static water level of 9 feet bsl.

The well logs for these wells are unavailable. As a result, logs from nearby wells were used in this assessment. Nearby logs, indicate a confining layer exists from approximately 28 feet to 164 feet bsl. The confining layers may provide protection from contaminates entering the aquifer. However, the protectiveness of the clay layers tend to thin out 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 96 residents through 3 service connections.

QUIET VIEW APARTMENTS 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. Due to the wells close proximity, similar depths and production rates, the three wells share a DWPA.

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 Quiet View Apartments 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 -7 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 QUIET VIEW APARTMENTSDRINKING 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 well serving Quiet View Apartments.

Table 2. Susceptibility of the wells

	Score	Rating
Susceptibility of the Wellhead	5	Low
Susceptibility of the Aquifer	9	Low
Natural Susceptibility	14	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	42	Very High
Synthetic Organic Chemicals	42	Very High
Other Organic Chemicals	50	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	35	Low
Nitrates and Nitrites	45	Medium
Volatile Organic Chemicals	65	High
Heavy Metals, Cyanide and Other Inorganic Chemicals	55	Medium
Synthetic Organic Chemicals	55	Medium
Other Organic Chemicals	65	High

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

Recent 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 wells, the overall vulnerability is low.

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

Recent historical sampling data indicates that nitrates have not been detected in source waters.

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

Volatile Organic Chemicals
The contaminant risk for volatile organic chemicals is very high with, roads, underground fuel tanks, organic chemical manufacturing and recognized contaminated sites presenting the most significant risk to the drinking water source. (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D).

Recent sampling indicates that no volatile organic chemicals have been detected in the source waters.

After combining the contaminant risk for volatile organic chemicals with the natural susceptibility of the well, the overall vulnerability of the well 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 sewer lines, roads, residential areas, vehicle repair shops, motor vehicle waste disposal wells, underground fuel tanks, and print shops 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).

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 medium.

Synthetic Organic Chemicals
The contaminant risk for synthetic organic chemicals is very high with sewer lines, residential areas, furniture manufacturing and organic chemical manufacturing presenting the most significant risk. (See Chart 11 – Contaminant Risks for Synthetic Organic Chemicals in Appendix D, respectively).

The system has a current waiver for Synthetic Organic Chemicals and has not recently sampled.

After combining the contaminant risk with the natural susceptibility of the wells, the overall vulnerability to synthetic organic chemicals is medium.

Other Organic Chemicals
The contaminant risk for other organic chemicals is very high with motor vehicle dealerships, furniture manufacturing, heavy equipment storage, vehicle repair shops, motor vehicle waste disposal and organic chemicals manufacturing presenting the most significant risk.

The system has a current waiver for Other Organic Chemicals and has not recently sampled.

After combining the contaminant risk with the natural susceptibility of the well, 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 Quiet View Apartments. The overall vulnerability of this source to contamination is **Low** for bacteria and viruses**, Medium** for nitrate/nitrites, inorganic chemicals and synthetic organic chemicals and **High** for volatile 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 Quiet View Apartments 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 Quiet View Apartments public drinking water source.

REFERENCES

Barnwell, W.W., George, R.S., Dearborn, L.L., Weeks, J.B., and Zenone, C., 1972, Water for Anchorage: an atlas of the water resources of the Anchorage area, Alaska: U.S. Geological Survey Open-File Report, 76 p.

Patrick, L.D., Brabets, T.P., and Glass, R.L., 1989, Simulation of ground-water flow at Anchorage, Alaska: U.S. Geological Survey Water-Resources Investigations Report 88-4139, 41p.

Ulery, C.A. and Updike, R.G, 1983, Subsurface structure of the cohesive facies of the Bootlegger Cove Formation, Southwest Anchorage, Alaska: Alaska Division of Geological and Geophysical Surveys Professional Report 84, 5 p.

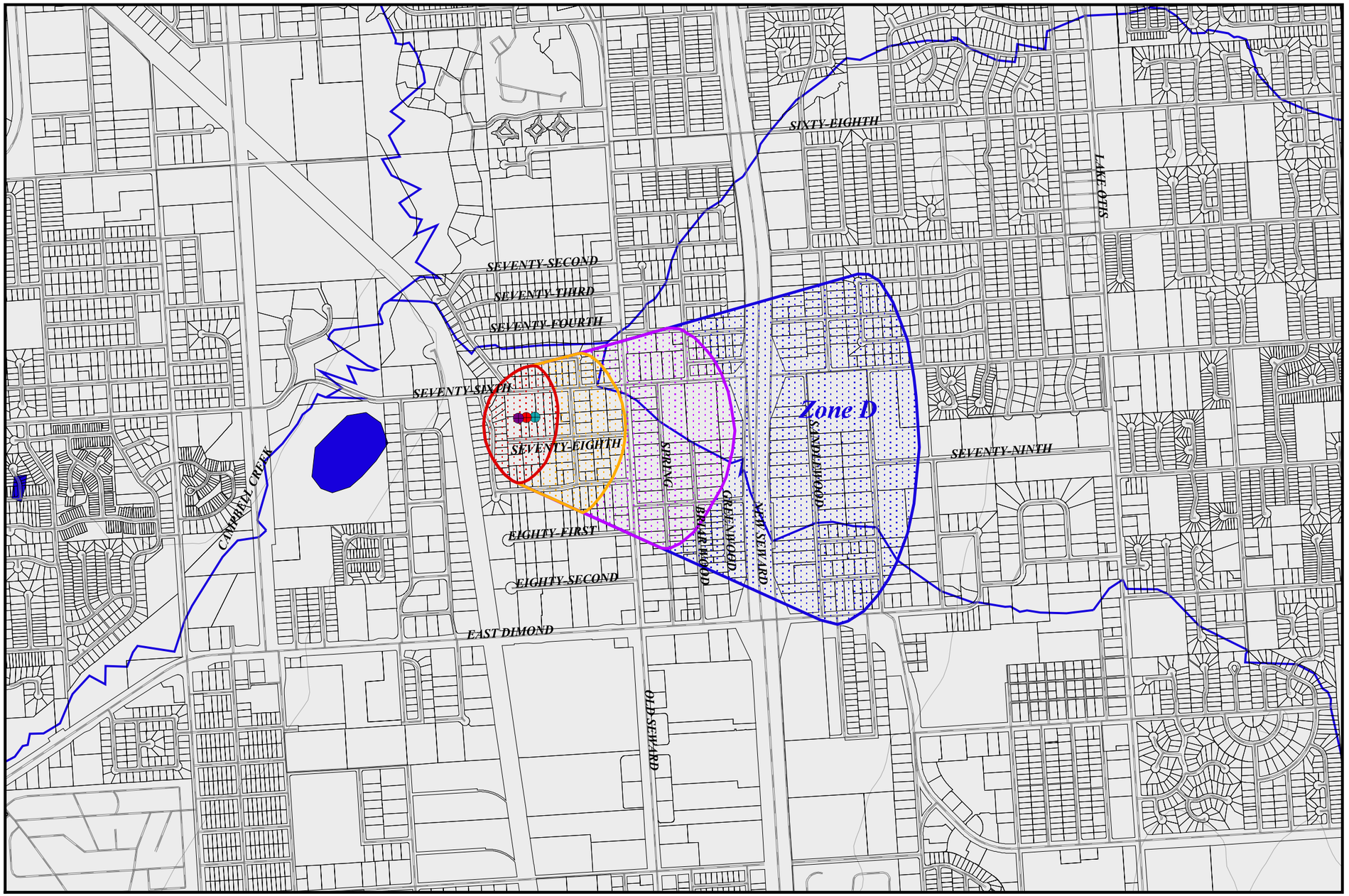
Wang, B., Strelakos, P.M., and Jokela, B., 2000, Nitrate Source Indicators In Groundwater of the Scimitar Subdivision, Peters Creek Area, Anchorage Alaska: U.S. Geological Survey Water-Resources Investigations Report 00-4137, 25p.

Western Regional Climate Center, 2000, August 24, Web extension to the *Western Regional Climate Center* [WWW document]. URL http://www.wrcc.dri.edu/index.html

APPENDIX A

Quiet View Apartments
Drinking Water Protection Area Location Map
(Map 1)

Drinking Water Protection Area for Quiet View Apartments



Legend

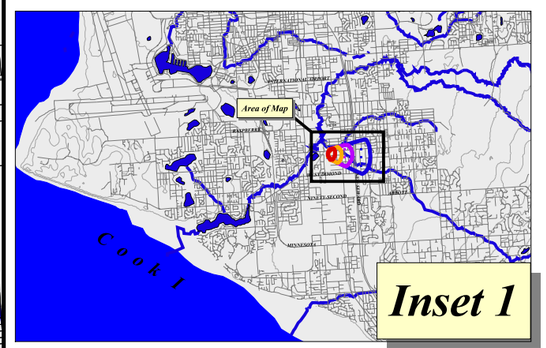
Quiet View Apartment Wells
- Well No. 1
- Well No. 2
- Well No. 3

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
- Land Parcels
- Anchorage Roads (X20)
- Anchorage Lakes
- Anchorage Streams
- Cook Inlet
- Elevation Contours



N
W E
S

2000 0 2000 Feet

PWSID 217576.001, 002 and 003

Map 1

APPENDIX B

Contaminant Source Inventory and Risk Ranking for Quiet View Apartments (Tables 1-7)

Table 1

Contaminant Source Inventory for ***Quiet View Apts.***

PWSID 217576.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	A	3	
Residential Areas	R01	R1-1	A	2	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-1	A	3	File No. CS100.185 620 East 76th Ave. Petroleum contaminated soils discovered during demolition of house and garage. Contaminated soil removed. 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	2	
Motor vehicle dealerships - cars, trucks, motor cycles, ATV's, snow machines, boats (with service department)	C27	C27-1	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	3	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-13	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-14	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-15	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-18	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	B	3	
Residential Areas	R01	R1-2	B	2	
Closed tanks, gasoline (underground)	T13	T13-1	B	3	
Closed tanks, gasoline (underground)	T13	T13-2	B	3	
Closed tanks, gasoline (underground)	T13	T13-3	B	3	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-2	B	3	File No. CS01.NF 7780 Old Seward Highway. Oil contamination present in soil from pipe behind boathouse. Soil removed from site. Priority: Low
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	
Dog walking areas/foot trails	X46	X46-2	B	2	
Aircraft maintenance shops	C01	C1-1	C	6	
Appliance repair shops	C03	C3-1	C	6	
Body shops (automotive)	C05	C5-1	C	6	
Body shops (automotive)	C05	C5-2	C	6	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Construction trade areas and materials	C09	C9-1	C	4	
Construction trade areas and materials	C09	C9-2	C	4	
Construction trade areas and materials	C09	C9-3	C	4	
Construction trade areas and materials	C09	C9-4	C	6	
Construction trade areas and materials	C09	C9-5	C	6	
Construction trade areas and materials	C09	C9-6	C	6	
Construction trade areas and materials	C09	C9-7	C	6	
Construction trade areas and materials	C09	C9-8	C	6	
Florists	C12	C12-1	C	6	
Furniture manufacturing, repair, and finishing shops	C14	C14-1	C	6	
Gasoline stations (without repair shop)	C15	C15-1	C	6	
Hardware stores	C17	C17-2	C	6	
Hardware stores	C17	C17-3	C	6	
Heavy equipment rental/storage	C18	C18-1	C	6	
Laboratories (chemical, soils, and research)	C20	C20-1	C	6	
Laboratories (chemical, soils, and research)	C20	C20-2	C	6	
Motor/motor vehicle supplies stores	C28	C28-1	C	6	
Motor/motor vehicle supplies stores	C28	C28-2	C	6	
Motor/motor vehicle supplies stores	C28	C28-3	C	6	
Motor /motor vehicle repair shops	C31	C31-1	C	4	
Motor /motor vehicle repair shops	C31	C31-2	C	4	
Motor /motor vehicle repair shops	C31	C31-3	C	4	
Motor /motor vehicle repair shops	C31	C31-4	C	6	
Motor /motor vehicle repair shops	C31	C31-5	C	6	
Motor /motor vehicle repair shops	C31	C31-6	C	6	
Motor /motor vehicle repair shops	C31	C31-7	C	6	
Paint sales /service	C32	C32-1	C	6	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Printers, publishers, copiers	C37	C37-1	C	6	
Taxidermists	C41	C41-1	C	6	
Windshield/glass shops	C44	C44-1	C	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-20-31	C	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	C	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	C	6	
Organic chemicals manufacturing	I29	I29-1	C	6	
Meat processing	N05	N5-1	C	6	
Residential Areas	R01	R1-3	C	4	
Tanks, diesel (underground)	T08	T8-1	C	6	
Tanks, gasoline (underground)	T12	T12-1	C	6	
Closed tanks, gasoline (underground)	T13	T13-4	C	6	
Closed tanks, lubricants or other petroleum products (underground)	T21	T21-1	C	6	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-3	C	6	File No. CS100.165 7725 Old Seward Highway. Hydraulic fluid contamination discovered. Site soils have been cleaned up to acceptible levels. No further action required. Priority: Closed
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-4	C	6	File No. CS100.153 Contamination from floor drains and surface spills as auto repair and auto body shop at 7550, 7560 and 7580 Briarwood Street.Soils cleaned up. Priority: Unranked
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-5	C	6	File No. CS100.133 1211 East 80th Avenue. Diesel and gasoline contaminated soils from above-ground sources. Soils cleaned up. No further action required. Priority: Medium
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-6	C	6	File No. CS100.38 8100 Old Seward Highway. Detection of methylene cholride injected form class IV injecitn wells through floor drains. Priority: High
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-1	C	6	File No. L55.173 1111 E. 80th Ave. Petroleum contamination discovered after the removal ot fuel tanks. Priority: Low
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-2	C	6	File No. L55.159 1300 E. 80th Ave. Petroleum contamination discovered. Soil removed, however more remains. Groundwater at 4 feet contaminated. Priority: Low
Highways and roads, paved (cement or asphalt)	X20	X20-8-16	C	4	
Motor vehicle/general storage yards/facilities	X27	X27-1	C	4	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Motor vehicle/general storage yards/facilities	X27	X27-2	C	4	
Motor vehicle/general storage yards/facilities	X27	X27-3	C	4	
Motor vehicle/general storage yards/facilities	X27	X27-4	C	4	
Motor vehicle/general storage yards/facilities	X27	X27-5	C	4	
Firehouses	X38	X38-1	C	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	6	
Vocational training facilities	X45	X45-1	C	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-3	D	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-4	D	6	
RCRA Hazardous Waste TSD Facilities	D55	D55-1	D	7	ALASKA POLLUTION CONTROL INC RCRA # AKR000003780
Cement manufacturing	I08	I8-1	D	6	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U8-3	D	7	File No.L55.24 1601 E. 84th Ct. Soil contamination discovered after the removal of a 750 gallon fuel tank. Soil removed. Priority: Low
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U8-4	D	7	File No. L74.14 8401 Brayton Drive. Petroleuem contamination discovered after the removal of 2000 gallon fuel tank. Monitoring wells in place. No further action required. Priority: Not Established
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U7-1	D	7	File No. L55.134 8123 Hartzell Rd. Contaminated soil and water discovered when tank removed from overfills. Remediation in process. Priority: High
Petroleum product bulk station/terminals	X11	X11-1	D	7	8123 Hartzel Rd.
Firehouses	X38	X38-2	D	6	1115 E. 80th Ave.

Table 2

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Bacteria and Viruses

PWSID 217576.001

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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	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	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-13	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-14	B	Medium	3	

Table 2 (continued)

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Bacteria and Viruses

PWSID 217576.001

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	D1-15	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-18	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	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	
Dog walking areas/foot trails	X46	X46-2	B	Low	2	

Table 3

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Nitrates/Nitrites

PWSID 217576.001

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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	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	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-13	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-14	B	Medium	3	

Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Nitrates/Nitrites

PWSID 217576.001

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	D1-15	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-18	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	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	
Dog walking areas/foot trails	X46	X46-2	B	Low	2	
Florists	C12	C12-1	C	Low	6	
Hardware stores	C17	C17-2	C	Low	6	
Hardware stores	C17	C17-3	C	Low	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-20-31	C	Medium	4	
Residential Areas	R01	R1-3	C	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-8-16	C	Low	4	

Table 4

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Volatile Organic Chemicals

PWSID 217576.001

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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	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	File No. CS100.185 620 East 76th Ave. Petroleum contaminated soils discovered during demolition of house and garage. Contaminated soil removed. Priority: Low
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	
Motor vehicle dealerships - cars, trucks, motor cycles, ATV's, snow machines, boats (with service department)	C27	C27-1	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	Low	3	

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Volatile Organic Chemicals

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	D1-13	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-14	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-15	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-18	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	B	Low	3	
Residential Areas	R01	R1-2	B	Low	2	
Closed tanks, gasoline (underground)	T13	T13-1	B	Medium	3	
Closed tanks, gasoline (underground)	T13	T13-2	B	Medium	3	
Closed tanks, gasoline (underground)	T13	T13-3	B	Medium	3	
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	
Aircraft maintenance shops	C01	C1-1	C	Low	6	
Furniture manufacturing, repair, and finishing shops	C14	C14-1	C	Medium	6	
Gasoline stations (without repair shop)	C15	C15-1	C	High	6	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Hardware stores	C17	C17-2	C	Low	6	
Hardware stores	C17	C17-3	C	Low	6	
Heavy equipment rental/storage	C18	C18-1	C	Medium	6	
Laboratories (chemical, soils, and research)	C20	C20-1	C	Low	6	
Laboratories (chemical, soils, and research)	C20	C20-2	C	Low	6	
Motor/motor vehicle supplies stores	C28	C28-1	C	Low	6	
Motor/motor vehicle supplies stores	C28	C28-2	C	Low	6	
Motor/motor vehicle supplies stores	C28	C28-3	C	Low	6	
Appliance repair shops	C03	C3-1	C	Low	6	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-3	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-4	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-5	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-6	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-7	C	Medium	6	
Paint sales /service	C32	C32-1	C	Medium	6	
Printers, publishers, copiers	C37	C37-1	C	High	6	
Taxidermists	C41	C41-1	C	Medium	6	
Windshield/glass shops	C44	C44-1	C	Low	6	
Body shops (automotive)	C05	C5-1	C	Medium	6	
Body shops (automotive)	C05	C5-2	C	Medium	6	
Construction trade areas and materials	C09	C9-1	C	Low	4	
Construction trade areas and materials	C09	C9-2	C	Low	4	

Contaminant Source Inventory and Risk Ranking for Quiet View Apts.
Sources of Volatile Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Construction trade areas and materials	C09	C9-3	C	Low	4	
Construction trade areas and materials	C09	C9-4	C	Low	6	
Construction trade areas and materials	C09	C9-5	C	Low	6	
Construction trade areas and materials	C09	C9-6	C	Low	6	
Construction trade areas and materials	C09	C9-7	C	Low	6	
Construction trade areas and materials	C09	C9-8	C	Low	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-20-31	C	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	C	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	C	High	6	
Organic chemicals manufacturing	I29	I29-1	C	Very High	6	
Meat processing	N05	N5-1	C	Medium	6	
Residential Areas	R01	R1-3	C	Low	4	
Tanks, gasoline (underground)	T12	T12-1	C	High	6	
Closed tanks, gasoline (underground)	T13	T13-4	C	Medium	6	
Closed tanks, lubricants or other petroleum products (underground)	T21	T21-1	C	Low	6	
Tanks, diesel (underground)	T08	T8-1	C	High	6	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-3	C	High	6	File No. CS100.165 7725 Old Seward Highway. Hydraulic fluid contamination discovered. Site soils have been cleaned up to acceptible levels. No further action required. Priority: Closed
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-4	C	High	6	File No. CS100.153 Contamination from floor drains and surface spills as auto repair and auto body shop at 7550, 7560 and 7580 Briarwood Street.Soils cleaned up. Priority: Unranked

Contaminant Source Inventory and Risk Ranking for Quiet View Apts.

Sources of Volatile Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U4-6	C	High	6	File No. CS100.38 8100 Old Seward Highway. Detection of methylene cholride injected form class IV injecitn wells through floor drains. Priority: High
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-1	C	Low	6	File No. L55.173 1111 E. 80th Ave. Petroleum contamination discovered after the removal ot fuel tanks. Priority: Low
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U8-2	C	Low	6	File No. L55.159 1300 E. 80th Ave. Petroleum contamination discovered. Soil removed, however more remains. Groundwater at 4 feet contaminated. Priority: Low
Highways and roads, paved (cement or asphalt)	X20	X20-8-16	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-1	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-2	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-3	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-4	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-5	C	Low	4	
Firehouses	X38	X38-1	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	Low	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-3	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-4	D	High	6	
Cement manufacturing	I08	I8-1	D	High	6	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U7-1	D	High	7	File No. L55.134 8123 Hartzell Rd. Contaminated soil and water discovered when tank removed from overfills. Remediation in process. Priority: High
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U8-3	D	High	7	File No.L55.24 1601 E. 84th Ct. Soil contamination discovered after the removal of a 750 gallon fuel tank. Soil removed. Priority: Low
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U8-4	D	Low	7	File No. L74.14 8401 Brayton Drive. Petroleuem contamination discovered after the removal of 2000 gallon fuel tank. Monitoring wells in place. No further action required. Priority: Not Established
Petroleum product bulk station/terminals	X11	X11-1	D	Very High	7	8123 Hartzel Rd.

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Firehouses	X38	X38-2	D	Low	6	1115 E. 80th Ave.
Firehouses	X38	X38-2	D	Medium	6	1115 E. 80th Ave.

Table 5

Contaminant Source Inventory and Risk Ranking for Quiet View Apts.

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 217576.001

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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	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	
Motor vehicle dealerships - cars, trucks, motor cycles, ATV's, snow machines, boats (with service department)	C27	C27-1	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-13	B	Low	3	

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	D1-14	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-15	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-18	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	B	Low	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	
Aircraft maintenance shops	C01	C1-1	C	Low	6	
Florists	C12	C12-1	C	Low	6	
Furniture manufacturing, repair, and finishing shops	C14	C14-1	C	Low	6	
Gasoline stations (without repair shop)	C15	C15-1	C	Low	6	
Hardware stores	C17	C17-2	C	Low	6	
Hardware stores	C17	C17-3	C	Low	6	
Heavy equipment rental/storage	C18	C18-1	C	Low	6	
Laboratories (chemical, soils, and research)	C20	C20-1	C	Low	6	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Laboratories (chemical, soils, and research)	C20	C20-2	C	Low	6	
Motor/motor vehicle supplies stores	C28	C28-1	C	Low	6	
Motor/motor vehicle supplies stores	C28	C28-2	C	Low	6	
Motor/motor vehicle supplies stores	C28	C28-3	C	Low	6	
Appliance repair shops	C03	C3-1	C	Low	6	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-3	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-4	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-5	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-6	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-7	C	Medium	6	
Paint sales /service	C32	C32-1	C	Low	6	
Printers, publishers, copiers	C37	C37-1	C	Medium	6	
Taxidermists	C41	C41-1	C	Low	6	
Windshield/glass shops	C44	C44-1	C	Low	6	
Body shops (automotive)	C05	C5-1	C	Medium	6	
Body shops (automotive)	C05	C5-2	C	Medium	6	
Construction trade areas and materials	C09	C9-1	C	Low	4	
Construction trade areas and materials	C09	C9-2	C	Low	4	
Construction trade areas and materials	C09	C9-3	C	Low	4	
Construction trade areas and materials	C09	C9-4	C	Low	6	
Construction trade areas and materials	C09	C9-5	C	Low	6	
Construction trade areas and materials	C09	C9-6	C	Low	6	

Contaminant Source Inventory and Risk Ranking for Quiet View Apts.

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*
Construction trade areas and materials	C09	C9-7	C	Low	6	
Construction trade areas and materials	C09	C9-8	C	Low	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-20-31	C	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	C	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	C	High	6	
Organic chemicals manufacturing	I29	I29-1	C	High	6	
Residential Areas	R01	R1-3	C	Low	4	
Tanks, gasoline (underground)	T12	T12-1	C	Medium	6	
Highways and roads, paved (cement or asphalt)	X20	X20-8-16	C	Low	4	
Firehouses	X38	X38-1	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	Low	6	
Vocational training facilities	X45	X45-1	C	Low	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-3	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-4	D	High	6	
Cement manufacturing	I08	I8-1	D	Medium	6	
Petroleum product bulk station/terminals	X11	X11-1	D	Low	7	8123 Hartzel Rd.
Firehouses	X38	X38-2	D	Low	6	1115 E. 80th Ave.
Firehouses	X38	X38-2	D	High	6	1115 E. 80th Ave.

Table 6

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Synthetic Organic Chemicals

PWSID 217576.001

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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	A	Low	3	
Residential Areas	R01	R1-1	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-13	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-14	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-15	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	Low	3	

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	D1-18	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	B	Low	3	
Residential Areas	R01	R1-2	B	Low	2	
Furniture manufacturing, repair, and finishing shops	C14	C14-1	C	Medium	6	
Paint sales /service	C32	C32-1	C	Low	6	
Printers, publishers, copiers	C37	C37-1	C	Low	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-20-31	C	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	C	Low	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	C	Low	6	
Organic chemicals manufacturing	I29	I29-1	C	Very High	6	
Residential Areas	R01	R1-3	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	Low	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-3	D	Low	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-4	D	Low	6	
Petroleum product bulk station/terminals	X11	X11-1	D	Low	7	8123 Hartzel Rd.

Table 7

Contaminant Source Inventory and Risk Ranking for Quiet View Apts. Sources of Other Organic Chemicals

PWSID 217576.001

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	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-7	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	
Motor vehicle dealerships - cars, trucks, motor cycles, ATV's, snow machines, boats (with service department)	C27	C27-1	B	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-10	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-11	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-12	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-13	B	Low	3	

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	D1-14	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-15	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-16	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-17	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-18	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-19	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-8	B	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-9	B	Low	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	
Aircraft maintenance shops	C01	C1-1	C	Low	6	
Furniture manufacturing, repair, and finishing shops	C14	C14-1	C	Medium	6	
Gasoline stations (without repair shop)	C15	C15-1	C	Low	6	
Hardware stores	C17	C17-2	C	Low	6	
Hardware stores	C17	C17-3	C	Low	6	
Heavy equipment rental/storage	C18	C18-1	C	Medium	6	
Appliance repair shops	C03	C3-1	C	Low	6	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	4	

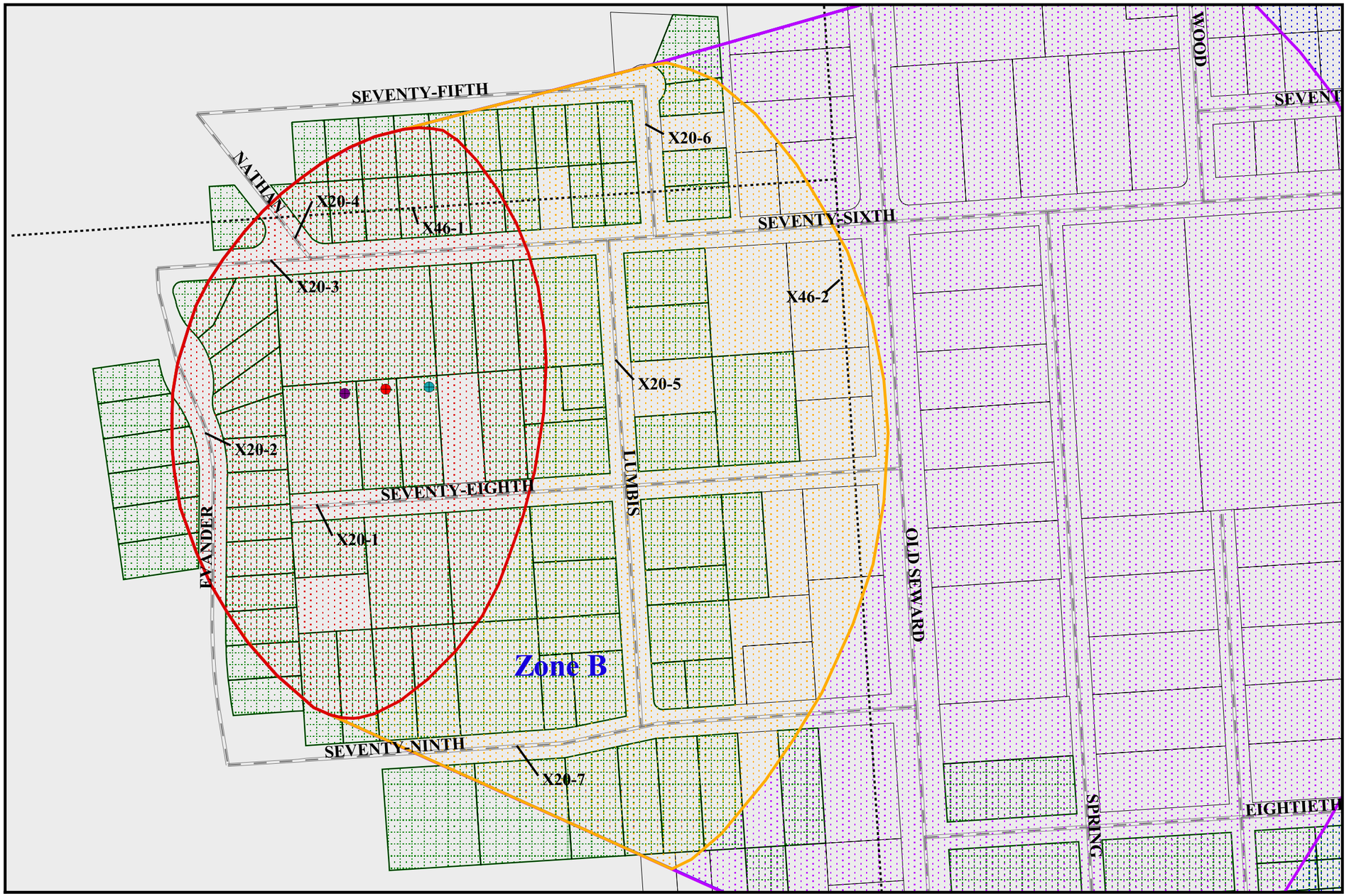
Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-3	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-4	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-5	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-6	C	Medium	6	
Motor /motor vehicle repair shops	C31	C31-7	C	Medium	6	
Body shops (automotive)	C05	C5-1	C	Medium	6	
Body shops (automotive)	C05	C5-2	C	Medium	6	
Construction trade areas and materials	C09	C9-1	C	Low	4	
Construction trade areas and materials	C09	C9-2	C	Low	4	
Construction trade areas and materials	C09	C9-3	C	Low	4	
Construction trade areas and materials	C09	C9-4	C	Low	6	
Construction trade areas and materials	C09	C9-5	C	Low	6	
Construction trade areas and materials	C09	C9-6	C	Low	6	
Construction trade areas and materials	C09	C9-7	C	Low	6	
Construction trade areas and materials	C09	C9-8	C	Low	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-20-31	C	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-1	C	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-2	C	High	6	
Organic chemicals manufacturing	I29	I29-1	C	Very High	6	
Residential Areas	R01	R1-3	C	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-8-16	C	Low	4	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Motor vehicle/general storage yards/facilities	X27	X27-1	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-2	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-3	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-4	C	Low	4	
Motor vehicle/general storage yards/facilities	X27	X27-5	C	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-3	D	High	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-4	D	High	6	
Cement manufacturing	I08	I8-1	D	Very High	6	
Petroleum product bulk station/terminals	X11	X11-1	D	High	7	8123 Hartzel Rd.
Firehouses	X38	X38-2	D	Medium	6	1115 E. 80th Ave.

APPENDIX C

Quiet View Apartments
Drinking Water Protection Area
and Potential and Existing Contaminant Sources
(Maps 2 - 7)

Drinking Water Protection Area for Quiet View Apartments and Potential and Existing Sources of Contamination



Legend

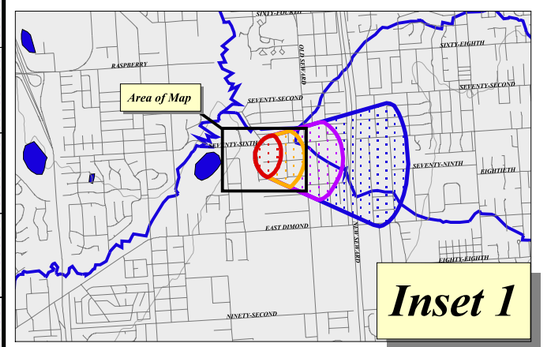
Quiet View Apartment Wells
- Well No. 1
- Well No. 2
- Well No. 3

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
- Lawns and gardens (R1)
- Trails (X46)
- Anchorage Roads (X20)



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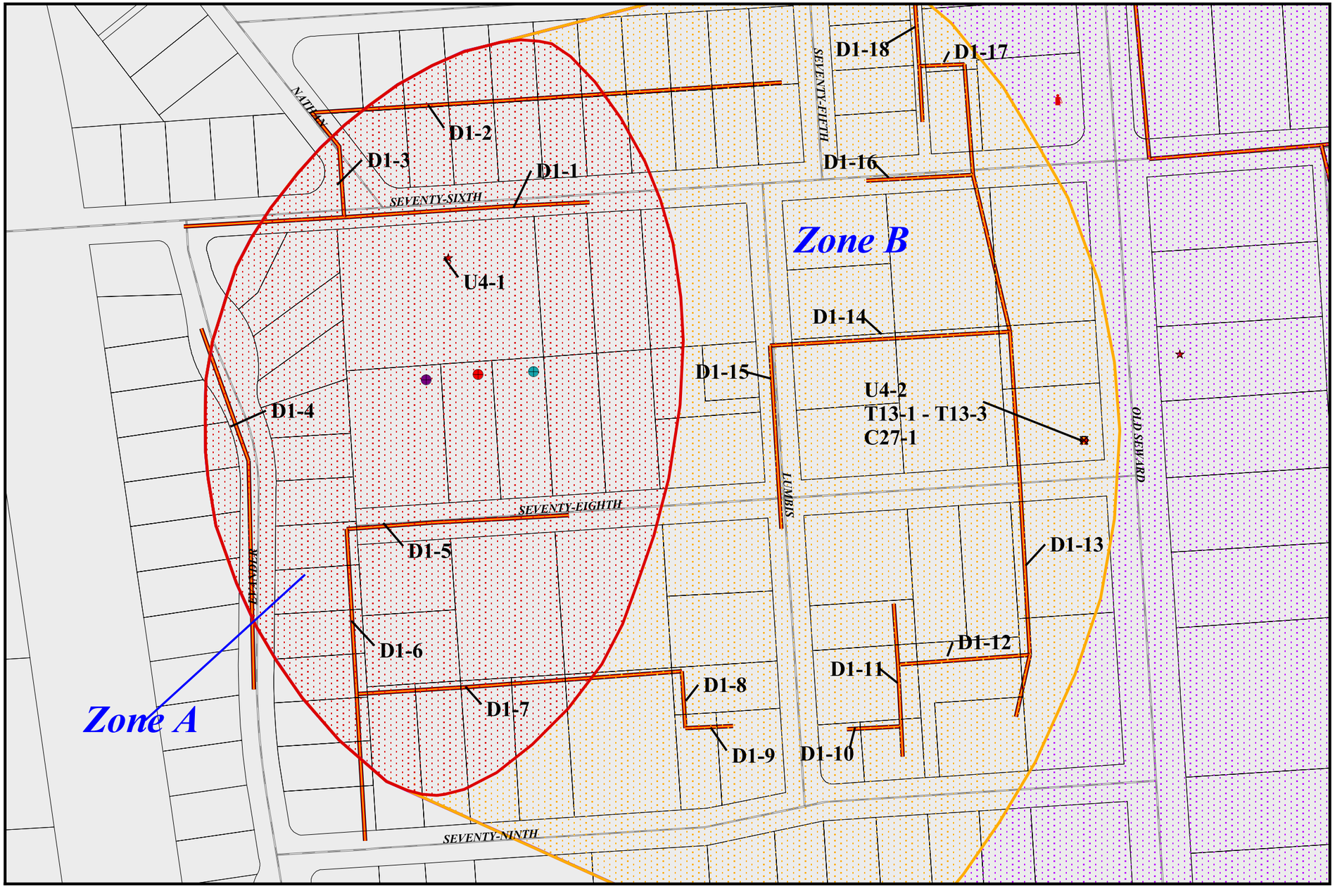
300 0 300 Feet

PWSID 217576.001, 002, 003

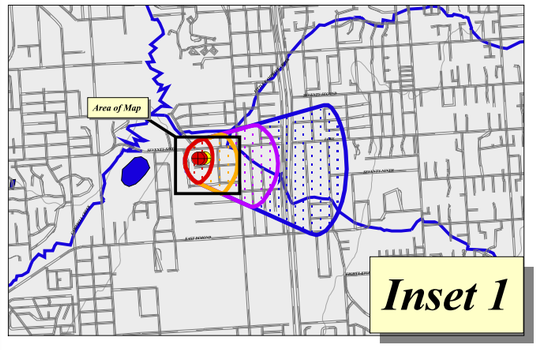
Map 2

Drinking Water Protection Area for Quiet View Apartments and Potential and Existing Sources of Contamination



Legend

- Quiet View Apartment Wells
  - Well No. 1
  - Well No. 2
  - Well No. 3
- 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
  - Gasoline tanks - underground (T12)
  - Closed gasoline tanks - underground (T13)
  - Contaminanted site - DEC recognized (U4)
- Anchorage Land Parcels
- Land Parcels
- Sewer Lines (D1)
- Anchorage Roads (X20)



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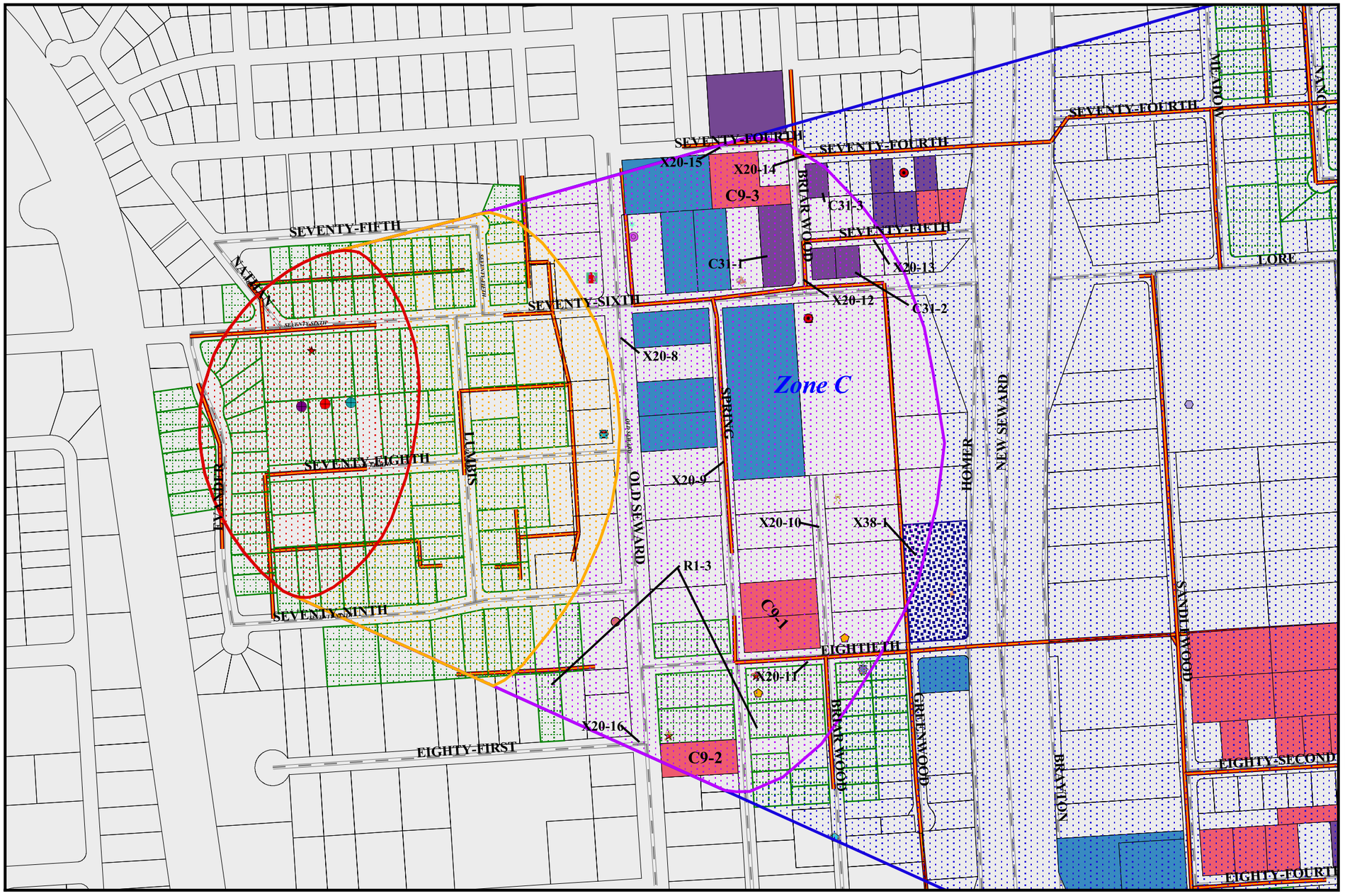
PWSID 217576.001, 002, 003

Map 3

Drinking Water Protection Area for Quiet View Apartments and Potential and Existing Sources of Contamination



Legend

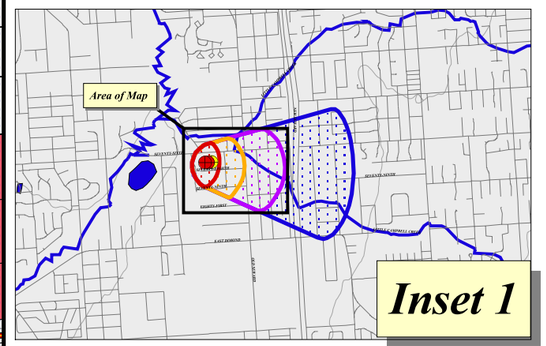
Quiet View Apartment Wells
- Well No. 1
- Well No. 2
- Well No. 3

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
- Construction trad areas (C9)
- Firehouses (X38)
- Motor/motor vehicle repair shops (C31)
- Lawns and gardens (R1)
- Motor vehicle/general storage yards/facilities (X27)
- Anchorage Land Parcels
- Sewer Lines (D1)
- Anchorage Roads (X20)
- Land Parcels



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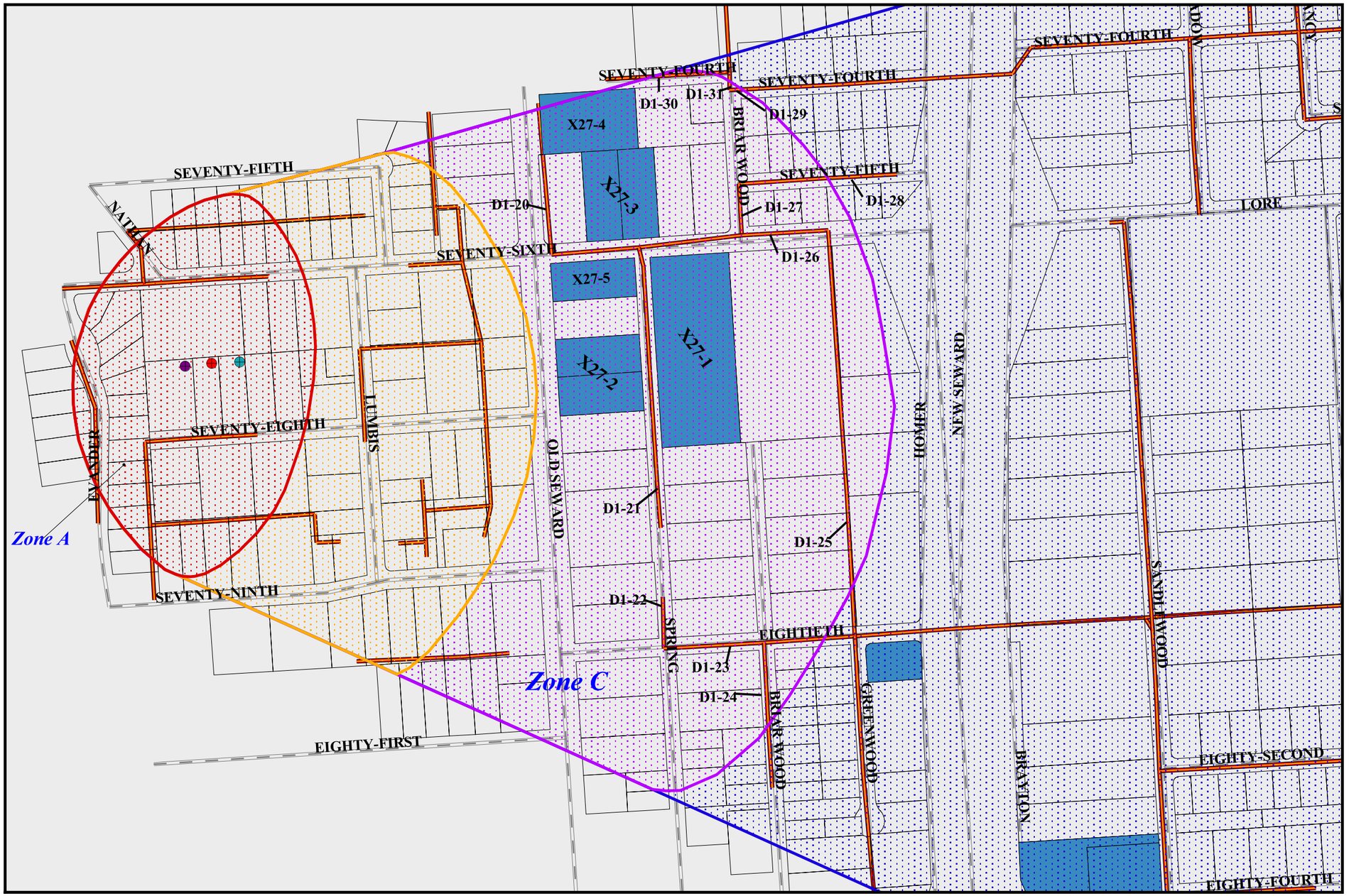
500 0 500 Feet

PWSID 217576.001, 002 and 003

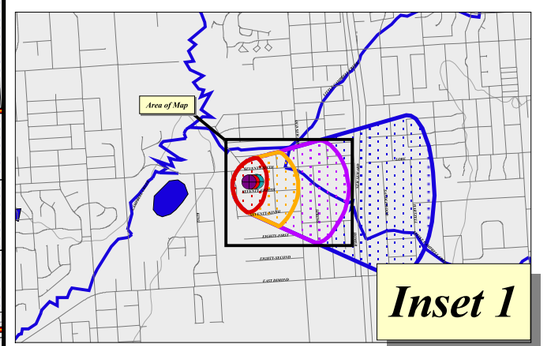
Map 4

Drinking Water Protection Area for Quiet View Apartments and Potential and Existing Sources of Contamination



Legend

- Quiet View Apartment Wells
  - Well No. 1
  - Well No. 2
  - Well No. 3
- 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
- Motor vehicle/general storage yards/facilities (X27)
- Anchorage Land Parcels
- Sewer Lines (D1)
- Anchorage Roads (X20)



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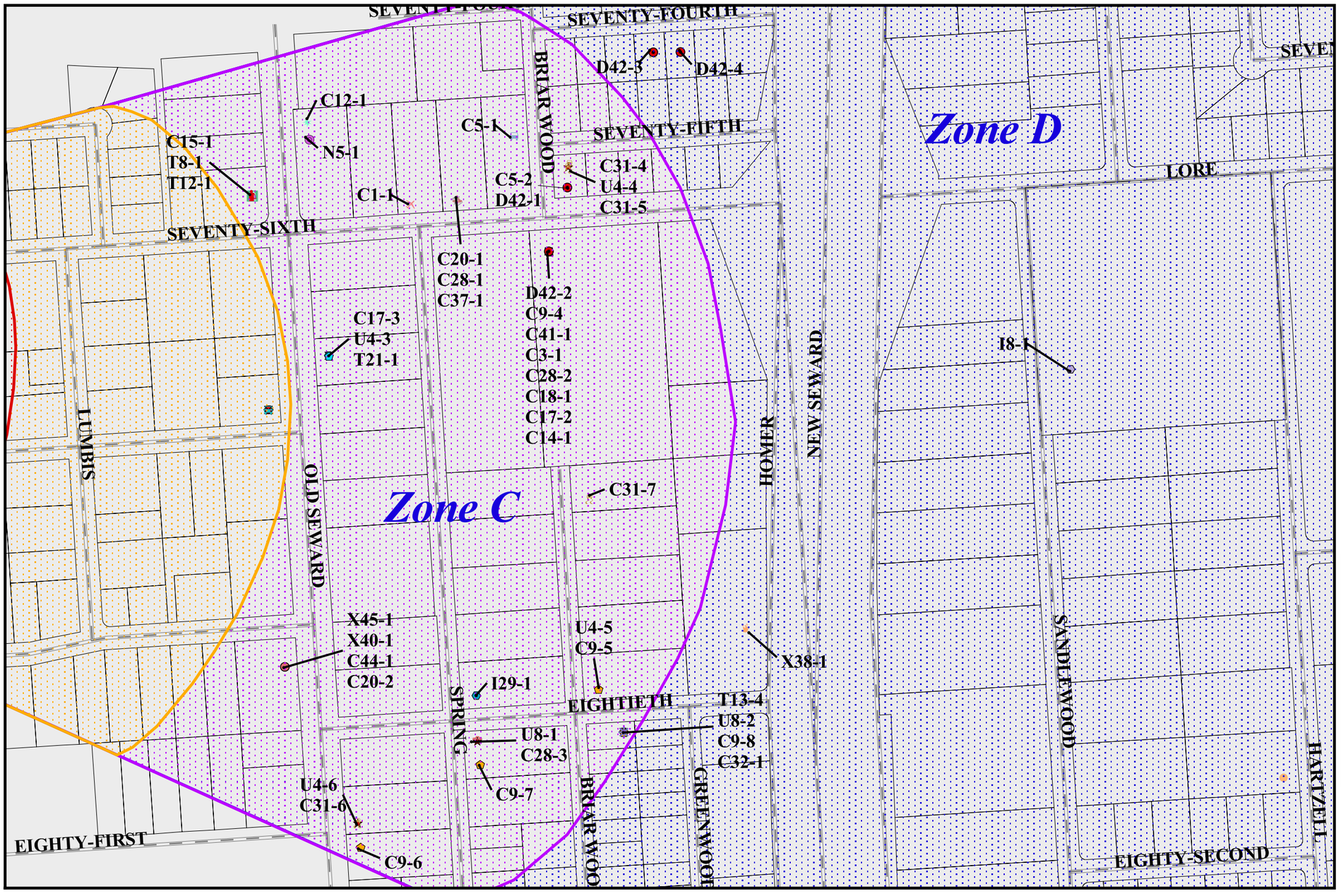
PWSID 217576.001, 002, 003

Map 5

Drinking Water Protection Area for Quiet View Apartments and Potential and Existing Sources of Contamination



400 0 400 Feet

PWSID 217576.001, 002 and 003

Legend

Quiet View Apartment Wells
- Well No. 1
- Well No. 2
- Well No. 3

Zone A Protection Area
- Several Months Travel Time

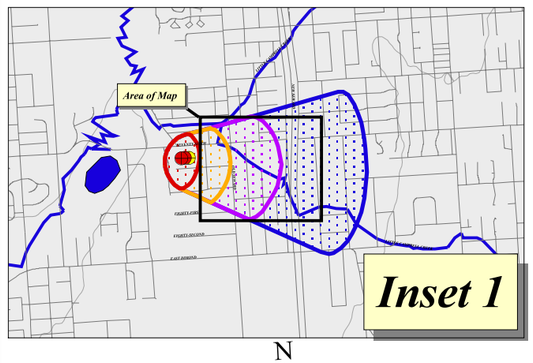
Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time

Potential contaminant sources
- Aircraft maintenance shops (C1)
- Florists (C12)
- Furniture manufacturing (C14)
- Gasoline stations (C15)
- Hardware stores (C17)
- Heavy equipment rental/storage (C18)
- Laboratories - chemical, soils, and research (C20)
- Motor vehicle dealerships (C27)
- Motor/motor vehicle supply stores (C28)
- Appliance repair shops (C3)
- Motor/motor vehicle repair shops (C31)
- Paint sales/service (C32)
- Printers, publishers, copiers (C37)
- Taxidermists (C41)
- Windshield/glass shops (C44)
- Body shops - automotive (C5)
- Construction trade areas (C9)
- Class V injection wells - motor vehicle waste (D42)
- RCRA hazardous waste facilities (I055)
- Jewelry manufacturing (I22)
- Metal finishing (I26)
- Organic chemicals manufacturing (I29)
- Cement manufacturing (I8)
- Meat Processing (N5)
- Gasoline tanks - underground (T12)
- Closed gasoline tanks - underground (T13)
- Closed tanks, petroleum products - underground (T21)
- Diesel tanks - underground (T8)
- Closed diesel tanks - underground (T9)
- Contaminanted site - DEC recognized (U4)
- Petroleum product bulk station/terminal (X31)
- Firehouses (X38)
- Medical/veterinary facilities (X40)
- Vocational training facilities (X45)

Anchorage Land Parcels
Anchorage Roads (X20)



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Map 6

Drinking Water Protection Area for Quiet View Apartments and Potential and Existing Sources of Contamination

200 0 200 Feet

PWSID 217576.001, 002 and 003

Legend

Quiet View Apartment Wells
- Well No. 1
- Well No. 2
- Well No. 3

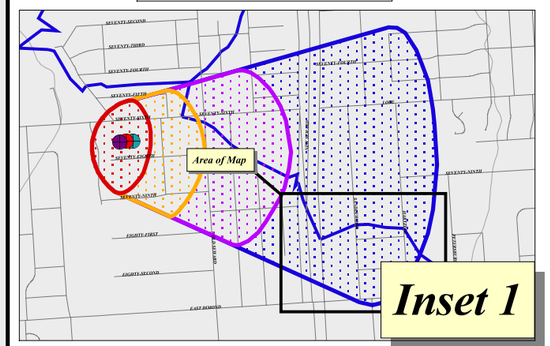
Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 5 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
- Aircraft maintenance shops (C1)
- Florists (C12)
- Furniture manufacturing (C14)
- Gasoline stations (C15)
- Hardware stores (C17)
- Heavy equipment rental/storage (C18)
- Laboratories - chemical, veth, and research (C20)
- Motor vehicle dealerships (C27)
- Motor/motor vehicle supply stores (C28)
- Appliance repair shops (C3)
- Motor/motor vehicle repair shops (C31)
- Paint sales/service (C32)
- Printers, publishers, copiers (C37)
- Taxidermists (C41)
- Windshield/glass shops (C44)
- Body shops - automotive (C9)
- Construction trade areas (C9)
- Class V injection wells - motor vehicle waste (D02)
- RCRA hazardous waste facilities (D05)
- Jewelry manufacturing (I22)
- Metal finishing (I24)
- Organic chemicals manufacturing (I29)
- Cement manufacturing (I8)
- Meat Processing (N9)
- Gasoline tanks - underground (T13)
- Closed gasoline tanks - underground (T17)
- Closed tanks, petroleum products - underground (T21)
- Diesel tanks - underground (T9)
- Closed diesel tanks - underground (T9)
- Contaminated site - DEC recognized (U-4)
- Petroleum product bulk station/terminal (X11)
- Firehouses (X30)
- Medical/veterinary facilities (X40)
- Vocational training facilities (X45)
- Anchorage Land Parcels
- Anchorage Roads (X20)



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Map 7

APPENDIX D

Vulnerability Analysis for Quiet View Apartments

(Charts 1-14)

Chart 1. Susceptibility of the wellhead - Quiet View Apartments-Well No. 1, 2 and 3

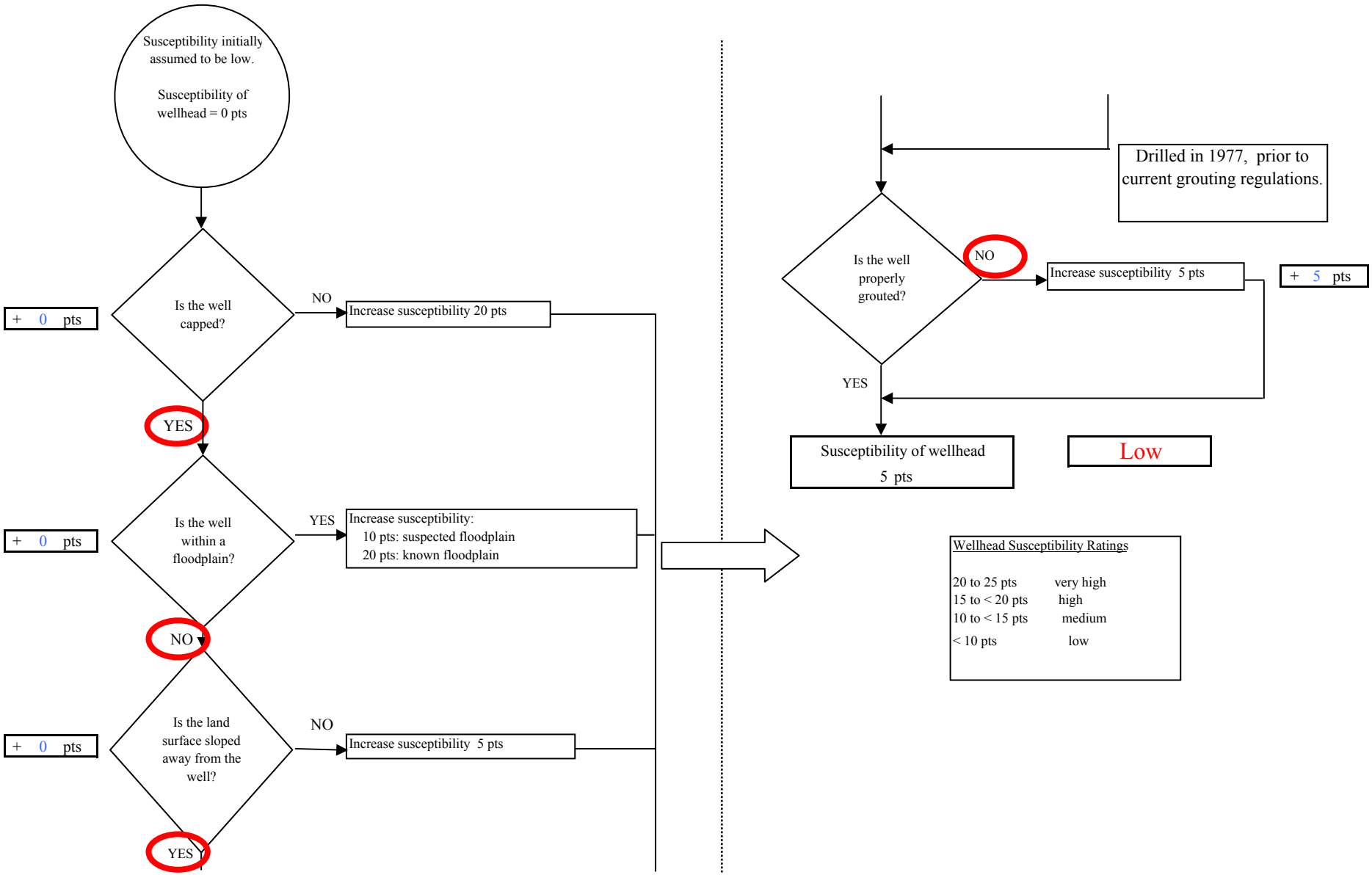


Chart 2. Susceptibility of the aquifer - Quiet View Apartments-Well No. 1, 2 and 3

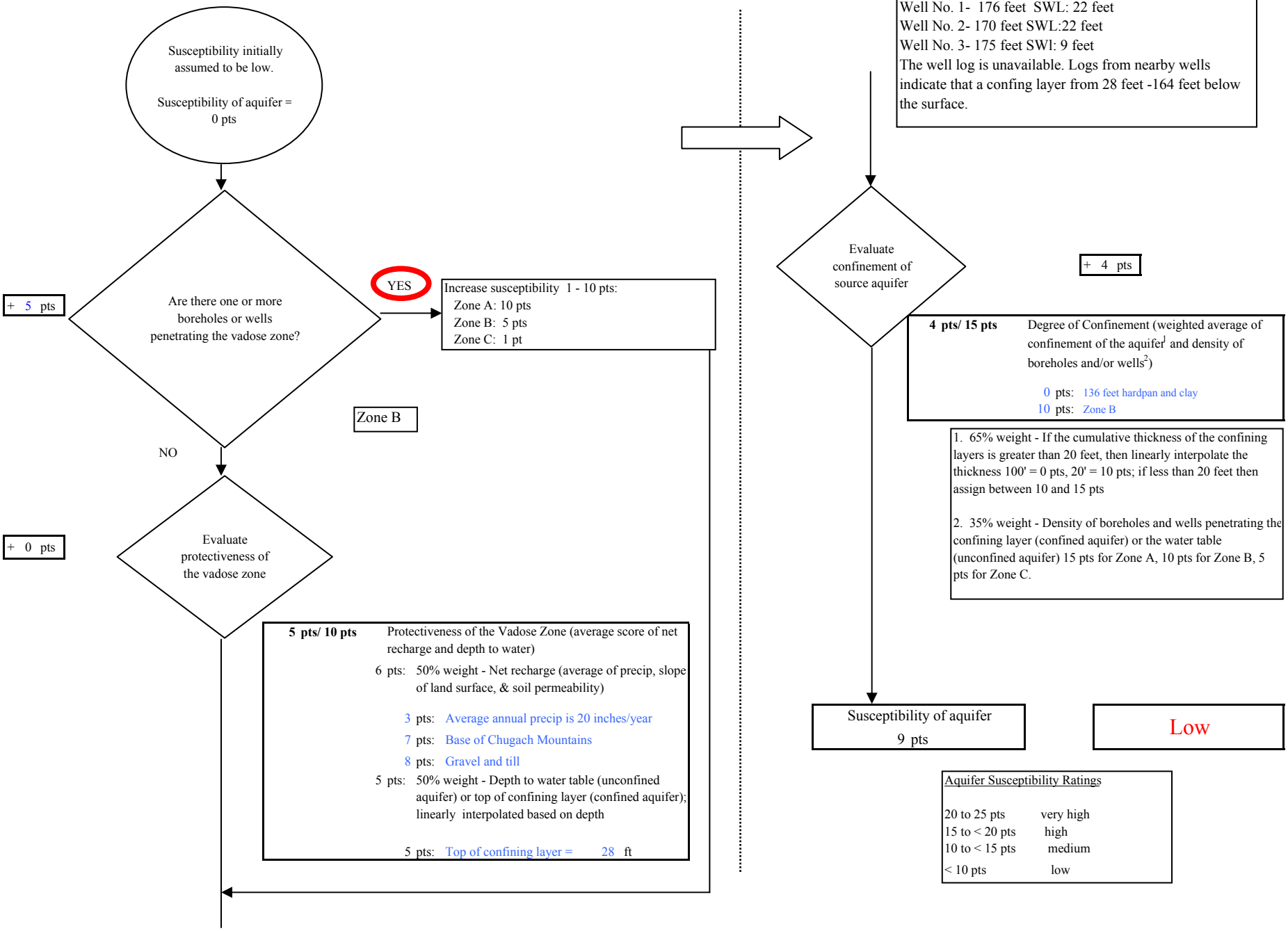
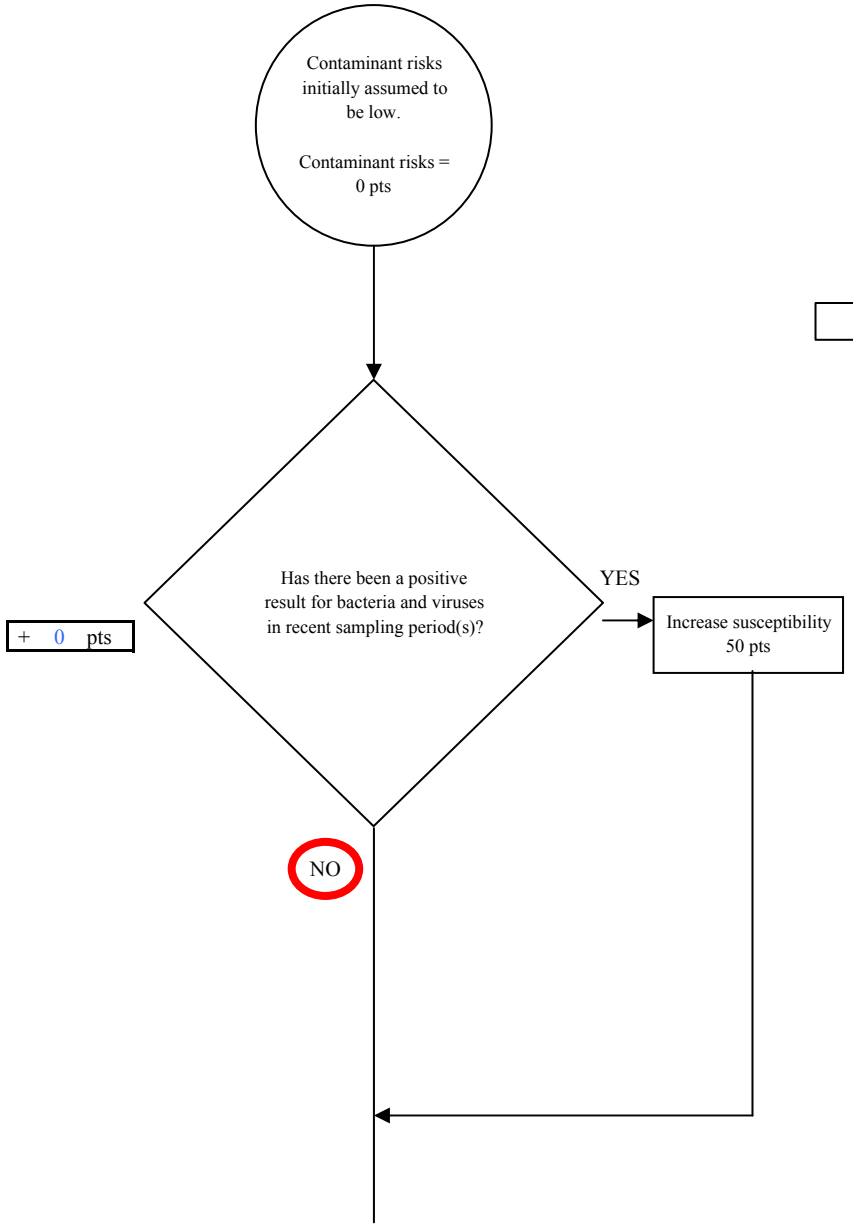
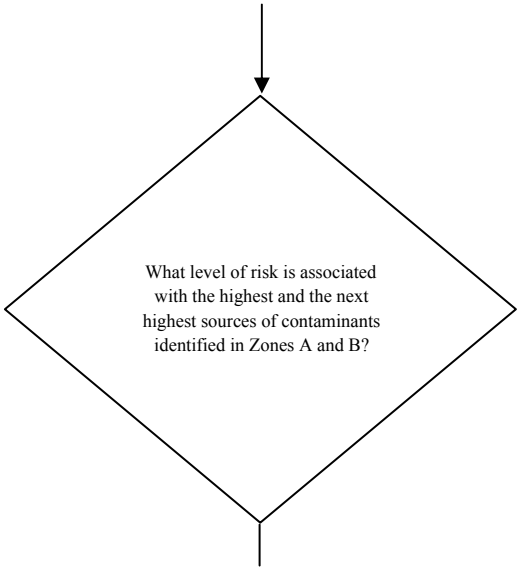


Chart 3. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Bacteria & Viruses





+ 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	0	1
Low(s)	3	5	8

	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 Quiet View Apartments-Well No. 1, 2 and 3- Bacteria & Viruses

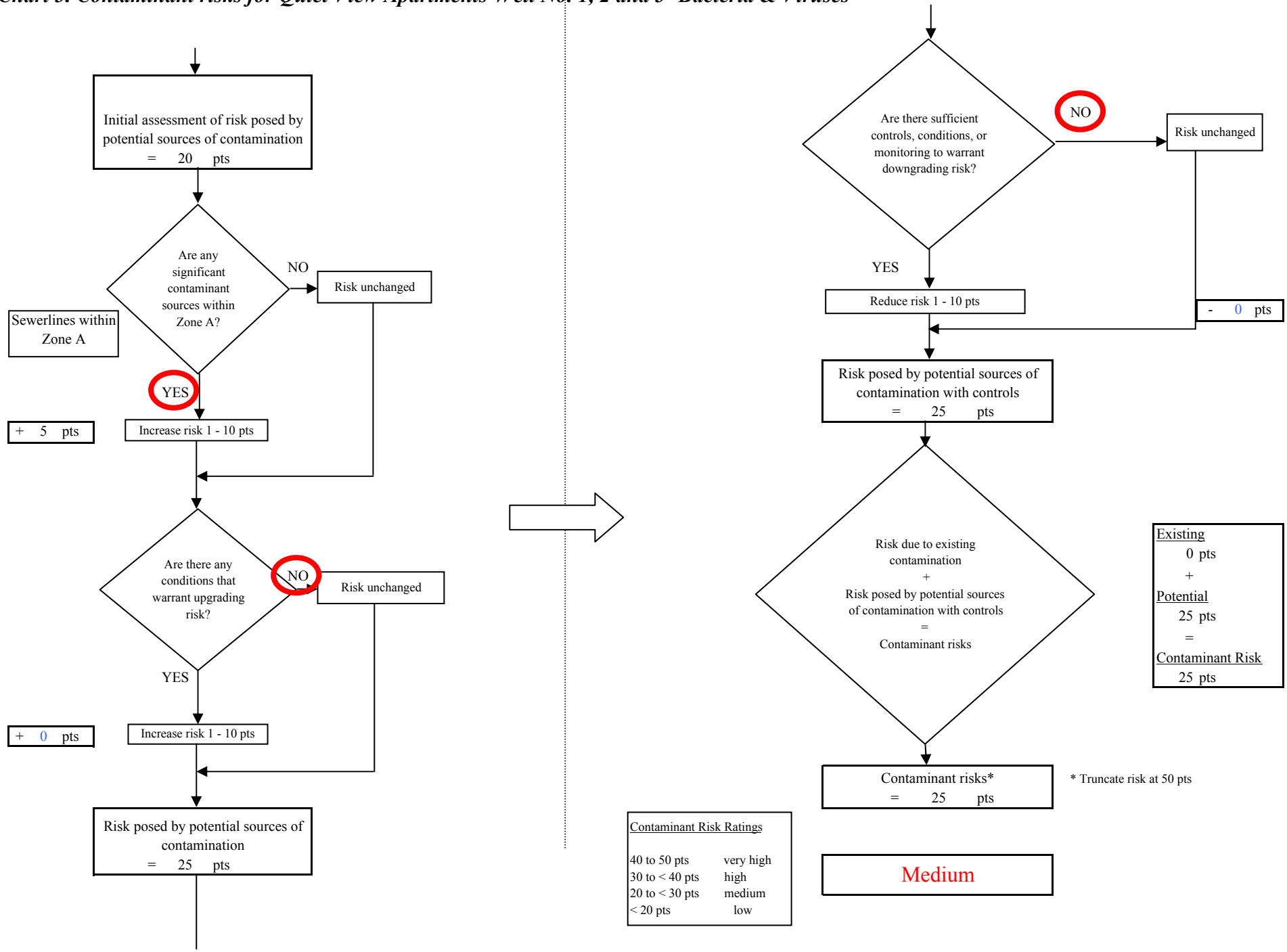


Chart 4. Vulnerability analysis for Quiet View Apartments-Well No. 1, 2 and 3- Bacteria & Viruses

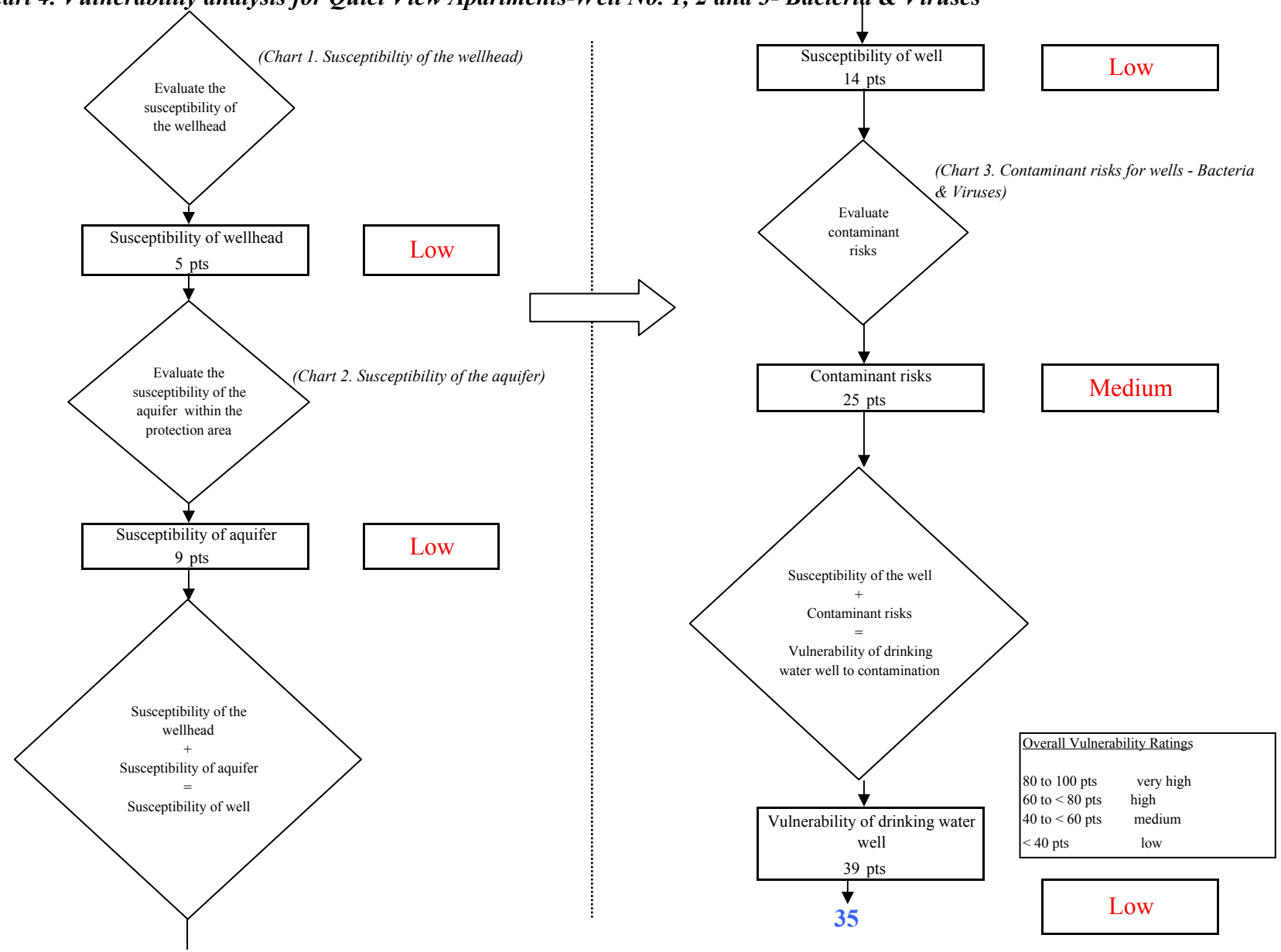


Chart 5. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Nitrates and Nitrites

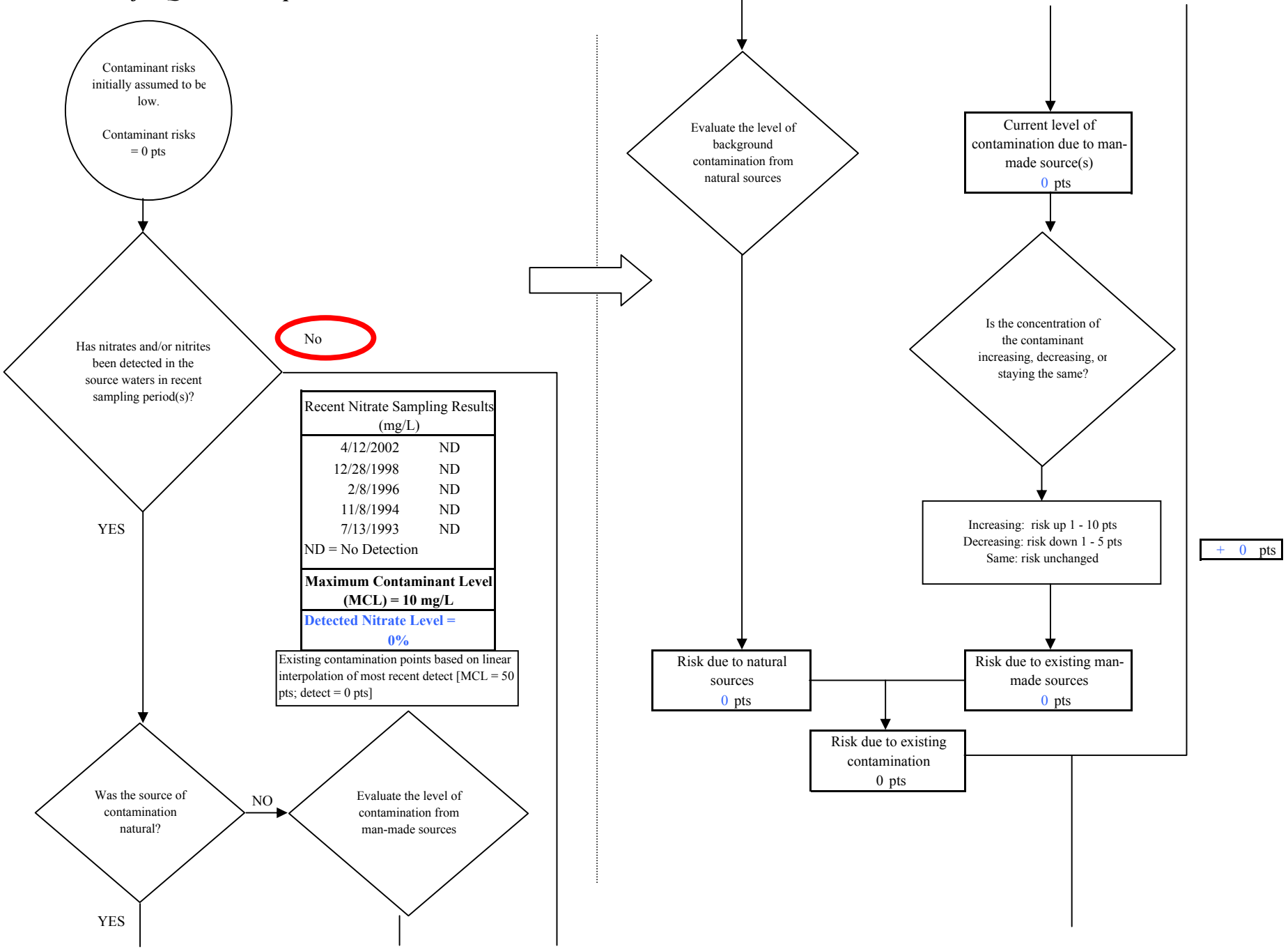


Chart 5. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Nitrates and Nitrites

+ 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	8	11

	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.

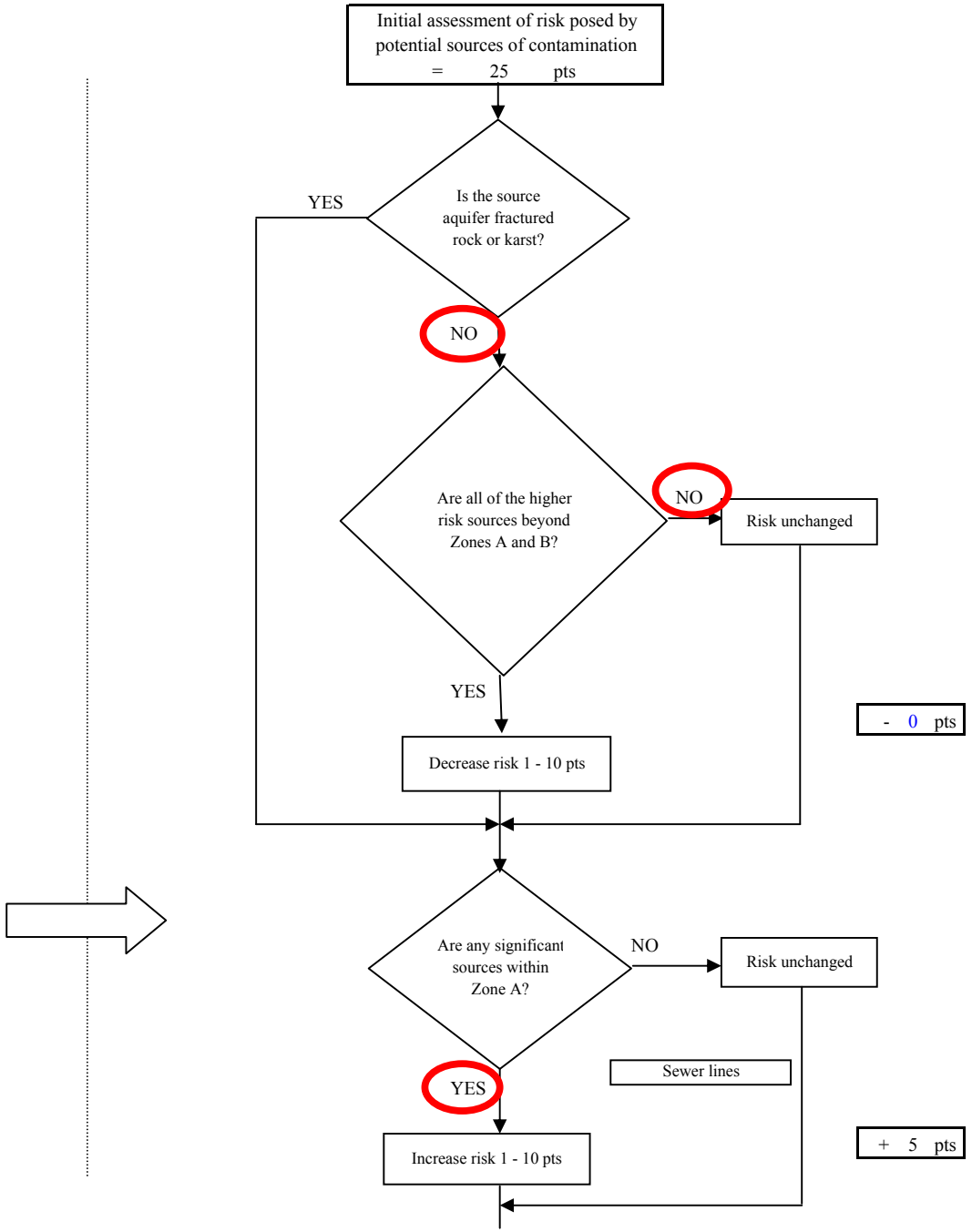


Chart 5. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Nitrates and Nitrites

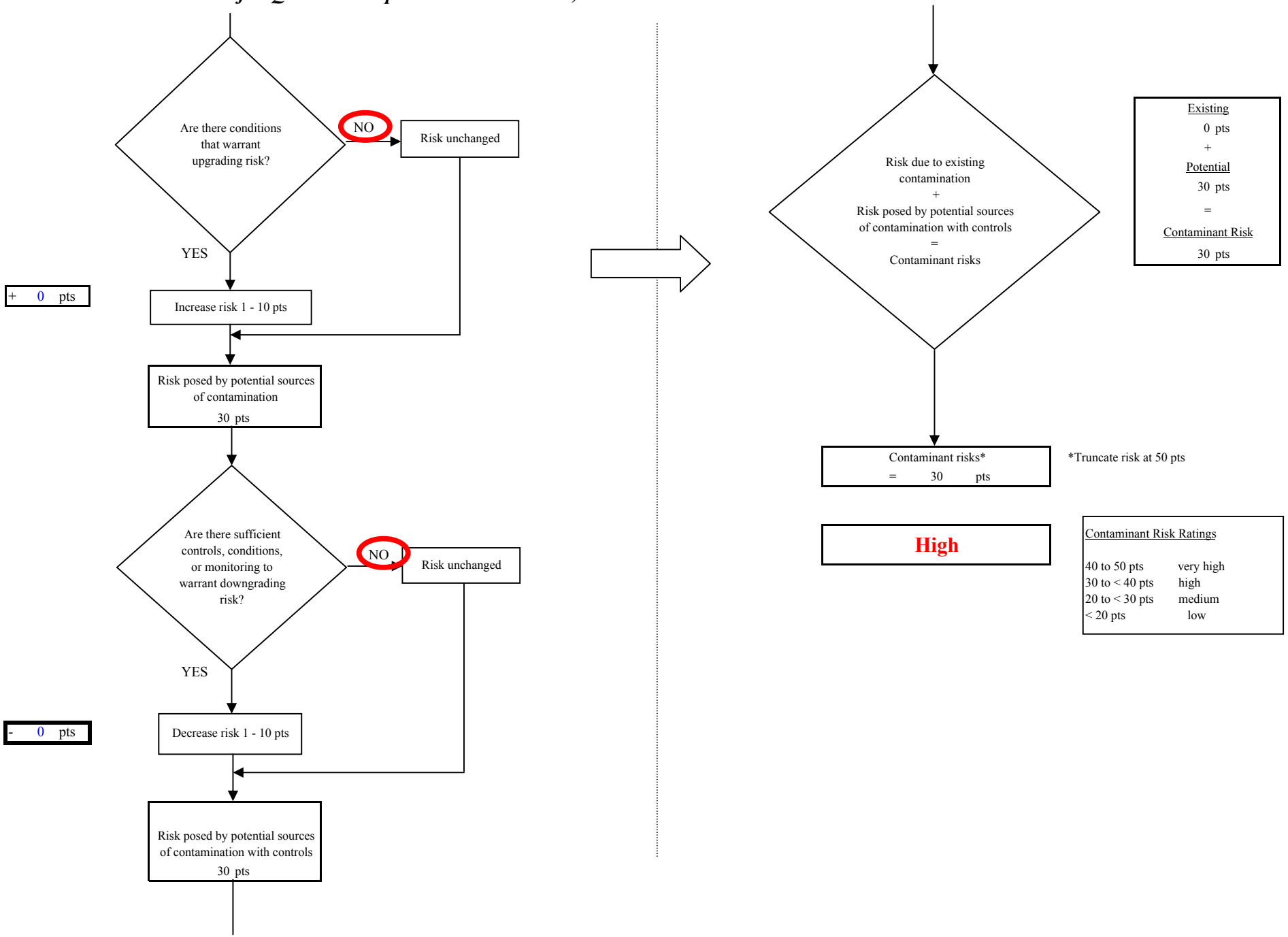


Chart 6. Vulnerability analysis for Quiet View Apartments-Well No. 1, 2 and 3- Nitrates and Nitrites

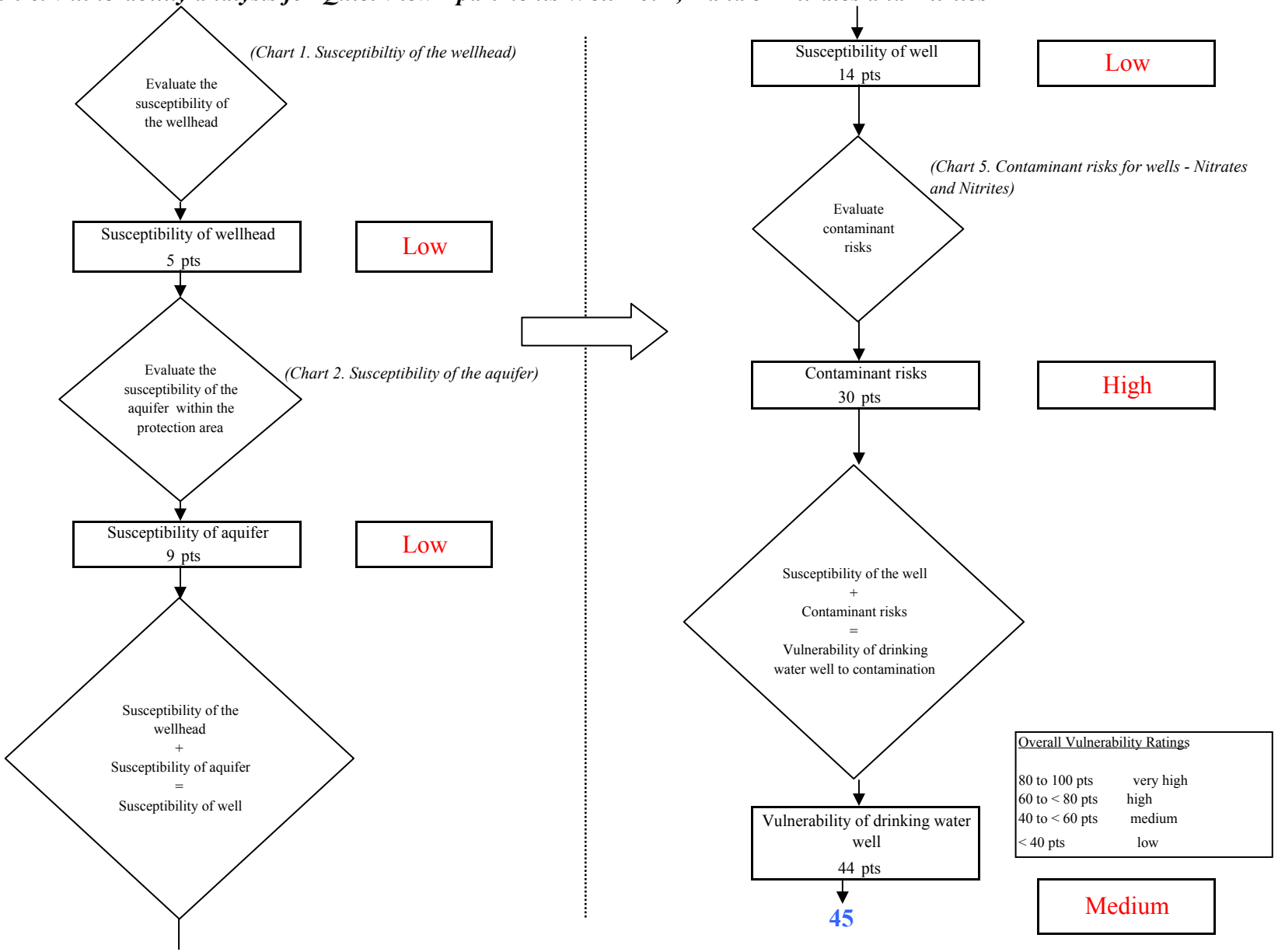


Chart 7. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Volatile Organic Chemicals

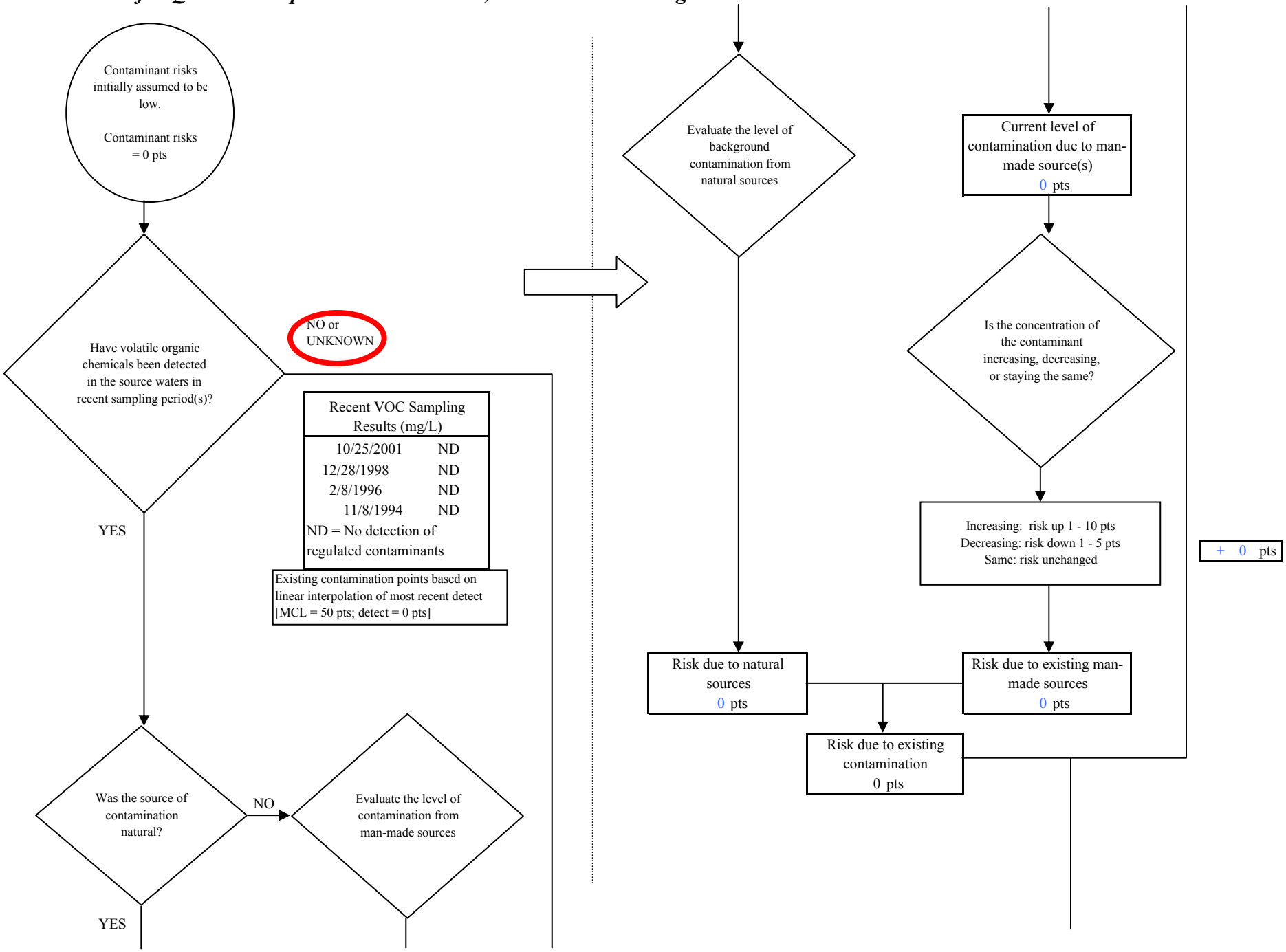


Chart 7. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Volatile Organic Chemicals

+ 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	9	10
Medium(s)	0	19	19
Low(s)	3	31	34

	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

ADEC Recognized Contaminated Site

Increase risk 1 - 10 pts

+ 10 pts

Chart 7. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Volatile Organic Chemicals

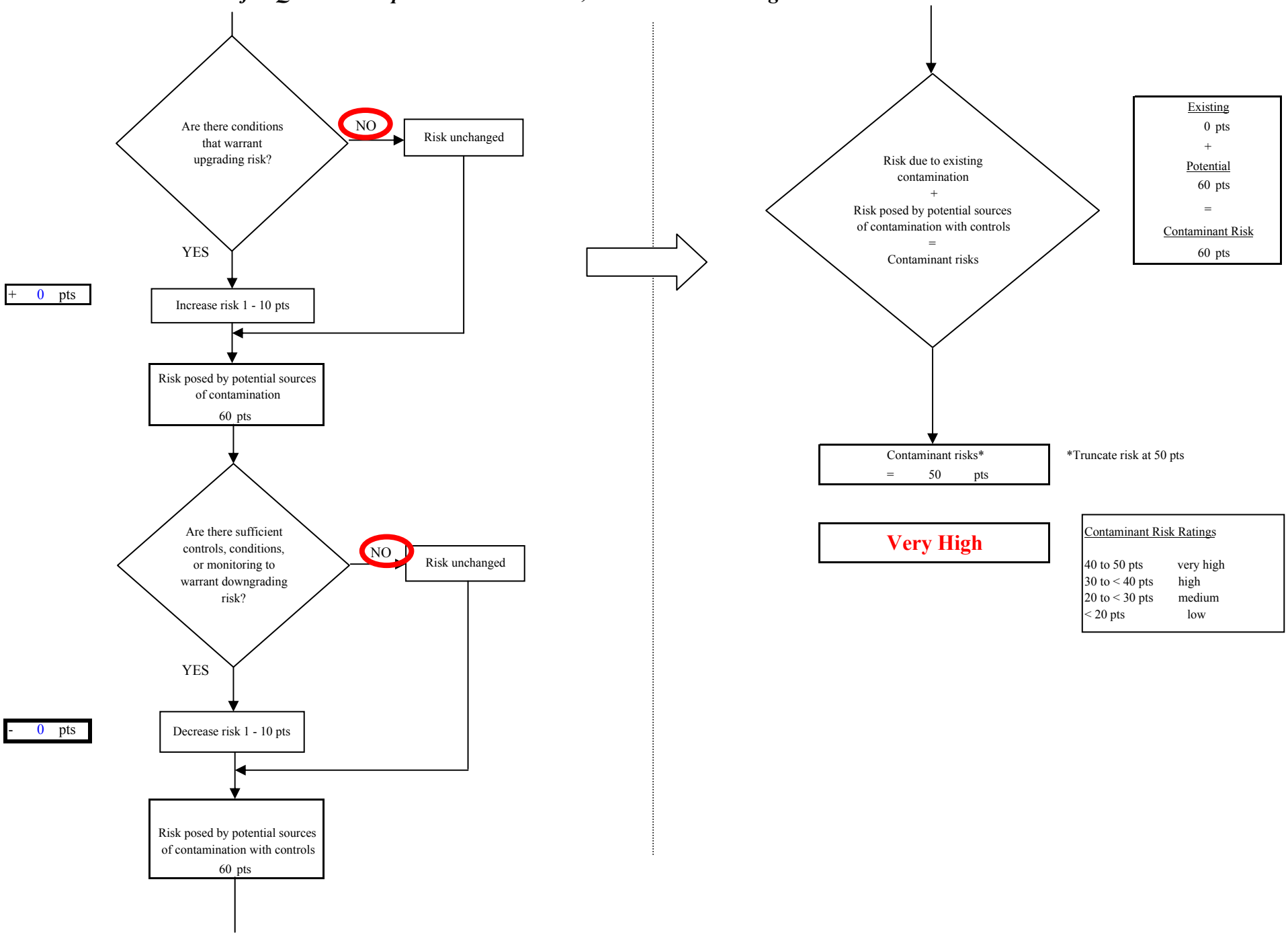


Chart 8. Vulnerability analysis for Quiet View Apartments-Well No. 1, 2 and 3- Volatile Organic Chemicals

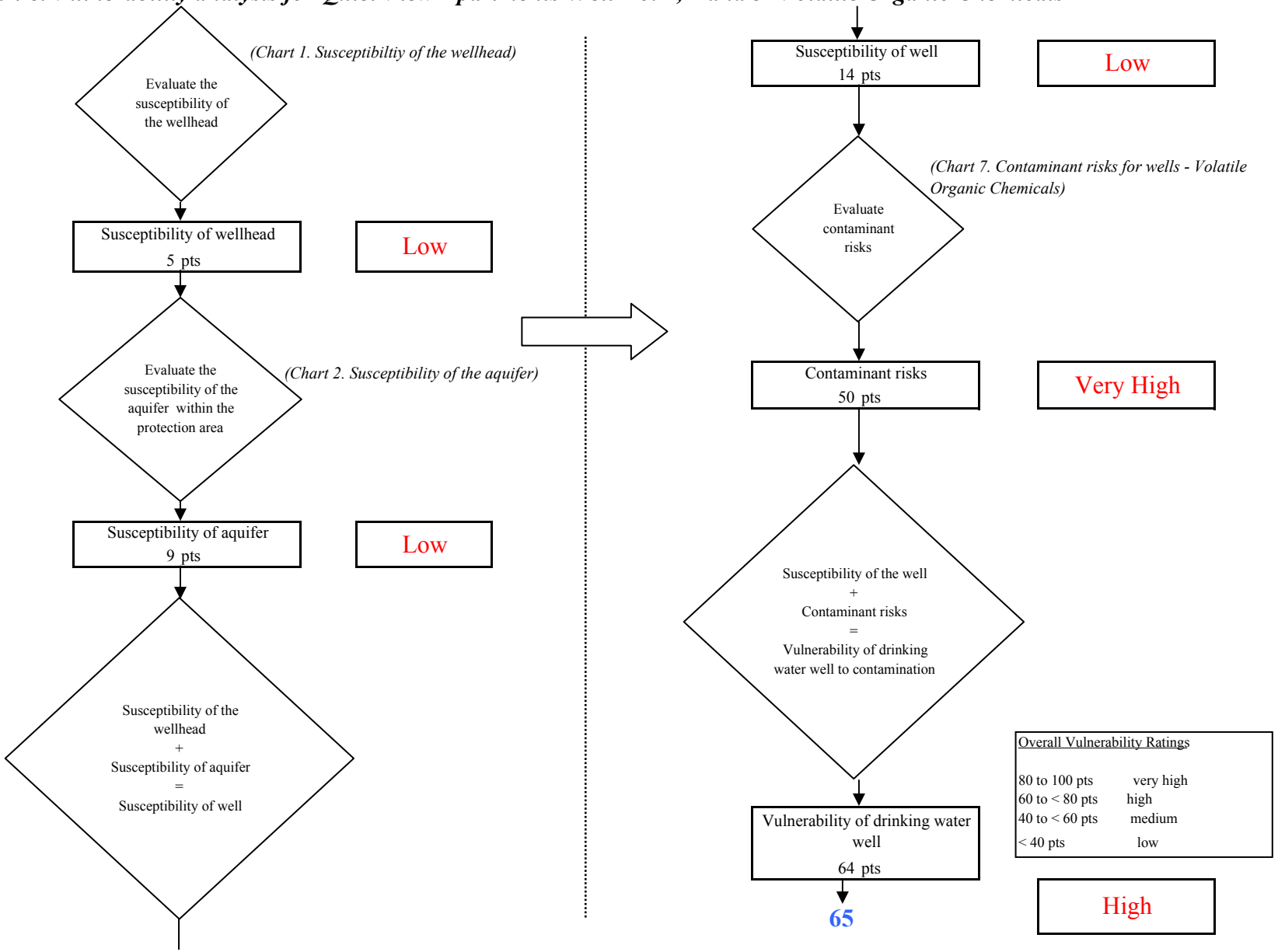


Chart 9. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Heavy Metals, Cyanide and Other Inorganic Chemicals

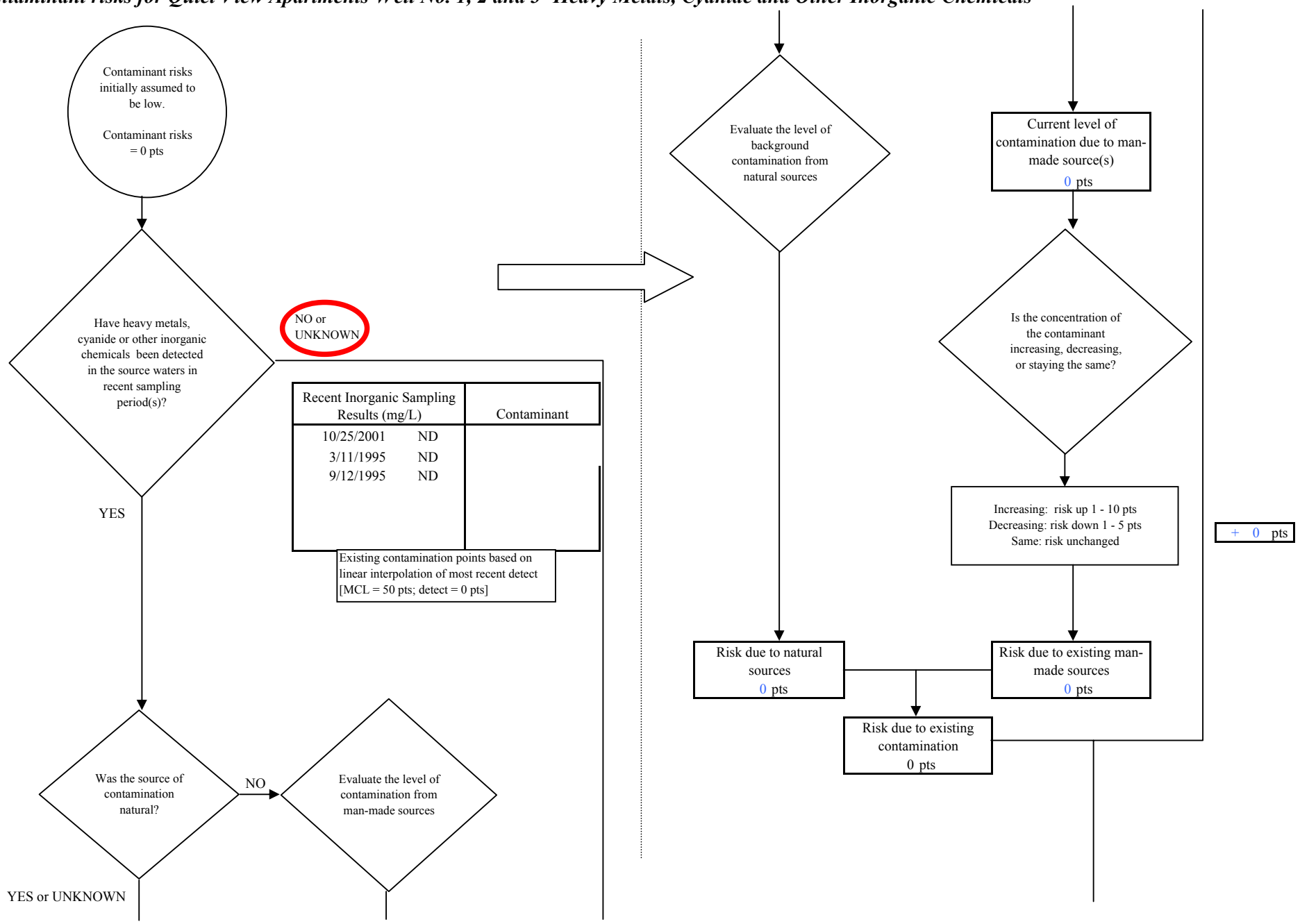


Chart 9. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Heavy Metals, Cyanide and Other Inorganic Chemicals

+ 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	0	0
High(s)	0	3	3
Medium(s)	0	11	11
Low(s)	3	31	34

	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

Sewerlines

Increase risk 1 - 10 pts

+ 2 pts

Chart 9. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Heavy Metals, Cyanide and Other Inorganic Chemicals

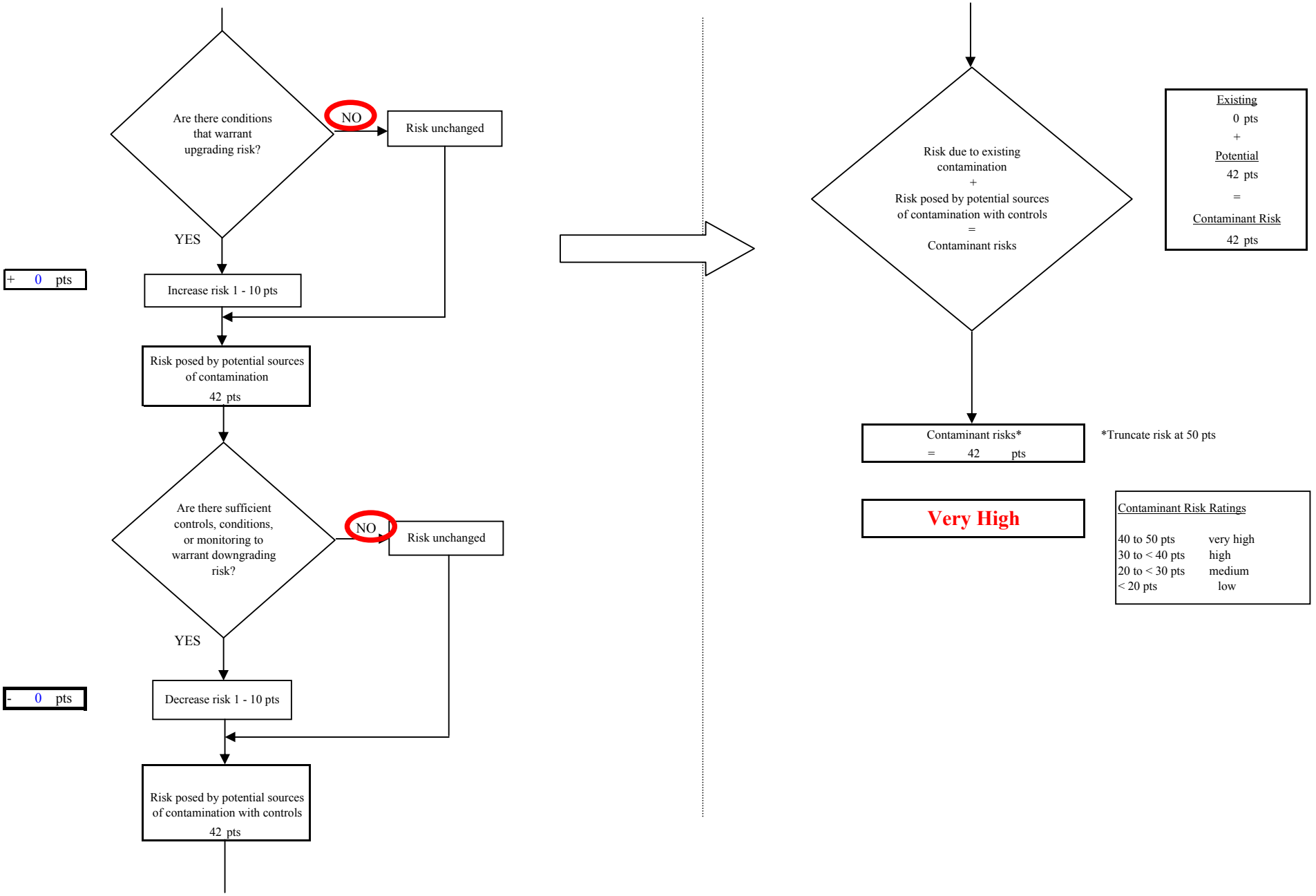


Chart 10. Vulnerability analysis for Quiet View Apartments-Well No. 1, 2 and 3- Heavy Metals, Cyanide and Other Inorganic Chemicals

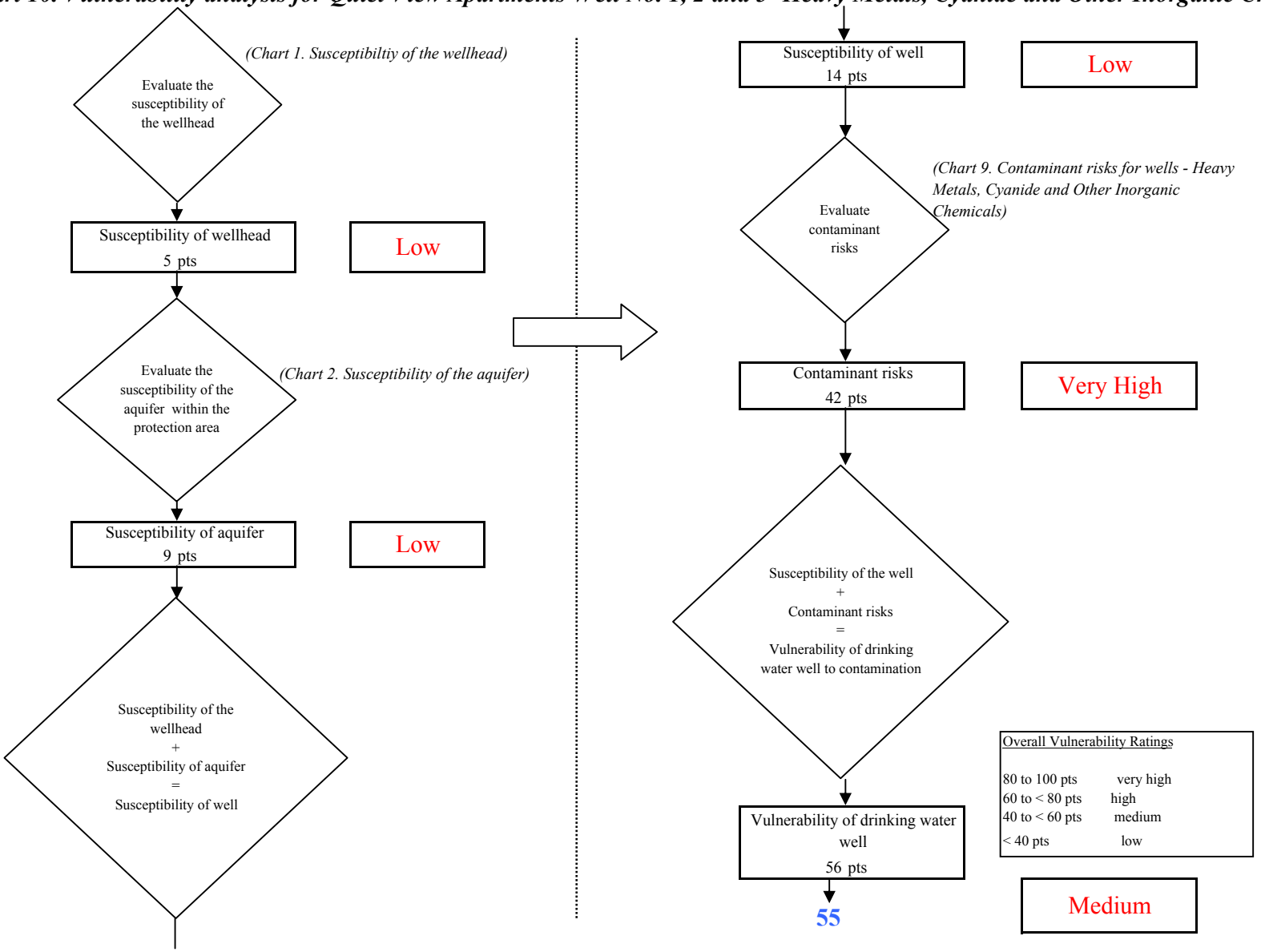


Chart 11. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Synthetic Organic Chemicals

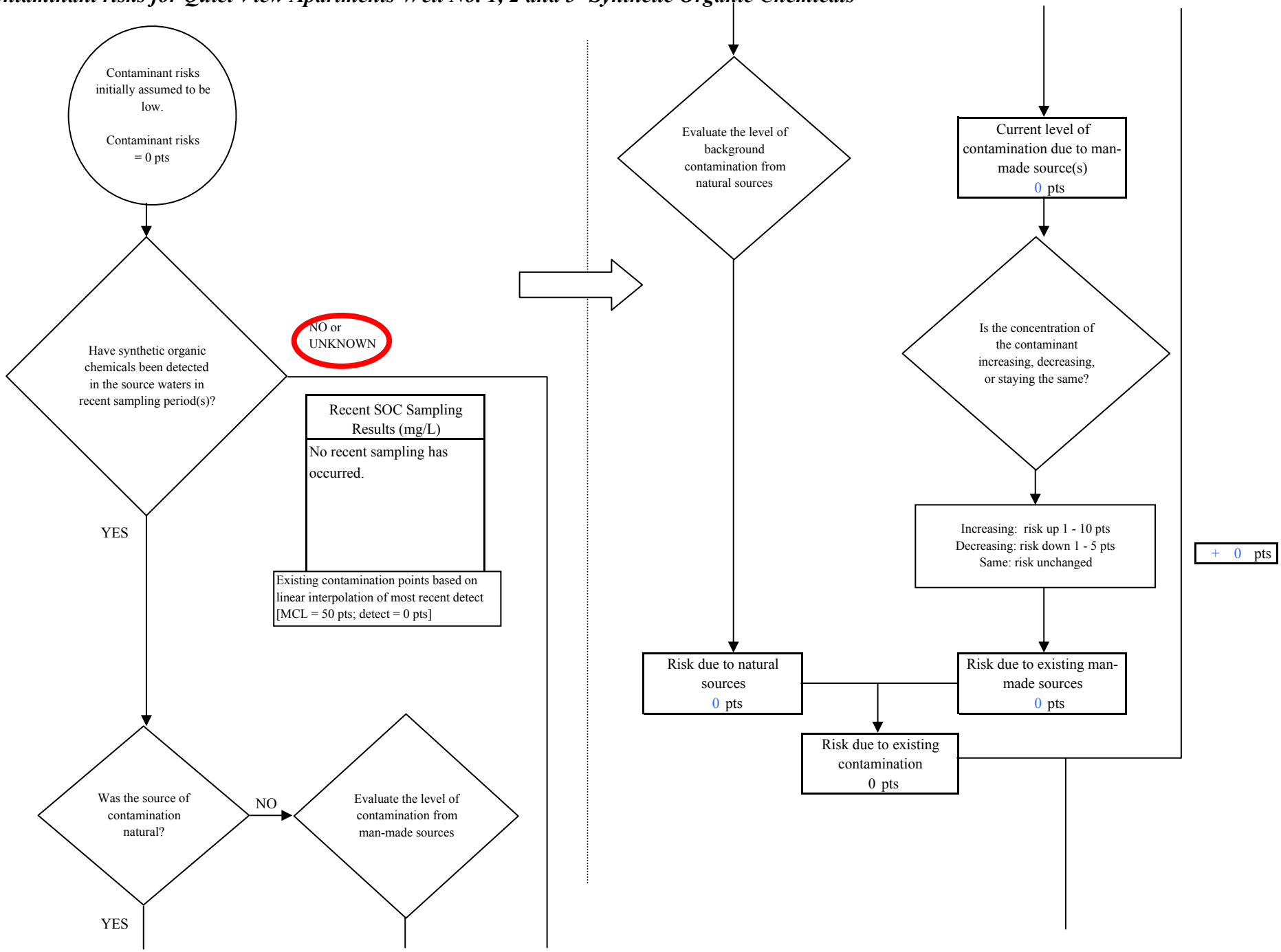


Chart 11. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Synthetic Organic Chemicals

+ 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	1	1
Low(s)	2	7	9

	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 → Public utility easements/corridors → Increase risk 1 - 10 pts

+ 2 pts

Chart 11. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Synthetic Organic Chemicals

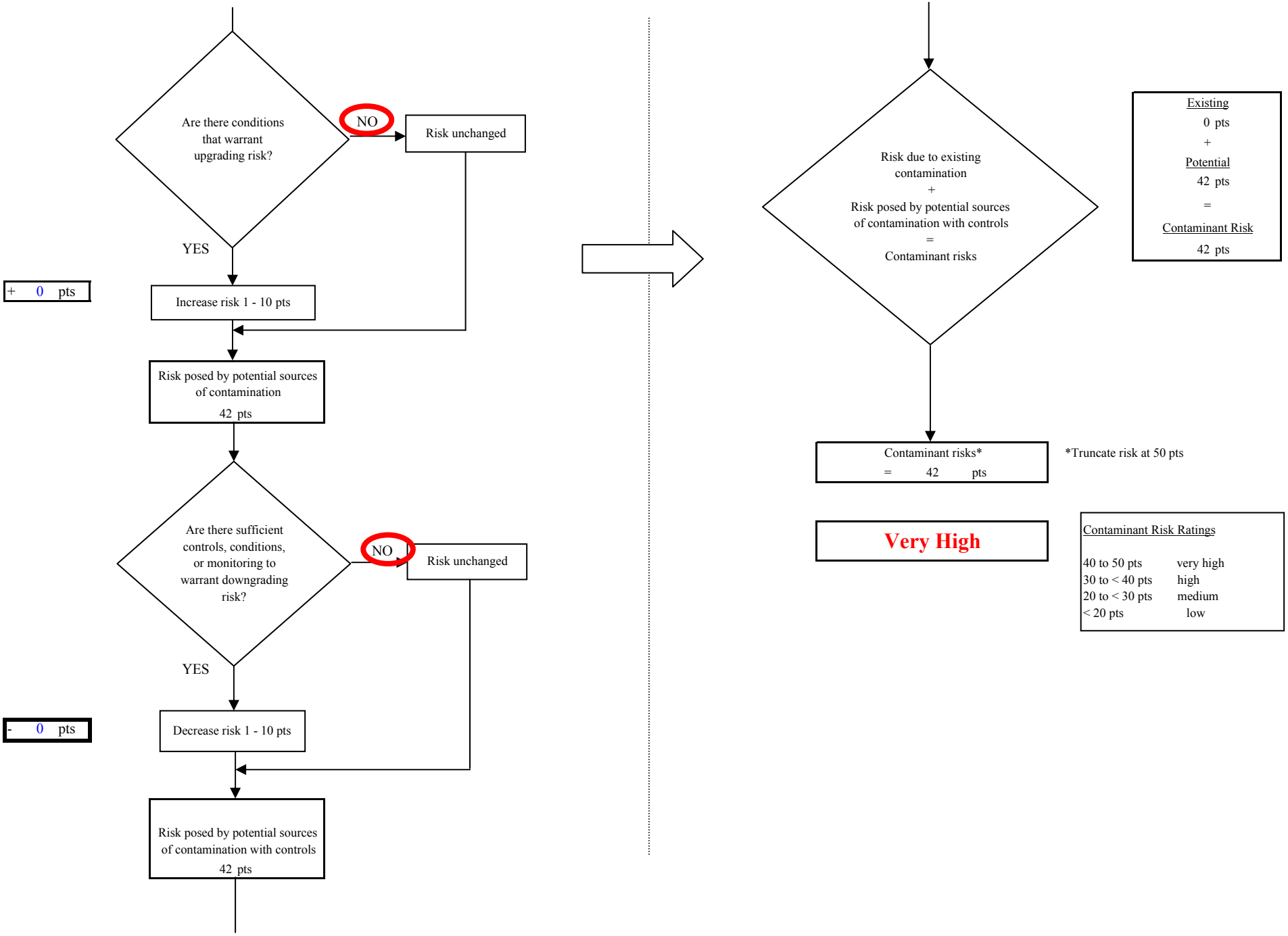


Chart 12. Vulnerability analysis for Quiet View Apartments-Well No. 1, 2 and 3- Synthetic Organic Chemicals

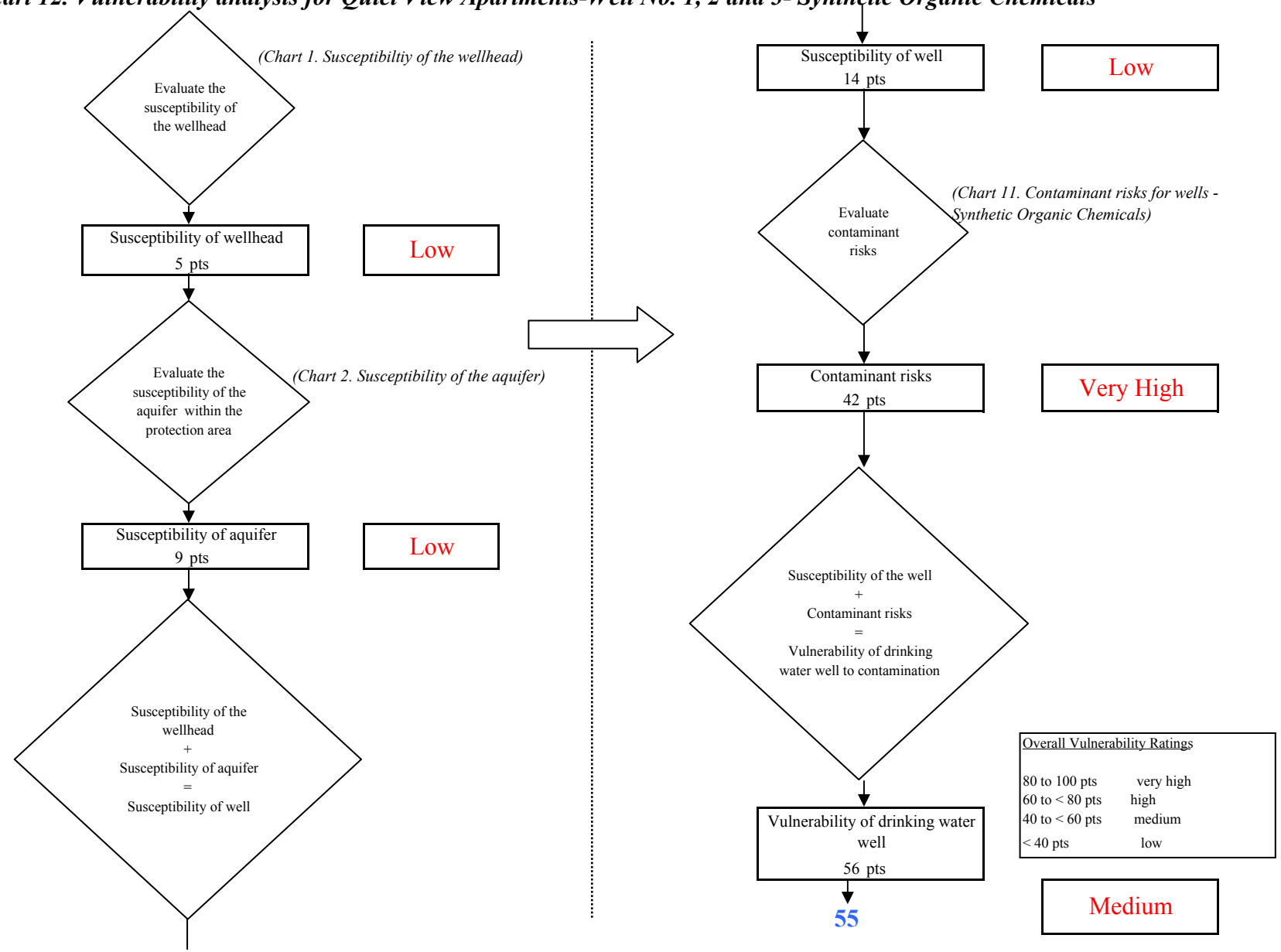


Chart 13. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Other Organic Chemicals

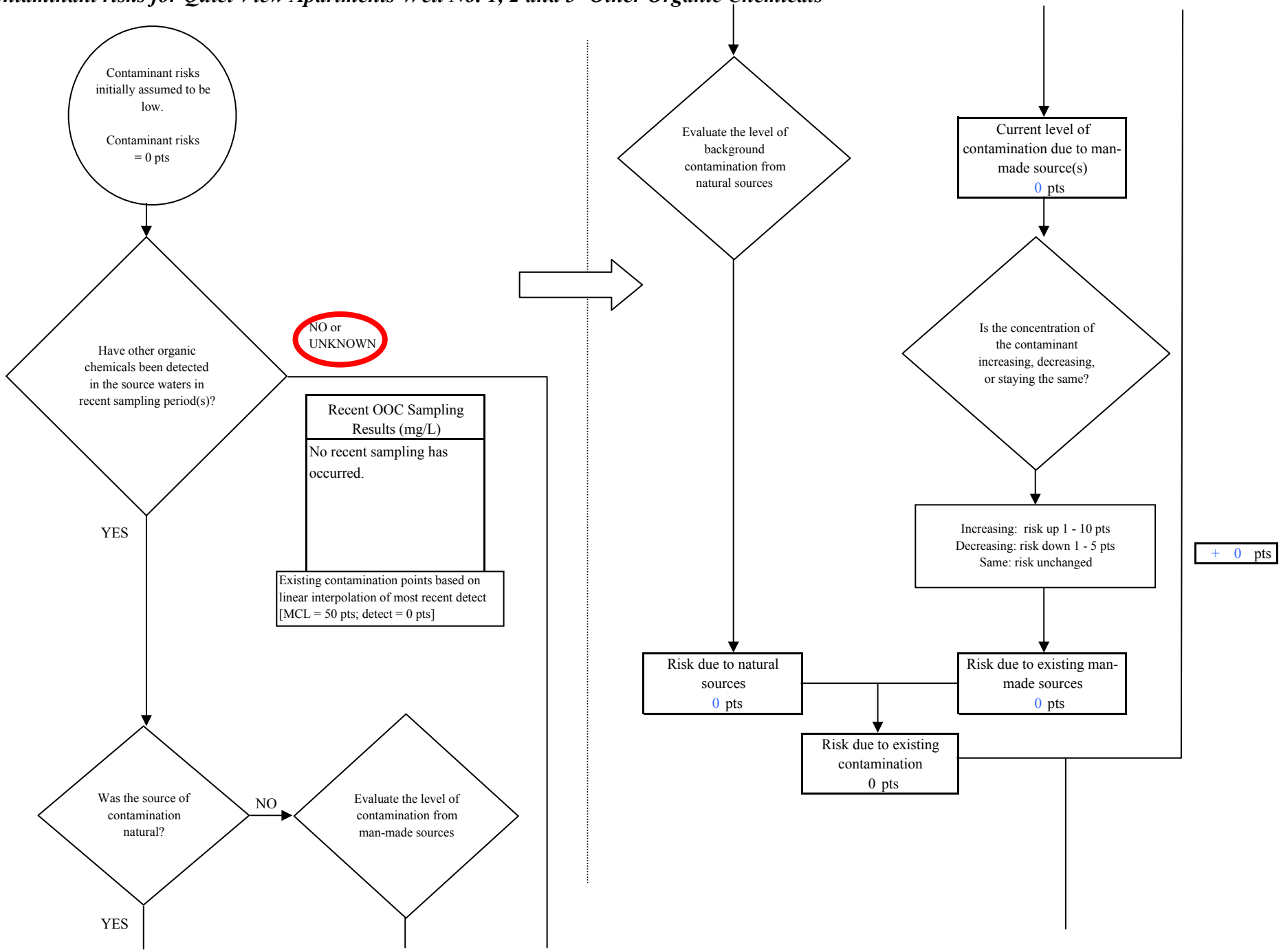


Chart 13. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Other Organic Chemicals

+ 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)	0	2	2
Medium(s)	0	12	12
Low(s)	3	20	23

	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

Sewer lines

YES → Increase risk 1 - 10 pts

+ 2 pts

Chart 13. Contaminant risks for Quiet View Apartments-Well No. 1, 2 and 3- Other Organic Chemicals

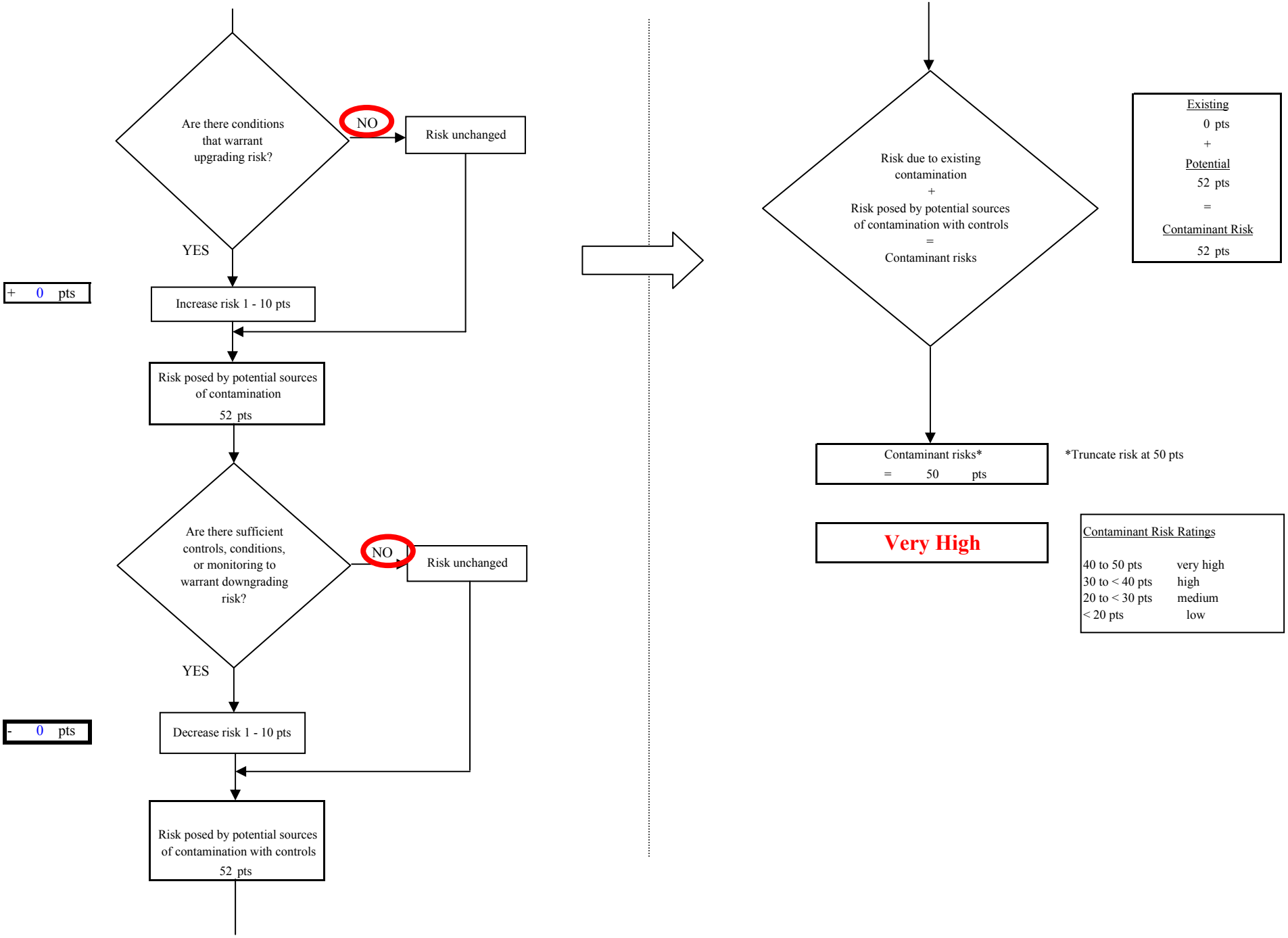


Chart 14. Vulnerability analysis for Quiet View Apartments-Well No. 1, 2 and 3- Other Organic Chemicals