



CANADIAN COUNTY

Canadian Valley Technology Center

2012 Multi-Hazard Mitigation Plan Update



Flanagan & Associates, LLC
Planning Consultants

Acknowledgements

Canadian Valley Technology Center District No. 6 (Canadian County) Multi-Hazards Mitigation Plan 2012 Update was made possible by a Hazard Mitigation Grant from the Oklahoma Department of Emergency Management and the Federal Emergency Management Agency, with local share funding from Canadian County Technology Center District No. 6. campuses in Canadian County.

The Plan was prepared by Canadian County and Canadian Valley Technology Center District No. 6 under the direction of the Canadian County Commissioner's Office, with the participation and assistance of numerous agencies, organizations, and individuals, including:

Canadian Valley Technology Center District No. 6 Board of Education

President Dr. Sid Vaught
Vice-President..... Greg LaPat
Clerk Jimmie Vickrey
Deputy Clerk..... Dick McCalla
Member..... George Fina

Canadian Valley Technology Center District No. 6 Administration

Superintendent Dr. Greg Winters
Assistant Superintendent, El Reno..... William Bradley
Campus Director..... Donna Alloway
Chief Financial Officer Richard Wood

Canadian Valley Staff Technical Advisory Committee (STAC)

District Safety Coordinator Tom Durante
Industry Coordinator..... Ed Lynch

G.12 Canadian Valley Technology Center District. No. 6

Canadian Valley Technology Center District No. 6 is part of Oklahoma's CareerTech System, under the direction of the Oklahoma State Board of Career and Technology Education, which includes network of 29 technology centers on 57 campuses state-wide.

Section 1 Introduction

1.1 Services Summary

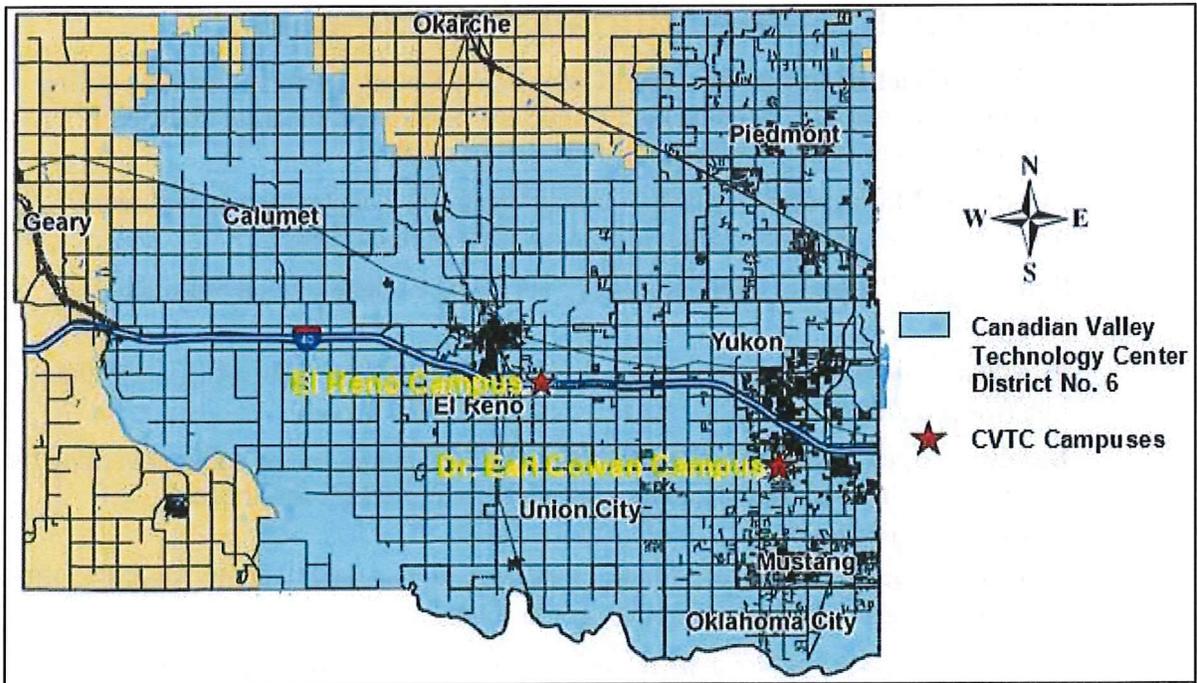
Oklahoma's Technology Centers serve high school and adult learners with specialized career training in more than 90 instructional areas. High school students living in a technology center district attend tuition free, while adults are charged nominal tuition. Technology center students also are able to earn highly affordable and transferable college credit from area colleges in many career majors.

The Canadian Valley Technology Center District No. 6 (CVTC) serves most of Canadian and Grady Counties. The CTVC District has facilities located in El Reno and Yukon in Canadian County and in, Chickasha and Tuttle in Grady County.

The Canadian County Multi-Jurisdictional, Multi-Hazard 2012 Plan Update includes only that portion of CVTC District No. 6 located within Canadian County as highlighted in blue in Figure G.12-1.

The Plan includes exclusively the CVTC District's El Reno Campus and the CVTC District's Dr. Earl Cowan Campus in Yukon, both also shown in Figure G.12-1.

Figure G.12-1 Canadian Valley Technology Center District No. 6 Locator Map



1.2 Population Summary

Table G.12-1 summarizes the enrollment and staff (both full-time and part-time), as well as locations for the CVTC Campuses for school year 2011-2012.

Table G.12-1 CVTC Canadian County Campuses Enrollment, 2011-2012

School	Address	Students	Staff
CVTC, El Reno Campus	6505 E. Highway 66, El Reno	15,000	133
CVTC Dr. Earl Cowan Campus, Yukon	1701 Czech Hall Rd., Yukon	1,669	25

1.3 Economic Summary

Chapter 2.2.1 expresses the general governing, financing and policy-making authority of public boards of education in Oklahoma.

Canadian Valley Technical College is a part of the State of Oklahoma Department of Career and Technology Education. The Department is governed by the Oklahoma Career and Technology Education Board of Education.

Funding sources for the CareerTech System are local (66.6%) through property taxes voted by the patrons of the respective districts, State appropriations (27.5%), Federal (4.2%) and less 2% from other sources such as a \$2.7 million grant from the National Science Foundation awarded to one of the CareerTech Centers.

CVTC is on sound financial footing and has the capacity to carry out educational programs and physical improvements to facilities as needed.

Section 2 Existing Mitigation Strategies

National Flood Insurance Program/Community Rating System. Canadian Valley Technical College is covered by the El Reno and Yukon participation in the NFIP program but they are not participants in the CRS Program.

Floodplain Management. Canadian Valley Technical College participates in and benefits from El Reno and Yukon regulations for the floodplains.

StormReady Program. Canadian Valley Technical College is not a StormReady community.

FireWise Program. Canadian Valley Technical College does not participate in the FireWise Program.

Building Codes. Canadian Valley Technical College abides by the codes governing the Cities of El Reno and Yukon and the states required codes for the schools.

Emergency Services

Security. Canadian Valley Technical College has contracted with the Sheriff's Office to provide security for the campuses of the college.

Fire Protection. The fire departments of El Reno and Yukon would be responsible for responding to a fire at Canadian Valley Technical College.

Hospitals. The closest hospital is Parkview Hospital in El Reno, and Integris Canadian Valley Hospital in Yukon.

Ambulance Service. Parkview Hospital and Medical Express EMS provides ambulance service for Canadian Valley Technical College.

Section 3 Hazards

As was shown in Figure G.12-1, Canadian Valley Technology Center District No. 6 encompasses essentially all of Canadian County. Therefore the data regarding vulnerability to general hazards that can affect Canadian County presented in Chapter 4 of the Plan is directly applicable to the Canadian County portion of the CVTC District. Of the general hazards: Tornadoes, High Winds, Winter Storms, Extreme Heat, Drought, Urban Fires; Canadian Valley Tech has been impacted by all but two, Tornadoes and Urban Fires.

The following is a list how the Center has been impacted by these hazards in the past. Similar impacts can be expected in the future:

- High Winds: All sites have been damaged due to high winds that have broken power lines causing major burned power circuits at both campuses.
- Lightning: All sites have been affected by lightning strikes causing power failures or burned out equipment from the strike(s). Also, lightning has struck and burned the HVAC building on the El Reno Campus.
- Winter Storms: Sites have been shut down in the past due to inaccessibility to the site from high drifting snow, multiple layers of ice or ice under snow pack, power outages from ice and wind, and frozen pipes causing water damage.
- Extreme Heat: All sites have been impacted from power outages, A/C equipment failure from heat, and water rationing by the local municipality.
- Drought: All sites have lost trees, shrubs, other vegetation, and sod as a result of drought.

Site-Specific Hazards

Section 3 analyzes the vulnerability of each campus to site-specific hazards: Flood, Expansive Soils, Wildfire, Hazardous Materials, Dam Failure and Transportation. Although these hazards also appear in the category of general hazards, there are critical circumstances associated with the particular location of a structure that, because of that location, may create a greater or lesser impact of a one or more of the six site-specific hazards. The site-specific narratives are followed by maps showing the sites of the campuses and their relationships to the hazards that are specific to each respective site.

Section 4 CVTC Canadian County Campuses

4.1 El Reno Campus

The CVTC El Reno Campus is located at 6505 E. Highway 66 in El Reno as indicated in Locator Map Figure G.12-1. The 40-acre El Reno Campus has seven buildings constructed of cement block and brick with hail resistant metal roofs,



El Reno Campus of the Canadian Valley Technology Center

sprinkler systems, automatic alarm system and a NOAA Weather Radio. There is no backup generator. See Figure G.12-2 for a base map of the Campus.

CVTC El Reno offers instruction and training to high school-age students, adults and senior citizens in technical and professional fields, including Aviation Maintenance Technology, Business Office Technology, Computer Information Systems, Construction Trades, Cosmetology, Early Care and Education, Electrical Trades, EPA Certification, Graphic Design, Health Careers, HVAC, Medical Office Technology, Wind Energy Technology and more. The CVTC El Reno Campus serves Calumet, El Reno, Mustang, Piedmont, Yukon and unincorporated areas in Canadian County.

Flood

The CVTC El Reno Campus is located on the northeast corner of OK Highway 66 and Evans Rd., in the Sixmile Creek drainage basin at elevation of 1,320. Sixmile Creek Tributary 3 passes beneath OK 66 about 100 yards east of the Campus. The 100-year floodplain of this tributary has been defined in this reach as between 1,305 and 1,306 feet. The floodplain of the North Canadian River, which passes through the area about two miles to the northeast, is at elevation 1,300. This is a site-specific potential hazard. The campus has not been impacted by riverine flooding in the past; however the school has felt the impact of flash flooding due to excessive rainfall. Two classrooms have flooded due in past summer rains. The CVTC El Reno Campus considers a flood event with a depth of less than three feet of water on a one story building to be a minor severity event and a flood event with a depth greater than three feet on a one story building to be a major severity event for both urban and flash flooding. The CVTC El Reno Campus has a Moderate vulnerability to and Moderate probability of the Flood hazard.

Expansive Soils

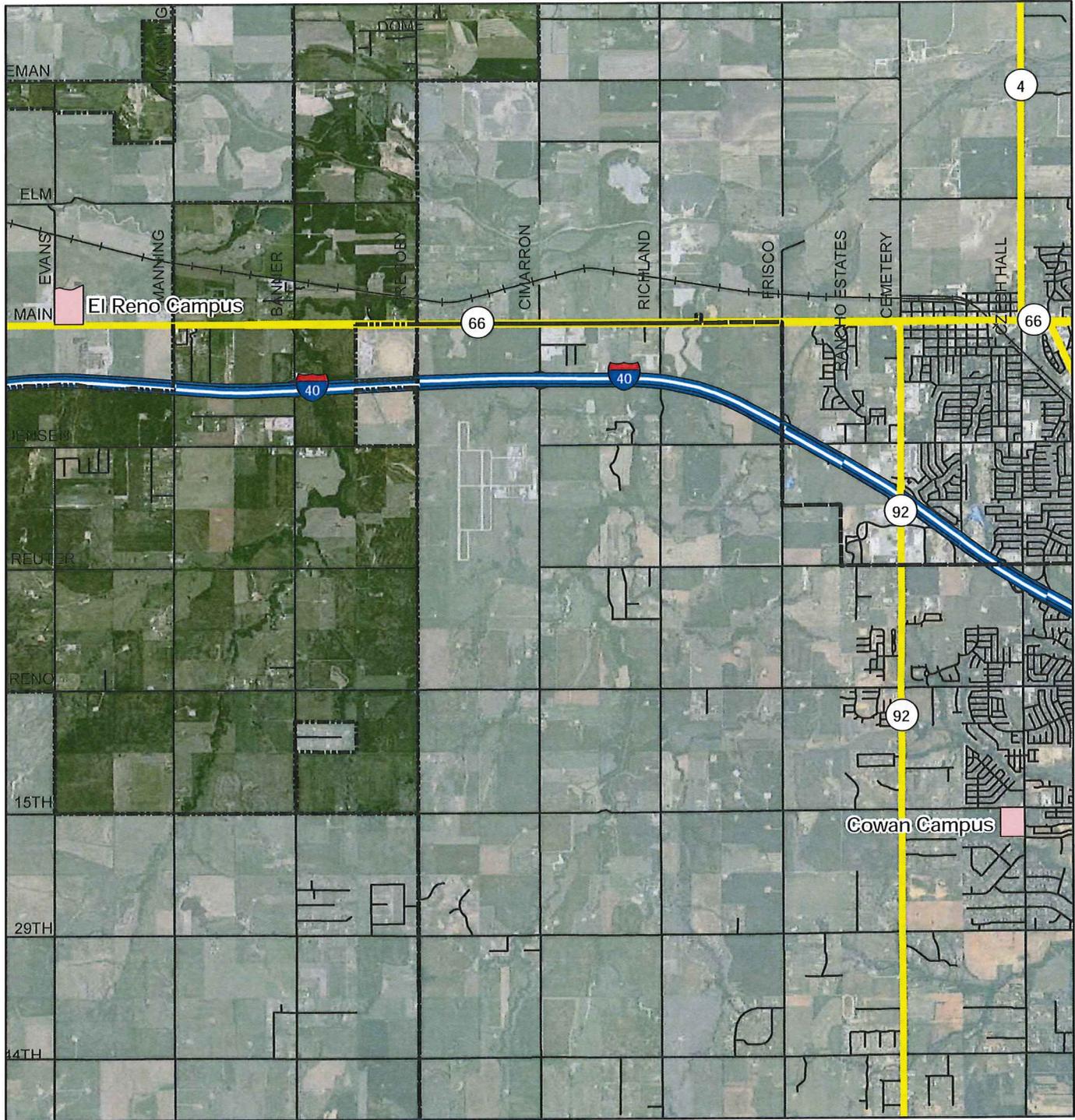
The CVTC El Reno Campus is situated on Moderate expansive soils. The campus has been damaged from cracked and broken pipes caused by ground shifting and soil movement. Similar damages can be anticipated in the future, especially during periods of extreme heat and drought. This is a site-specific potential hazard. CVTC El Reno Campus considers a shrink-swell level of moderate and below to be a minor severity and a shrink-swell level of high and above to be a major severity. The CVTC El Reno Campus is considered to have a Moderate vulnerability to and Moderate probability of the Expansive Soils hazard.

Wildfire

The CVTC El Reno Campus is located on the northeast corner of Evans Rd. and US Highway 66, in the rural/urban interface of the City of El Reno. It is surrounded on the north, east and south by undeveloped or developing land. To the west, across Evans Rd., is a large tract currently being developed. The CVTC El Reno Campus' buildings are buffered from the surrounding grass lands by highways, roads, parking lots and landscaped grounds. This is a site-specific potential hazard. The CVTC El Reno Campus considers a reading of moderate and below on the Fire Danger Rating system (Table 4-36) to be a minor severity level and a rating of high and above to be of major severity. The campus has not been impacted directly or indirectly by this hazard in the past. The CVTC El Reno Campus is considered to have a Moderate vulnerability to and Low probability of the Wildfire hazard.

Hazardous Materials

There is one Tier II site within a quarter mile of CVTC El Reno Campus: a crude oil pipeline booster station located at 2301 S. Evans Rd. This is a site-specific potential hazard. The school has not been impacted by this hazard directly or indirectly in the past. The CVTC El Reno Campus considers a minor severity event to be a chemical spill that is unlikely to cause severe



LEGEND

-  Interstate
-  US Highway
-  State Highway
-  Turnpike
-  Local Roads
-  Railroads
-  Canadian Valley Campus
-  El Reno City Limits



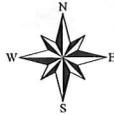
Figure G.12-2

**Canadian Valley
Community College**

Basemap



0 0.5 1 Miles



casualties, or which meets the Emergency Response Guidebook definition of a "small spill," and a major severity event to be the release of a toxic chemical which has the likelihood of producing serious injury or death, or which meets the definition of a "large spill" for a particular chemical according to the most current edition of the Emergency Response Guidebook. The CVTC El Reno Campus has a Low vulnerability to and Low probability of the Fixed-Site Hazardous Materials hazard.

Dam Failure

CVTC El Reno Campus is located in the Sixmile Creek drainage basin at elevation 1,320, about two miles southwest of the North Canadian River. The El Reno Campus is in the 100-year floodplain of either the Creek or the River. While a failure of Canton Dam on the North Canadian River would result in extensive flooding and damage in the City of El Reno, it is unlikely, but still possible, that the flood surge would rise to the elevation of the CVTC El Reno Campus. This is a site specific potential hazard. The school has not been impacted by this hazard in the past. CVTC El Reno Campus considers a minor severity dam event to be an extraordinary release that results in less than three feet of flooding on a one story building, and a major severity dam event to be a breach or failure that exceeds the capacity of the Dam's downstream riverbed immediately downstream from the dam and/or equates to (or exceeds) a 100- or 500-year flood and results in a depth of three feet of flooding or more on a one story building. CVTC El Reno Campus has a Low vulnerability to and Low probability of the Dam Failure hazard.

Transportation

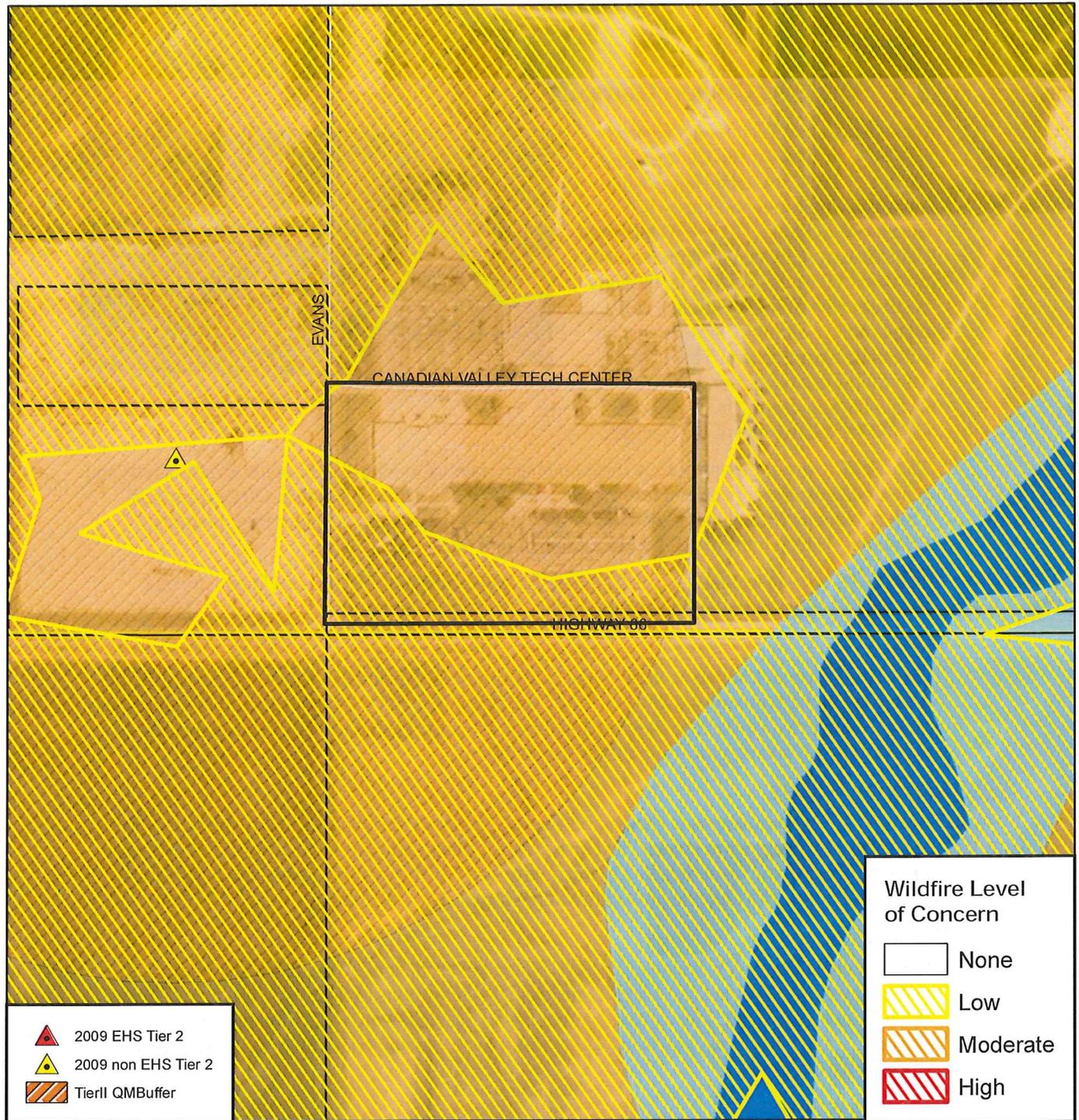
The CVTC El Reno Campus is located at the intersection of OK Highway 66 and S. Evans Rd., about a half-mile north of I-40 and three miles east of US Highway 81. US Highway 66 has a traffic count of about 4,700 vehicles per day past CVTC. I-40 has a daily traffic count of 37,600 vehicles. There is no traffic count data for Evans Rd. There are no railroads or airports near the CVTC Campus. There are, however, two pipelines nearby. A crude oil pipeline passes less than a quarter mile west of the Campus with an associated booster station located at 2301 S. Evans Rd., about a quarter mile northwest of the Campus. In addition, an east-west natural gas pipeline parallels US Highway 66. This is a site specific potential hazard. A transportation incident could call for implementation of evacuation or shelter in place procedures. The school has not been impacted by this hazard in the past. The CVTC El Reno Campus considers a minor severity Transportation incident to be one that results in inconvenience (such as traffic delays), minor injury, and some financial loss (less than \$50,000), and a major severity event to be one that requires immediate intervention to save lives and property, and/or results in serious injury or death, or significant financial loss (greater than \$50,000). The CVTC El Reno Campus has a Moderate vulnerability to and Low probability of the Transportation hazard.

Hazards Summary

Figure G.12-3 focuses on the CVTC El Reno Campus and illustrates the site-specific hazards and their individual level of potential impact on the CVTC El Reno Campus and its immediately surrounding area. Please note the legend accompanying Figure G.12-3 to identify individual hazards and be aware that the colors in the map may appear different due to the number of other colors in the map that have been overlaid representing other potential hazards, thus creating an CVTC El Reno Campus-site composite.



Aerial View of the Canadian Valley Technology Center El Reno Campus



Wildfire Level of Concern

	None
	Low
	Moderate
	High

	2009 EHS Tier 2
	2009 non EHS Tier 2
	Tier II QMBuffer

LEGEND

	Interstate		Expansive Soils Low
	US Highway		Moderate
	State Highway		High
	Turnpike		Very High
	Railroads		100yr Floodplains
	QMi Transportation Buffer		500yr Floodplains
	Canadian Valley Campus		

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0 200 400 Feet



Figure G.12-3

**Canadian Valley Community College
El Reno Campus**

Hazard Composite

4.2 Dr. Earl Cowan Campus

Canadian Valley Technology Center (CVTC) Dr. Earl Cowan Campus is located at 1701 S. Czech Hall Road, in Yukon, as indicated previously in Locator Map Figure G.12-1. The Cowan Campus is comprised one building on a tract over 50 acres in size. The building is constructed of brick with hail resistant metal roofs, a sprinkler system, and an automatic alarm system. There are no safe rooms or underground shelters. It has no backup generator. See Figure G.12-2 for a base map of the Campus.



CVTC's Dr. Earl Cowan Campus in Yukon

The CVTC Cowan Campus offers instruction and training to high school-age students, adults and senior citizens in technical and professional fields. Health Careers, Medical Office Specialist, Link to Nursing (Pre-Nursing), Biotechnology, Pre-Engineering, Computer Programming, Computer Aided Drafting and Design and numerous short term courses.

The CVTC Cowan Campus serves Calumet, El Reno, Mustang, Piedmont, Union City and Yukon, as well as unincorporated areas within Canadian County.

Flood

The CVTC Cowan Campus is in the Lake Overholser/North Canadian River drainage basin, but is situated on high ground at elevation 1,312 and is not in a 100-year flood zone. The school has not been impacted by flash or riverine flooding in the past. The CVTC Cowan Campus has no vulnerability to and no probability of the Flood hazard.

Expansive Soils

The CVTC Cowan Campus is situated on Low-to-Moderate shrink/swell soils. The school has experienced damage from cracked and broken pipes due to ground shifting and soil movement. Similar damages can be anticipated in the future. The CVTC Cowan Campus has a Moderate vulnerability to and Moderate probability of the Expansive Soils hazard.

Wildfire

CVTC Cowan Campus is bounded by SW 15th on the north and S Czech Hall Rd. on the east, and undeveloped dirt tract and large-lot residential subdivisions to the west and a residential subdivision to the south. The campus has not been impacted by this hazard in the past. The CVTC Cowan Campus' buffering and landscaping result in a Low vulnerability to and Low probability of the Wildfire hazard.

Hazardous Materials

There is one EHS Tier II site which is within a quarter mile north of a portion of the CVTC Cowan Campus. It is an AT&T telecommunications facility. The campus has not been impacted by this hazard in the past. The CVTC Cowan Campus is considered to have Low vulnerability to and Low probability of the Fixed-Site Hazardous Materials hazard.

Dam Failure

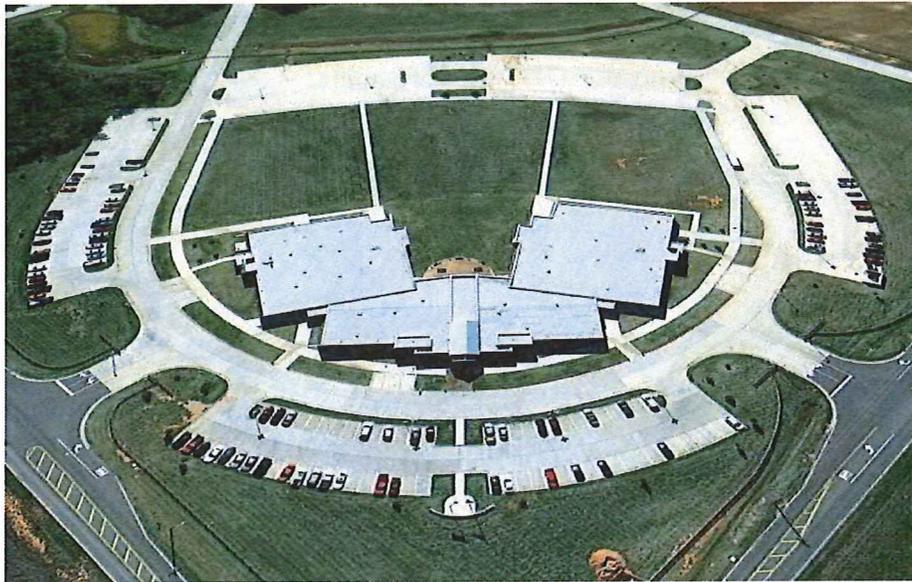
There are no dams whose failure would impact CVTC Cowan Campus. CVTC Cowan Campus has no vulnerability to and no probability of the Dam Failure hazard.

Transportation

CTVC Cowan Campus is one mile to the west of OK Highway 92, one mile to the east of OK Highway 4 and two miles southwest of I-40. The CVTC Cowan Campus is located well outside of the quarter-mile buffer of any of these highways. The campus has not been impacted by this hazard in the past. The CVTC Cowan Campus has no vulnerability to and no probability of the Transportation hazard.

Hazards Summary

Figure G.12-4 focuses on the CVTC Dr. Earl Cowan Campus site itself and illustrates the specific hazards and their individual level of potential impact on the building and its immediately surrounding area. Please note the legend accompanying Figure G.12-4 to identify individual hazards and be aware that the colors may appear different due to the number of other colors in the map that have been overlaid representing other potential hazards, thus creating a Cowan Campus-site composite.



Aerial View of the Canadian Valley Technology Center Dr. Earl Cowan Campus

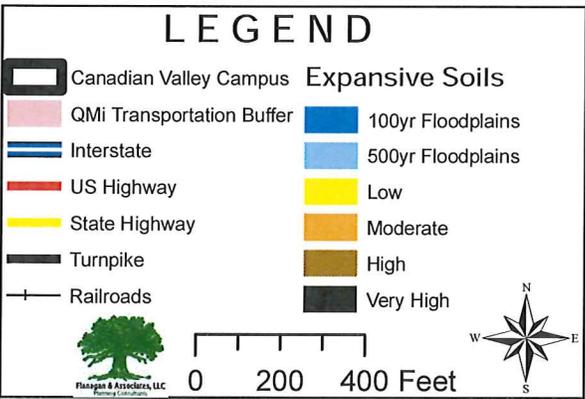
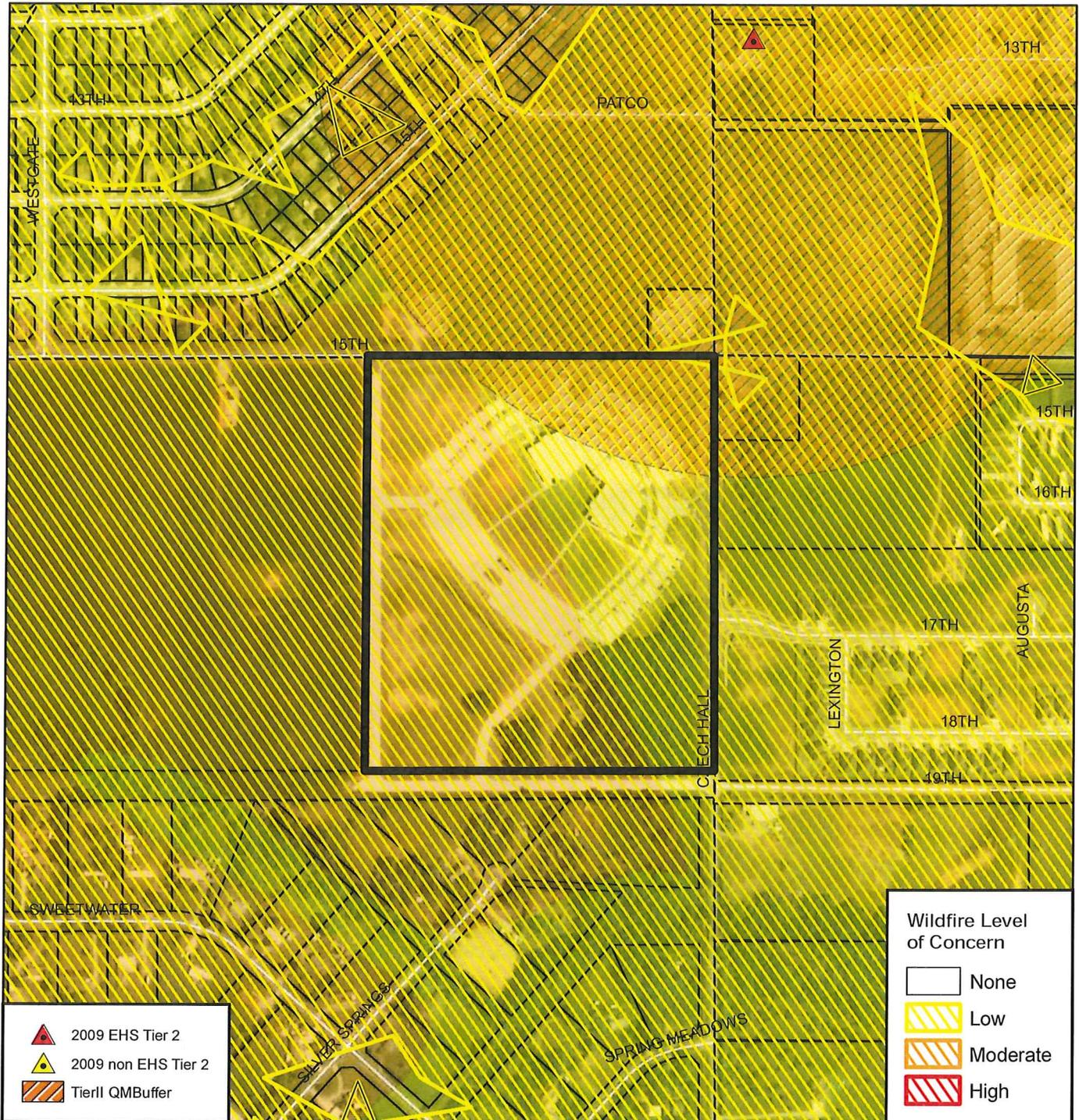


Figure G.12-4
 Canadian Valley
 Community College
 Cowan Campus
 Hazard Composite

Section 5 Mitigation Strategy

This section provides a description of Canadian Valley Technical Center's ability to reduce potential losses, identified in Section 4, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools. Included in this section is a process by which Canadian Valley Technical Center incorporates the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvements, when appropriate. Goals and objectives of the Canadian Valley Technical Center to reduce or avoid long-term vulnerabilities to the identified hazards are included in Chapter 5. A comprehensive range of specific actions and projects being considered to reduce the effects of each hazard are listed in Chapter 6, Action Plan.

5.1 Integration into Planning Mechanisms

The Canadian Valley Technical Center described the following process for implementing its hazard mitigation plan through existing planning mechanisms:

Upon formal adoption of the *Canadian County Multi-Hazard Mitigation Plan*, mitigation goals will be incorporated into future versions of the *Canadian Valley Technical Center Environmental Health and Safety Plan*. Meetings of the Board of Education and public hearings will provide an opportunity for local officials to report back on the progress made on the integration of mitigation planning elements into planning documents and procedures.

The safety coordinator is responsible for implementation of the hazard mitigation plan once adopted. The safety coordinator will suggest mitigation measures identified in the hazard mitigation plan be considered for funding through the annual budget.

The safety coordinator is responsible for incorporating the mitigation plan into future updates of the *Environmental Health and Safety Plan* (EHS). The safety coordinator plans to integrate the hazard maps in the mitigation plan into the EHS Plan. The safety coordinator will use the hazard mitigation plan in conjunction with the EHS plan. Mitigation has been previously incorporated into the EHS plan. The current EHS plan includes maintenance procedures to keep grasses cut and shrubs trimmed and lessen the vulnerability of the school sites to wildfires.

5.2 Prioritization Process of Mitigation Measures

Canadian Valley Technical Center identified 17 mitigation measures, specific to their jurisdiction, during the *Canadian County Multi-Hazard Mitigation Plan Update* process. The mitigation measures will be prioritized using the STAPLEE process as recommended by FEMA, included in Chapter 5, Table 5-1. Complete detailed information for each mitigation measure is included in Chapter 6.

