



Board of Mayor and Aldermen
City Council Meeting
Portland City Hall
100 South Russell Street
Portland, TN 37148
May 15, 2023
5:00 PM

- A. Call To Order
- B. Prayer And Pledge
- C. Roll Call
- D. Approval Of Minutes

Documents:

[MINUTES MAY 1 2023.PDF](#)

- E. Approval Of Agenda
- F. Communications From Council Members
- G. Presentation
 - 1. Presentation By Chamber Of Commerce
Presentation of 82nd Annual Middle Tennessee Strawberry Festival Parade Awards.
 - 2. Presentation Of United Way Of Sumner County
Erin L. Birch, Chief Executive Officer of United Way of Sumner County to speak.
- H. Public Recognition
Up to five minutes per person and comments must pertain to items that are listed on the meeting agenda.
- I. Public Hearings
 - 1. Retail Liquor Store Certificate Of Compliance
Issue of Certificate of Compliance for Retail Liquor Store to James D. Allen at 210 South Broadway. Speak for or against.

- J. Department Reports

Documents:

[BUILDING AND CODES APRIL 2023 MONTHLY REPORT.PDF](#)
[CITY RECORDER APRIL 2023 MONTHLY REPORT.PDF](#)
[COMMUNITY DEVELOPMENT APRIL 2023.PDF](#)
[FINANCE MARCH 2023 REPORT.PDF](#)
[FIRE DEPARTMENT MONTHLY REPORT APRIL 2023.PDF](#)
[PARKS APRIL 2023 MONTHLY REPORTS.PDF](#)
[POLICE DEPARTMENT APRIL 2023.PDF](#)
[PUBLIC WORKS COUNCIL REPORT FOR MAY 2023 MEETING.PDF](#)
[UTILITIES WORK REPORTS FOR APRIL 2023.PDF](#)

K. Alcoholic Beverage Board

Vice Mayor Jody McDowell, Chairman

1. Resolution No. 23-55

A Resolution authorizing a certificate of compliance for James Allen of Portland Liquors located at 210 South Broadway, Portland, TN, 37148.

Documents:

[RES_23-55 PORTLAND LIQUORS CERTIFICATE OF COMPLIANCE.PDF](#)

L. Mayor's Report

M. Community Development

Alderwoman Megann Thompson

N. Finance

Alderwoman Penny Barnes

1. Ordinance No. 23-26

An Ordinance amending the Fund Balance Policy for the City of Portland.

Documents:

[ORD 23-26 CITY OF PORTLAND FUND BALANCE POLICY FOR 2023.PDF](#)

2. Resolution No. 23-50

A Resolution amending the Debt Management Policy for the City of Portland.

Documents:

[RES 23-50 DEBT MANAGEMENT POLICY 2023.PDF](#)

O. Fire Department

Vice Mayor Jody McDowell; Financed by: General Fund

P. Human Resources

Alderwoman Penny Barnes

Q. Legislative

Mayor Mike Callis

R. Municipal Airport

Alderman Mike Hall; Financed by: Special Revenue Fund

S. Parks & Recreation

Alderman Brian Woodall; Financed by: General Fund/Special Revenue Fund - Golf Course

T. Planning & Codes

Alderwoman Megann Thompson; Financed by: General Fund

1. Resolution No. 23-51

A Resolution to enhance the requirements of the Combined Zoning Ordinance for the City of Portland.

Documents:

[RES 23-51 PUD DESIGN REQUIREMENTS 1.PDF](#)

2. Resolution No. 23-52

A Resolution requiring all Multi-Family Zoning to be presented as a Planned Unit Development.

Documents:

[RES 23-52 PUD MULTIFAMILY REQUIREMENT.PDF](#)

U. Police Department

Alderman Drew Jennings; Financed by: General Fund

V. Public Works

Alderwoman LaToya Holcomb; Financed by: General Fund - Streets, City Mechanic / Special Revenue Fund - Sanitation, Stormwater

1. Resolution No. 23-53

A Resolution re-adopting the Sumner County Multi-Jurisdictional Hazard Mitigation Plan.

Documents:

[RES 23-53 ADOPTING THE SUMNER COUNTY MULTI JURISDICTIONAL HAZARD MITIGATION PLAN.PDF](#)
[SUMNER HMP 2023 DRAFT PLAN.PDF](#)

2. Resolution No. 23-54

A Resolution to rescind Resolution 21-54 and replace with this Resolution to authorize CSR Engineering and Klobner Engineering Services for professional On-Call Services for engineering review for Planning Submittals.

Documents:

[RES 23-54 AMEND RES 21-54 ON-CALL ENGINEERING REVIEW FOR PLANNING SUBMITTALS.PDF](#)

W. Utility Infrastructure

Alderman Brian Woodall; Financed by; Enterprise Fund - Water Distribution, Water Plant, Wastewater Collections, Wastewater Plant, Natural Gas Distribution, GIS, Engineering

1. Ordinance No. 23-27

An Ordinance to enter an agreement with Bratton & Associates to provide Professional Land Acquisition Services for the City of Portland Oak Hill water system improvements and 2021 Mason Tank 12-inch connector for water system improvements.

Documents:

[ORD 23-27 AGREEMENT WITH BRATTON ASSOCIATES FOR OAK HILL AND MASON TANK.PDF](#)
[ORD 23-27 ATTACH 1 BRATTON AND ASSOCIATES PROPOSAL.PDF](#)

X. Adjournment

Minutes

Board of Mayor and Aldermen

City of Portland, Tennessee

May 1, 2023

A. Call to Order - Mayor Callis called the meeting to order at 5:03 P.M. at Portland City Hall.

B. Prayer/Pledge –Mayor Mike Callis offered the Invocation and the Pledge of Allegiance.

C. Roll Call -

Present:

Alderwoman Penny Barnes
Alderman Mike Hall
Alderwoman LaToya Holcomb
Alderman Drew Jennings
Vice Mayor Jody McDowell
Alderwoman Megann Thompson
Alderman Brian Woodall
Mayor Mike Callis

Also Present:

Finance Director, City Recorder Rachel Slusser
Assistant City Recorder Tracy Kizer

Absent

City Attorney John R. Bradley

D. Approval of Minutes from April 17, 2023, Council Meeting. Motion was made by Vice Mayor McDowell, seconded by Alderwoman Thompson to approve the minutes as presented. **Voice vote indicated approval.**

E. Approval of Agenda. Motion was made by Alderman Woodall to amend the Agenda by deferring Ordinance 23-22, second by Alderman Jennings to approve agenda. **Voice vote indicated approval.**

F. Communications from Council Members – Alderwoman Thompson announced GNRC will have a kickoff event for the comprehensive plan on May 23, 2023, from 5 pm to 7 pm at Richland Gym. The public is invited and encouraged to attend. Farmers Market will be starting on May 11th, Strawberry Festival week, at Richland Park.

G. Presentation of Recognitions - Police Chief Williams had presentations to Police Officers for Exemplary Service Awards. Many Officers received recognition for their performance from 2022 and a total of sixteen Life Saver Awards.

Sherry Ferguson from the Chamber of Commerce talked about the upcoming events related to the Strawberry Festival.

H. Public Recognition – No one spoke.

I. Public Hearing – No items

J. Mayor's Report –

1. Mayor invited everyone to attend the National Day of Prayer at First Baptist Church on May 4th at 7 am. Grab & go breakfast will be served. On Saturday there will be the High School Senior rolling parade through town, starting at 10am. Mayor gave an update on Comprehensive TDEC

Grant. Mayor reviewed the handout showing the Water Conservation efforts the City has achieved by repairs to leaks and other water saving efforts.

K. Community Development – Alderwoman Megann Thompson – No items

L. Finance – Alderwoman Penny Barnes

1. **Ordinance No. 23-23 - First Reading** - An Ordinance of the City of Portland, Tennessee, amending Budget Ordinance No. 22-40 for the Fiscal Year beginning July 1, 2022, and ending June 30, 2023. Motion by Alderwoman Barnes, seconded by Alderman Woodall. **Voice vote indicated approval.**
2. **Ordinance No. 23-25 - First Reading** – An Ordinance of the City of Portland, Tennessee adopting the Annual Budget and Tax Rate for the Fiscal Year beginning July 1, 2023, and ending June 30, 2024. Motion by Alderwoman Barnes, seconded by Alderman Woodall. Discussion of handout from Mayor Callis. After discussion, Alderman Jennings made motion to amend the budget by changing the COLA to 3% and 80% pay of dependent insurance and hire 3 full time firefighters on January 1, 2024, if the Safer Grant is not awarded to Portland Fire, Alderwoman Barnes second the amendment. **Voice vote indicated approval of the amendment in the budget. Voice vote indicated approval of Ordinance No. 23-25.**
3. **Resolution No. 23-47** - A Resolution pursuant to authority granted by Section 6-54-111 of the Tennessee Code Annotated and in accordance with Section 0380-3-7-02 of the Official Compilation Rules and Regulations of the State of Tennessee which authorizes appropriations for financial aid for Nonprofit Charitable Organizations whose services benefit the general welfare of the residents of this municipality. Motion to approve by Alderwoman Barnes, second by Alderman Woodall. **Voice vote indicated approval.**

M. Fire Department – Vice Mayor Jody McDowell – No items

Financed by: General Fund

N. Human Resources – Alderwoman Penny Barnes – No items

O. Legislative – Mayor Mike Callis

1. **Ordinance No. 23-18 - Second Reading** - An Ordinance authorizing the City of Portland to enact a Sensitive Data and Intrusion Policy. Motion made by Vice Mayor McDowell, second by Alderman Jennings. **Voice vote indicated approval.**
2. **Resolution No. 23-49** – A Resolution to re-appoint two members (Kim Delaney and Drew Jennings) to the City of Portland’s Audit Committee. Motion was made by Alderman Woodall, second by Alderwoman Thompson. **Voice vote indicated approval.**

P. Municipal Airport – Alderman Mike Hall - No items

Financed by: Special Revenue Fund

Q. Parks & Recreation – Alderman Brian Woodall – No items

Financed by: General Fund / Special Revenue Fund – Golf Course

R. Police Department – Alderman Drew Jennings - No items

Financed by: General Fund

S. Planning & Codes – Alderwoman Megann Thompson

Financed by: General Fund

1. **Ordinance No. 23-24 - First Reading** - An Ordinance to amend the City of Portland, Tennessee zoning map by rezoning 30.85 acres at (780, 782, 784 College Street) (map 034, parcels 072.07, 072.09, 072.10) from RS-40 (residential) & R-15 (residential) to Plan Unit Development District (Residential PUD w/base zone R-15 residential) with a Preliminary Master Development Plan for Ruby Springs. Motion made by Alderwoman Thompson, second by Vice-Mayor McDowell. Discussion of notification of the public about zone changes. Mayor requested that when signs are posted, a photo be made of the sign and a copy of every letter sent to residents to be included in the Ordinance packet. After discussion, Alderman Hall made motion to defer first reading of Ordinance to May 15th meeting, second by Alderman Woodall. **Roll Call vote** (In favor: Alderwoman Barnes, Alderwoman Holcomb, Alderman Hall/Against: Alderman Jennings, Vice-Mayor McDowell, Alderwoman Thompson, Alderman Woodall) – **3/4. Motion failed.** Motion made to suspend Roberts Rule of Order by Alderwoman Thompson and second by Vice-Mayor McDowell, all in favor. Discussion with Zack Wilkinson about the development. The Mayor asked for roll call vote on the original motion of Ordinance 23-24 – first reading. **Roll call vote** (In favor: Alderwoman Barnes, Alderwoman Holcomb, Alderman Jennings, Vice-Mayor McDowell, Alderwoman Thompson, Alderman Woodall /Against: Alderman Hall) - **6/1. Motion passed.**
2. **Resolution No. 23-46** - A Resolution to re-appoint one existing member, Jessica Hunter, to the Portland Municipal Planning Commission. Motion to approve by Alderwoman Thompson, second by Vice-Mayor McDowell. **Voice vote indicated approval.**

T. Public Works – Alderwoman LaToya Holcomb

Financed by: General Fund – Streets, City Mechanic / Special Revenue Fund – Sanitation, Stormwater

1. **Ordinance No. 23-19 – Second Reading** - An ordinance to repeal and replace Ordinance No. 22-57 with the following rate structures for Stormwater Land Disturbance Permits and Stormwater Engineering Plan Review Fees. Motion by Alderwoman Holcomb, seconded by Alderwoman Thompson. **Voice vote indicated approval.**

U. Utility Infrastructure – Alderman Brian Woodall

Financed by: Enterprise Fund – Water Distribution, Water Plant, Wastewater Collections, Wastewater Plant, Natural Gas Distribution, GIS, Engineering

1. **Ordinance No. 23-15 – Second Reading** – An Ordinance to rescind in its entirety Ordinance 22-68 and replace with this Ordinance for water, sewer, and natural gas fee structure. Motion made by Alderman Woodall, second by Alderwoman Thompson. **Voice vote indicated approval.**
2. **Ordinance 23-20 – Second Reading** - An Ordinance to enter a new/existing contract with Aramark/Martinrea for uniforms and Allied (mats/mops towels) services for the city of Portland. Motion to accept Alderman Woodall, second by Alderwoman Thompson. **Voice vote indicated approval.**
3. **Ordinance 23-21 – Second Reading** - An Ordinance to rescind in its entirety Resolution 21-105 and incorporate into this ordinance and to extend the contract with the City of Mitchellville to accept the discharge of sewer from Mitchellville’s collection system. Motion to accept Alderman Woodall, second by Alderwoman Barnes. **Voice vote indicated approval.**
4. **Resolution No. 23- 48** - A Resolution authorizing the release of a sewer tap for Sudden Service to connect to the City of Portland’s Sewer Collections System due to the hardship of a failing septic system. Move to approve by Alderman Woodall, second by Alderwoman Thompson. **Voice Vote indicated approval.**

V. Adjournment – Motion to adjourn made by Alderwoman Thompson, second by Alderwoman Holcomb. **Meeting adjourned at 6:20 pm.**

Mike Callis, Mayor

Tracy Kizer, Assistant City Recorder

Portland Building Codes Department
April 2023 Monthly Report

<u>PERMIT TYPE</u>	<u>No. of Permits</u>	<u>Amount</u>
Use & Occupancy Permits	-NA-	\$ -NA-
Swimming Pool	1	\$ 85.00
Plumbing	8	\$ 723.50
Mechanical	16	\$ 3,099.86
Stand Alone Building	4	\$ 8,538.05
Residential Building	-NA-	\$ -NA-
Fire Alarm / Fire Suppression	1	\$ 19,360.00
Commercial/Industrial	-NA-	\$ -NA-
Plan Review	8	\$ 14,480.87
Demolition	2	\$ 120.00
Fire Works	1	\$ 1,400.00
Moving	-NA-	\$ -NA-
TOTAL ALL PERMIT FEES	41	\$ 47,807.28
PORTLAND IMPACT FEE – PARKS		\$ -NA-
PORTLAND IMPACT FEE – POLICE		\$ -NA-
PORTLAND IMPACT FEE – FIRE		\$ -NA-
TOTAL – PORTLAND IMPACT FEES		\$ -NA-
SUMNER COUNTY IMPACT FEE		\$ -NA-
GRAND TOTAL		\$ 47,807.28

City of Portland
Office of Recorder
100 South Russell Street
Portland, Tennessee 37148

Phone 615/325-6776 Ext. 245

April 2023 Monthly Report

Number of Council Meetings	2	April 3 rd
		5 Council Members present
		2 Council Members absent
		April 17 th
		6 Council Members present
		1 Council Members absent
Number of Work Study Meetings	1	April 17 th
		6 Council Members present
		0 Council Members absent
Number of Liability Claims	2	
Number of Records Requested	8	



CITY OF PORTLAND, TENNESSEE

OFFICE OF ECONOMIC & COMMUNITY DEVELOPMENT

DENISE GEMINDEN, DIRECTOR

APRIL, 2023



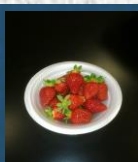
TCAT Portland now provides day and night classes for Welding. Nursing, Cosmetology and Construction Classes have also been added to IT, Advanced Manufacturing and Tool and Die Classes.

For More Information Call: 615/325-5575.

- Attended Staff and Council meetings this month as needed.
- Provided intended road closures on parade day to local industries.
- Attended the Robertson County Economic Development Board Meeting on April 11th.
- Received approved wording from the TN Historical Commission for a TN Historical Marker for the Moye -Green Boarding house corner of downtown.
- Had exchange with our NVR contact, the original spearhead for the Rockland Project.
- Watched the class on Substance Abuse in the Workplace, took the test and reported to HR on April 13th.



Director Barry Young opens the show and Mark Gallant & Shantaia provided an exciting night of entertainment Saturday, April 22nd for guests attending Canadian Entertainer Night at the Temple. Mark & Shantaia sang songs that spanned several generations and were a huge hit with young and old alike.



100 South Russell Street
Portland, Tennessee 37148
Phone 615.325.6776 Cell 615.881.3404
Fax 615.325.7075
geminden@cityofportlandtn.gov



April, 2023

Commemorative Engraved Bricks are available from the Preservation Foundation.

Please help us pave the Way!

**For more information visit our website
templetheatretn.com**



DOWNTOWN, DOWNTOWN, DOWNTOWN



The Portland Preservation Foundation and the Certified Downtown Committee met on April 6, 2023.



Help Pave the Way



Thank you to the Portland Community for supporting the Temple Theatre Restoration Efforts.

**All Event Bookings for the Temple Theatre are managed through Barry Young
615/745-5327.**

barry@templetheatretn.com

Event tickets are now available for purchase online at:

www.templetheatretn.com

It's been wonderful to see the opening of the theatre bring so many special people downtown this month. Your continued support is appreciated as we work to provide a variety of shows and movies.

- *Provided reference to a potential retail locator to the state's economic opportunity zone website. Reached out to other retail agencies to provide up to date availability of properties.*
- *Recommended attendees from the Certified Downtown Committee for the community strategic planning meeting for the Sumner County Three Star Program.*

Upcoming Events

Movie: Sea Biscuit May 5 @ 7pm

Movie: Sea Biscuit May 6 @ 1pm

Movie: Shrek May 11 @ 7pm

Movie: Shrek May 13 @ 7pm

Irish Night w/ Music City TRAD May 20 @ 7:30pm

Movie: The Mummy May 26 @ 7pm

Movie: The Mummy May 27 1pm & 7pm

Sinatra Sunday w/ Jeff Alfiero June 4 @ 2pm

FOR INFO GO TO TEMPLETHEATRETN.COM

Watch for more shows and movies. Keep in mind a performance or a movie at the Temple might be an option.



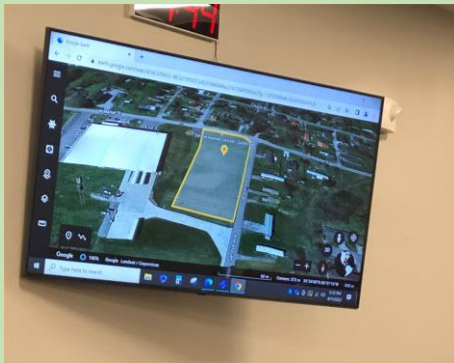
Remember "When you're alone and life is making you lonely, you can always go Downtown".

~Tony Hatch - 1964

West End of Vaughn Parkway Flying South



Thanks to Doug Hunter for the aerial photo of Vaughn Parkway. Visuals are excellent tools for recruitment.



Gratitude to Nate Heisler and our Planning Commission Members:
These representatives have a huge responsibility to make decisions that affect our community growth. Thanks for your dedication and futuristic thinking.

SUSTAINING EXISTING ECONOMIC DEVELOPMENT

- Provided ESRI data depicting buying patterns relative to retail recruitment.
- Continued working with TDOT and the owners of property needed for the ROW for upgrades to Eubanks Road in April. Received Dorman's paperwork & forwarded for the attorney review prior to asking the IDB Chairman to sign.
- Followed up on a citizens request for retail outreach to a Quick Service Restaurant. Provided some options for their consideration.
- Responded to RFIs for prospective industry as relevant.
- Referred a Portland industry request for additional street lighting to Public Works.
- Provided available properties to a representative of Marcus Millichap.
- Received the final results of the participation in the Regional Wage and Benefit Survey conducted by MTSU and MTIDA. Both Sumner and Robertson County had good participation. Thanks to this, we will have a good measurement of our workforce needs for two years.
- Reached out to two Industrial Development Board members to request their continued service on the board in April.
- Responded to communications from CSX Railroad regarding potential rail sites in Portland.
- Attended the Planning Commission meeting in April.
- Distributed the Title VI Limited English Proficiency Plan and the link to the Title VI video to Supervisors in April.



**Spending money in Portland, Tennessee brings my money back to me ~
Half of our sales tax dollars support our Sumner County Schools.**

April, 2023

City of Portland Office of Economic & Community Development

Portland Municipal Airport

Portland Municipal Airport

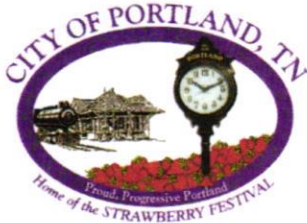
- Submitted the Airport Title VI Re-assessment to TDOT this month.
- Notified local school representatives of the opportunity for student participation in the annual aviation contest. This year's contest is *Airport Design Challenge*. The Airport Design Challenge (ADC) is an interactive learning and collaboration opportunity for students in grades K-12. The FAA Science, Technology, Engineering, and Math Aviation and Space Education ([STEM AVSED](#)) Program organizes and sponsors this exciting challenge.
- Submitted and received Pay Request #1 for the BILS Grant – property purchase appraisal & environmental work.
- Notified Airport Authority members of an upcoming visit by the commissioner.
- Distributed an article from the *Utility Contractor Magazine* reporting excellence in the Airport Runway Rehab Project.



The jukebox and "Shirley" provide excellent photo props.



www.cityofportlandtn.gov



Office of the Finance Director
100 S. Russell Street Portland, TN 37148
615-325-6776

As of March 31, 2023
Fiscal Year has elapsed - 75%

	Amount	Unspent Committed Funds
GO Bond 2020	\$3,921,537	\$2,571,017
W/S Bond 2020	\$18,238,174	\$13,609,420

	3/31/2023	Board Passed Budget	% of Budget
GENERAL FUND			
Revenue			
Taxes & Licenses	7,558,254	8,675,000	87.1%
Planning & Codes	1,480,462	1,320,450	112.1%
Intergovernmental	1,549,402	2,176,000	71.2%
Miscellaneous	31,452	46,850	67.1%
Court	165,961	234,500	70.8%
Other Revenues	143,157	311,500	46.0%
Loan Proceeds - Other Fin Source	0	0	0.0%
Grants & Special Projects	394,547	277,500	142.2%
TOTAL	11,323,235	13,041,800	86.8%
Expense			
General Government	1,984,901	2,464,195	80.5%
Administrative & Mayor	236,179	332,350	71.1%
Human Resources	79,123	108,222	73.1%
Planning & Zoning	158,550	279,911	56.6%
Codes	94,409	151,518	62.3%
Court	59,183	71,327	83.0%
Police	3,198,079	4,009,249	79.8%
Fire	1,803,533	3,394,415	53.1%
Streets & Highways	871,548	1,282,826	67.9%
City Garage	81,827	100,128	81.7%
State Street Aid	213,886	650,000	32.9%
Animal Control	63,764	73,898	86.3%
Grants & Special Projects	422,175	1,765,000	23.9%
Swimming Pool	43,029	51,704	83.2%
Parks & Recreation	871,325	1,073,529	81.2%
Community Development	79,478	119,333	66.6%
TOTAL	\$10,260,989	\$15,927,605	64.4%

WATER & SEWER		Board Passed		
		As of 03/31/2023	Budget	% of Budget
Revenue	Revenue	8,771,681	9,536,000	92.0%
	TOTAL	8,771,681	9,536,000	92.0%
Expense	Water Plant	1,146,166	1,741,922	65.8%
	Water Distribution System	1,511,534	2,722,277	55.5%
	Grants & Projects	2,676,358	8,434,000	31.7%
	Sewer Collection	1,095,353	2,027,554	54.0%
	Sewer Plant	2,052,755	2,690,327	76.3%
	Business Office	241,970	440,428	54.9%
	Utility Administration	445,817	740,635	60.2%
	TOTAL w/ Bond	9,169,952	18,797,143	48.8%

		Board Passed		
		As of 03/31/23	Budget	% of Budget
AIRPORT FUND				
Revenue		\$5,943,332	\$5,452,407	109.0%
Expense	•	\$5,865,188	\$5,464,022	107.3%

DRUG FUND				
Revenue		\$20,202	\$4,000	505.1%
Expense		\$2,375	\$28,000	8.5%

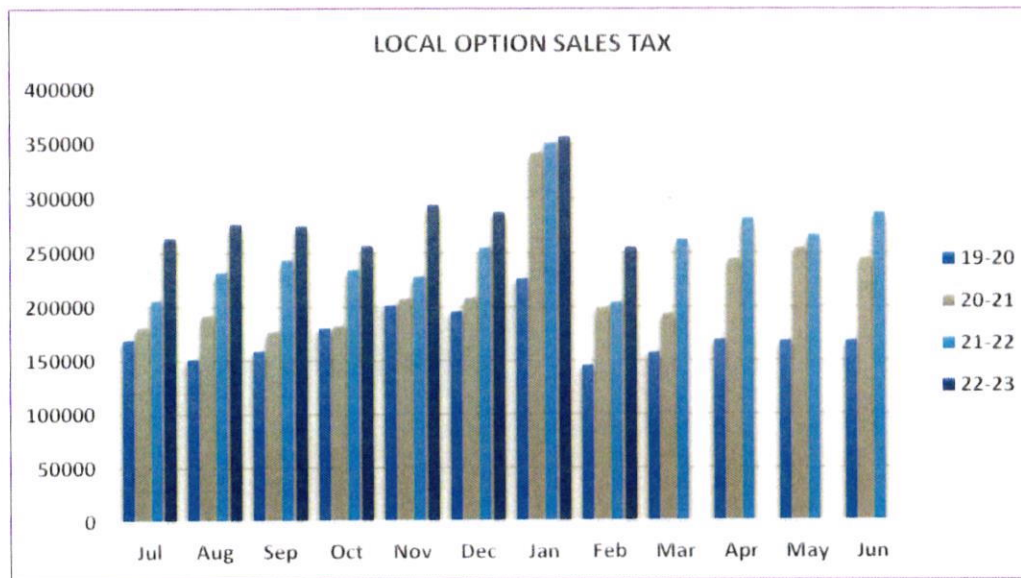
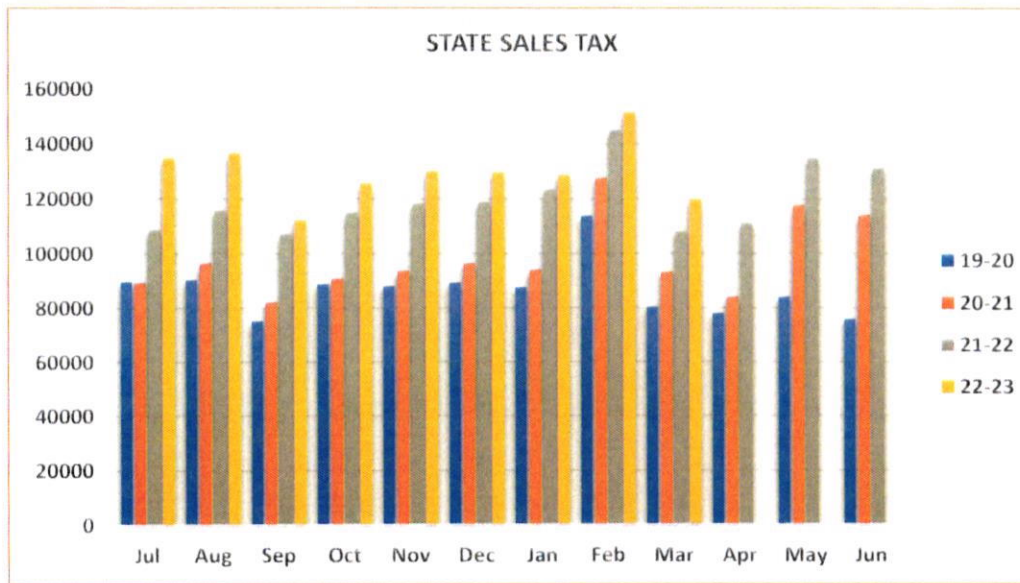
STORMWATER				
Revenue		\$809,639	\$795,000	101.8%
Expense		\$829,191	\$1,377,094	60.2%

SOLID WASTE				
Revenue		\$1,075,005	\$1,318,032	81.6%
Expense		\$886,968	\$1,271,555	69.8%

GOLF COURSE				
Revenue		\$397,895	\$487,600	81.6%
Expense		\$374,957	\$486,733	77.0%

		As of 03/31/23	Board Passed	
			Budget	% of Budget
IMPACT FEES				
Revenue				
	Parks	11,254	20,000	56.3%
	Police	125,262	118,000	106.2%
	Fire	409,273	272,000	150.5%
	TOTAL	\$545,789	\$410,000	133.1%
Expense				
	Parks	2,400	140,000	1.7%
	Police	59,983	96,000	62.5%
	Fire	0	100,000	0.0%
	TOTAL	\$62,383	\$336,000	18.6%
DEBT SERVICE - GENERAL FUND				
Revenue	Transfer from General Fund	\$1,007,854	\$1,174,266	85.8%
Expense		\$951,027	\$1,174,266	81.0%
DEBT SERVICE - SPECIAL REVENUE				
Revenue	Transfer from Sanitation	\$98,308	\$98,342	100.0%
Expense		\$83,742	\$98,342	85.2%
GAS				
Revenue		6,136,731	5,432,000	113.0%
Expense		6,174,670	7,885,509	78.3%

Rachel Slusser, CMFO



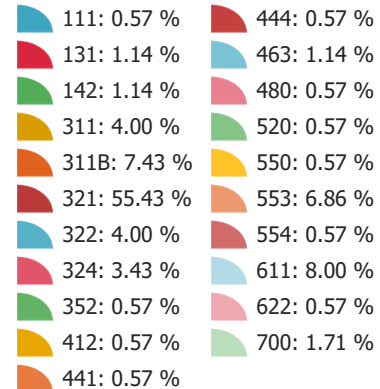
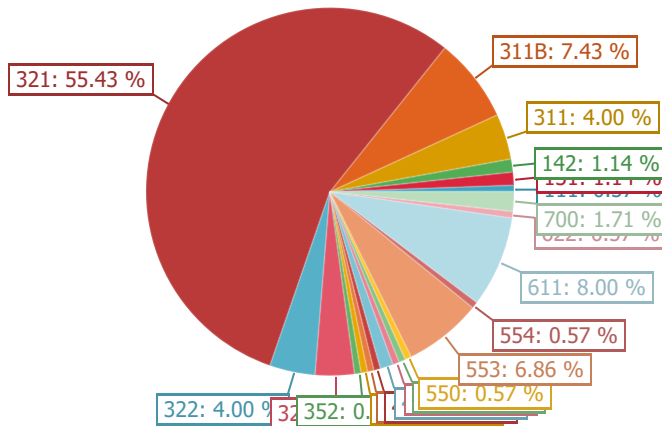


Portland Fire Department

111 Woods Road
Portland, Tennessee 37148
(615) 325-5649



Incident Reports By Incident Type, Summary



Incident Type

111 - Building fire
131 - Passenger vehicle fire
142 - Brush or brush-and-grass mixture fire
311 - Medical assist, assist EMS crew
311B - Public Assist
321 - EMS call, excluding vehicle accident with injury
322 - Motor vehicle accident with injuries
324 - Motor vehicle accident with no injuries.
352 - Extrication of victim(s) from vehicle
412 - Gas leak (natural gas or LPG)
441 - Heat from short circuit (wiring), defective/worn
444 - Power line down
463 - Vehicle accident, general cleanup
480 - Attempted burning, illegal action, other
520 - Water problem, other
550 - Public service assistance, other
553 - Public service

Total Incidents

Percent

1 0.57%
2 1.14%
2 1.14%
7 4.00%
13 7.43%
97 55.43%
7 4.00%
6 3.43%
1 0.57%
1 0.57%
1 0.57%
1 0.57%
2 1.14%
1 0.57%
1 0.57%
1 0.57%
12 6.86%

Incident Type	Total Incidents	Percent
554 - Assist invalid	1	0.57%
611 - Dispatched & canceled en route	14	8.00%
622 - No incident found on arrival at dispatch address	1	0.57%
700 - False alarm or false call, other	3	1.71%
Total Number of Incidents:		175
Total Number of Incident Types:		21

Incident Type

Total Incidents

Percent

Report Filter Settings

Report File Name: Incident Reports by Incident Type, Summary

Filter Name: Last Calendar Month

Filter Expression: [AlarmDateTime] is between '4/1/2023 12:00:00 AM' and '4/30/2023 11:59:59 PM'



Monthly Report / April 2023
Jamie White, Parks Director
Tammy Groves, Assistant Parks Director
Trent Stephens, Park Maintenance Crew Leader
Marty Bullington, Golf Course Manager

Civic Clubs

Portland Youth Football League	Off Season
Portland Soccer Club	In Season
Dixie Youth Baseball	In Season

Parks and Recreation Programs and Events

As discussed at the April 17th Council Meeting, The City Swimming Pool will not be open this year.

The Farmers Market will be at Richland Park this year on Thursdays in May – August from 3:30 pm to 7:00 pm. The first show of the year will be on Thursday May 11th. Hannah Ladd will be running the Farmers Market and the Parks Department will be assisting her.

Richland Gym is open for walkers Monday – Friday from 7am to 10am. We are about 90% done with the HVAC unit project. We still feel comfortable that the system will be up and running by mid-June.

The Back 9 Disc Course project is underway. We will be adding 9 more holes and this project will also be improving the hike and bike trail. We have about 2 more months for this project to be completed.

Park Staff is working on the Strawberry Parade City Float. We had some storm damage to the float, but it will be in the Parade this year.

The Easter Egg Hunt was a huge success. Weather was on our side this year.

The 2nd Annual Strawberry Festival Art Showcase that was at Milo's in 2022 will be at Richland Gym this year on Thursday May 11th.

3rd Annual Quilt Show is set for Saturday May 6th in Richland Gym.

Jackie's Memorial Car Show was set for May 6th on Main Street. This event has been changed to Saturday May 20th on Main Street.

The Carnival is set to be at Richland Park from Tuesday May 9th – May 13th. The Portland High School Band Boosters are responsible for the Carnival. Please forward any questions about the Carnival over to the PHS Band Boosters.

Friday Scrambles will start in May. Please contact the course to make a reservation.

PORTLAND POLICE DEPARTMENT MONTHLY REPORT

4/1/2023 TO 4/30/2023

CID ACTIVITY					
Cases Assigned	22	Interviews Conducted	59	Asset Forfeitures	1
Cases Closed	2	Monitored Interviews	0	DCS/AOA	22
Cases Cleared	17	Search Warrants	9	Knock and Talk	3
Call outs	2	Judicial Subpoenas	18	Assist Patrol Units	10
Grand Jury Cases	0	General Sessions Cases	2	Forensic Interviews	0
Grand Jury Hours	0	General Sessions Hours	4	Fire Investigations	0
Juv Court Cases	3	Criminal Court Cases	1		
Juv Court Hours	6	Criminal Court Hours	2		

Records Activity			
Copies Distributed		Background Checks	
Walk-ins	14	Government	4
E-mails	51	Public Housing	0
Grand Jury & DA Copies	1	Local	1
Arrest Reports	74	Incident Reports	98
Written Warnings	195	City Citations	114

ANIMAL CONTROL ACTIVITY					
CALLS ANSWERED	55	WILDLIFE	0	DECLARED VICIOUS	1
ANIMALS PICKED UP	10	RETURNED TO OWNER OR RESCUE	8	BARKING COMPLAINT	2
SENT TO S.C.S.C.	1	TRAPPED ANIMALS	0	CRUELTY & WELFARE COMPLAINTS	1
DOGS	4	ANIMAL BITE ON ANIMAL	1	WILDLIFE/LIVESTOCK COMPLAINTS	2
CATS	6	ANIMAL BITE ON HUMANS	5	TICKETS	2
LIVESTOCK	0	EUTHANASIA	0	WARNINGS	6
WARRANTS	2	ADOTPTIONS	0	REPORTS	7
SPECIAL ASSIGNMENTS	0				

PROPERTY MAINTENANCE / CODES			
CASE NUMBERS	35	RESOLVED BY CONTACT/PHONE	4
NON-COMPLIANCE LETTERS	35	CITY COURTS DATES	2
NEW GRASS/RUBISH COMP	32	CITY HALL BANK ESCORTS	18
RE-INSPECTIONS	4	MAIL DELIVERY	18
PARKING COMPLAINTS	0	ASSIST ANIMAL CONTROL	4
FOLLOW-UP PARKING COMP	0	ARRESTS	0
VEHICLES (NON-COMP)	4	REPORTS	0
WORK ORDERS	1	CITATIONS	2
PROPERTY LIENS	0	WRITTEN WARNINGS	0
RELEASE OF LIENS	0		

CALLS FOR SERVICE					
911 HANG UP	25	EVADING	0	SCHOOL ZONE	34
911 MISDIAL	38	EXPARTE SERVICE	0	SEX OFFENDER REGISTRY	0
911 MISDIRECT	3	EXTRA PATROL	321	SEXUAL ASSAULT	3
911 OPEN LINE	43	FIELD INTERVIEW	0	SHOOTING	1
ABANDONED VEH	2	FIGHT	1	SHOPLIFTING	3
ABUSE INVESTIGATION	0	FIREARM DENIAL	0	SHOTS FIRED/HEARD	0
ACCIDENT INJURY	14	FIREWORKS	0	SOLICITOR	1
ACC. INJURY HIT/RUN	0	FOLLOW UP	46	SPECIAL ASSIGNMENT	4
ACCIDENT PROPERTY	33	FORGERY	0	SPC. ASSIGNMENT-COMMUNITY	1
ACC. PROPERTY HIT/RUN	6	FRAUD	4	STABBING	0
ACC. SERIOUS INJURY	3	GANG ACTIVITY	0	STALKING	0
ACTIVE SHOOTER	0	GAS DRIVE OFF	0	STOLEN VEHICLE	0
ADMIN INVESTIGATION	0	HANGING	0	SUBDIVISION CHECK	5
AIRCRAFT EMERGENCY	0	HARASSMENT	3	SUBJECT CHECK	14
ALARM	50	HOSTAGE SITUATION	0	SUICIDAL SUBJECT	6
ALARM HOLD UP/PANIC	7	HOTEL CHECK	0	SUS. INCIDENT	23
ALARM TEST	0	ILLEGAL DUMPING	0	SUS. PERSON	19
ANIMAL CALL	41	INDECENT EXPOSURE	0	SUS. VEHICLE	13
APARTMENT CHECK	4	INVESTIGATION	0	TALK TO OFFICER	181
ARMED SUBJECT	0	JUVENILE	15	THEFT	4
ARSON	0	JUVENILE TRANSPORT	0	THREATS	1
ASSAULT	0	KIDNAPPING	0	TRAFFIC ENFORCEMENT	38
ASSIST CITIZEN	24	KNOCK AND TALK	0	TRAFFIC HAZARD	17
ASSIST EMS	12	LAKE CHECK	2	TRAFFIC STOP	500
ASSIST FIRE	4	LOCKOUT	2	TRESPASS	5
ASSIST OTHER AGENCY	18	LOCKOUT URGENT	1	UNAUTHORIZED USE OF VEH	0
ATTEMPT TO LOCATE	4	LOST/FOUND PROPERTY	9	UNK SITUATION	1
BARRICADED SUBJECT	0	LPR HIT	3	VANDALISM	3
BOLO	7	MENTAL TRANSPORT	1	VEH. BURGARLY	1
BOMB THREAT	0	MISC/MATTER OF RECORD	6	VEHICLE CHECK	33
BURGLARY	2	MISSING ADULT	2	VIOLATION CORRECTION VERIFY	13
BUSINESS CHECK	379	MISSING JUVENILE	0	VIO. ORDER OF PROTECTION	1
CAR SEAT CHECK	1	NOISE COMPLAINT	4	WARRANT	4
CHECKPOINT	0	OPEN DOOR	2	WEATHER RELATED ISSUES	0
CITY CALL OUT	0	OVERDOSE	3	WELFARE CHECK	22
CIVIL MATTER	9	PARK CHECK	84		
CODE 99	0	PARKING COMPLAINT	2		
CODES	39	PROSTITUTION	0		
DAMAGE TO PROPERTY	4	PROWLER	0		
DEATH INVESTIGATION	2	PUBLIC INTOX	4		
DELIVER MESSAGE	4	RECKLESS DRIVER	25		
DISORDERLY CONDUCT	0	REFERRAL	1		
DISTURBANCE	10	REPO	5		
DOMESTIC	16	RIOT	0		
DRILL	0	ROBBERY	0		
DUI	6	RUNAWAY	1		
DRUG INVESTIGATION	1	SCAM	1		
ESCORT	6	SCHOOL CHECK	40		
PHONE MESSAGE	0	TEST CALL	1		
PRIVATE PROPERTY TOW	0	PRISONER TRANSPORT	0		

Total Calls for Service	2357
Total Written Warnings	195
Total Speeding Citations	89
Total all other city citations	114
Commercial vehicle enforcements	5
Total Arrest	68

FLEX UNIT INFORMATION					
TRAFFIC STOPS	25	DRUGS SEIZED	1	WEAPONS SEIZED	0
WARNINGS	21	HEROIN	0	RIFLE	0
CITATION	3	METHAMPHETAMINE	0	SHOTGUN	0
ARRESTS (CUSTODIAL)	0	COCAINE	0	PISTOL	0
ARRESTS (BY CITATION)	3	MARIJUANA	1	OTHER	0
		FENTANYL	0		
		PHARMACEUTICALS	0		
		OTHER	0		

WARRANTS SERVED	0	ASSIST PATROL	11	CONSENSUAL ENCOUNTERS	1
K-9 ALERTS	0	ASSIST OTHER AGENCY	1		

FLEX UNIT COURT INFORMATION					
GRAND JURY	# OF CASES	0	# OF HOURS	0	
GENERAL SESSIONS	# OF CASES	0	# OF HOURS	0	
JUVENILE COURT	# OF CASES	0	# OF HOURS	0	
CRIMINAL COURT	# OF CASES	0	# OF HOURS	0	

*K9 OFFICER IN SEVERAL TRAININGS THIS MONTH



CITY OF PORTLAND

298 PORTLAND LAKE ROAD
PORTLAND, TENNESSEE 37148
Telephone 615/325-6776 ext. 192
Mobile 615/566-7074

Email Address: PortWTP@cityofportlandtn.gov

Portland WTP Report for Month of April 2023

- Submitted March 2023 DMR via the EPA CDX online portal. (4/4/23)
- Submitted March 2023 MOR's via certified mail. (4/4/23)
- Processed bac-t samples for CSBUD and the City of Westmoreland water system.
- Verified genset weekly exercises @ WTP and both booster sites.
- Checked monitoring wells at City Lake.
- Collected and processed 25 bac-t compliance samples.
- Routine maintenance was performed on schedule.
- Produced 58,857,000 gallons of potable water for distribution to customers.



CITY OF PORTLAND

PORTLAND NATURAL GAS
LUCAS BAKER – GAS SUPERVISOR

124 B MORNINGSIDE DR.
PORTLAND, TENNESSEE 37148

Office: (615) 325-6776, ext. 187

Mobile: (615) 561- 5002

Email Address: lbaker@cityofportlandtn.gov

Gas Dept Monthly Report – April 2023

- 8 Gas Services installed consisting of 2,292ft of ¾" service line pipe
- Installed Industrial 2" (895ft) service -1500 Shoals Way
- Abandoned 6 services – 833 Halltown Rd, 101 Riggs Rd, 126 Old Westmoreland, 304 Ft Head Rd, 205 Dollar, and 407 Clearview Rd
- KLB Welding made steel tap at 103 TGT Rd
- Relocated service line at 385 Briley Ln and 731A N Russell St (100')
- Repaired service line damage at 1419 Hwy 259
- 5 Yard restorations
- Welder built 2" meterset for Shoals Way Building
- Set 5M rotary meter/set at Project Titan (Vaughn Pkwy)
- Replaced Fisher regulator with Mooney regulator at Rogers Asphalt Plant
- Relocated TGT gate odorant injector for building rehab
- Repaired flow meter at Leath Gate Station (flow controller failure without meter measurement)
- Operator Qualification testing – TPUC Requirements OQ Plan
- Gathered GIS data to assist in updating the Natural Gas System
- Gas Leak Investigations
- Various gas pressure checks
- Air Test Inspections
- Daily monitoring of Gate Stations and odorant injection
- Daily work orders and Tennessee One Calls
- Monthly Odorant Sniff Test – TPUC requirement



DEPARTMENT OF UTILITIES

SEWER COLLECTION DEPARTMENT

122 D MORNINGSIDE DR.

PORTLAND, TENNESSEE 37148

Telephone 615-323-1437

Email Address: jharrison@cityofportlandtn.gov

Monthly Report for April 2023.

During the Month of April, the department checks daily the 84 pump stations that are in the Collection System, this is required by TEDEC and takes up a good portion of each day. We also locate TN 1 Calls that come in daily, and their number can vary from 0 to any number per day. Some TN 1 calls are Emergency Locates that require a 2hr response time, we had 4 of these this month and 2 short notice locates.

We had 12 "Service Calls" which resulted in rodding 6 service lines. Some calls were issues, the homeowner had with their service line. Other calls were questions about plumbing repairs or odor complaints. We met with Contractors that were installing service lines and located taps for them to hook to. We had 11 new sewer inspections. We also had 2 Telemetry Call outs with the rainfall and 4 total after hours call outs.

While checking the pump stations this month we found several problems. We pulled 5 clogged pumps and worked on multiple others. We reprimed airlocked pumps, and we changed 4 capacitors. We also replaced a suction flapper and replaced 3 pumps 2, 2hp grinders and 1, 5hp grinder pump. We spent a lot of the month working on and replacing old broken parts on the now 84 Pump stations we have. We had to get the electrical service disconnect at Hearthstone pumpstation replaced by an electrician due to loss of power.

We had other non-pumpstation related work such as repairing 6 broken c/o's and installing boxes. We also replaced broken plastic c/o boxes that were found by our department. We also continued with our monthly grease removal at pump stations and started to weed eat the pumpstations and the manholes that are overflow points and the ones that get hit by the state mowers on the highway right away. We made 3 repairs one from the 2022-point repair project and another at 520a College St. Did 2 Dye Tests; fixed 2-yard repairs and cut off pumpstations so the contractor at the WWTP could fix the 8" force main they broke. We also laid the Center St sewer main and 4 taps.

We CCTV services and main lines for tap locations and inspected Orchard Place to check the condition of the mains and service lines. We located taps for demo permits and located the way the service line ran to find the location of the tap. We cleaned out 3 pumpstations with the Vac Truck and spotted lines with the hydro excavator.

I worked with members from city hall to go over the department's inventory and looking over purchase ticket to sort and assign a new inventory number to each item on our list. This month the Collection System had a total of 22 Overflows and 6 Releases. We spent several hours checking overflows this month due to the storms and rains. Each event involves informing TDEC within 24HRS with an Email and then filling out a report on my TDEC Forms and inputting it on Survey 123. We also go back to each overflow and clean up the debris on the ground and spread lime to the affected area. Our monthly safety meeting this month was over Confined Space Entry.

Jon Harrison
Supervisor of Collections.



CITY OF PORTLAND

WATER DEPT SUPERVISOR THOMAS O'LOUGHLIN

100 SOUTH RUSSELL STREET

PORTLAND, TENNESSEE 37148

Telephone 615-670-3977

Email Address: toloughlin@cityofportlandtn.gov

April 2023 MONTHLY REPORT

WATER DISTRIBUTION DEPARTMENT

(11) Service Leaks – All services leaking were renewed.

(3) Main Break repairs

(2) New services installed

(3) Test Hole

(1) Perm Auto Flusher installed

(1) Service Renewals

(1) Service Line Retirement

(2) Meter setter and Meter box Replace

4" Meter Change Out at 1400 Shoals Way f

(14) Yard Restorations

Meter Change outs

Fill/Flush/Sample/Inspect Woods Rd Brimstone Development

Traffic

Back Flow Device Checks

Cut Off Lists

Flushing

Locates



CITY OF PORTLAND
LARRY QUATTLEBAUM- WRF CHIEF OPERATOR
122-A MORNINGSIDE DRIVE
PORTLAND, TENNESSEE 37148
Office: (615) 325-6776,ext 186
Mobile: (615) 806-2736

Date: 5/4/2023

APRIL MONTHLY REPORT

Construction Has Started at The Wastewater Reclamation Facility. By May 1st things were well underway. Several Industries were issued Notices of Violations due to permit Sample parameter exceedances. The Industrial Pretreatment Semi-Annual Report was completed and turned in. Marina Burchett was trained to do the F.O.G. Inspections and the program has been basically handed over to her. Lastly, We have two individuals who are going to test this month for their Grade 3 Wastewater Certifications.

Larry Quattlebaum
Portland TN WRF Chief Operator

RESOLUTION

City of Portland, Tennessee

No. 23 - 55

A RESOLUTION AUTHORIZING A CERTIFICATE OF COMPLIANCE FOR JAMES ALLEN OF PORTLAND LIQUORS LOCATED AT 210 SOUTH BROADWAY, PORTLAND, TN, 37148.

WHEREAS, James Allen has applied to the City of Portland for a Certificate of Compliance; and

WHEREAS, John Bradley, Attorney for the City of Portland, has reviewed the application; and

WHEREAS, the City of Portland's Alcoholic Beverage Board has reviewed the application and recommended that James Allen of Portland Liquors located at 210 South Broadway, Portland, TN 37148 receive a Certificate of Compliance; and

NOW, THEREFORE BE IT RESOLVED by the Mayor and Board of Alderman of the City of Portland, Tennessee that the City of Portland issue James Allen of Portland Liquors located at 210 South Broadway, Portland, TN 37148 a Certificate of Compliance; and

BE IT FURTHER RESOLVED that the Resolution shall become effective upon its passage, the public welfare requiring it.

Mike Callis, Mayor

Attest: Rachel Slusser, City Recorder

Approved this ____ Day of _____.

ORDINANCE

City of Portland, Tennessee

No. 23 - 26

AN ORDINANCE AMENDING THE FUND BALANCE POLICY FOR THE CITY OF PORTLAND

WHEREAS, the City of Portland passed Ordinance 11-16 that established a fund balance policy to comply the Governmental Accounting and Financial Standards Board (GASB) Statement No. 54, *Fund Balance Reporting and Governmental Fund Balance Definitions*; and

WHEREAS, the purpose of a fund balance policy is to establish a key element of financial stability by settling guidelines for fund balance; and

WHEREAS, it is essential that the City maintain adequate levels of unassigned fund balance to mitigate financial risk that can occur from unforeseen levels of fluctuations, unanticipated expenditures, and similar circumstances; and

WHEREAS, the City has reviewed the current policy and has determined that it needs to be amended to reflect current economic conditions.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Board of Aldermen of the City of Portland, Tennessee that Ordinance 11-16 is rescinded, and the attached fund balance policy titled General Fund, Fund Balance Policy, 2023, be adopted in its entirety and become the official Fund Balance Policy for General Fund in the City of Portland.

This Ordinance shall take effect from and after its final passage, the public welfare requiring it.

Mike Callis, Mayor

Attest: Rachel Slusser, City Recorder

Passed First Reading:

Passed Second Reading:

City of Portland, Tennessee

General Fund

Fund Balance Policy 2023

Policy

The following policy has been adopted by the City Council in order to address the implications of the Governmental Accounting Standards Board (“GASB”) Statement No. 54 *Fund Balance Reporting and Governmental Fund Definitions*. The purpose of this policy is to establish a key element of the financial stability of the City by setting guidelines for fund balance. Unassigned fund balance is an important measure of economic stability. It is essential that the City maintain adequate levels of unassigned fund balance to mitigate financial risk that can occur from unforeseen revenue fluctuations, unanticipated expenditures, and similar circumstances, and to maintain favorable bond ratings. Also, the fund balance provides cash flow liquidity for the City’s general operations. Factors for maintaining sufficient fund balance include the ability to:

- Maintain covenants of third-party agreements.
- Provide funds for enacted Ordinances and Resolutions of the Board of Mayor and Alderman.
- Mitigate State budget actions that may reduce City revenue.
- Mitigate economic downturns that the City may face in the future.
- Front-fund or complete fund, if necessary, disaster costs or costs associated with emergencies.
- Fund the City’s expenditures and debt service payments during the first few months of the fiscal year before traditional revenues are realized.
- For non-recurring expenses identified as necessary by the Board of Mayor and Aldermen.
- Fund one-time capital expenses identified as necessary by the Board of Mayor and Aldermen.

This policy and the procedure promulgated under it supersede all previous policies regarding the City’s fund balance and reserve policies.

Fund Balance Classifications

Fund Balance – An accounting distinction is made between the portions of fund equity that are spendable and non-spendable. These are broken up into five categories:

- 1) **Non-Spendable Fund Balance** – Amounts that are not in a spendable form or are required to be maintained intact. Examples are inventory or permanent funds.
- 2) **Restricted Fund Balance** – Amounts that can be spent only for the specific purposes stipulated by external resource providers either constitutionally or enabling legislations. Examples include grants and child safety fees.
- 3) **Committed Fund Balance** – Amounts that can be used only for the specific purposes determined by a formal action of the government’s highest level of decision-making

authority. Commitments may be changed or lifted only by the City Legislative Body taking the same formal action that imposed the constraint originally.

- 4) **Assigned Fund Balance** – Amounts that are intended to be used by the government for specific purposes. Intent can be expressed by the governing body or by an official or body to which the governing body delegates the authority. In governmental funds other than general fund, assigned fund balance represents the amount that is not restricted or committed. This indicates that resources in other governmental funds are, at a minimum, intended to be used for the purpose of that fund. Assigned funds cannot cause a deficit in unassigned fund balance.
- 5) **Unassigned Fund Balance** – Amount is the residual classification of the general fund and includes all amounts not contained in other classifications. Unassigned amounts are technically available for any purpose.

Order of Use of Restricted and Unrestricted Funds

When both restricted and unrestricted funds are available for expenditure, it shall be the policy of the City to use the restricted amounts first as permitted under the law.

When committed, assigned, and unassigned funds are available for expenditure, committed funds should be spent first, assigned funds second, and unassigned funds last.

Authority to Commit Funds

The City's governing body has the authority to set aside funds for a specific purpose. Any funds set aside as Committed Fund Balance requires the passage of an ordinance by a simple majority vote. The passage of an ordinance must take place prior to June 30th of the applicable fiscal year. If the actual amount of the commitment is not available by June 30th, the ordinance must state the process or formula necessary to calculate the actual amount as soon as information is available.

Authority to Assign Funds

The City's governing body has the authority to set aside funds for the intended use of a specific purpose. Any funds set aside as Assigned Fund Balance requires the passage of a resolution by a simple majority vote. The same action is required to change or remove the assignment. Upon passage of a budget ordinance where assigned fund balance is used to balance the budget, the Finance Director shall record the amount as "Assigned Fund Balance".

Minimum Level of Unassigned Fund Balance

Unassigned Fund Balance is the residual Fund Balance in the General Fund. It represents the resources available for future spending. An appropriate level of unassigned fund balance should be maintained in the General Fund to cover unexpected expenditures and revenue shortfalls. The unassigned fund account shall have five subaccounts.

The unassigned fund balance in the General Fund shall have the following subaccounts:

A. Cash Flow Stabilization Subaccount

The Cash Flow Stabilization Subaccount is intended to provide reserves to mitigate the deficiencies caused by the timing of the cash inflows and cash outflows.

The Cash Flow Stabilization Subaccount shall be set at a minimum of 20% of General Fund operating budgeted expenditures less any capital outlay and project amounts.

B. Contingency Subaccount

The Contingency Subaccount is intended for unanticipated expenses and revenue shortfalls impacting programs already approved in conjunction with the current year's budget. The Contingency Subaccount shall not be used to fund new programs or positions added outside of the current year's budget.

Funds in the Contingency Subaccount may be used towards expenses outside of the budget only as follows:

- 1) A change in legislation creating an unfunded mandate.
- 2) Large, unexpected payroll/retirement payouts.
- 3) A technical correction in the budget.
- 4) Unbudgeted project expense overrun.

The Contingency Subaccount shall be set at a minimum of 3% of General Fund operating budgeted expenditures.

C. Emergency Subaccount

The Emergency Subaccount is intended for unforeseen urgent events. To utilize funds from the Emergency Subaccount, a finding by the Mayor, with confirmation by the Board of Aldermen, of "urgent economic necessity" will be required, as well as a determination that no other viable sources of funds are available. A finding of urgent economic necessity would be based on a significant event, for example, a natural disaster or catastrophe.

The Emergency Subaccount shall be set at a minimum of 5% of General Fund operating budgeted expenditures.

D. Debt Service Subaccount

The Debt Service Subaccount is intended to provide reserve funds for shortfalls in budgeted revenues intended for general obligation debt service payments or unexpected and unbudgeted expenditures related to general obligation debt service as well as any unbudgeted expense related to the service and maintenance of the City's debt liabilities.

The Debt Service Subaccount shall have a shall be set at a minimum of 3% of General Fund operating budgeted expenditures.

E. Future Project/Capital Outlay Subaccount

The Future Project/Capital Outlay Subaccount shall be the balance of Unassigned Fund Balance after the Contingency, Emergency, Cash Flow Stabilization, and Debt Service

Subaccounts are funded. This Subaccount shall be used to fund one-time capital expenditures. If this subaccount is used to balance the budget, it shall state “Cash used for Capital Expenditures”.

The Future Project/Capital Outlay Subaccount shall have a minimum balance of at least \$250,000.

Any budget amendment that will result in the unassigned fund subaccounts dropping below the minimum level, it will require the approval of a majority of the Board of Mayor and Aldermen. If any subaccount drops below the minimum level amount, the Board of Mayor and Aldermen shall develop a plan to replenish the fund balance to establish the minimum amount level within two years.

Fund Balance Policy Adoption

The City’s Fund Balance Policy shall be adopted by Resolution by the Board of Mayor and Aldermen. The policy shall be reviewed by the approving authority and the same authority must approve any modifications. It is recommended that the policy be reviewed every year within six months following budget approval. This policy will be managed and monitored by the Finance Department and report on the current and projected level of reserve funds in conjunction with the budget process. If necessary, the Finance Director will present recommendations for any amendments, deletions, additions, improvements, or clarifications.

RESOLUTION

City of Portland, Tennessee

No. 23 - 50

A RESOLUTION AMENDING THE DEBT MANAGEMENT POLICY FOR THE CITY OF PORTLAND

WHEREAS, the City of Portland has made a commitment to manage the financial affairs of the City to minimize risks, avoid conflicts of interest and ensure transparency while still meeting the capital needs of the City; and

WHEREAS, a Debt Management Policy signals to the public and the rating agencies that the City is using a disciplined and defined approach to financing capital needs; and

WHEREAS, the State of Tennessee requires the City to adopt a debt management policy for accountability and transparency related to the issuance of public debt in Tennessee; and

WHEREAS, the City of Portland approved by Resolution 22-90 a Debt Management Policy; and

WHEREAS, the City of Portland has reviewed the current policy and has determined it needs to be amended in order to continue the commitment of fiscal responsibility.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Board of Aldermen of the City of Portland, Tennessee that Resolution 22-90 is rescinded, and the attached debt policy titled City of Portland Debt Management Policy, May 15, 2023, be adopted in its entirety and be the official Debt Management Policy for the City of Portland; and

This Resolution shall take effect from and after its final passage, the public welfare requiring it.

Mike Callis, Mayor

Attest: Rachel Slusser, City Recorder

Approved this ____ day of _____.

City of Portland, TN
Debt Management Policy
May 15, 2023

Introduction:

The purpose of this debt management policy is to establish a set of parameters by which debt obligations will be undertaken by the City of Portland, TN. This policy reinforces the commitment of the City and its officials to manage the financial affairs of the City to minimize risks, avoid conflicts of interest and ensure transparency while still meeting the capital needs of the City. A debt management policy signals to the public and the rating agencies that the City is using a disciplined and defined approach to financing capital needs and fulfills the requirements of the State of Tennessee regarding the adoption of a debt management policy.

The goal of this policy is to assist decision makers in planning, issuing, and managing debt obligations by providing clear directions as to the steps, substance, and outcomes desired. In addition, greater stability over the long term will be generated using consistent guidelines in issuing debt.

Definition of Debt:

All obligations of the City to repay, with or without interest, in installments and/or at a later date, some amount of money utilized for the purchase, construction, or operation of City resources. This includes but is not limited to notes, bond issues, capital leases, and loans of any type whether from an outside source such as a bank or from another internal fund.

Approval of Debt:

Bond anticipation notes, capital outlay notes, grant anticipation notes, and tax and revenue anticipation notes (including any interfund loans), and certain non-exempt financing leases will be submitted to the State of Tennessee Comptroller's Division of Local Government Finance and the City Council prior to adoption of the authorizing resolution for capital outlay notes and prior to issuance or entering into all other notes. A plan for refunding debt issues will also be submitted to the Comptroller's Office prior to adoption of the authorizing resolution by the governing body and issuance.

Transparency:

- The City shall comply with legal requirements for notice and for public meetings related to debt issuance.
- All notices shall be posted in the customary and required posting locations, including as required local newspapers, bulletin boards, and websites.

- All costs (including principal, interest, issuance, continuing, and one-time) shall be clearly presented and disclosed to the citizens, City Council, and other stakeholders in a timely manner.
- The terms and life of each debt issue shall be clearly presented and disclosed to the citizens/members, City Council, and other stakeholders in a timely manner.
- A debt service schedule outlining the rate of retirement for the principal amount shall be clearly presented and disclosed to the citizens/members, City Council, and other stakeholders in a timely manner.

Role of Debt:

- Long-term debt shall not be used to finance current operations. Long-term debt may be used for capital purchases or construction identified through capital improvement, regional development, transportation, or master process or plan. Short-term debt may be used for certain projects and equipment financing as well as for operational borrowing; however, the City will minimize the use of short-term cash flow borrowings by maintaining adequate working capital for enterprise funds, available cash for governmental funds, and close budget management.
- In accordance with Generally Accepted Accounting Principles and state law,
 1. The maturity of the underlying debt will not be more than the useful life of the assets purchased or built with the debt, not to exceed 30 years; however, an exception may be made with respect to federally sponsored loans, provided such an exception is consistent with law and accepted practices.
 2. Debt issued for operating expenses must be repaid within the same fiscal year of issuance or incurrence.

Types and Limits of Debt:

- The City will seek to limit total outstanding annual debt service obligations to 40% of tax assessments and local option tax revenues, excluding overlapping debt, enterprise debt, and revenue debt.
- The limitation on total outstanding debt must be reviewed prior to the issuance of any new debt.
- The City's total outstanding debt obligation will be monitored and reported to the City Council annually by the finance director during the budget preparation process. The finance director shall monitor the maturities and terms and conditions of all obligations to ensure compliance. Also, the finance director shall report to the City Council any matter that adversely affects the credit or financial integrity of the City.
- Historically, the City has issued and is authorized to issue General Obligation bonds, Revenue bonds, TIFs, leases, notes, financing leases and other debt allowed by law. The City has determined it currently will not issue complex debt instruments such as swaps or derivatives.

- The City will seek to structure debt with level or declining debt service payments over the life of each individual bond issue, loan, or other debt obligation.
- The City may utilize non-level debt methods. However, the use of such methods must be thoroughly discussed in a public meeting and the Mayor and City Council must determine such use is justified and in the best interest of the city, as well as submitted to the Comptroller's Office for approval.
- The City may use financing leases (formerly called capital leases) to finance projects. The City will follow the guidance established by the Comptroller of the Treasury, Division of Local Government Finance when assessing potential financing leases. This guidance is pursuant to TCA 9-24-101 "Uniformity in Local Government Lease Financing Act of 2021" and the Division of Local Government Finance's Debt Manual.
- Bonds backed with a general obligations pledge often have lower interest rates than revenue bonds. The City may use its General Obligation pledge with revenue bond issues when the populations served by the revenue bond projects overlap or significantly are the same as the property tax base of the City. The City Council and management are committed to maintaining rates and fee structures of revenue supported debt at levels that will not require a subsidy from the City's General Fund.

Use of Variable Rate Debt:

- The City recognizes the value of variable rate debt obligations and that cities have greatly benefitted from the use of variable rate debt in the financing of needed infrastructure and capital improvements.
- However, the City also recognizes there are inherent risks associated with the use of variable rate debt and will implement steps to mitigate these risks, including:
 1. The City will annually include in its budget an interest rate assumption for any outstanding variable rate debt that takes market fluctuations affecting the rate of interest into consideration.
 2. Prior to entering into any variable rate debt obligation that is backed by insurance and secured by a liquidity provider, the City Council shall be informed of the potential affect on rates as well as any additional costs that might be incurred should the insurance fail.
 3. Prior to entering into any variable rate debt obligation that is backed by a letter of credit provider, the City Council shall be informed of the potential affect on rates as well as any additional costs that might be incurred should the letter of credit fail.
 4. Prior to entering into any variable rate debt obligation, the City Council will be informed of any terms, conditions, fees, or other costs associated with the prepayment of variable rate debt obligations.
 5. The City shall consult with persons familiar with the arbitrage rules to determine applicability, legal responsibility, and potential consequences associated with any variable rate debt obligation.

6. The City will avoid over-reliance on variable rate debt due to the volatility seen in credit markets.

Use of Derivatives:

- The City chooses not to use derivatives or other exotic financial structures in the management of the City's debt portfolio.
- Prior to any reversal of this provision:
 1. A written management report outlining the potential benefits and consequences of utilizing these structures must be submitted to the City Council; and
 2. The City Council must adopt a specific amendment to this policy concerning the use of derivatives or interest rate agreements that complies with the State Funding Board Guidelines.

Bonds - Methods of Sale:

- Competitive - In a competitive sale, the City's bonds shall be awarded to the bidder providing the lowest true interest cost as long as the bid adheres to the requirements set forth in the official notice of sale.
- Negotiated - While the City prefers the use of a competitive process, the City recognizes some bonds are best sold through negotiation. In a negotiated sale, the underwriter(s) will be chosen through a Request for Qualification (RFQ) process and the interest rate and underwriter's fees are negotiated prior to the sale. The factors to be considered for a negotiated sale include the following:
 1. Volatility of market conditions
 2. Size of bond sale and credit strength
 3. Whether the bonds are issued as variable rate demand obligations

Costs of Debt:

- All costs associated with the initial issuance or incurrence of debt, management, and repayment of debt (including interest, principal, and fees or charges) shall be disclosed prior to action by the City Council in accordance with the notice requirements stated above.
- In cases of variable interest or non-specified costs, a detailed explanation of the assumptions shall be provided along with the complete estimate of total costs anticipated to be incurred as part of the debt issue.
- Costs related to the repayment of debt, including liabilities for future years, shall be provided in context of the annual budgets from which such payments will be funded (General Obligations bonds in context of the General Fund, Revenue bonds in context of the dedicated revenue stream and related expenditures, loans and notes).

Refinancing Outstanding Debt:

- The City will refund debt when it is in the best financial interest of the City to do so, and the Finance Director shall have the responsibility to analyze outstanding bond issues for refunding opportunities. The Comptroller's Office must review the refunding plan prior to the decisions being approved by the governing body, and all plans for current or advance refunding (no longer tax-exempt) of debt must be in compliance with state laws and regulations.
- The finance director will consider the following issues when analyzing possible refunding opportunities:
 1. Onerous Restrictions – Debt may be refinanced to eliminate onerous or restrictive covenants contained in existing debt documents, or to take advantage of changing financial conditions or interest rates.
 2. Restructuring for Economic Purposes – The City will refund debt when it is in the best financial interest of the City to do so. Such refunding may include restructuring to meet unanticipated revenue expectations, achieve cost savings, mitigate irregular debt service payments, or to release reserve funds. Current refunding opportunities may be considered by the finance director if the refunding generates positive present value savings, and the finance director must establish a minimum present value savings threshold for any refinancing.
 3. Term of Refunding Issues – The City will refund bonds within the term of the originally issued debt. However, the finance director may consider maturity extension, when necessary to achieve a desired outcome, provided such extension is legally permissible. The finance director may also consider shortening the term of the originally issued debt to realize greater savings. The remaining useful life of the financed facility and the concept of inter-generational equity should guide this decision.
 4. Escrow Structuring – The City shall utilize the least costly securities available in structuring refunding escrows. Under no circumstances shall an underwriter, agent or financial advisor sell escrow securities to the City from its own account.
 5. Arbitrage – The City shall consult with persons familiar with the arbitrage rules to determine applicability, legal responsibility, and potential consequences associated with any refunding.

Professional Services:

The City shall require all professionals engaged in the process of issuing debt to clearly disclose all compensation and consideration received related to services provided in the debt issuance process by both the City and the lender or conduit issuer, if any. This includes "soft" costs or compensations in lieu of direct payments.

- **Counsel:** The City shall enter into an engagement letter agreement with each lawyer or law firm representing the City in a debt transaction. No engagement letter is required for any lawyer who is an employee of the City or lawyer or law firm which is under a general appointment or contract to serve as counsel to the

City. The City does not need an engagement letter with counsel not representing the City, such as underwriters' counsel.

- Financial Advisor: The City shall enter into a written agreement with each person or firm serving as financial advisor for debt management and transactions.
 - Whether in a competitive sale or negotiated sale, the financial advisor shall not be permitted to bid on, privately place or underwrite an issue for which they are or have been providing advisory services for the issuance or broker any other debt transactions for the City
- Underwriter: The City shall require the Underwriter to clearly identify itself in writing as an underwriter and not as a financial advisor from the earliest stages of its relationship with the City with respect to that issue. The Underwriter must clarify its primary role as a purchaser of securities in an arm's-length commercial transaction and that it has financial and other interests that differ from those of the Entity. The Underwriter in a publicly offered, negotiated sale shall be required to provide pricing information both as to interest rates and to takedown per maturity to the City Council in advance of the pricing of the debt.

Conflicts:

- Professionals involved in a debt transaction hired or compensated by the City shall be required to disclose to the City existing client and business relationships between and among the professionals to a transaction (including but not limited to financial advisor, swap advisor, bond counsel, swap counsel, trustee, paying agent, liquidity or credit enhancement provider, underwriter, counterparty, and remarketing agent), as well as conduit issuers, sponsoring organizations and program administrators. This disclosure shall include that information reasonably sufficient to allow the City to appreciate the significance of the relationships.
- Professionals who become involved in the debt transaction as a result of a bid submitted in a widely and publicly advertised competitive sale conducted using an industry standard, electronic bidding platform are not subject to this disclosure. No disclosure is required that would violate any rule or regulation of professional conduct.

Continuing Disclosure:

The City will execute a Continuing Disclosure Certificate with each issuance of municipal bonds, if required by Rule 15c2-12 of the Federal Securities and Exchange Commission (the "Rule"), under which it will covenant for the benefit of holders and beneficial owners of the Bonds to provide certain financial information and operating data relating to the City (the "Annual Report") and to provide notice of the occurrence of certain enumerated events ("Material Events"), as required by the Rule. The Annual Report and notices of Material

Events shall be filed by the City with the Municipal Securities Rulemaking Board (“MSRB”) at www.emma.msrb.org and with any State Information Depository which may hereafter be established in Tennessee when required by the Rule. The specific nature of the information to be contained in the Annual Report or the notices of material events can be found in the Continuing Disclosure Certificate related to each issuance of Bonds.

To ensure compliance, the City has appointed the Finance Director to be responsible for all continuing disclosure endeavors. The Finance Director will maintain knowledge of the Rule through continuing education, including resources such as the Government Finance Officers website. The Finance Director will review each continuing Disclosure Certificate and will file each Annual Report when required by such Continuing Disclosure Certificate. If the Annual Report is not complete because of the unavailability of the annual audit, then the Annual Report will be timely filed containing an unaudited financial report. Any failure to timely file an Annual Report will be reported with a notice posted with the MSRB on www.emma.msrb.org and with any State Information Repository. The Finance Director will monitor each outstanding bond issue and timely file all material events.

Review of Policy:

The debt policy guidelines outlined herein are only intended to provide general direction regarding the future use and execution of debt. This policy shall be reviewed at least annually by the City Council during the annual budget process. Any amendments shall be considered and approved in the same process as the initial adoption of this Policy, with opportunity for public input.

Compliance:

The mayor and finance director are responsible for ensuring compliance with this policy.

RESOLUTION

City of Portland, Tennessee

No. 23 - 51

A RESOLUTION TO ENHANCE THE REQUIREMENTS OF THE COMBINED ZONING ORDINANCE FOR THE CITY OF PORTLAND

WHEREAS, In an effort to manage growth and preserve the long-term character of the community the City Council is requiring more developments to be presented as Planned Unit Developments (PUD); and

WHEREAS, The Combined Zoning Ordinance No. 387 provides guidelines to ensure that all presented PUDs enhance the community as a whole and fulfills the intended purpose of the proposed development; and

WHEREAS, The City Council wishes to require that all PUDs containing residential components include minimum square footage for each residential unit, include a list of exterior building materials and the minimum percentage of each material to be used per residential unit, include design elevations that will substantially meet the proposed plan, along with other such details as: driveways, mailboxes, underground utilities, HOAs, and amenities; and

WHEREAS, The City Council request that staff and the Planning Commission review the current Zoning Ordinance to consider automatic requirements when a PUD is to be presented instead of straight zoning (noting that the City Council already wishes that all multi-family be presented as a PUD) as well as requiring developers to include design elements for any PUD approval; and

NOW, THEREFORE BE IT RESOLVED, By the Mayor and City Council that the Combined Zoning Ordinance be amended to include the necessary criteria for when a Planned Unit Development is required and that certain design elements are included in any approved PUD; and

BE IT FURTHER RESOLVED, That this resolution shall become effective upon its passage, the public welfare requiring it.

Mike Callis, Mayor

Rachel Slusser, City Recorder

Approved this the ____ of _____.

RESOLUTION

City of Portland, Tennessee

No. 23 - 52

A RESOLUTION REQUIRING ALL MULTI-FAMILY ZONING TO BE PRESENTED AS A PLANNED UNIT DEVELOPMENT

WHEREAS, In an effort to preserve the character and general welfare of the community the City Council desires that all developments be completed as presented; and

WHEREAS, All rezoning request that wholly or in part contains multi-family such as RM-1, NMU, CMU, or RMU will be required to submit a Planned Unit Development (PUD) plan of the project and the Council may request certain design elements be included in the plan; and

NOW, THEREFORE BE IT RESOLVED, By the Mayor and City Council that all rezoning request containing multi-family must be presented as a Planned Unit Development; and

BE IT FURTHER RESOLVED, That this resolution shall become effective upon its passage, the public welfare requiring it.

Mike Callis, Mayor

Rachel Slusser, City Recorder

Approved this the ____ of _____.

RESOLUTION
City of Portland, Tennessee
No. 23 - 53

A RESOLUTION RE-ADOPTING THE SUMNER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

WHEREAS, Sumner County recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Sumner County participated jointly in the planning process with the other local units of government within the county of prepare the Multi-Jurisdictional Hazard Mitigation Plan which can be seen on the Sumner County Website at www.sumnertn.org.

NOW, THEREFORE BE IT RESOLVED by the Mayor and Board of Aldermen of the City of Portland, Tennessee re-adopts the Sumner County Multi-Jurisdictional Hazard Mitigation Plan as an official plan pursuant to the finalized FEMA letter attached herewith; and

BE IT FURTHER RESOLVED that the Sumner County Emergency Management Agency will submit on behalf of the participating agencies, the adopted Hazard Mitigation Plan to the Federal Emergency Management Agency officials for completion of the requirement.

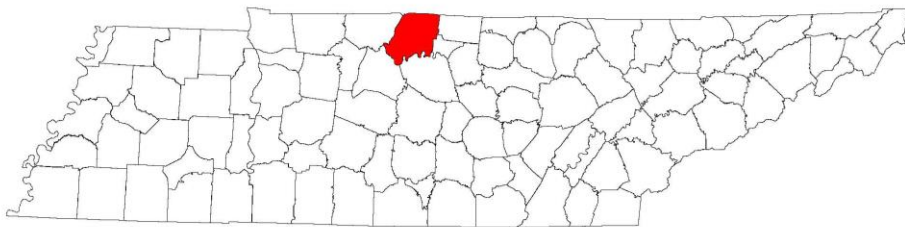
Mike Callis, Mayor

Attest: Rachel Slusser, City Recorder

Approved this ____ day of _____.

Sumner County Hazard Mitigation Plan

2023 Update



Prepared BY:

Sumner County Hazard Mitigation Planning Committee
Sumner County Emergency Management Agency/Office of Emergency Management

Assistance Provided By:

Tennessee Emergency Management Agency
as part of the Tennessee Mitigation Initiative

Executive Summary

Over the past two decades, hazard mitigation has gained increased national attention due to the large number of natural disasters that have occurred throughout the U.S. and the rapid rise in costs associated with those disaster recoveries. It has become apparent that money spent mitigating potential impacts of a disaster event can result in substantial savings of life and property. With these benefit-cost ratios extremely advantageous, the Disaster Mitigation Act of 2000 was developed as U.S. Federal legislation reinforcing the importance of pre-disaster mitigation planning by calling for local governments to develop mitigation plans (*44 CFR 201*).

A local hazard mitigation plan aims to identify the community's notable risks and specific vulnerabilities and then to create/implement corresponding mitigation projects to address those areas of concern. This methodology helps reduce human, environmental, and economic costs from natural and man-made hazards through the creation of long-term mitigation initiatives.

The advantages of developing a local hazard mitigation plan are numerous and include improved post-disaster decision-making, education on mitigation approaches, and an organizational method for prioritizing mitigation projects. Communities with a mitigation plan receive larger amounts of Federal and State funding opportunities to be used on mitigation projects and can receive these funds faster than communities without a plan.

This 2023 update of the Sumner County Hazard Mitigation Plan addresses Building Resilient Communities and Infrastructure (BRIC), Flood Mitigation Assistance (FMA), and Hazard Mitigation Grant Program (HMGP) requirements. Each jurisdiction within the county participated in the preparation of the update, including:

- Sumner County
- City of Gallatin
- City of Goodlettsville
- City of Hendersonville
- City of Millersville
- City of Mitchellville
- City of Portland
- Town of Westmoreland
- City of Whitehouse
- Sumner County Board of Education
- Volunteer State Community College

In reference to federal code title *44 CFR 201*, the plan is required to be submitted to both TEMA (State) and FEMA (Federal) for review to be approved. When the plan is deemed "approval pending adoption" by FEMA (*44 CFR 201.6(c)5*), each of the participating jurisdictions will adopt the plan through a local resolution.

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Chapter 1. The Planning Process

1.1 Purpose and Need, Authority and Statement of Problem

1.1.1 Purpose and Need

FEMA defines “hazard mitigation” as any sustained action taken to reduce or eliminate the long-term risk to life and property from a hazard event. Hazard mitigation planning is the process through which hazards are identified, likely impacts determined, mitigation goals set, and appropriate mitigation strategies defined, prioritized, and implemented. The Hazard Mitigation Plan aims to identify, assess, and mitigate risk to better protect the people and property of Sumner County from the effects of natural and man-made hazards. This Plan documents the hazard mitigation planning process and identifies relevant hazards, vulnerabilities, and strategies the County and incorporated jurisdictions will use to decrease vulnerability and increase resiliency and sustainability. This Plan demonstrates the participating communities’ commitment to reducing risks from identified hazards and serves as a tool to help decision-makers direct mitigation activities and resources.

1.1.2 Authority

This Hazard Mitigation Plan has been adopted by Sumner County and all participating jurisdictions in accordance with the authority granted to local communities by the State of Tennessee. This Plan was updated per state and federal rules and regulations governing local hazard mitigation plans. The Plan shall be reviewed annually and go through a complete update process every five years to remain eligible for hazard mitigation grants. The following legislation was used for guidance:

- Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Section 104 of the Disaster Mitigation Act of 2000 (DMA 2000) Public Law 106-390 of October 30, 2000, as implemented at 44 CFR 201.6 and 201.7 dated October 2011.
- Tennessee Code Annotated
 - **T.C.A. 58-2-106(b)(16)**
 - **T.C.A. 58-2-106(b)(1)**
 - **T.C.A. 58-2-103(a)(5)**

1.1.3 Statement of Problem

Each year in the United States, natural disasters take the lives of hundreds of people and injure thousands more. Taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. Unfortunately, this only partially reflects the cost of disasters because additional expenses incurred by insurance companies and non-governmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be reduced or even eliminated.

The original Sumner County Hazard Mitigation Plan was created and approved by FEMA in 2023. Per federal requirements stated in *44 CFR 201*, all local hazard mitigation plans are required to go through a FEMA approval process every five years to remain eligible for hazard mitigation grants. This plan will be re-evaluated and updated every five years to ensure local governments are continuing to assess the hazards and risks within their communities. This plan update has been prepared to meet requirements set forth by FEMA and the Tennessee Emergency Management Agency (TEMA) to ensure Sumner County is eligible for funding and technical assistance from state and federal hazard mitigation programs. All communities are welcome to address man-made hazards and risks in their hazard mitigation plan. However, it's important to note that the State and Federal governments only evaluate and approve based on natural hazards only as per federal code title 44 CFR 201.

1.2 Methodology, Update Process, and Participation Summary

This Hazard Mitigation Plan was developed under the guidance of a Hazard Mitigation Planning Committee (HMPC). The Committee included representatives of Sumner County, Gallatin, Goodlettsville, Hendersonville, Millersville, Mitchellville, Portland, Westmoreland, White House, Sumner County Board of Education, and Volunteer State Community College.

Information in this plan will help guide and coordinate mitigation activities and decisions for local land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. This plan identifies activities that can be undertaken by both the public and the private sectors to reduce risk to safety, health, and property caused by natural and man-made hazards.

1.2.1 Local Government Participation

The planning regulations and guidance stress that each local government seeking FEMA approval of their mitigation plan must participate in the planning effort in the following ways:

- Participate in the process as part of the HMPC;
- Detail where within the planning area the risk differs from that facing the entire area;
- Identify potential mitigation actions; and
- Formally adopt the plan.

For the HMPC, "participation" meant the following:

- Providing facilities for meetings;
- Attending and participating in the HMPC meetings;
- Collecting and providing other requested data (as available);
- Identifying mitigation actions for the plan;
- Reviewing and providing comments on plan drafts;

- Informing the public, local officials, and other interested parties about the planning process and providing opportunity for them to comment on the plan;
- Coordinating, and participating in the public input process; and
- Coordinating the formal adoption of the plan by the appropriate governing body.

The HMPC met all the above-stated participation requirements. Sumner County and all its incorporated jurisdictions (Gallatin, Goodlettsville, Hendersonville, Millersville, Mitchellville, Portland, Westmoreland, White House, Sumner County Board of Education, Volunteer State Community College.) participated in the 2023 Plan update, as well as reviewed and provided timely comments on all draft components of the Plan. A summary of past and current community participation is shown below in *Table 1*. All participants were invited to this committee via email by the County EMA Director. Those who did not originally respond were reached out to via phone or email by the County EMA Director.

Table 1 Multi-Jurisdictional HMPC Participation

Jurisdiction	2017 Participation	2023 Participation
Sumner County	X	X
City of Gallatin	X	X
City of Goodlettsville	X	X
City of Hendersonville	X	X
City of Millersville	X	X
City of Mitchellville	X	X
City of Portland	X	X
Town of Westmoreland	X	X
City of White House	X	X
Sumner County Board of Education	X	X
Volunteer State Community College	X	X

The HMPC for the 2023 plan update included key community representatives. *Table 2* details the HMPC members, meeting dates, associated FEMA Lifeline, and committee member attendance. FEMA Lifelines are fundamental way for a community to recover, however, all participants might not be associated with a FEMA Lifeline. If they are not associated with a FEMA Lifeline, then they will be indicated as not applicable (NA).

The EMA director invited individuals who represented regional and local agencies that have authority in regulating county/city development, individuals that represent vulnerable populations, as well as those that are responsible for responding to the identified hazards of prime concern. These partners include jurisdictional police, fire, public works, and health departments, community representatives, nonprofit organizations, local floodplain administration, the county/city school board, elected officials, and electric utility companies. Individual from all sectors were invited to attend the HMPC meetings, those that chose to attend are listed. All committee members provided key information to recognize and mitigate hazards of prime community concern. A more detailed summary of HMPC meeting dates, members seeking approval and FEMA lifeline association follows in *Table 2*. Meeting sign-in sheets are included in Appendix A.

CHAPTER 1: THE PLANNING PROCESS

Table 2 HMPC Members

Name	Title	Organization/ Jurisdiction	Meeting Dates		
			3/30/23	4/4/2023	4/17/2023
Lawrence Daniel Jr.	Commander	Hendersonville PD	X		X
Mickey Summers	Deputy Director	Sumner EMA	X	X	X
Brandon Head	Fire Chief	Millersville FD	X		
Patrick McLaughlin	Fire Chief	White House FD	X		
Carla Miller	Admin Asst	Sumner EMA	X	X	X
Jeff Beaman	Fire Chief	Gallatin FD	X		X
Paul Allen Fornes	Client Executive	Spatialtest	X		X
Ken Weidner	Director	Sumner EMA	X	X	X
Jennifer LeFevre	Chief Information Officer	City of Gallatin	X		X
Preston Dallas	GIS Specialist	City of Gallatin	X		
Bill McCord	City Planner	City of Gallatin	X		X
Katie Brown	Safe Schools Dir.	Sumner County Board of Education	X		X
Bill Vahldiek	Captain	Gallatin PD	X	X	X
Kim Norfleet	Grants Coord.	Sumner County		X	X
Steve Jolley		Westmoreland PD		X	X
Kenneth Reeves		Goodlettsville FD		X	
Heidi Summers	Dispatcher	Vol State Community College		X	
Jimie Green		Mitchellville		X	
Carlton Cobb	Director	Portland Public Works		X	X
Scott Woodward		Gallatin FD			X
Steven Craig	Sergeant	Vol State Community College			X
Greg Miller	Chief	Sumner EMS			X
John Poss	Battalion Chief	Sumner EMS			X
Jay Austin	Asst. Chief	Sumner EMS			
Sarah Lock	Director	Hendersonville Public Works			X
John Isbell	Mayor	Sumner County			X
Doyle Farris		Hartsville Pike CoC			X
Tav Matthews		Highland VFD			X
Pete Griffin	District Coord.	TEMA	X		X
Autumn Joanow	Planner	TEMA	X	X	X

1.2.2 Hazard Mitigation Planning Process

The 2023 Sumner County Hazard Mitigation Plan was updated following guidance put forth by FEMA in the *Local Mitigation Planning Policy Guide* which became effective on April 19, 2023. This guidance emphasized the need for a whole community planning approach to include representatives from all sectors of the community with an emphasis on the increased need for vulnerable and underserved population representation. The guidance also highlighted increased emphasis on risk, vulnerability, and resilience assessments, the inclusion of high hazard dams, and future weather trends/patterns.

FEMA guidance proposes a structured four-phase approach to completing a Hazard Mitigation Plan as follows:

- 1) Planning Process
- 2) Risk Assessment
- 3) Mitigation Strategy
- 4) Plan Maintenance

Phase I - Planning Process

Organize to Prepare the Plan

The planning process officially began with a meeting held on March 30, 2023 at the Sumner County EOC. The meeting covered the scope of hazard mitigation, the purpose of planning, eligible grants, risk assessments and vulnerabilities impacting the community. During the planning process, the committee communicated through face-to-face meetings, email, and telephone conversations. The neighboring communities were given an opportunity to be involved in the planning process with email invitations by the County EMA Director for the planning committee meetings. The City of White House, which is part of both Sumner County and Robertson County chose to attend.

Involve the Public

Early discussions established the significance of involving the public. The HMPC agreed to an approach using established public information mechanisms and resources within the community. Public involvement activities for this plan update included public notices, stakeholder and public meetings, and the collection of public and stakeholder comments on the draft plan. In order to ensure socially vulnerable and underserved populations were included in organizing efforts the Sumner County EMA director located vulnerable areas within the county and posted survey and meeting invitations. Due to the nature of the public meetings, neighboring communities, agencies, utilities, academia, civic organizations, and other interested parties were given the opportunity to participate.

Public notices were posted between 4/10/2023-4/13/2023 on various social media accounts and throughout the county inviting members of the public to attend the 4/17/2023 Hazard Mitigation Planning meeting. Documentation to support outreach efforts such as community flyers, social media postings, and mapping of vulnerable populations can be found in Appendix A.

Sign-in sheets from all meetings are included in Appendix A. The meeting date and topics discussed are summarized below in *Table 3*. The meeting on April 17th was open to the public and was announced on social media and through flyers placed at strategic locations. Two individuals from the public and one representative of a volunteer fire station chose to attend.

Table 3 Summary of Hazard Mitigation Planning Meetings

Meeting Number	Meeting Topic	Meeting Date	Meeting Location
Meeting #1	Overview of hazard mitigation	3/30/2023	Sumner County EOC
	Hazard Mitigation Planning Process		
	Purpose of the HMP		
	HMA Grant Funding		
	Area growth and changes		
	Identification of Hazards		
	Future weather predictions		
	Assessment of risk, vulnerabilities, resilience		
	Review of NFIP		
	Previous HMP goals		
	Next Steps		
Meeting #2	Overview of hazard mitigation	4/4/2023	Virtual Meeting (Zoom Link)
	Hazard Mitigation Planning Process		
	Purpose of the HMP		
	HMA Grant Funding		
	Area growth and changes		
	Identification of Hazards		
	Future weather predictions		
	Assessment of risk, vulnerabilities, resilience		
	Review of NFIP		
	Previous HMP goals		
	Next Steps		
Meeting #3	Hazards of Prime Concern	4/17/2023	Sumner County EOC
	Project		
	Guidelines/Requirements		
	Project Discussion		
	Next Steps		

Coordination

Early in the planning process, the committee determined that the risk assessment, mitigation strategy development, and plan approval would be greatly enhanced by inviting other local and state partners to participate in the process. The coordination involved contacting these agencies through email, flyers, in-person and phone conversations. All groups and agencies were advised on how to become involved in the plan development

process and were solicited asking for their assistance and input. A summary of agencies and organizations actively involved in the HMPC is as follows:

- City of Gallatin
- City of White House
- City of Millersville
- City of Hendersonville
- City of Goodlettsville
- City of Mitchellville
- City of Portland
- Town of Westmoreland
- Sumner County
- Tennessee Emergency Management Agency
- Sumner County Emergency Management Agency
- Hendersonville Police Dept
- Gallatin Police Dept
- Westmoreland Police Dept
- Goodlettsville Fire Dept
- Millersville Fire Dept
- Gallatin Fire Dept
- Highland Volunteer FD
- Portland Public Works
- Hendersonville Public Works
- Sumner County Emergency Medical Services
- Sumner County Board of Education
- Volunteer State Community College
- Spatalest
- Hartsville Pike Church of Christ

Coordination with other community planning efforts was also paramount to the success of this plan. Mitigation planning involves identifying existing policies, tools, and actions that will reduce a community's risk and vulnerability to hazards. Sumner County uses a variety of planning mechanisms such as land development regulations and ordinances to guide growth and development. Integrating existing planning efforts and mitigation policies and action strategies into this plan establishes a credible and comprehensive plan that ties into and supports other community programs.

Table 4 identifies the existing planning mechanisms that were reviewed and how they were incorporated into the 2023 Hazard Mitigation Plan Update.

Table 4 Planning Mechanism Review

Existing Planning Mechanisms	Reviewed? (Yes/No)	Method of Use in Hazard Mitigation Plan
State Hazard Mitigation Plan	Yes	Identifying hazards, assessing vulnerabilities, and mitigation strategies
Local Emergency Operations Plan	Yes	Identify major capabilities
Community Data Profile	Yes	Development trends, capability assessment
Stormwater Ordinance	Yes	Capability assessment, mitigation strategies
Building and Zoning Codes and Ordinances	Yes	Different years of code regulations utilized in different jurisdictions
CDC Social Vulnerability Index	Yes	Analyze vulnerable population in jurisdictions
FEMA's National Risk Index	Yes	Analyze natural hazard risk within each jurisdiction
Land Use Maps	Yes	Assessing vulnerabilities, development trends, and mitigation strategies
Critical2TN Infrastructure Database	Yes	Assessing vulnerabilities, mitigation strategies
NOAA Archives	Yes	Analyze weather data and trends
ETSU Geoinformatics & Disaster Science Lab	Yes	Analyze future weather trends and patterns

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U.S Census Bureau	Yes	Analyze community demographic data and trends
Local County Hazard Mitigation Plan	Yes	Analyze previous plan for updates
Flood Insurance Rate Maps	Yes	Analyze flood prone areas within the community

These and other documents were reviewed and considered, as appropriate, during the collection of hazard identification, vulnerability assessment, and capability assessment. Data from these plans and ordinances were incorporated into the risk assessment and hazard vulnerability sections of the plan as appropriate. The data was also used in determining the capability of the community in being able to implement certain mitigation strategies.

Phase II – Risk Assessment

Identify the Hazard, Assess the Risk and Vulnerabilities

The committee completed a comprehensive effort to identify/update, document, and profile all hazards that have, or could have, an impact on the community. The committee also conducted a capability assessment to review and document the planning area's current capabilities and gaps. By collecting information about existing government programs, policies, regulations, ordinances, and emergency plans, the committee could assess the activities and measures already in place that contribute to mitigating some of the risks and vulnerabilities identified. A more detailed description of the risk assessment process and the results are included in Chapter 2 Risk and Vulnerability Assessment.

Phase III – Mitigation Strategy

Set Goals and Review Actions

This meeting facilitated brainstorming and discussion sessions that described the purpose and process of developing planning goals and objectives, a comprehensive range of mitigation alternatives, and a method of selecting and defending recommended mitigation actions using a series of selection criteria. This information is included in Chapter 3 Mitigation Strategy.

Draft an Action Plan

A complete first draft of the plan was prepared based on information and input collected during the HMPC meetings, and various agencies and individuals were invited to comment on this draft. Public and agency comments were integrated into the final draft for TEMA and FEMA Region IV to review and approve, contingent upon final adoption by Sumner County.

Phase IV – Plan Maintenance

Adopt the Plan

To secure buy-in and officially implement the plan, the plan was reviewed and adopted by the appropriate governing bodies.

Implement, Evaluate, and Revise the Plan

Implementation and maintenance of the plan is critical to the overall success of hazard mitigation planning and actions. Chapter 4 Plan Integration and Maintenance discusses

incorporating the plan into existing planning mechanisms and how to address continued public involvement.

1.3 Plan Update

The 2017 Sumner County Hazard Mitigation Plan contained a hazard identification and risk assessment for each jurisdiction and a corresponding action list aimed at mitigation risk. Since that time, progress has been made by both the County and incorporated jurisdictions on the implementation of the mitigation strategy with 1 completed action and 3 in progress. The HMPC has met annually over the past five years to monitor, implement, and update the plan. This chapter includes an overview of the approach to updating the plan and identifies new analyses and information included in this plan update.

1.3.1 The New Plan

The updated plan involved a comprehensive review and revision of each section of the 2023 plan and included an assessment of the success of the County and the incorporated jurisdictions in evaluating, monitoring, and implementing the mitigation strategy outlined in the 2023 plan. Only the information and data still valid from the 2017 plan was carried forward as applicable in this update. The following requirements were addressed during this plan update process with consideration of the priorities and goals of the Sumner County Hazard Mitigation Planning Committee:

- Consider changes in vulnerability due to action implementation;
- Document success stories where mitigation efforts have proven effective;
- Document areas where mitigation actions were not effective;
- Document any new hazards that may arise or were previously overlooked;
- Document NFIP as related to the county and jurisdictions;
- Incorporate new data or studies on hazards and risks;
- Incorporate new data related to future climate patterns and trend;
- Incorporate new capabilities or changes in capabilities;
- Incorporate social vulnerability data and vulnerable population information;
- Incorporate growth and development-related changes to inventories; and
- Incorporate new action recommendations or changes in action prioritization;
- Enhanced public outreach and multi-agency coordination efforts.

1.3.2 2017 HMP Strategy Review

During the 2017 update of the Sumner County Hazard Mitigation Plan, the HMPC identified 12 actions as relevant to the county. Of these 12 actions, 1 has been completed, 3 are in progress, and 8 have not been started. Actions that had not been pursued were discussed for relevance to the new plan and were either carried over to the 2023 plan or deleted from the strategy. 11 of these projects were determined to still be viable and will be carried over or revised in this plan update. Details and the status of all previous actions are in *Table 5*.

Table 5 Mitigation Action Progress Summary (2017 Plan)

Name of Project	Action Description	Responsible Dept.	Location	Current Status			2023 Plan Update		Funding Source				Priority	Est. Cost	New or Existing Infrastructure
				Complete	In-Progress	Not yet Started	Delete Action	Carry Forward or Revise	HMGP	BRIC ¹	FMA	Local			
Flooding															
Public Drainage Infrastructure Study	Identification and improvement of deficient public drainage infrastructure systems.	Public Works/Engineering	Gallatin		X			X	X			X	M	200K	Both
Drainage Study	Study the areas where road closures are prone due to heavy rains and make improvements as necessary	City, Public Works	All			X		X	X			X	H	N/A	Existing
East Camp Creek, Gallatin, TN Continuing Authorities Program Section 205 Feasibility Cost Share Agreement	This project involves the development of alternatives for reducing flood risk within the East Camp Creek watershed within Gallatin, TN	USACE, Engineering	Gallatin		X			X					H	N/A	Both
Public Information and Warning	Provide a weather radio as well as training with the radio to each LMI residence in Sumner County. Estimates are based on the 2010 census population of 5,028 LMI residence in Sumner County; est. costs are \$16/unit x 5,028 residence=\$80,448	EMA	County			X		X	X			X	M	\$80,448	Existing

¹ BRIC previously referred to as PDM in the 2017 Hazard Mitigation Plan

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Property Acquisition	Consider buy out and tear down of building with recurrent flooding. Building that experience recurrent flooding, are located in FEMA flood zones: South Waters Avenue between East Bledsoe and East Winchester Streets	City, Engineering	Gallatin			X		X	X		X	X	L	N/A	Existing
Property Acquisition	Consider buy out and tear down of building with recurrent flooding. Homes that experience recurrent flooding, are located in FEMA Flood zones: Merrell Street and Blade Street	City, Engineering	Gallatin			X		X	X		X	X	L	N/A	Existing
Property Acquisition	Consider buy out and tear down of building with recurrent flooding. One home, located in a FEMA flood zones, experiences recurrent flooding: End of Notting Hill Drive past Pittman Drive	City, Engineering	Gallatin			X		X	X		X	X	L	N/A	Existing
Property Acquisition	Consider buy out and tear down of building with recurrent flooding. Homes that experience recurrent flooding, are located in FEMA flood zones: the entire length of Branch Creek Road and the section of from the intersection of Branch Creek and Bradford through to Red River Road (between two unnamed tributaries to East Station Camp Creek)	City, Engineering	Gallatin			X		X	X		X	X	L	N/A	Existing
Severe Storm/ Tornado															
Storm Shelter Database	Formulate, assemble, and maintain storm shelter database for City of Gallatin, use during post-tornado/bad weather incident to check and free any	Fire Dept, IT, GIS	Gallatin			X		X				X	H	5K	Both

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	persons trapped inside shelters by rubble.														
All															
Emergency Response Fuel	Installation of fuel pumps at public works facility (powered by a back-up generator) to enable city emergency response during power outage or fuel shortage.	Public Works	Gallatin	X			X		X			X	M	15K	Both
GIS	Identify business/continuity/disaster recovery options for critical GIS services in the event the primary location of servers become unavailable	City IT	Gallatin			X		X				X	M	N/A	Both
Public Information and Warning	Provide and distribute pamphlets on how to stay safe in natural, technological, and human-made hazards.	EMA	All		X			X	X			X	L	10K	Existing

1.4 Multi-Jurisdictional Special Considerations

Hazards Assessment

Most of the natural hazards identified within this plan have an impact on both Sumner County and the incorporated jurisdictions. Some hazards have a larger impact on the County rather than the incorporated jurisdictions and vice versa. Impacts of identified hazards differ the most at the rural and urban interface where flooding can have different severity levels. Therefore, the flooding section emphasizes the depth, duration, and timing of severe flooding events. Below is a table that shows whether a hazard will have multi-jurisdictional impacts.

Table 6 Multi-Jurisdictional Impacts

Hazards	Will the hazard have multi-jurisdictional differences?
Drought	No
Earthquake	No
Flooding	Yes
Severe Weather	Yes
Tornado	Yes

1.5 Public Participation

Public involvement included press releases, public meetings, and a public comment period on the draft plan. Organizations representing vulnerable and underserved populations were contacted in an effort to gain further input from populations most at risk during hazardous events. The formal meetings for this plan are summarized in *Table 3* (Section 1.2.2) discussed early in this chapter. The 4/17/2023 HMPC meeting was open to the public; and two individuals as well as a representative of a volunteer fire department and a representative of a local church chose to attend.

Public notices were posted between 4/10/2023-4/13/2023 on various social media accounts and throughout the county inviting members of the public to attend the 4/17/2023 Hazard Mitigation Planning meeting. Along with the opportunity to attend the public HMPC meeting, community members were also invited to be a part of the HMP update process by completing a short survey via QR that was advertised along with the meeting. The survey was open for three weeks; only 3 individuals participated in the survey opportunity. The results are detailed below. Over the past five years, the community was kept involved in the planning process through the implementation of projects in the plan.

Table 7 Public Survey

Jurisdiction	Are these hazards a risk to your community, yes or no? Why and When				
	Drought	Earthquake	Flood	Severe Weather	Tornado
Hendersonville	No	No	Yes	Yes	Yes
Gallatin	Yes	No	Yes	Yes	Yes
All	Yes	No	Yes	Yes	Yes

Expanded Narratives

Hendersonville:

- “[Flood]has effected before and does when heavy or steady rains occur. Several areas in town that creates issues with travel and access for First Responders”
- “[Severe weather] has increased over the last few years, tornadoes, lightning, straight line winds and just this year storm winds for over 3 hours”
- In reference to tornado risk “Loss of power, access to certain areas hit the hardest, strain on Public Safety, parks and public works staff and ability to perform their work”

All:

- In reference to how drought risk could affect the community “Farmer/Crop Production” similar to two years ago (2021)
- In reference to how tornadoes could affect the community “Destruction, life safety” past occurrences to include 03, 06, 08, 09.

1.6 County Data Profile

1.6.2 Resources and Assets

Sumner Regional Medical Center and Tri-Star Hendersonville Medical Center provide 24-hour emergency care to residents of the county and are home to 155 beds and 159 beds, respectively. The unincorporated county also has: 195 volunteer firefighters, 246 full-tiem firefighters with 28 stations, and 130 full time Law Enforcement officers including the county sheriff. Sumner County School District facilities the learning of approximately 29,818 students via their system of 49 schools within the county.

Sumner County houses over 35 radio stations, 7 tv networks, and 9 newspapers. The main phone companies in the area are AT&T, Verizon, Comcast, and Level 3 Communications (Gallatin). Residents in the county can either obtain internet via AT&T, Comcast, or Level 3 Communications (Gallatin). Communication resources, a vital component of emergency response and preparedness, is notably lacking in the more rural portions of Sumner

County. Between 2016 and 2020 only 94.7% of households had a computer and only 89.8% had broadband internet access according to the United States Census Bureau.

Table 8 Roadways

Jurisdiction	US Highways	State Highways	Nearest Interstates
Gallatin	31E	25, 109, 386	I40 & I65 (12 miles away)
Goodlettsville	31, 41, 70	45, 109, 155, 174, 254, 255, 840	24, 40, 440, 65, 840
Portland	331 E	25, 52, 76, 109	New exit #121 access I24 & I65
White House	31W	76, 258	I65
Hendersonville	31E	285, 386	I65 (5 miles away)

The Cumberland River cuts through the lower middle portion of the county. Other smaller waterways and creeks intersect through the county and its incorporated jurisdictions as will be illustrated throughout the flood hazards section. A further analysis of these water systems will be explored in the hazard flood section as related to their propensity for flood events.

The nearest international airport to the county seat, Gallatin, is BNA (approx. 31 miles) and the closest general aviation locations are Music City Executive and John C Tune Airport. Given the limited public transportation options and the rural environment of Sumner County, 48% of working individuals endure a commute of more than 30 minutes and 79% of all working individuals drive alone to work.

Sumner County is governed by an elected County Executive and County Commissioners. The jurisdictions within Sumner County are governed by an elected Mayor and Commissioners/Alderman. There are multiple regulatory committees that are appointed by both the County Mayor and the Board of Commissioners.

1.6.3 Development and Growth

Like a majority of its counterparts, Sumner County, has been experiencing rapid growth over the past few years. The population of the county increased between the 2010 and 2020 censuses from 160,645 to 196,281. 12% of the 72,638 Sumner County households deal with at least 1 severe housing problem (overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities). Most of Sumner County's employed population work within the services industry and the manufacturing industry. Sumner County is a member of the Joint Economic and Community Development Boards to ensure and promote economic growth within the county and for its constituents. As stated, Sumner County has experienced much growth since the last planning period across all sectors. It was noted by multiple committee members that new subdivisions were being built with an increasing population throughout the county as well as new industrial areas.

1.6.4 Demographics

Throughout the planning process, Sumner County HMPC remained committed to recognizing socially vulnerable and underserved populations. In order to maintain this

commitment, the HMPC reached out to key stakeholders as discussed in Section 1.2 and reviewed the CDC/ATSDR Social Vulnerability Index (SVI). SVI information is located in Appendix B.

Table 6 below illustrates the population data of the county according to the 2020 U.S Census. Other important demographics obtained via the U.S Census Bureau and County Health Rankings (RWJ Foundation) are presented in list form. Of the 196,281 residents living within Sumner County:

- The median household income is \$69,878
- 9.6% live below the national poverty line
- 27.9% live in rural areas
- 10% are confronted with food insecurity
- 12% live with at least 1 of 4 severe housing problems (overcrowding, high housing costs, lack of kitchen facilities, lack of plumbing facilities)
- 9.9% of the under 65 years of age population live with a disability
- 10.4% of the under-65 population do not have health insurance
- Population as of 2020 was 370.7 people per square mile

Table 9 Population Data

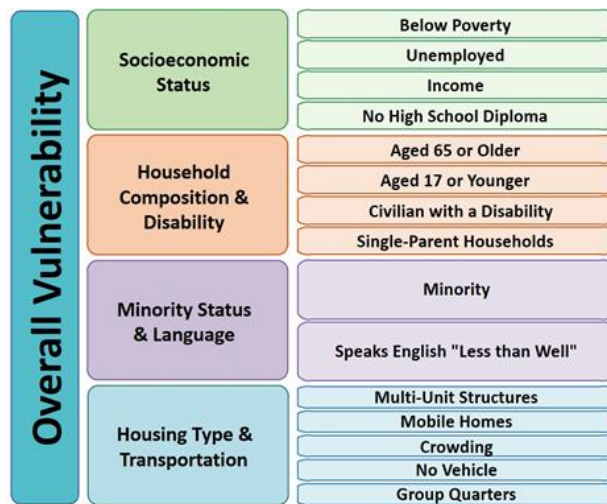
Demographic	Percentage
Identified gender	
Male	49%
Female	51%
Age Group	
Under 5	5.7%
Under 18	23.3%
Over 65	16.4%
Race/Ethnicity (one)	
White (not Hispanic/Latin)	81.8%
Asian	1.6%
Black or African American	8.7%
American Indian or Alaskan Native	0.4%
Native Hawaiian or Pacific Islander	0.1%
Hispanic/Latino	6.0%
Education	
High School Graduate or Higher	90.3%
Bachelor's Degree or Higher	28.6%

1.6.5 Social Vulnerability

Social vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. Social vulnerability considerations were included in this plan update to identify areas across the planning area that might be more vulnerable to hazard impacts based on several factors. The County

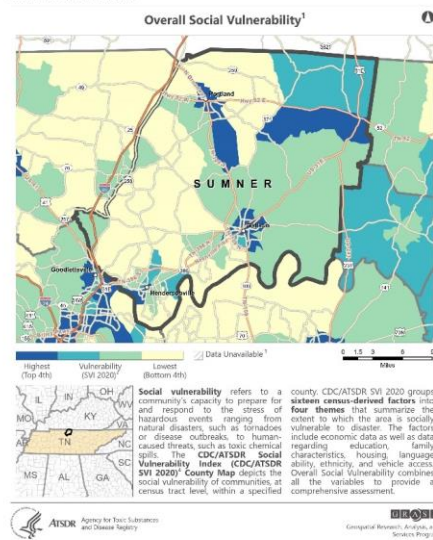
BEOP will also incorporate this information to improve response efforts in socially vulnerable neighborhoods.

The Center for Disease Control and Prevention (CDC) has developed a social vulnerability index (SVI) to measure the resilience of communities when confronted by external stresses such as natural or human-caused disasters or disease outbreaks. The SVI is broken down to the census tract level and provides insight into vulnerable populations to assist emergency planners and public health officials in identifying communities more likely to require additional support before, during, and after a hazardous event. The SVI index combines four main themes of vulnerability, which are, in turn, broken down into subcategories for 16 vulnerability factors. The themes are outlined in the below table and map.

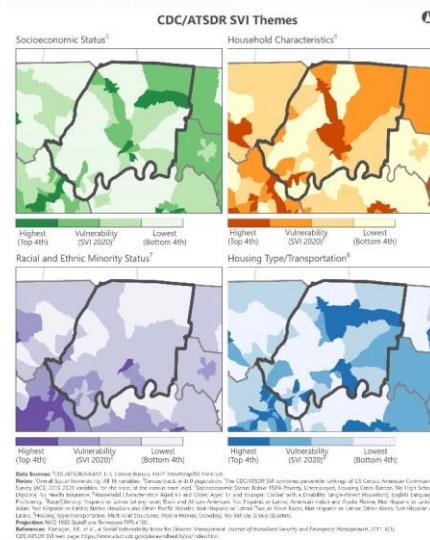


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CDC/ATSDR Social Vulnerability Index 2020
SUMNER COUNTY, TENNESSEE



CDC/ATSDR SVI 2020 – SUMNER COUNTY, TENNESSEE



1.6.6 Critical Infrastructure

Critical Infrastructure are assets in a community that are considered vital to the public's health and safety. Due to the sensitivity of these assets in Sumner County and the incorporated jurisdictions, these assets are restricted for public viewing. However, the data is viewable to restricted personal on the State of Tennessee's Critical2TN Database. The county and incorporated jurisdictions currently have 55 assets identified.

1.7 Resource Capabilities

The committee gathered the following resource capabilities to determine what existing staff and resources are being used to support mitigation programs.

Table 10 Jurisdictional Mitigation Capabilities

Mitigation Capabilities	Sumner County	Gallatin	Goodlettsville	Hendersonville	Millersville	Mitchellville	Portland	Westmoreland	White House	Sumner County Board of Edu	Volunteer State Comm. College
Regulatory Capabilities											
Building Codes	X	X	X	X	X	X	X	X	X		X
Zoning Codes	X	X	X	X	X	X	X	X	X		X
Subdivision Ordinance	X	X	X	X	X	X	X		X		
Stormwater Ordinance	X	X	X	X	X		X	X	X		X
Floodplain Ordinance	X	X	X	X	X		X		X		X
Erosion, Sedimentation and Pollution Control Ordinance		X	X	X	X		X		X		
Stormwater Management Program	X	X	X	X	X		X	X	X		
Site Plan Review Requirements	X	X	X	X	X		X	X	X		X
Capital Improvements Plan	X	X	X		X		X		X		X
Economic Development Plan	X	X	X				X		X		X
Local Emergency Operations Plan	X	X	X	X	X		X		X	X	X
Flood Insurance Study or Other Engineering Study for Streams		X	X	X		X	X		X		
Repetitive Loss Plan		X	X				X				
Elevation Certificates		X	X	X		X	X	X	X		
Administrative Capabilities											
Grant writer	X	X		X			X	X		X	X
Public Information Officer	X	X	X	X	X		X	X		X	X
Floodplain Manager	X	X	X	X	X		X	X	X		
Full Time Fire Service	X	X	X	X	X		X		X		
Law Enforcement	X	X	X	X	X		X	X	X		X
Emergency Manager	X	X	X	X			X				
GIS Personnel	X	X	X	X	X		X		X		
Fiscal Capabilities											
Capital improvements project funding	X	X	X	X	X	X	X		X	X	X
Fees for water, sewer, gas, or electric services		X	X		X	X	X	X	X		
Impact fees for new development	X					X	X		X		

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General obligation bonds	X	X	X		X		X		X		
Withhold spending in hazard-prone areas							X				

Chapter 2: Hazard and Risk Assessment

Risk Assessment Overview

Hazard Mitigation Planning is about developing a strategy to reduce risk in the long term. An essential part of the process is identifying hazards, risks, impacts and vulnerabilities. In mitigation planning, “risk” is the potential for damage or loss when a hazard interacts with an asset. Assets can be people, buildings, infrastructure, the economy, or natural and cultural resources.

The risk assessment helps communicate vulnerabilities, develop priorities, and inform decision making. It is the factual basis for the mitigation strategy. The hazards and associated impacts in the risk assessment should be the hazards and impacts the mitigation strategy seeks to address. If, for example, the risk assessment shows that the state will have hurricane damage in a specific area, the mitigation strategy should include actions to protect state assets and jurisdictions, especially underserved communities, and socially vulnerable populations, in those areas.



The Sumner County HMPC conducted a hazard identification analysis to determine the natural and man-made hazards that threaten the County. Existing hazard data from TEMA, FEMA, the National Oceanic and Atmospheric Administration (NOAA), and other sources were examined to assess the significance of these hazards to the planning area. Hazard data from the ETSU Geoinformatics & Disaster Science Lab was also analyzed as related to the changing weather trends and their significance. Significance was measured in general terms and focused on key criteria such as frequency and resulting damage, which includes deaths and injuries, as well as property and economic damage. Any hazard that had two or more green lifeline categories is considered low risk for damages and therefore, will not be providing mitigation actions for those specific hazards.

To further focus on the list of identified hazards for this plan update, the HMPC researched past events that resulted in a federal and/or state emergency or disaster declaration in Sumner County to identify known hazards. *Table 11* presents a list of all major disaster and emergency declarations that have occurred in Sumner County since 1953, illustrating which hazards pose the greatest risk to the County.

Table 11 Presidential Disaster Declarations in Sumner County (1953-2023)

Declaration #	Date	Incident Category	Individual Assistance	Public Assistance
4637	1/14/2022	Tornadoes, Severe Storm, Straight-line Winds	X	X
4514	4/2/2020	COVID-19	X	X
3473	3/13/2020	COVID-19		
1978	5/9/2011	Severe Storms, Flooding, Tornadoes, Straight-line Winds		X
1909	5/4/2010	Severe Storms, Flooding, Tornadoes, Straight-line Winds	X	X
1745	2/7/2008	Severe Storms, Flooding, Tornadoes, Straight-line Winds	X	X
1634	4/5/2006	Severe Storms, Tornadoes	X	X
3217	9/5/2005	Hurricane Katrina Evacuation		X
1464	5/8/2003	Severe Storms, Tornadoes, Flooding	X	X
1441	11/13/2002	Severe Storms, Tornadoes, Flooding	X	X
1275	5/12/1999	Severe Storms, Tornadoes, Flooding		X
1215	4/20/1998	Severe Storms, Tornadoes, Flooding		
1167	3/7/1997	Severe Storms, Flooding		
1010	2/28/1994	Ice Storm, Severe Winter Storm, Flash Flooding		
459	3/22/1975	Severe Storms, Flooding		
263	7/11/1969	Severe Storms, Flooding		

Table 12 documents the hazards of interest to Sumner County and the decision to re-evaluate or delete them from this plan update. The hazards of concern were altered as necessary to ensure the Sumner County Hazard Mitigation Plan is in accordance with the Tennessee Mitigation Strategy.

Table 12 Overview of Updates to Chapter 2: Risk and Vulnerability Assessment

Tennessee 2018 Mitigation Strategy	Sumner County 2017 HMP	Status	Sumner County 2023 HMP Update
Communicable Disease	N/A	Not included	N/A
Dam Failure	Dam Failure	Not included	N/A
Drought	Drought/Wildfire	Split into separate hazards	Drought

CHAPTER 2: RISK AND VULNERABILITY ASSESSMENT

Earthquakes	Earthquakes	Continued	Earthquakes
Extreme Temperatures	Freezes/Winter Storms	Not included	N/A
Flooding	Flooding	Continued	Flooding
Geological Hazard	N/A	Not included	N/A
Hazardous Materials Release	N/A	Not included	N/A
Infrastructure Incident	N/A	Not included	N/A
Terrorism	N/A	Not included	N/A
Tornadoes	Tornadoes/Severe Storms	Split into separate hazards	Tornadoes
Severe Weather (thunderstorms, lightning, hail)	Tornadoes/Severe Storms	Split into separate hazards	Severe Weather (thunderstorms, lightning, hail, winter weather, wind)
Wildfire	Drought/Wildfire	Split into separate hazards	N/A

Summary of changes in the 2023 plan update:

- Drought and Wildfires are now categorized as separate hazards; this plan is only to include drought
- Tornadoes and Severe Weather are now categorized as separate hazards and included in the updated plan.
- Freezes/Winter Storms and Dam Failure are no longer included in the plan

The complete list of hazards to be addressed in this 2023 Plan Update include:

- Drought
- Earthquakes
- Flooding
- Tornadoes
- Severe Weather

2.1 Drought

A. Hazard Overview

Drought is a deficiency in precipitation over an extended period. It is a standard, recurrent feature of climate that occurs in virtually all climate zones. The duration of droughts varies widely. In some cases, drought develops relatively quickly and lasts a very short time, exacerbated by extreme heat and/or wind. There are other cases when drought spans multiple years or even decades. Studying the paleoclimate record is often helpful in identifying when long-lasting droughts have occurred. Common types of droughts are detailed below.

Table 13: Drought Classifications

Type	Details
Meteorological Drought	Meteorological Drought is based on the degree of dryness (rainfall deficit) and the length of the dry period.

Agricultural Drought	Agricultural Drought is based on the impacts on agriculture by factors such as rainfall deficits, soil water deficits, reduced groundwater, or reservoir levels needed for irrigation.
Hydrological Drought	Hydrological Drought is based on the impact of rainfall deficits on the water supply, such as stream flow, reservoir and lake levels, and groundwater table decline.
Socioeconomic Drought	Socioeconomic drought is based on the impact of conditions (meteorological, agricultural, or hydrological drought) on the supply and demand of some economic goods. Socioeconomic deficiency occurs when the demand for an economic good exceeds the supply due to a weather-related deficit in the water supply.

The wide variety of disciplines affected by drought, its diverse geographical and temporal distribution, and the many scales drought operates on make it difficult to develop a definition to describe drought and an index to measure it. Many quantitative measures of droughts have been developed in the United States, depending on the discipline affected, the region being considered, and the particular application. Several indices developed by Wayne Palmer and the Standardized Precipitation Index help describe the many scales of drought.

The **U.S. Drought Monitor** summarizes drought conditions across the United States and Puerto Rico. Often described as a blend of art and science, the map is updated weekly by combining a variety of data-based drought indices and indicators and local expert input into a single composite drought indicator.

The **Standardized Precipitation Index (SPI)** measures drought, which differs from the Palmer Drought Index (PDI). Like the PDI, this index is negative for lack and positive for wet conditions. But the SPI is a probability index that considers only precipitation, while Palmer's indices are water balance indices that consider water supply (rain), demand (evapotranspiration), and loss (runoff).

The **Palmer Drought Severity Index (PDSI)**, devised in 1965, was the first drought indicator to assess moisture status comprehensively. It uses temperature and precipitation data to calculate water supply and demand, incorporates soil moisture, and is considered the most effective for unirrigated cropland. It primarily reflects the Perry-term drought and has been used extensively to initiate drought relief. It is more complex than the SPI and the Drought Monitor.

B. County Profile

According to the PDSI map shown in *Figure 2*, Middle Tennessee has a relatively low risk of drought hazards. However, drought cannot be confined to geographic or political boundaries, and some areas may experience more severe drought events than what is shown on the map.

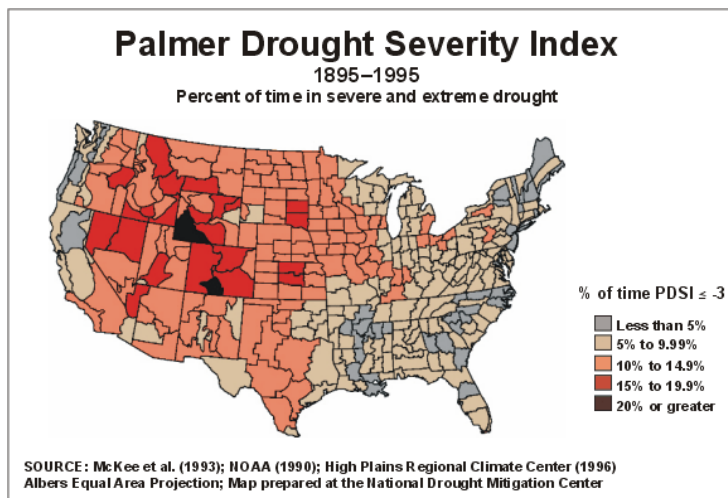


Figure 2 - Palmer Drought Map

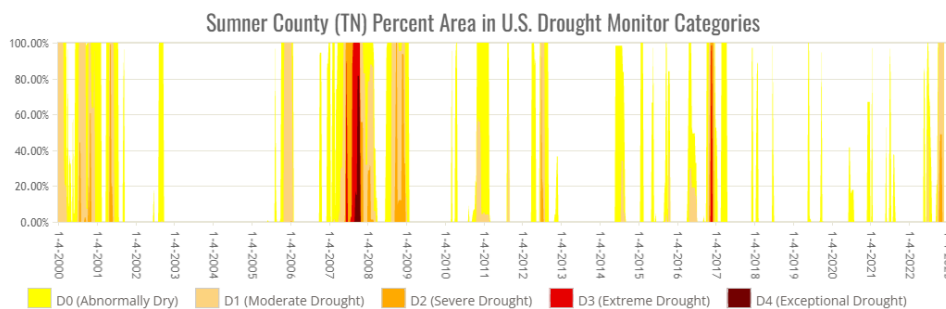


Figure 3 - Drought Monitor Time Series (Source: National Drought Mitigation Center)

Figure 3 above illustrates drought conditions within Sumner County between 2000 and 2023. According to the National Drought Mitigation Center, the last Extreme Drought (D4) period occurred in 2007. D4 (extreme drought) is categorized by browning grass, low lake levels, municipality water restrictions, and increased water prices. D0 (abnormally dry) conditions consist of hard ground and declining agriculture ponds and creeks. A table containing all NOAA-recorded drought events between 2000 - 2023 for Sumner County is included in Appendix C.

May 2007 through November 2007 – The drought in this period was felt across the region, the state experienced close to \$750 million in crop losses in 2007 largely attributed to the drought conditions. The City of Portland was unable to meet the water demands of the residents and had to use water from other utility districts to meet demands. Voluntary water restrictions were established across jurisdictions. Within the county corn production

was down approximately 50% and forage hay 1/3 during this period having an effect on normal market prices.

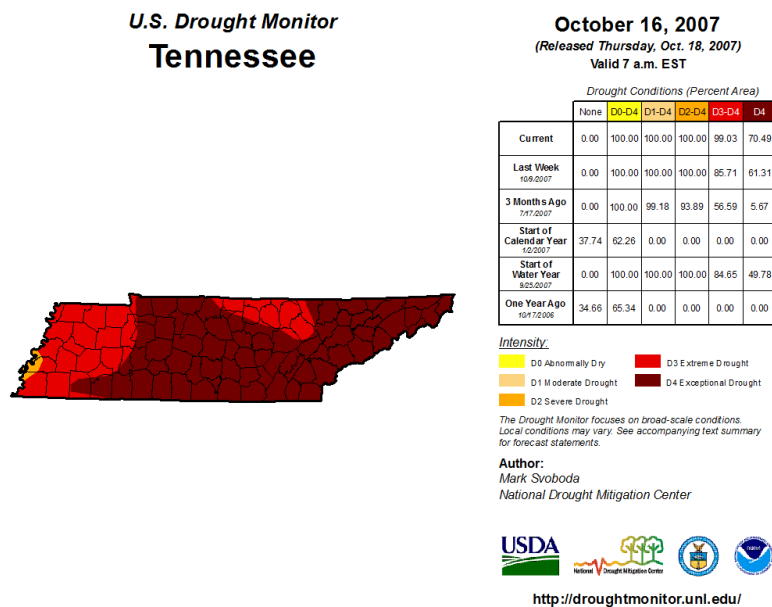


Figure 4 – 2007 Drought Conditions

Probability Future Events – Occasional

The probability of Sumner County and its municipalities experiencing a drought event can be challenging to quantify but based on the historical record of 16 droughts since 2000; it can reasonably be assumed that this type of event could occur every few years.

Commented [A11]: Earthquake HAZUS Data

C. Risk Assessment

Sumner County is vulnerable to drought; however, estimated potential losses are inherently difficult to calculate because drought tends to cause minor damage to the built environment. Therefore, it is assumed that all buildings and facilities in the planning area would technically be exposed to the drought hazard; there is no significant vulnerability to these buildings on a structural level.

Potential drought losses can be calculated in terms of the value of agriculture in the County, which is perhaps most vulnerable to drought. According to the USDA, the net income for agriculture is around \$2.6 million. Population growth could contribute directly to this hazard, as more users pull from the available water supply within the region. Drought can also increase the County's vulnerability to wildfires. Dry, hot, and windy

weather combined with dry vegetation and a spark through human intent, accident, or lightning can start a wildfire.

The [National Risk Index](#) is a dataset and online tool to help illustrate the United States communities most at risk for natural hazards. It was built and designed by FEMA in close collaboration with various stakeholders and partners in academia; local, state and federal government. The Risk Index leverages available source data for natural hazards and community risk factors to develop a baseline relative risk assessment for each county and census tract. Some of these community risk factors include social vulnerability which is determined by the data pulled from the Census performed every ten years. A higher social vulnerability score is proportional to a higher risk score.

National Risk Index Score for Drought = very low

Although the National Risk Index is a well-valued tool it fails to properly show the feedback from the participating jurisdictions. Therefore, all identified hazards were evaluated in regard to risk in FEMA lifelines per jurisdiction. The scenario that local jurisdictions would evaluate the conditions off of was a mid-level impact of the identified hazard. The results are below:

Table 14: Drought Risk based on selected FEMA Lifelines

Drought	FEMA Lifelines						
Jurisdiction	Safety & Security	Food, Water & Shelter	Health & Medical	Energy	Communications	Transportation	Hazardous Materials
County							
Gallatin							
Goodlettsville							
Hendersonville							
Millersville							
Mitchellville							

Portland							
Sumner County Board of Education							
Volunteer State Community College							
Westmorland							
White House							

 Jurisdictions did not view the hazard as one of prime concern

Colors indicate lifeline or component conditions:	
Red	Significant Impact, Multiple Required Resources
Yellow	Some Impact, Some Outside Resources Required
Green	Little to No Impact, No Outside Resources Required

As shown in the above table, a majority of the Sumner County HMPC chose to rank droughts as low risk to the community, however, the committee chose to include the hazard within the plan to better understand the possible impacts if a drought were to occur. Portland, a more rural jurisdiction, is more susceptible to the negative impacts of a drought and thus ranked the risk higher and provides a mitigation action to combat said risk.

D. Land Use and Development

According to the National Drought Mitigation Center, how we use land affects our vulnerability to drought. In general, land use patterns that maintain the integrity of watersheds and that have a smaller paved footprint result in greater resilience in the face of drought. The projected increase in population will possibly result in an increase in buildings and infrastructure, leading to increased impervious areas. An increase in population may also put increasing pressure on water and other natural resources, particularly during periods of drought. Therefore, future development could impact drought vulnerability in Sumner County.

E. Multi-Jurisdictional Differences

Due to the nature of drought, Sumner County and the incorporated jurisdictions are equally susceptible to drought conditions.

F. Summary

Sumner County and all incorporated jurisdictions are equally vulnerable to drought. With historical frequency considered there is a significant chance of this event occurring each year. Drought can affect people's health and safety. Examples of drought impacts on society include anxiety or depression about economic losses, conflicts when there is not enough water, reduced incomes, fewer recreational activities, higher incidents of heat stroke, and even loss of human life. Drought conditions can also provide a substantial increase in wildfire risk. As plants and trees wither and die from a lack of precipitation, increased insect infestations, and diseases—all associated with drought—they become fuel for wildfires. Sumner County periods of drought can equate to more wildfires and more intense wildfires, which affect the economy, the environment, and society in many ways, such as by destroying neighborhoods, crops, and habitats.

2.2 Earthquakes

A. Hazard Overview

An earthquake results from a sudden release of energy in the Earth's crust that creates seismic waves. The energy originates from a subsurface fault. A fault is a fracture or discontinuity in a volume of rock along tectonic plates. In the most general sense, the word earthquake describes any event that generates seismic waves. Earthquakes are typically caused by the rupturing of geological faults. Occasionally, they are also caused by other events such as volcanic activity, landslides, mine blasts, and nuclear tests. An earthquake's point of initial rupture is called its focus or hypocenter. The epicenter is the point at ground level directly above the hypocenter.

B. County Profile

Sumner County is near the major intraplate (within a tectonic plate) seismic zone known as the New Madrid Seismic Zone. The New Madrid Seismic Zone (NMSZ) is an approximately 120-mile-long fault system that stretches across five states, including Western Tennessee. Sumner County is near the East Tennessee Seismic Zone (ETSZ) which stretches across three states. The figure below illustrates the risk level of the NMSZ/ETSZ within the state.

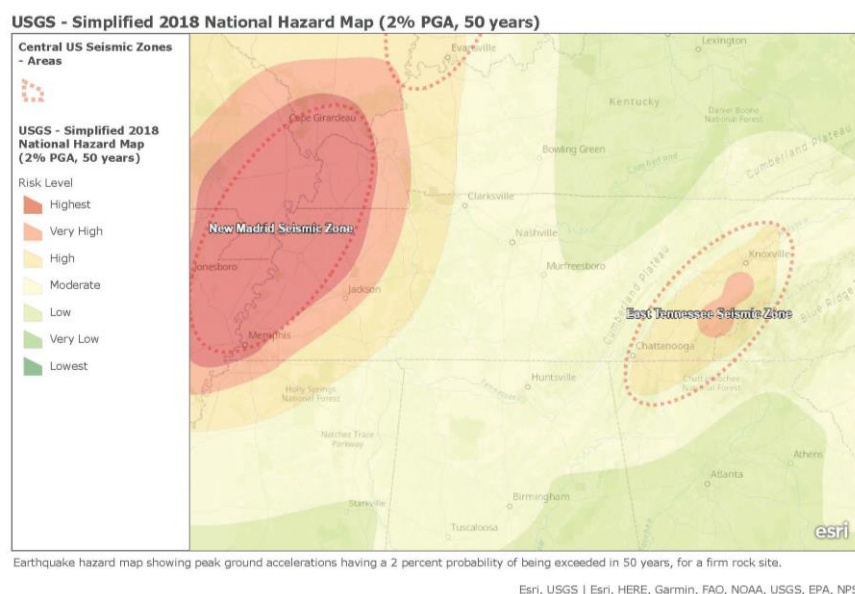


Figure 5 New Madrid Seismic Zone (Source: [CUSEC](#))

According to the USGS Earthquake Database, Sumner County has not experienced earthquakes in the past 20 years. However, given its proximity to the NMSZ and ETSZ the committee felt it important to profile due to secondary hazard risk.

The NMSZ is known for producing four of the largest North American earthquakes in recorded history, all of which would have been felt in Sumner County. This includes the noted three-month period between December 1811 and February 1812 that had at least four earthquakes which are understood by scientists to be greater than a M7.0. During this period, there were dozens of strong earthquakes ranging between M6.0 and M7.5. Thousands of smaller shocks were documented. Similar to the 1811-12 New Madrid earthquake sequence which created Reelfoot Lake in Lake County, Tennessee, very large magnitude earthquake sequences are believed to have occurred in pre-historic times as well. Paleo-liquefaction and geologic evidence suggests large earthquake sequences occurred in the New Madrid Seismic Zone in 1450 AD and 900AD.

Based on geologic research on the paleo seismic record of past earthquakes, the USGS estimates that there is a 7 to 10 percent chance of a New Madrid earthquake the size of those in 1811-12 occurring in the next 50 years. However, the occurrence of even a moderate-sized earthquake located in close proximity to urban centers such as Memphis or St. Louis could be locally devastating. The last magnitude-6 earthquake struck near Charleston, Missouri, in 1895. The chance of such an earthquake occurring in the New Madrid region in the next 50 years is 25 to 40 percent.

These probabilities are derived from the USGS National Seismic Hazard Maps, which are developed from geologic information about faults, evidence of prehistoric earthquakes, instrumental and historical earthquake catalogs generated by seismic monitoring, and ground deformation measurements. The National Seismic Hazard Maps are used to estimate probabilities of large earthquakes and the ground shaking to be expected if those earthquakes occur.

The Eastern Tennessee Seismic Zone (ETSZ), a zone of small earthquakes stretching from northeastern Alabama to southwestern Virginia. The ETSZ is the second-most active natural seismic zone in the central and eastern United States, behind the New Madrid Seismic Zone in the Mississippi River region that produced the 1811-1812 magnitude 7+ earthquakes. In historic times, the ETSZ has not produced earthquakes larger than magnitude 4.8, however scientists believe the ETSZ is capable of generating magnitude 6 or greater. The ETSZ region is home to several nuclear power plants and hydroelectric dams related to the Tennessee Valley Authority, along with major population centers such as Knoxville and Chattanooga.

Table 15 Richter Scale Classification (Source: USGS)

Richter Scale for Earthquakes		
Magnitudes	Description	Typical Impacts
< 2.0	Micro	Not felt.
2.0-2.9	Slight	Generally, not felt but recorded.
3.0-3.9	Minor	Often felt, but rarely causes damage.
4.0-4.9	Light	Noticeable shaking of indoor items and rattling noises. Significant damage is likely.

5.0-5.9	Moderate	It can cause major damage to poorly constructed buildings in small regions. At most slight damage to well-designed buildings.
6.0-6.9	Strong	It can be destructive in areas up to about 100 miles across populated areas.
7.0-7.9	Major	It can cause serious damage over larger areas.
8.0-8.9	Great	It can cause severe damage in areas several hundred miles across.
9.0-9.9	Epic	They are devastating in areas several thousand miles across.

Since 1812, the most significant recorded earthquakes from the New Madrid Zone were in 1812 and 1968. Since seismic measurement instruments were installed in and around the zone in the 1970s, more than 4,000 small earthquakes have been recorded, with the vast majority being too small to be felt.

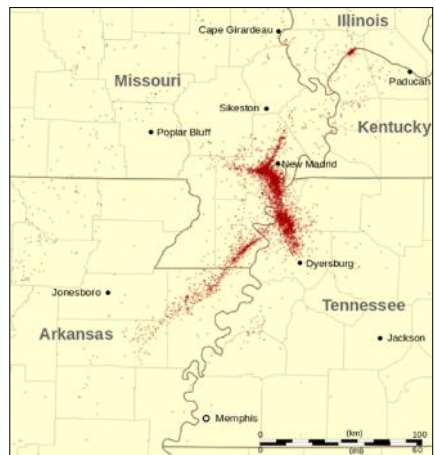


Figure 6 NMSZ Earthquakes Recorded Since 1974 (Source: USGS)

According to a 2008 FEMA report, a severe earthquake in the NMSZ could result in the highest economic loss due to a natural disaster in U.S. history. Based on this report, a 7.7 magnitude quake in the NMSZ would result in thousands of fatalities, hundreds of billions of dollars in damage to structures, and total disruption of vital infrastructure in Western Tennessee, including Sumner County.

Probability of Future Events – Unlikely

A catastrophic earthquake at the NMSZ would result in \$100-200 million in building damages. Furthermore, according to the HAZUS, Sumner County will experience the following in a catastrophic earthquake scenario:

Table 16 HAZUS Data (Earthquakes)

Impact Overview	Numerical Value
Fatalities	
Injuries	

CHAPTER 2: RISK AND VULNERABILITY ASSESSMENT

Displaced Residents			
Residents Requiring Shelter			
Debris (tons)			
Residencies experiencing >moderate damage			
		Day 1	
Households without power			
Households without potable water			
Resources Functioning on Day 1		Infrastructure Functioning after Day 1	
Resource	Percentage Functioning	Resource	Percentage Functioning
Hospitals		Highway Segments	
Police Stations		Railway Segments	
Fire Stations		Airport Segments	
Schools		Bus facilities	
Communications		Ports	

Commented [A2]: Earthquake HAZUS Data

Many buildings and the majority of infrastructure networks throughout the county could be vulnerable to earthquake impacts. Sumner County's building stock can be broken down into the following percentage categories: 63.2% residential, 20.8% commercial, 9.9% industrial, 1% agricultural, 2.8% religious, 0.9% governmental, and 1.5% educational. Throughout the county, all buildings and infrastructure are vulnerable to earthquake impacts.

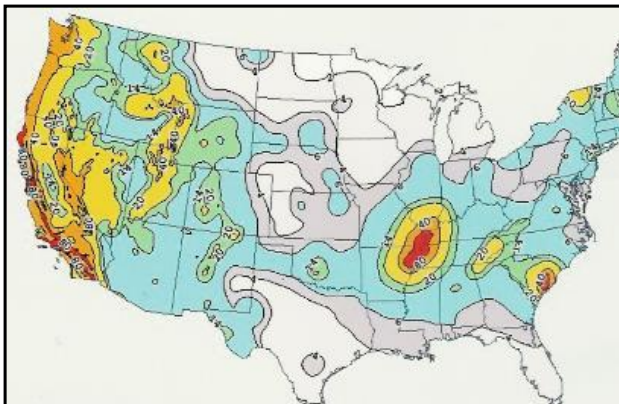


Figure 7 National Seismic Hazard Map (Source: USGS)
Ground Motions with a 2% Chance of Occurring in 50 Years

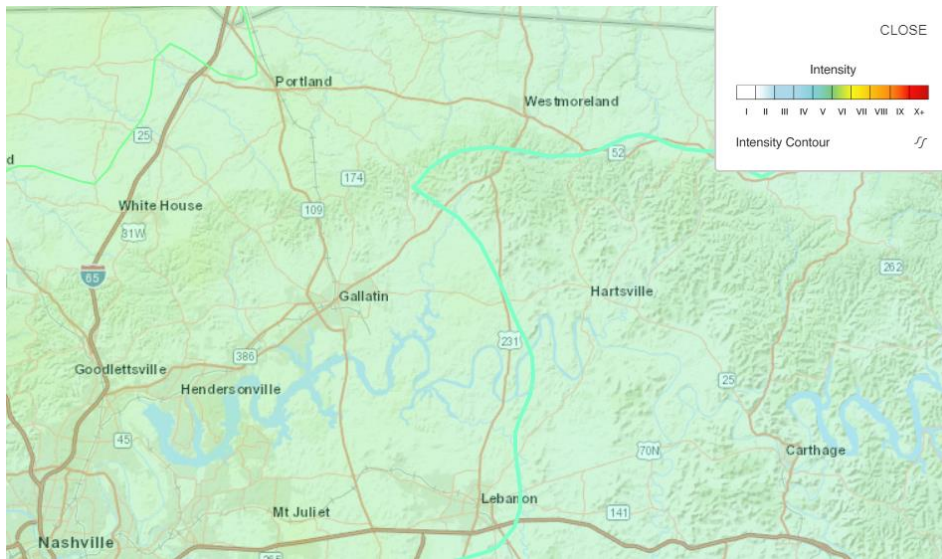


Figure 8 Mercalli Intensity Zones in Sumner County based on a 7.5 Earthquake (Source: [USGS](#))

As indicated in the above map, all of Sumner County's jurisdictions and districts sit within intensity zones IV and V of the Modified Mercalli Intensity Scale due to its proximity to the NMSZ if a 7.5 earthquake were to occur.

According to the Central United States Earthquake Consortium (CUSEC), Sumner County is at an extremely low level of risk for liquefaction following an earthquake.

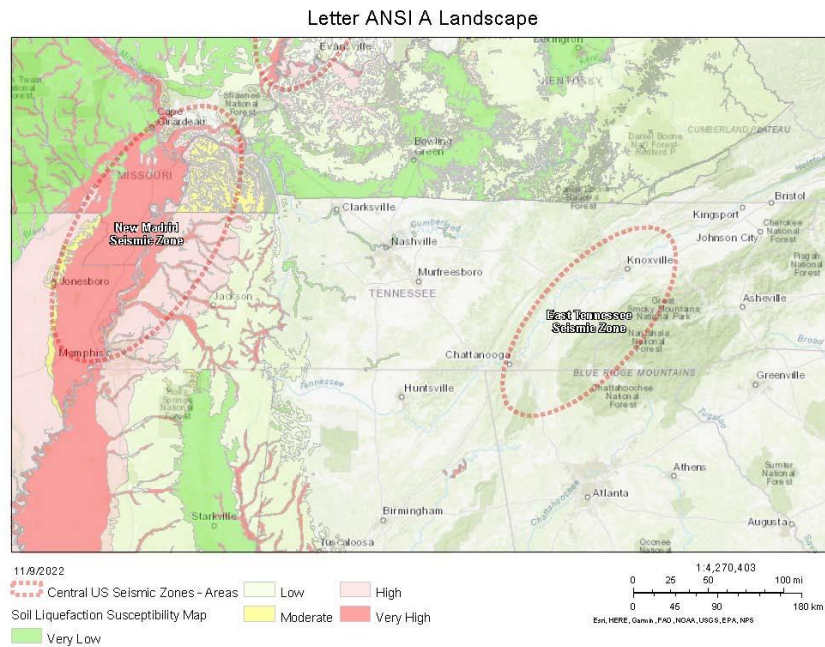


Figure 9 Earthquake Induced Liquefaction (Source: [CUSEC](#))

C. Risk Assessment

The [National Risk Index](#) is a dataset and online tool to help illustrate the United States communities most at risk for natural hazards. It was built and designed by FEMA in close collaboration with various stakeholders and partners in academia; local, state and federal government. The Risk Index leverages available source data for natural hazards and community risk factors to develop a baseline relative risk assessment for each county and census tract. Some of these community risk factors include social vulnerability which is determined by the data pulled from the Census performed every ten years. A higher social vulnerability score is proportional to a higher risk score.

National Risk Index Score for Earthquake = relatively low

Although the National Risk Index is a well-valued tool it fails to properly show the feedback from the participating jurisdictions. Therefore, all identified hazards were evaluated in regard to risk in FEMA lifelines per jurisdiction. The scenario that local jurisdictions would evaluate the conditions off of was a mid-level impact of the identified hazard. The results are below:

Table 17: Earthquake Risk based on selected FEMA Lifelines

Earthquake	FEMA Lifelines						
Jurisdiction	Safety & Security	Food, Water & Shelter	Health & Medical	Energy	Communications	Transportation	Hazardous Materials
County							
Gallatin							
Goodlettsville							
Hendersonville							
Millersville							
Mitchellville							
Portland							
Sumner County Board of Education							
Volunteer State Community College							
Westmorland							
White House							

 Jurisdictions did not view the hazard as one of prime concern

Colors indicate lifeline or component conditions:	
Red	Significant Impact, Multiple Required Resources

Yellow	Some Impact, Some Outside Resources Required
Green	Little to No Impact, No Outside Resources Required

As shown in the above table, the Sumner County HMPC chose to rank earthquakes as low risk to the community with a majority of the jurisdictions not ranking it as a hazard of concern. However, they wanted to include the hazard within the plan to better understand the possible impacts if an earthquake were to occur. Due to the extremely low risk ranking no mitigation actions will be included for earthquake hazards.

D. Land Use and Development Trends

Heavily populated or industrialized centers are at a higher risk for catastrophic earthquake damage. Sumner County, like much of Tennessee, is experiencing rapid growth increasing the likelihood of significant impacts to life and property from a significant earthquake.

E. Multi-Jurisdictional Differences

Counties predominantly in the West Portion of Tennessee will be more likely impacted by the New Madrid Zone. However, a significant magnitude earthquake can cause primary and secondary effects across the state.

F. Summary

Due to its proximity to the New Madrid Fault, the entirety of Sumner County could be subject to an earthquake. This includes the entire County population and all infrastructure. A significant earthquake event would result in a substantial loss of life and billions of dollars in damages.

2.3 Flood

A. Hazard Overview

Flooding events occur when excess water from rivers and other bodies of water overflow onto riverbanks and adjacent floodplains. In addition, lower-lying regions can collect water from rainfall, and poorly drained land can accumulate rain through ponding on the surface. Floods in Sumner County are usually caused by rain and may also be caused by snowmelt and man-made incidents.

The area adjacent to a channel is the floodplain, as shown in *Figure 10*. A floodplain is flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding. It includes the floodway, which consists of the stream channel and adjacent areas that carry flood flows, and the flood fringe, which are areas covered by the flood but do not experience a strong current. Floodplains are made when floodwaters exceed the capacity of the main channel or escape the channel by eroding its banks. When this occurs, sediments (including rocks and debris) are deposited that gradually build up over time to create the floor of the floodplain. Floodplains generally contain unconsolidated sediments, often extending below the stream's bed.

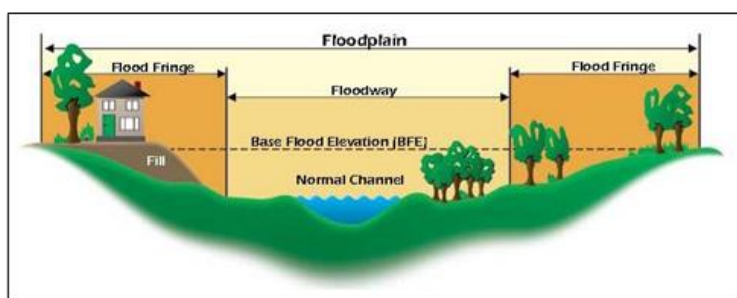


Figure 10 Characteristics of a Floodplain (Source: FEMA)

Three general health hazards common to flood events:

1. Floodwaters carry anything on the ground that the upstream runoff picked up, including dirt, oil, bacteria, animal waste, lawn, farm, and industrial chemicals. Pastures and areas where farm animals are kept, or their wastes are stored can contribute to polluted waters in the receiving streams. Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when flood waters dilute it, raw sewage can be a breeding ground for bacteria such as *E. coli* and other disease-causing agents.
2. The second health problem arises after most water has gone. Stagnant pools can become breeding grounds for mosquitoes, and wet building areas that have not been adequately cleaned breed mold and mildew. A building that is not thoroughly

cleaned becomes a health hazard, especially for small children and the elderly. Another health hazard occurs when ducts in a forced air system are not adequately cleaned after inundation. When the furnace or air conditioner is turned on, the sediments left in the ducts are circulated throughout the building and breathed in by the occupants. If the county water system loses pressure, a boil order may be issued to protect people and animals from contaminated water.

3. The third problem is the long-term psychological impact of having been through a flood and seeing one's home damaged and personal belongings destroyed. The cost and labor needed to repair a flood-damaged home severely strain people, especially the unprepared and uninsured. There is also a long-term problem for those who know their homes can be flooded again. The resulting stress on floodplain residents takes its toll in the form of aggravated physical and mental health problems.

B. County Profile

Riverine flooding occurs from inland water bodies such as streams and rivers. In Tennessee, flooding is highly dependent on precipitation amounts and is highly variable within the State.

HAZUS is a regional multi-hazard loss estimation model developed by FEMA and the National Institute of Building Sciences (NIBS). The primary purpose of HAZUS is to provide a methodology and software application to develop multi-hazard losses at a regional scale. These loss estimates would be used primarily by local, state, and regional officials to plan and stimulate efforts to reduce multi-hazard risks to prepare for emergency response and recovery.

Table 18 Mapped Flood Insurance Zones

Flood Hazard Area	Description
HAZUS (100-yr)	Areas subject to inundation by the 1-percent-annual-chance flood event are generally determined using approximate methodologies. Mandatory flood insurance purchase requirements and floodplain management standards apply.
HAZUS (500-yr)	A 500-year flood zone is a moderate flood hazard area and is an area between the limits of the base flood and the 0.2- percent-annual-chance (or 500-year) flood. Mandatory flood insurance is not required.
Non-highlighted Areas	Minimal risk areas outside the 1-percent and .2 percent-annual-chance floodplains.

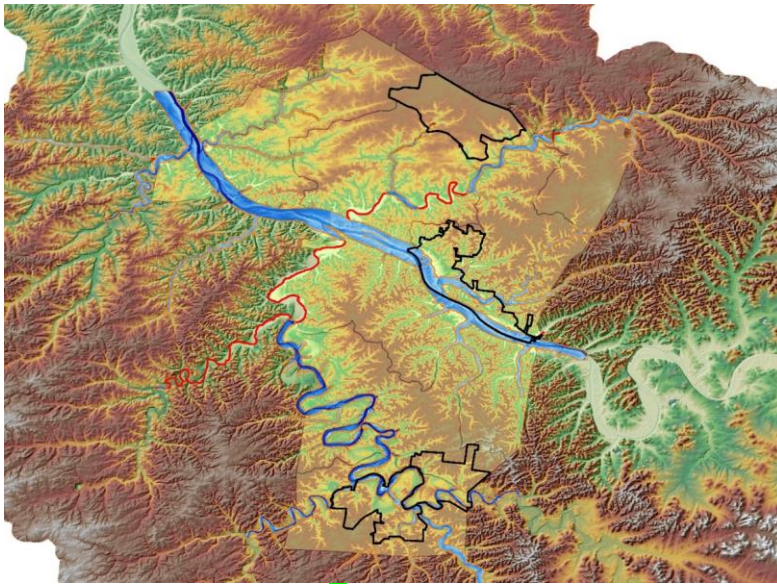


Figure X: HAZUS 100-year Flood Map

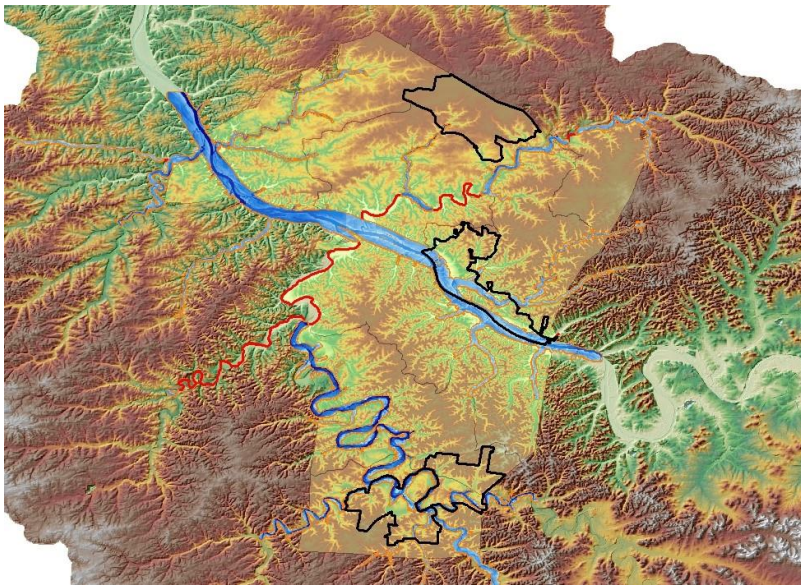


Figure X: HAZUS 500-year Flood Map

Table 19: NFIP Policy Data

NFIP Policy Data for Sumner County				
Jurisdiction	CID Number	Policies In-Force	Insurance In-Force Whole \$	Written Premium In-Force
Sumner County	470349	178	51,020,000	162,888
City of Gallatin	470185	160	52,607,000	127,164
City of Hendersonville	470186	277	82,588,000	205,812
City of Portland	470187	40	9,414,000	26,848
City of Goodlettsville	470287	103	28,512,000	96,205
City of White House	470339	n/a	642,000	1,493
City of Millersville	470388	44	9,983,000	39,400
Town of Westmoreland	470415	n/a	n/a	n/a

Policies In-force: number of NFIP flood insurance policies

Insurance In-force whole \$: the value of building and contents insured by the NFIP

Written Premium In-Force: total premiums paid for NFIP insurance policies

According to the National Flood Insurance Program, repetitive flood loss is a facility or structure that has experienced two or more insurance claims of at least \$1,000 in any given 10-year period since 1978. Severe repetitive loss is defined as a facility or structure that has experienced four or more insurance claims exceeding \$5,000 or two claims exceeding the value of the building. Within the NFIP, flood loss properties are usually considered the most vital structures to mitigate. The chart below provides a summary of repetitive and severe repetitive losses for Sumner County in 2019.

Table 20: NFIP Loss Data (2019)

NFIP Loss Data for Sumner County				
Jurisdiction	CID Number	Total Losses RL	Total Losses SRL	Total Payments
Sumner County	470349	25	0	4,641,154
City of Gallatin	470185	11	2	2,985,870
City of Hendersonville	470186	24	3	4,006,000
City of Portland	470187	0	0	85,545
City of Goodlettsville	470287	0	0	1,373,169
City of White House	470339	0	0	80,751
City of Millersville	470388	0	0	301,002
Town of Westmoreland	470415	0	0	

RL: Repetitive Loss

SRL: Severe Repetitive Loss

Total Losses: number of flood insurance claims filed by policyholders

Total Payments: total dollars paid to policyholders

Over the past 73 years, there have been approximately 68 flooding events in Sumner County. A table of NOAA-reported flooding events is located in Appendix C. The following narratives were obtained via the NOAA Storm Event Database. Only events resulting in injury, death, or extensive damage (greater than \$200.0K property/crop damage) were included as expanded narratives.

May 9, 2009 (White House): An early morning severe weather event led to flash flooding in the county. Residents in the Walnut Grove community and surrounding areas were stranded in cars and multiple homes were flooded due to the event.

August 8, 2013 (Old Hickory): After 5 to 7 inches fell in the southwest portion of the county six homes were flooded in Hendersonville and multiple roadways were closed due to high levels of flooding.

May 11, 2016 (Mitchellville): Flash flooding affected the northern and central portions of the county. Multiple homes and businesses were flooded in the county and 12 water rescues took place for residents, with one 90 year old needing to be transported to the Portland ER. Per the NOAA Storm Event Database “numerous primary and secondary roads were flooded and closed or even washed out, including Highway 52, Highway 259, William Mack Lane, Harper Road, North Corinth Road, Cora Street, Harper Road, Jim Courtney Road, and Airport Road in Portland; Duffer Hollow Road, Rock Bridge Road, Chipman Road, Red Tuttle Road, Rogana Road, Alexander Road, and Rock Springs Road in Bethpage; and Highway 25 at the Bledsoe Creek Bridge in Castalian Springs.”



Figure 13: May 11, 2016 Floods damage and depths (The Tennessean)

July 7, 2016 (Mitchellville): Severe flooding affected much of the county with depths around 1 foot or more on roadways. Thirty homes and four bridges were damaged during the flooding with some roads washing. Multiple homes were inundated with water across the county, some homes experienced inundation levels of 3 feet. One individual was rescued from a tree after his vehicle was washed away and another after driving into flood water.



Sumner County emergency crews respond to a water rescue on Liberty Lane near Gallatin early Thursday, July 7, 2016 Ken Weidner / Submitted

Figure 14: Sumner County Emergency Crews Responding to July 7, 2016 Floods (The Tennessean)

Table 21: Flooding Extent History

Location	Extent & Impact	Event Date
Sumner County	Castalian Springs/Bethpage – 8”-1’ depth of water on roadways and bridges causing damage and wash out	May 11, 2016
Gallatin	Nashville Pike and Old Douglas Road – 3’ depth in residential homes, multiple roads closed, and bridges washed out	July 7, 2016
Hendersonville	Drakes Creek & Stop 30 Rd – 3’ depth for several hours, roads were closed resulting in minimal damages	
Portland	Richland Neighborhood – 18” depth surrounding homes, damaged roads and structures	May 11, 2016
Goodlettsville	Goodlettsville RV Park – 2’ depth in RV Park covering wheel wells of most RVs.	Feb 23, 2019
White House	Local School – 8” water out front of local school in White House	Sept 27, 1996
Millersville	Southern portion of the city (Bellar Drive & Louisville HWY) – roadways covered 6”-1’	Feb 23, 2019
Westmoreland	Clark Hollow Rd/Rabe Coats Rd/Dutch Creek Rd – 6”-8” standing water on roadways	
Mitchellville	Throughout the area – 1’ depth along creeks and up into roadways	July 7, 2016

Probability of Future Events - Likely

The impact of extreme weather events may increase the frequency and intensity of flash flooding within Tennessee, particularly in highly urbanized regions such as Memphis, Nashville, Knoxville, and Chattanooga. Any area with extreme changes in deep terrain, predominately in East Tennessee, will experience significant flooding impacts.

Based on a historical record of 68 flood events over 73 years (1950 - 2023), there is a likelihood for a flood event to occur annually or semiannually. In conjunction with the future weather projections developed by ETSU Geoinformatics & Disaster Science Lab, it can be assumed that a flooding event could occur in Sumner County on a BLANK year basis. Figure X illustrates the projections developed by the ETSU Geoinformatics & Disaster Science Lab.

Commented [A33]: Climate Projections

Insert: Climate Projection Figure (ETSU)

C. Risk Assessment

The HMPC meeting cited flooding as a repetitive hazard in the county and jurisdictions. Discussion of commonly flood-prone areas took place, as did mention of improvements that have already been made to mitigate risks. Future projects were also discussed at this time and can be found in the Mitigation Action Plan.

The [National Risk Index](#) is a dataset and online tool to help illustrate the United States communities most at risk for natural hazards. It was built and designed by FEMA in close collaboration with various stakeholders and partners in academia; local, state and federal government. The Risk Index leverages available source data for natural hazards and community risk factors to develop a baseline relative risk assessment for each county and census tract. Some of these community risk factors include social vulnerability which is determined by the data pulled from the Census performed every ten years. A higher social vulnerability score is proportional to a higher risk score.

National Risk Index Score for Flooding = relatively low

Although the National Risk Index is a well-valued tool it fails to properly show the feedback from the participating jurisdictions. Therefore, all identified hazards were evaluated in regard to risk in FEMA lifelines per jurisdiction. The scenario that local jurisdictions would evaluate the conditions off of was a mid-level impact of the identified hazard. The results are below:

Table 22: Flooding Risk based on selected FEMA Lifelines

Flooding	FEMA Lifelines						
Jurisdiction	Safety & Security	Food, Water & Shelter	Health & Medical	Energy	Communications	Transportation	Hazardous Materials
County							

CHAPTER 2: RISK AND VULNERABILITY ASSESSMENT

Gallatin							
Goodlettsville							
Hendersonville							
Millersville							
Mitchellville							
Portland							
Sumner County Board of Education							
Volunteer State Community College							
Westmorland							
White House							

Jurisdictions did not view the hazard as one of prime concern

Colors indicate lifeline or component conditions:	
Red	Significant Impact, Multiple Required Resources
Yellow	Some Impact, Some Outside Resources Required
Green	Little to No Impact, No Outside Resources Required

Given the information above it becomes vital that all participating jurisdictions are able to prioritize the necessity of mitigation actions in the following lifeline categories so that they can become more resilient in the whole community that they serve.

HAZUS Data

HAZUS Methodology

A Level I HAZUS analysis was completed using a probabilistic risk assessment for the 100-yr and 500-year return periods. The Level I vulnerability assessment is presented below by return period.

Building Inventory (General Building Stock)

Commented [A34]: Flood HAZUS Data

HAZUS estimates that **xx** buildings in the region have an aggregate total replacement value of \$**xx** million. The tables below present the relative distribution of the value concerning the general occupancies by Study Region and Scenario, respectively.

Table 23: Building Exposure by Occupancy Type

Sumner County (Study Region)		
Occupancy Type	Exposure (\$1000)	Percent Total
Agricultural		
Commercial		
Education		
Government		
Industrial		
Religion		
Residential		
Total		100%

Table 24: Building Exposure by Occupancy Type for 100-yr Flood Scenario

100-year River Flood Scenario		
Occupancy Type	Exposure (\$1000)	Percent Total
Agricultural		
Commercial		
Education		
Government		
Industrial		
Religion		
Residential		
Total		100%

Table 25: Building Exposure by Occupancy Type for 500-yr Flood Scenario

500-yr River Flood Scenario		
Occupancy Type	Exposure (\$1000)	Percent Total
Agricultural		
Commercial		
Education		
Government		
Industrial		
Religion		
Residential		
Total		100%

Essential Facility Inventory

HAZUS indicates that there are **xx** hospitals in the region with a total capacity of **xx** beds. There are **xx** schools, **xx** fire stations, **xx** police stations, and **xx** emergency operation centers.

General Building Stock Damage

For the 100-year flood scenario, HAZUS estimates that about **xx** buildings will be at least moderately damaged. This is over **xx**% of the total number of buildings in the scenario. There are estimated **xx** buildings that will be destroyed completely. *Table 26* below

summarizes the expected damage by general occupancy type for the buildings in the County during a 100-yr flood scenario.

Table 26: Expected Building Damage by Occupancy for 100-yr Flood Scenario

% Damaged	1-10		11-20		21-30		31-40		41-50		>50%	
Occupancy	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Agricultural	0	0	0	0	0	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Government	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	0	0	0	0	0	0	0	0	0	0	0	0
Religion	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Total	0		0		0		0		0		0	

For the 500-year flood scenario, HAZUS estimates that about **xx** buildings will be at least moderately damaged. This is over **xx%** of the total number of buildings in the scenario. There are estimated **xx** buildings that will be destroyed completely. *Table 27* below summarizes the expected damage by general occupancy type for the buildings in the County during a 500-yr flood scenario.

Table 27: Expected Building Damage by Occupancy for 500-yr Flood Scenario

% Damaged	1-10		11-20		21-30		31-40		41-50		>50%	
Occupancy	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Government	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	0	0	0	0	0	0	0	0	0	0	0	0
Religion	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Total	0		0		0		0		0		0	

Essential Facility Damage

Table 28 and *Table 29* summarize the expected damage to essential facilities following a 100-yr and 500-yr flood, respectively. Both scenarios analyzed have determined that on the day of the event, all **xx** beds in the local hospital would be available for use.

Table 28: Expected Damage to Essential Facilities 100-yr Flood Scenario

Classification	Total	Number of Facilities		
		At Least Moderate	At Least Substantial	Loss of Use
EOC				
Fire Stations				
Hospitals				
Police Stations				
Schools				

Table 29: Expected Damage to Essential Facilities 500-yr Flood Scenario

Classification	Total	Number of Facilities
----------------	-------	----------------------

		At Least Moderate	At Least Substantial	Loss of Use
EOC				
Fire Stations				
Hospitals				
Police Stations				
Schools				

Debris Generation

100-year Scenario

The model estimates that a total of **XX,XXX** tons of debris will be generated. Of the total amount, Finishes comprises **XX%** of the total, Structure comprises **XX%** of the total, and Foundation comprises **XX%**. If the debris tonnage is converted into an estimated number of truckloads, it will require **XXX** truckloads (@25 tons/truck) to remove the debris generated by the flood.

500-year Scenario

The model estimates that a total of **XX,XXX** tons of debris will be generated. Of the total amount, Finishes comprises **XX%** of the total, Structure comprises **XX%** of the total, and Foundation comprises **XX%**. If the debris tonnage is converted into an estimated number of truckloads, it will require **XXX** truckloads (@25tons/truck) to remove the debris generated by the flood.

Shelter Requirements

HAZUS estimates the number of households expected to be displaced due to the flood and the associated potential evacuation. HAZUS also estimates those displaced people that will require accommodations in temporary public shelters.

100-year Scenario

The model estimates **X,XXX** households (or **X,XXX** of people) will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, **XXX** people (out of a total population of **XX,XXX**) will seek temporary shelter in public shelters.

500-year Scenario

The model estimates **X,XXX** households (or **X,XXX** of people) will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, **XXX** people (out of a total population of **XX,XXX**) will seek temporary shelter in public shelters.

Building Related Losses

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. Business interruption losses are the

losses associated with the inability to operate a business because of the damage sustained during the flood. Business interruption losses also include the temporary living expenses for those displaced from their homes because of the flood. Total building-related losses were \$XXX.XX million in the 100-year flood scenario and \$XXX.XX million in the 500-yr flood scenario. *Table 30* and *Table 31* summarize the losses associated with the building damage in each scenario.

Table 30: Building Related Economic Loss Estimates for the 100-yr Flood Scenario (\$ Millions)

Category	Area	Residential	Commercial	Industrial	Other	Total
Building Loss	Building					
	Content					
	Inventory					
	Subtotal					
Business Interruption	Income					
	Relocation					
	Rental Income					
	Wage					
	Subtotal					
Total						

Table 31: Building Related Economic Loss Estimates for the 100-yr Flood Scenario (\$ Millions)

Category	Area	Residential	Commercial	Industrial	Other	Total
Building Loss	Building					
	Content					
	Inventory					
	Subtotal					
Business Interruption	Income					
	Relocation					
	Rental Income					
	Wage					
	Subtotal					
Total						

D. Land Use and Development

All future development within the floodplain may be considered at risk. An increase in population will likely increase the number of buildings and infrastructure. New development in unincorporated areas could potentially occur in areas prone to flooding and increase vulnerabilities and potential losses; however, most land use regulations require the consideration of flooding during the development process.

E. Multi-Jurisdictional Differences

Flooding affects all jurisdictions differently; that is why it is essential to document the depth, duration, and time that flooding occurred. These differences are noted in past occurrences to demonstrate the toll that flooding can take on the county's rural and urban areas. Due to the topography of Sumner County with its rolling hills and deep valleys, flood

events are prone to occur near the streams within the county. FIRM Panels are located within Appendix D to help illustrate the areas at risk and depth of flooding within the county and its incorporated jurisdictions.

Intersections & Roads that consistently flood in Sumner County and the incorporated jurisdictions:

- Station Camp Creek Rd (lower section)
- Drakes Creek Rd & Stop 20 Rd
- Drakes Creek Rd & Stop 30 Rd
- Hilton Ln & Harsh Ln
- Bug Hollow Rd & Hwy 25 W
- Brights Ln & Hwy 25 E
- Blade St & Marrell St
- Hale Ave W to Town Creek
- S. Westland Ave to W. Winchester St
- Slaters Creek Access & Longbourne Dr
- Gateview Dr
- N. Russel St
- Poplar St
- Jerry St
- Hwy 52 & SR 109
- Hwy 259 (raw water intake area)
- Williamson Rd & Trace Dr
- Hwy 31 at Hwy 76 (Portland Rd)

Waterways that are prone to flooding in Sumner County and the incorporated jurisdictions:

- Town Creek (Maple Street Industrial Area)
- Station Camp Creek

Subdivisions/Mobile Home Parks that are prone to flooding in Sumner County and the incorporated jurisdictions:

- Evergreen Subdivision
- Halewood Subdivision
- Autumn Creek Subdivision
- Glen Oak Subdivision
- 1021 Slaters Creek Rd (Mobile Home Park)
- 850 C. Smith St (Mobile Home Park)
- 1049 Louisville Hwy (Mobile Home Park)
- 1330 Williamson Rd (Mobile Home Park)

F. Summary

Severe flooding has the potential to inflict significant damage in Sumner County. The total economic loss estimated for the 100-year riverine flood is \$XXX.XX million. The total economic loss estimated for the 500-year riverine flood is \$XXX.XX million. Residential, commercial, and public buildings and critical infrastructures such as transportation, water, energy, and communication systems may be damaged or destroyed by flood waters. During a flood event, chemicals and other hazardous substances may contaminate local water bodies. Flooding kills animals and, in general, disrupts the ecosystem. Snakes and insects may also make their way to the flooded areas.

2.4 Severe Weather

A. Hazard Overview

Thunderstorms

Thunderstorms result from the rapid upward movement of warm, moist air. They can occur inside warm, moist air masses and at fronts. As the warm, moist air moves upward, it cools, condenses, and forms cumulonimbus clouds that can reach heights greater than 35,000 ft. Thunderstorms are responsible for developing and forming many severe weather phenomena, posing significant hazards to the population and landscape. Damage from thunderstorms is mainly inflicted by downburst winds, large hailstones, and flash flooding caused by heavy precipitation. Stronger thunderstorms can produce tornadoes and waterspouts.

Wind

All jurisdictions are vulnerable to receiving damage from severe winds. The NOAA Storm Data Preparation document categorizes wind into three different types, as defined below.

- High Wind: Sustained non-convective winds of 40mph or greater lasting for one hour or longer or winds (sustained or gusts) of 58 mph for any duration on a widespread or localized basis.
- Strong Wind: Non-convective winds gusting less than 58 mph or sustained winds less than 40 mph, resulting in a fatality, injury, or damage.
- Thunderstorm Wind: Winds arising from convection (occurring within 30 minutes of lightning being observed or detected), with speeds of at least 58 mph, or winds of any speed (non-severe thunderstorm winds below 58 mph) producing a fatality, injury, or damage.

Historically, severe wind events occur multiple times yearly in Sumner County. It is not unusual for Sumner County to experience winds speeds up to 85 knots (97.8 mph), causing structural damage, power outages, and downed trees. Based on a historical record of 378 wind events over 72 years (1950- 2022), the historic data suggest an annual occurrence of a severe wind event.

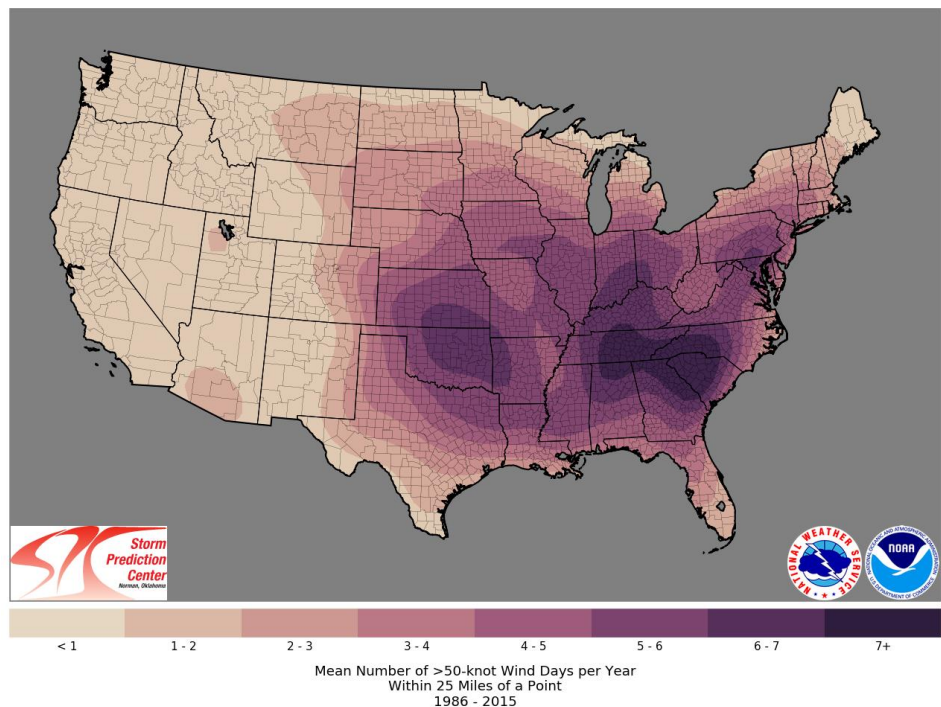


Figure 15 Mean Number of >50-knot Wind Days per Year (1986-2015) (source: NOAA)

Hail

Hail forms when updrafts carry raindrops into icy areas of the atmosphere, where they freeze into ice. Hailstorms occur throughout the spring, summer, and fall but are more frequent in late spring and early summer. Hailstones are usually less than two inches in diameter and can fall at speeds of 120 mph. Hail causes nearly \$1 billion in damage to crops and property yearly in the United States. *Table 32* provides an overview of the typical impacts on a community related to hailstone size.

Table 32: TORRO Hail Index (Source: The Tornado and Storm Research Organization)

Scale	Description	Max Diameter (mm)	Typical Damage
H0	Pea	5-9	No damage
H1	Mothball	10-15	Slight general damage to crops and plants
H2	Marble	16-20	Significant damage to crops and vegetation
H3	Walnut	21-30	Severe damage to fruits and crops, damage to glass and plastic structures, wood and paint scored
H4	Pigeons Egg	31-40	Widespread glass damage, auto-body damage
H5	Golf Ball	41-50	Destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Hens Egg	51-60	Grounded aircrafts dented; brick walls pitted
H7	Tennis Ball	61-75	Severe roof damage and risk of serious injury

H8	Softball	76-90	Severe damage to aircrafts
H9	Grapefruit	91-100	Extensive structural damage, risk of severe or fatal injuries to people caught in storm
H10	Melon	>100	Extensive structural damage, risk of severe or fatal injuries to people caught in storm

Lightning

Lightning is an electrical discharge between positive and negative regions of a thunderstorm. Lightning is one of the more dangerous weather hazards in the United States. Annually, lightning is responsible for deaths, injuries, and millions of dollars in property damage, including damage to buildings, communications systems, power lines, and electrical systems. Lightning also causes forest and brush fires and deaths, and injuries to livestock and other animals. According to the National Lightning Safety Institute, lightning causes more than 26,000 fires in the United States annually. The institute estimates property damage, increased operating costs, production delays, and lost revenue from lightning and secondary effects to be more than \$6 billion annually. Impacts can be direct or indirect. People or objects can be struck or damaged when the current passes through or nearby.

Winter Weather

A freeze occurs when temperatures are below 32 degrees Fahrenheit for a period. These temperatures can damage crops, burst water pipes, and create layers of "black ice." Winter storms are events that can range from a few hours of moderate snow to blizzard-like circumstances that can affect driving conditions and impact communications, electricity, and other services. In Sumner County, all jurisdictions are vulnerable to freezes and moderate winter storms, but not to the severity level seen in much of the northern U.S. Based on previous occurrences, Sumner County can experience multiple winter weather events in one year affecting all jurisdictions equally. The severity of winter storms is commonly measured by inches of snowfall. It is possible for snowfall to accumulate up to 9 inches in Sumner County and/or ice accumulations to cause hazardous conditions due to its proximity to and around the mountains. U.S. Mean snowfall per year is from 6-12" annually average mean snowfall per year is below in *Figure 16*.

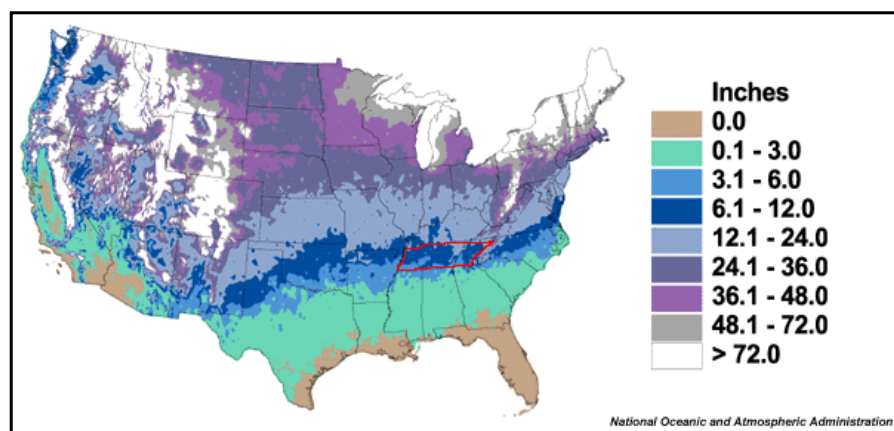


Figure 16 Average Snowfall per Year (Source: NOAA)

B. County Profile

The entirety of Sumner County is at risk of severe weather. Severe weather events are most likely in the spring and summer months and during the afternoon and evening hours, but they can occur year-round and at all hours. In terms of magnitude, the NWS defines thunderstorms in terms of severity. A severe thunderstorm produces winds greater than 57 miles per hour and/or hail greater than 1 inch in diameter and/or a tornado. The NWS chose these severity measures as parameters more capable of producing considerable damage. Hail stones can vary in diameter, and in Tennessee, there have been records of hail up to 2.75 inches.

Event narratives were obtained via the NOAA Storm Event Database and are included below for each severe weather category. Tables containing all NOAA-recorded severe weather events between 1950- 2023 for Sumner County are contained in Appendix C.

Thunderstorms

May 11, 2016 (Rock Bridge): Scattered supercell thunderstorms moved into the area overnight bringing with them high winds, hail, and heavy rain. The county received between 3-7 inches of rain in different regions.

May 19, 2017 (White House): Thunderstorms developed during the morning hours and continued for several hours across the county, over 6 inches of rain were observed in some areas.

Wind

March 25, 2021 (Corinth): A 4 mile wide by 1 mile long microburst straight-line winds resulted in severe wind damage. Several trees were uprooted landing on homes and blocking roads. Multiple homes suffered damages as did numerous outbuildings. Four injuries were reported due to this wind event that reached about 85mph.

July 26, 2022 (Portland): High winds from a storm system damaged the Portland High School baseball field, damages included: the dugout, outfield fence, and roof damage to the indoor facility.



Figure 17: Wind Damage to Portland High School July 26, 2016 (Source: WKRN)

Hail

June 19, 2011 (Westmoreland): Golf ball sized hail knocked down tree limbs and power lines across the area.

March 14, 2012 (Highland Academy): Hail damage occurred to multiple vehicles.

March 3, 2021 (Cherry Mound ARPT): Hail up to 2 inches was reported in the county

Lightning

July 7, 2016 (Millersville): A single family home in Millersville caught fire after being struck by lightning during a severe storm system.



Figure 18: Home fire after lightning strike July 7, 2016 (Source: WKRN)

Winter Weather

December 8, 2018: Ice accumulations of up to two-tenths of an inch were reported. Icy precipitation brought down several trees, tree limbs, and powerlines throughout the northern two-thirds of Sumner County. Icing on roadways also resulted in multiple accidents.

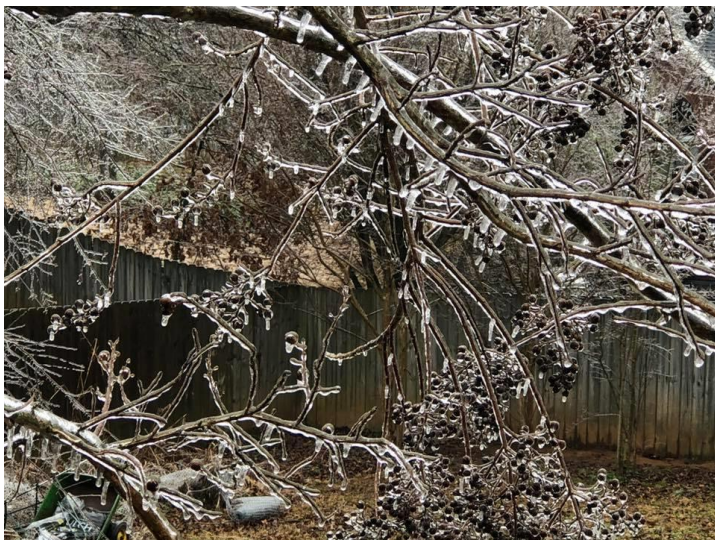


Figure 19: Ice on trees in White House December 8, 2018 (Source: NWS)

December 12, 2022: An abnormally cold and strong low-pressure system traveled through the region in late December bringing with it a blast of Arctic air. The strong winds accompanying the cold temperatures resulted in a wind chill of -15 to -30 degrees throughout December 24th. The combination of freezing temperatures, wind, and snowy/icy conditions resulted in treacherous road conditions. SR 6 E was shut down due to a multi-vehicle crash. Thousands were without power during this event.

Probability of Future Events - **Likely**

In order to determine the likelihood of future severe weather occurrences in Sumner County historic data and weather patterns were analyzed. Since 1950, multiple severe weather events have occurred within the county. In conjunction with the future weather projections developed by ETSU Geoinformatics & Disaster Science Lab, it can be assumed that severe weather could occur in Sumner County on a BLANK year basis. Figure X illustrates the projections developed by the ETSU Geoinformatics & Disaster Science Lab.

Commented [A05]: Climate Projections

C. Risk Assessment

Severe weather is not as spatially defined in any location in Sumner County; therefore, the entire County is equally at risk of severe weather. This includes the entire County population, all critical facilities, buildings (commercial and residential), and infrastructure.

The [National Risk Index](#) is a dataset and online tool to help illustrate the United States communities most at risk for natural hazards. It was built and designed by FEMA in close collaboration with various stakeholders and partners in academia; local, state and federal

government. The Risk Index leverages available source data for natural hazards and community risk factors to develop a baseline relative risk assessment for each county and census tract. Some of these community risk factors include social vulnerability which is determined by the data pulled from the Census performed every ten years. A higher social vulnerability score is proportional to a higher risk score.

National Risk Index Score for Hail = relatively low

National Risk Index Score for Lightning = relatively low

National Risk Index Score for Strong Wind = relatively moderate

National Risk Index Score for Ice Storm = very high

National Risk Index Score for Winter Weather = relatively low

Although the National Risk Index is a well-valued tool it fails to properly show the feedback from the participating jurisdictions. Therefore, all identified hazards were evaluated in regard to risk in FEMA lifelines per jurisdiction. The scenario that local jurisdictions would evaluate the conditions off of was a mid-level impact of the identified hazard. The results are below:

Table 33: Severe Weather Risk based on selected FEMA Lifelines

Severe Weather	FEMA Lifelines						
Jurisdiction	Safety & Security	Food, Water & Shelter	Health & Medical	Energy	Communications	Transportation	Hazardous Materials
County							
Gallatin							
Goodlettsville							
Hendersonville							
Millersville							
Mitchellville							

CHAPTER 2: RISK AND VULNERABILITY ASSESSMENT

Portland							
Sumner County Board of Education							
Volunteer State Community College							
Westmorland							
White House							

Colors indicate lifeline or component conditions:	
Red	Significant Impact, Multiple Required Resources
Yellow	Some Impact, Some Outside Resources Required
Green	Little to No Impact, No Outside Resources Required

Given the information above it becomes vital that all participating jurisdictions are able to prioritize the necessity of mitigation actions in the following lifeline categories so that they can become more resilient in the whole community that they serve.

D. Land Use & Development

Increased development and population growth can reasonably translate to increased damages resulting from severe weather events. The population in Sumner County is expected to rise similarly to its surrounding counties and Tennessee. An increase in population will lead to an increase in the number of residential and commercial structures as well as new and improved infrastructure, which in turn means an increase in the number and value of assets at risk of wind damage.

E. Multi-Jurisdictional Differences

The entirety of Sumner County and the incorporated jurisdictions, including all assets, can be considered equally at risk of severe weather events. This includes the entire population, all critical facilities, buildings (commercial and residential), and infrastructure.

F. Summary

Sumner County is subject to severe weather hazards, including thunderstorms, wind, lightning, and hail. Associated damages include impacts to utilities, residential and commercial buildings/property, and agricultural losses. High wind can cause trees to fall and potentially result in injuries or death; lightning can lead to house fires and serious injury. Hail can cause injury and severe property damage to homes and automobiles.

2.5 Tornadoes

A. Hazard Overview

Tornadoes have the potential to produce winds over 200 mph (EF5 on the Enhanced Fujita Scale) and can be very expansive. Before February 1, 2007, tornado intensity was measured by the Fujita (F) scale. This scale was revised and is now the Enhanced Fujita scale. Both scales are wind estimates (not measurements) based on damage. The new scale provides more damage indicators (28) and associated degrees of damage. *Table 34* shows the wind speeds associated with the enhanced Fujita scale ratings and the damage that could result at different intensity levels.

Table 34: Enhanced Fujita Scale

EF Rating	3 Second Wind Gust (mph)	Estimated Damage
0	65-85	Light Damage. Slight damage to roofs, gutters, siding, tree branches broken, shallow-rooted trees overturned
1	86-110	Moderate Damage. Mobile homes damaged, exterior portions of homes damaged or lost (i.e., roofs, doors, windows)
2	111-135	Considerable Damage. Mobile homes destroyed, cars lifted, well-constructed home frames shifted, roofs torn off, light-object missiles generated, large trees uprooted or snapped.
3	136-165	Severe Damage. Severe damage to large buildings, entire home stories destroyed, trees debarked, trains overturned, heavy vehicles lifted and thrown, structures with weaker foundations thrown
4	166-200	Devastating Damage. Well-constructed houses and whole frame houses leveled, cars thrown, small missiles generated
5	200+	Incredible Damage. Substantial frame houses leveled off foundations and the automobile-sized missiles generated, and high rises experience considerable damage and deformation

According to the Glossary of Meteorology (AMS 2000), a tornado is "a violently rotating column of air, pendant from a cumuliform cloud or underneath a cumuliform cloud, and often (but not always) visible as a funnel cloud." Most tornadoes move from southwest to northeast or west to east.

Although tornadoes can occur in any location, most of the tornado activity in the United States exists in the Mid-West and Southeast. An exact season does not exist for tornadoes; however, most occur between early spring and mid-summer (February – June). The onset of tornado events is rapid, giving those in danger minimal time to seek shelter. The current average lead time, according to NOAA, is 13 minutes. A tornado can reach wind speeds of 40 mph to 250 mph and higher. The following map illustrates the frequency of tornadoes in Tennessee.

B. County Profile

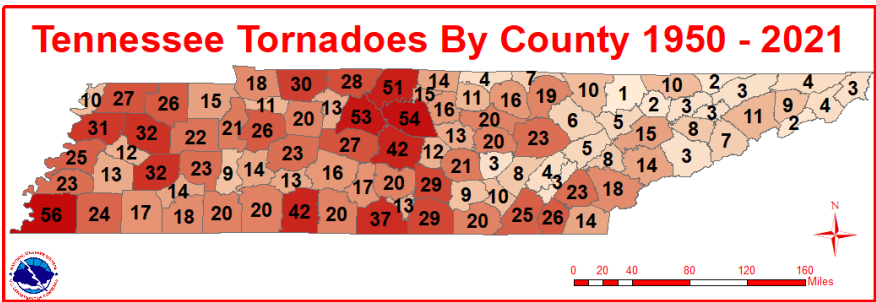


Figure 20: Tornadoes by County (NWS/NOAA)

Figure 20 illustrates the track of tornadoes through Sumner County as recorded by the National Weather Service Nashville and the National Climatic Data Center and compiled into a visual database by Mississippi State University. Figure 22 provides a breakdown of tornado frequency by the hour in Sumner County; tornadoes commonly occur between 0300 and 0500 hours.

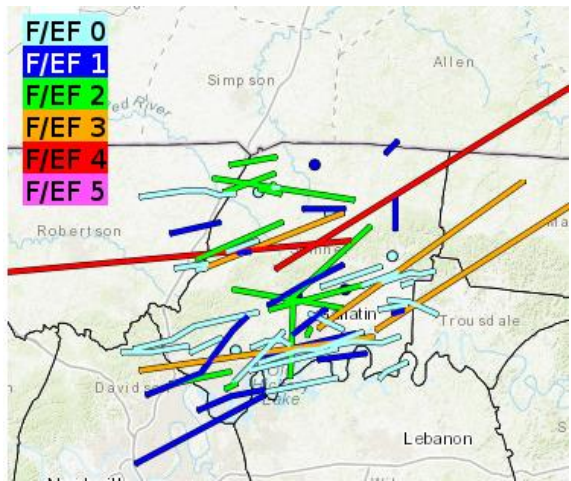


Figure 21: Tornadoes Tracks in Sumner County (Mississippi State University)

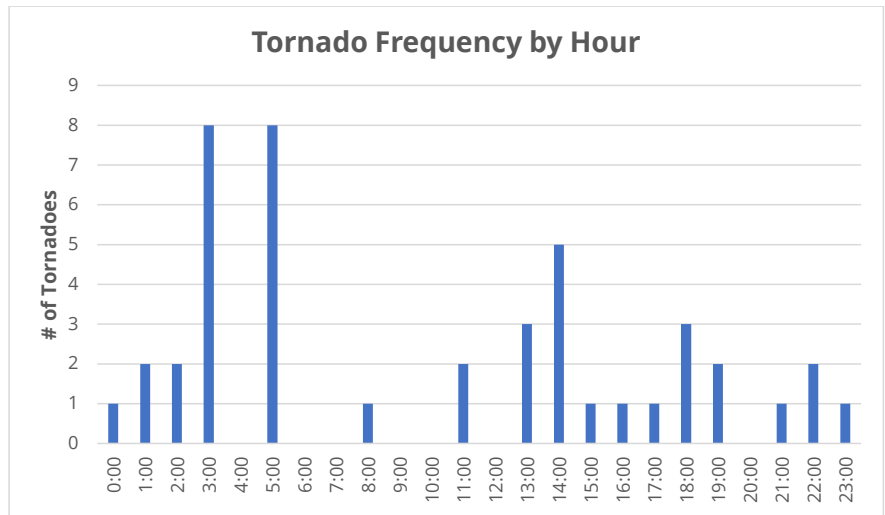


Figure 22: Tornadoes Frequency per Hour

The following narratives were obtained via the NOAA Storm Event Database. Only events resulting in injury, death, or extensive damage (greater than \$200K property/crop damage) were included as expanded narratives. A table containing all NOAA-recorded tornadoes between 1950- 2023 for Sumner County is contained in Appendix C.

April 7, 2006: An F3 Tornado traveled through Davidson and Sumner County for a total path length of 22.75 miles. 7 deaths were directly attributed to the tornado and 1 was considered an indirect death. 700 homes and business were damaged or destroyed as a result of the F3 tornado and an estimated \$69 million in damages occurred.

February 5, 2008: Known as the ‘Super Tuesday’ tornado outbreak, three tornadoes touched down in the county (EF-3, EF-1, EF-0). The EF-3 that touched down in the county left a 50.32 mile long track through 5 counties including Sumner. 85 homes were destroyed, a post office was destroyed, and 102 trees were uprooted. The tornadic storm directly killed 7 individuals and injured a further 14. The storm also took the roof off of Wynnewood, the counties only National Historic Landmark, and shifted the foundation.



Wynnewood State Historic Site was destroyed by a tornado which ripped through Castalian Springs Feb. 5, 2008. The roof and most of the second floor was blown off, and much of the remaining second floor shifted on top of the first floor, which shifted several inches on its foundation. *File / The Tennessean*

Figure 23: February 5, 2008 Tornado Damage to Wynnewood (Source: The Tennessean)



Figure 24: February 5, 2008 Tornado Damage residential homes (Source: The Tennessean)

December 11, 2021: An EF-1 tornado with a total path length of 6.82 miles touched down in Old Hickory and traveled to Mt. Juliet, leaving numerous trees uprooted, homes with roof damage, and damaged outbuildings in its path.

Probability of Future Events - **Likely**

Historical data and weather patterns were analyzed to determine the likelihood of future tornado occurrence in Sumner County. Since 1950, 44 tornadoes have occurred within the county. In conjunction with the future weather projections developed by ETSU Geoinformatics & Disaster Science Lab, it can be assumed that a tornado could occur in Sumner County on a BLANK year basis. Figure X illustrates the projections developed by the ETSU Geoinformatics & Disaster Science Lab.

Commented [A36]: Climate Projections

C. Risk Assessment

The entirety of Sumner County can be considered at risk for a tornado. This includes the entire County population, all critical facilities, buildings (commercial and residential), and infrastructure. Tornadoes tracked in Tennessee predominantly travel in a northeasterly direction in the state. While all assets are considered at risk from this hazard, a particular tornado would only cause damages along its specific track.

The [National Risk Index](#) is a dataset and online tool to help illustrate the United States communities most at risk for natural hazards. It was built and designed by FEMA in close collaboration with various stakeholders and partners in academia; local, state, and federal government. The Risk Index leverages available source data for natural hazards and community risk factors to develop a baseline relative risk assessment for each county and census tract. Some of these community risk factors include social vulnerability which is determined by the data pulled from the Census performed every ten years. A higher social vulnerability score is proportional to a higher risk score.

National Risk Index Score for Tornado = relatively high

Although the National Risk Index is a well-valued tool it fails to properly show the feedback from the participating jurisdictions. Therefore, all identified hazards were evaluated in regard to risk in FEMA lifelines per jurisdiction. The scenario that local jurisdictions would evaluate the conditions off of was a mid-level impact of the identified hazard. The results are below:

Table 35: Tornado Risk based on selected FEMA Lifelines

Tornado	FEMA Lifelines						
Jurisdiction	Safety & Security	Food, Water & Shelter	Health & Medical	Energy	Communications	Transportation	Hazardous Materials
County							
Gallatin							
Goodlettsville							
Hendersonville							
Millersville							
Mitchellville							
Portland							
Sumner County Board of Education							
Volunteer State Community College							
Westmorland							
White House							

Colors indicate lifeline or component conditions:

Red	Significant Impact, Multiple Required Resources
Yellow	Some Impact, Some Outside Resources Required

Green	Little to No Impact, No Outside Resources Required
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Given the information above it becomes vital that all participating jurisdictions are able to prioritize the necessity of mitigation actions in the following lifeline categories so that they can become more resilient in the whole community that they serve.

D. Land Use and Development Trends

Sumner County codes include proper wind strength and safety regulations consistent with state and federal regulations. While the adopted code provides adequate protection, older and mobile homes are highly susceptible to tornado events. The county has multiple mobile home areas within the county that are more susceptible to the damaging impacts of tornadic weather.

E. Multi-Jurisdictional Differences

The entirety of Sumner County and its incorporated jurisdictions are at risk for a tornado event; however, historically, a large portion of tornado events have taken place at or below the middle region of the county. It is also worth noting that given the county's sizeable rural component, some tornadic events may have gone unreported.

F. Summary

This includes the entire County population, all critical facilities, buildings (commercial and residential), and infrastructure. While all assets are considered at risk from this hazard, a tornado would only cause damages along its specific track. The weakest tornadoes, EF0, can cause minor roof damage, and stronger tornadoes can destroy frame buildings and badly damage steel reinforced concrete structures. Given the strength of the wind impact and construction techniques, buildings are vulnerable to direct impact, including potential destruction, from tornadoes and wind debris that tornadoes turn into missiles. Structures constructed of light materials such as mobile homes are most susceptible to damage.

Chapter 3. Mitigation Strategy

3.1 Mitigation Goals

Goals are general guidelines that explain what is to be achieved. They are usually broad-based policy-type statements, long-term, and represent global visions. Goals help define the benefits that the plan is trying to achieve.

Goal Setting Exercise

In 2017, the HMPC agreed upon the goals for their hazard mitigation plan. It was decided that the goals from the 2017 plan should be carried over into the 2023 plan. They still reflect the current hazards and current conditions in the community.

Resulting 2023 Plan Update Goals

At the end of the meeting, the HMPC agreed upon three general goals for planning efforts. Those goals are as follows:

Goal 1: Protect the Lives and health of citizens from the effects of natural hazards.

Goal 2: Emphasize mitigation planning to decrease vulnerability to new and existing structures.

Goal 3: Encourage public support and commitment to hazard mitigation by communicating mitigation benefits.

Expanding & Improving Mitigation Programs

The participating jurisdictions determined which areas they could improve or expand. Gaps and limitations for each jurisdiction may be addressed in the mitigation strategy.

Table 36: Expansion Narrative

Jurisdiction/Applicant	How are you able to expand?
Sumner County	Increase weather readiness for vulnerable populations through messaging and NOAA weather radio programs.
City of Gallatin	Increase awareness and mitigation activities for older structures that are built in floodplains or karst areas.
City of Goodlettsville	Create and maintain a Flood Planning program that involves a FWM (Flood Watch Manager) as well as measures necessary to respond to flooding in defined areas.
City of Hendersonville	
City of Millersville	
City of Mitchellville	
City of Portland	Increase stormwater management programs to better deal with flooding and increase retention of water for times of drought.
Town of Westmoreland	
City of White House	
Sumner County Board of Education	Continued support and attendance as part of the HMPC. Increased public messaging and signage in schools about storm preparedness.
Volunteer State Community College	Continued support and attendance as part of the HMPC.

3.3 Compliance with NFIP

Sumner County, Hendersonville, Westmoreland, White House, Portland, Gallatin, Goodlettsville, and Millersville participate in FEMA's National Flood Insurance Program (NFIP). Each participating community enforces a flood damage prevention ordinance that regulates development within the Special Flood Hazard Area (SFHA). Additionally, as members of FEMA's NFIP, each community requires Elevation Certificates on all new buildings and substantial improvements within the SFHA.

Given the flood hazards in the planning area, an emphasis will be placed on continued compliance with the NFIP. The below table lists the Ordinance Adoption dates and citations for each NFIP jurisdiction in the county.

Table 37: NFIP Designee and Ordinance Adoption

Jurisdiction	CID #	Title of NFIP Designee	Ordinance Adoption Date	Citation
Sumner County	470349	County Engineer	1/21/2021	2012-02
Gallatin	470185	City Planner	2/6/2021	01201-9
Hendersonville	470186	Public Works Dir.	2/25/2021	021-05

CHAPTER 3: MITIGATION STRATEGY

Portland	470187	Community Planner	4/16/2012	
Goodlettsville	470287	Dir. Planning & Development	2/4/2022	21-1020
White House	470339	Planning & Codes Dir.	1/14/2021	20-25
Millersville	470388	Building Inspector	1/15/2021	20-750
Westmoreland	470415	Codes/Building Inspector	4/6/2012	175

The State National Flood Insurance Program Office hosts monthly webinars to review and educate entities on NFIP, each jurisdictional representative is invited and encouraged to attend. Each participating community will take the following steps to meet or exceed the following minimum requirements as set by the NFIP:

- Issuing or denying floodplain development/building permits;
- Inspecting all development to ensure compliance with the local ordinance;
- Maintaining records of floodplain development;
- Assisting in the preparation and revision of floodplain maps;
- Helping residents obtain information on flood hazards, floodplain map data, flood insurance, and proper construction measures.

3.4 Prioritization Process

The prioritization process was necessary as most mitigation projects represent a significant investment of financial and personal resources. By evaluating each project's degree of feasibility and the level of costs versus benefits, Sumner County could determine which projects should include based on the available funding and time. The HMPC used the SAFE-T method to prioritize these projects. This approach was adopted from the successful methodology used by other counties in FEMA Region 4. This rating system uses five variables to evaluate each project's overall feasibility and appropriateness. *Figure 25* further explains this method.

Project Prioritization Method: SAFE-T			
Variable		Value	Description
S	Societal: The public must support the overall implementation strategy and specified mitigation actions. The projects will be evaluated in terms of community acceptance, social vulnerability and societal benefits	1	Low community acceptance/priority
		2	Moderate community acceptance/priority
		3	High community acceptance/priority
A	Administrative: The projects will be evaluated for anticipated staffing and maintenance requirements to determine if the jurisdiction has the personnel and administrative capabilities necessary to implement the project or whether outside help will be needed.	1	High staffing, outside help needed
		2	Some staffing, no outside help needed
		3	Low staffing, no outside help needed
F	Financial: The projects will be evaluated on their general cost-effectiveness and whether additional outside funding will be required.	1	Somewhat cost-effective
		2	Moderately cost effective
		3	Very cost-effective
E	Environmental: The projects will be evaluated for any immediate or long-term environmental impacts caused by their construction or operation.	1	Many environmental impacts
		2	Some environmental impacts
		3	Few environmental impacts
T	Technical: the projects will be evaluated on their ability to reduce losses in the short term or long term.	1	Short-term fix
		2	Medium-term fix
		3	Long-term fix

Figure 25 SAFE-T Project Prioritization

The identification and analysis process of mitigation alternatives allowed the HMPC to come to a consensus and prioritize recommended mitigation actions. The HMPC discussed the contribution of the effort to save lives or property first and foremost, with additional consideration given to the benefit-cost aspect of a project; however, this was not a quantitative analysis. The team agreed that prioritizing the actions collectively enabled the actions to be ranked in order of relative importance and helped steer the development of additional actions that meet the more essential objectives while eliminating some of the actions which did not garner much support. The cost-effectiveness of any mitigation alternative will be considered in greater detail by performing benefit-cost project analyses when seeking FEMA mitigation grant funding for eligible actions associated with this plan.

3.5 Mitigation Action Plan

The Mitigation Action Plan was developed to present the recommendations developed by the HMPC for how the communities can reduce the risk and vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. Emphasis was placed on both future and existing development. The action plan summarizes who is responsible for implementing each of the prioritized actions and when and how the actions will be implemented. Due to funding availability and other criteria, it should be clarified that the actions included in this mitigation strategy are subject to further review and refinement, alternatives analyses, and reprioritization. This document does not obligate Sumner County and the incorporated jurisdictions to implement any or all of these projects. Rather this mitigation strategy represents the desires of the community to mitigate the risks and vulnerabilities from identified hazards.

Table 38: Sumner County Mitigation Actions and Projects

Action Description <i>Hazard Mitigated</i>	Responsible Department	Jurisdiction	Time Frame	Priority Score						Est. Cost	Funding Sources	Infrastructure
				Societal	Administrative	Financial	Environmental	Technical	Total			
Property Acquisition of RL/SRL properties <i>Flood</i>	Jurisdictional Mayor/City Manager Offices	Gallatin, Hendersonville, Portland, County	Medium- Term (3-5 years)	2	3	2	3	3	13	\$300K	HMGP, FMA, Local	Existing
Safe Room near Mobile Home Parks <i>Severe Weather, Tornadoes</i>	Town Mayor's Office/Planning Dept.	Westmoreland	Medium- Term (3-5 years)	2	2	2	2	2	10	\$200K	HMGP, BRIC, Local	New
Retrofit the Gallatin PD Training area for high winds and severe weather (safe room, hardened walls, etc.) <i>Severe Weather, Tornadoes</i>	City Planning Dept./Police Dept.	Gallatin	Medium- Term (3-5 years)	2	1	2	2	2	9	\$200K	HMGP, BRIC, Local	Existing
Retrofit the Gallatin Fire Stations #3, #4, #5 for high winds and severe weather (safe room, hardened walls, etc.) <i>Severe Weather, Tornadoes</i>	City Planning Dept./Fire Depts.	Gallatin	Medium- Term (3-5 years)	2	1	2	2	2	9	\$200K	HMGP, BRIC, Local	Existing
NOAA Weather Radio distribution and training for LMI households	Sumner County EMA/ Jurisdictional City Mayor Offices	Gallatin, Westmoreland, County	Short-Term (0-3years)	3	2	2	3	2	12	\$100K	HMGP, Local	Both New and Existing

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<i>Flood, Severe Weather, Tornadoes</i>												
Retrofit Sumner County EMS for high winds and severe weather (safe rooms, hardened walls, etc.) <i>Severe Weather, Tornadoes</i>	County EMS/EMA	County	Medium-Term (3-5 years)	2	1	2	2	2	9	\$200K	HMGP, Local	Existing
Provide and distribute pamphlets/flyers on how to stay safe in natural, technological, and person-made disasters. <i>Flood, Severe Weather, Tornadoes</i>	County EMA	All	Ongoing	3	3	3	3	1	13	\$10K	Local	Both New and Existing
Create and distribute signage to all schools detailing locations of safe areas and how to respond to various natural disaster alerts. <i>Flood, Severe Weather, Tornadoes</i>	County Board of Education	Sumner County Board of Education	Short-Term (0-3years)	3	3	3	3	1	13	\$10K	Local	Both New and Existing
Retrofit windows with shatterproof film. <i>Severe Weather, Tornadoes</i>	County Board of Education/VSCC	Volunteer State Community College, Sumner County Board of Education	Short-Term (0-3years)	3	2	2	3	2	12	\$250K	HMGP, BRIC, Local	Existing
Replacement of traffic light cables to mast arms <i>Severe Weather, Tornadoes</i>	Jurisdictional Planning Dept./Public Work's Depts.	Gallatin, Hendersonville, Portland	Short-Term (0-3years)	2	2	2	3	2	11	\$20K	HMGP, BRIC, Local	Existing
Stormwater Drainage Study	County Development Services	All	Short-Term (0-3years)	2	2	3	3	2	12	\$50K	HMGP, FMA, Local	Both New and Existing

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<i>Flood</i>	(Stormwater Manager and Engineer)											
Retention basin system <i>Flood</i>	City Public Works	Portland	Medium-Term (3-5 years)	2	1	2	2	2	9	\$80K	HMGP, BRIC, FMA, Local	New
Community Safe Room <i>Severe Weather, Tornadoes</i>	City Planning Dept.	Goodlettsville	Medium-Term (3-5 years)	2	2	2	2	2	10	\$200K	HMGP, BRIC, Local	New
Stormwater drainage system to reduce flooding (culverts, permeable pavement sidewalks) <i>Flood</i>	City Public Works/Stormwater Management Dept.	Goodlettsville	Medium-Term (3-5 years)	3	1	2	2	3	11	\$150K	HMGP, BRIC, FMA, Local	Both New and Existing
Upgrade current water delivery stem <i>Drought</i>	City Public Works	Portland	Medium-Term (3-5 years)	2	2	2	2	3	11	\$200K	HMGP, Local	Existing
Increased water storage system <i>Drought</i>	City Public Works	Westmoreland	Medium-Term (3-5 years)	2	2	2	2	3	11	\$200K	HMGP, Local	New
Generators at sewer lift stations	City Public Works	Portland	Short-Term	2	3	2	3	2	12	\$15K	HMGP,	Existing

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<i>Flood, Severe Weather, Tornadoes</i>			(0-3years)								BRIC, Local	
Generators for critical infrastructure throughout the city (i.e. city hall)	City Mayor's Office	Gallatin	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Existing
<i>Flood, Severe Weather, Tornadoes</i>												
Generators for critical infrastructure throughout the city (i.e. Police Dept. Annex)	City Mayor's Office	Hendersonville	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP	Existing
<i>Flood, Severe Weather, Tornadoes</i>												
Generators for critical infrastructure throughout the county (i.e. Sheriff's Office, Shackle Island PD)	County Mayor's Office/EMA	County	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Existing
<i>Flood, Severe Weather, Tornadoes</i>												
Generators for critical infrastructure throughout the county (i.e. City Hall, Police Stations)	City Mayor's Office	Millersville	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Existing
<i>Flood, Severe Weather, Tornadoes</i>												
Battery power backs-ups (UPS) for essential school functions	County Board of Education	Sumner County Board of Education	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Existing
<i>Flood, Severe Weather, Tornadoes</i>												
Battery power backs-ups (UPS) for essential government functions	City Mayor's Office	Hendersonville	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Existing

CHAPTER 3: MITIGATION STRATEGY

<i>Flood, Severe Weather, Tornadoes</i>												
Safe Space retrofit in key locations on campus <i>Severe Weather, Tornadoes</i>	VSCC	Volunteer State Community College	Medium-Term (3-5 years)	2	1	2	1	2	8	\$200K	HMGP, Local	Both New and Existing
Generators for 3-Sewer Pump Stations throughout the city <i>Flood, Severe Weather, Tornadoes</i>	City Mayor's Office	Millersville	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Existing
Generators for critical infrastructure throughout the city (i.e. fire stations) <i>Flood, Severe Weather, Tornadoes</i>	City Mayor's Office	Mitchellville	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Both New and Existing
Create and maintain a storm shelter database <i>Severe Weather, Tornadoes</i>	Fire Dept./IT GIS	Gallatin	Ongoing	2	3	3	3	1	12	\$5K	HMGP, Local	Both New and Existing
Identify business, continuity, and disaster recovery options for critical GIS services in the event the primary location of servers become unavailable <i>Flood, Severe Weather, Tornadoes</i>	City IT GIS	Gallatin	Short-Term (0-3years)	2	2	3	3	2	12	\$5K	HMGP, Local	Both New and Existing
Community Safe Room <i>Severe Weather, Tornadoes</i>	City Mayor's Office/Planning Commission	White House	Medium-Term (3-5 years)	2	2	2	2	2	10	\$200K	HMGP, BRIC, Local	New

CHAPTER 3: MITIGATION STRATEGY

Generators for critical infrastructure throughout the city <i>Flood, Severe Weather, Tornadoes</i>	City Mayor's Office	White House	Short-Term (0-3years)	2	3	2	3	2	12	\$15K	HMGP, Local	Both New and Existing
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Chapter 4. Implementation, Integration, and Maintenance

This section provides an overview of the overall plan implementation, integration and maintenance strategy and outlines the method and schedule for monitoring, evaluating, and updating the plan. This section also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

4.1 Plan Adoption, Implementation, Monitoring, and Evaluation

4.1.1 Plan Adoption

The purpose of formally adopting this plan is to secure buy-in, raise awareness of the plan, and formalize the plan's implementation. This plan will be adopted by the appropriate governing body for each participating community. Copies of the executed resolutions are shown below.

Note to Reviewer: Executed resolutions will be inserted when they become available.

4.1.2 Implementation

Implementation and maintenance of the plan is critical to the overall success of hazard mitigation planning. This section provides an overview of the overall strategy for plan implementation and maintenance.

Mitigation is most successful when it is incorporated into the day-to-day functions and priorities of the government. Implementation will be accomplished by adhering to the schedules identified for each action and through constant, pervasive, and energetic efforts to network and highlight the multi-objective benefits to each program and the community. This effort is achieved through the routine actions of monitoring agendas, attending meetings, and promoting a safe, sustainable community. Additional mitigation strategies could include consistent and ongoing enforcement of existing policies and vigilant review of programs for coordination and multi-objective opportunities.

Simultaneous to these efforts, it is important to maintain constant monitoring of funding opportunities that can be leveraged to implement some of the more costly actions. This will include creating and maintaining a list of ideas on how to meet local match or participation requirements. When funding does become available, the communities will be able to capitalize on the opportunity due to the diligence of the HMPC. Funding opportunities to be monitored include special pre- and post-disaster funds, state and federal funds, benefit assessments, and other grant programs, including those that can serve or support multi-objective applications.

Elected officials, officials appointed to head community departments and community staff are charged with the implementation of various activities in the plan. Recommendations will be made to modify timeframes for the completion of activities, funding resources, and responsible entities. On an annual basis, the priority standing of various activities may also be changed. Some activities that are found unachievable may be removed from the plan

entirely and activities addressing problems unforeseen during plan development may be added.

4.1 Integration into Local Planning Mechanism

A vital implementation mechanism that is highly effective and low-cost is the incorporation of the Hazard Mitigation Plan recommendations and their underlying principles into other plans and tools. All plan participants will use existing methods and programs to implement hazard mitigation actions where possible. As previously stated, mitigation is most successful when it is incorporated into government and public service's day-to-day functions and priorities. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through these other program mechanisms. These existing mechanisms include:

- Regularity Capabilities
- Administrative Capabilities
- Fiscal Capabilities

For further information regarding the different capabilities refer to Chapter 3 – Mitigation Strategy.

Implementation and incorporation into existing planning mechanisms will be conducted by respective planning authorities and will be done through the routine actions of:

- Monitoring other planning/program agendas;
- Attending other planning/program meetings;
- Participating in other planning processes; and
- Monitoring community budget meetings for other community program opportunities.

The successful implementation of this mitigation strategy will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe, sustainable community. Efforts should continuously be made to monitor the progress of mitigation actions implemented through other planning mechanisms. Where appropriate, priority actions should be incorporated into Hazard Mitigation Plan updates.

4.2 Monitoring, Evaluating, Updating

For the Hazard Mitigation Plan update review process, the Sumner County Emergency Management Agency Director will be responsible for facilitating, coordinating, and scheduling reviews and maintenance of the plan. The review of the Hazard Mitigation Plan will be conducted as follows:

- The Sumner County Emergency Management Agency will be responsible for leading the meeting to review the plan.

- Notices will be emailed to the members of the HMPC, federal, state, and local agencies, non-profit groups, local planning agencies, and representatives of business interests, neighboring communities, and others advising them of the date, time, and place for the review.
- Local City officials will be notified by email or phone call.
- Before the review, department heads and others tasked with implementing various projects/actions will be queried concerning progress in their area of responsibility and asked to present a report at the review meeting.
- A copy of the current plan will be available for public comment.
- After the review meeting, a status report will be developed outlining the implementation of projects over the past year.

Criteria for Annual Reviews

The criteria recommended for annual reviews will include the following:

- Community growth or change in the past year to include residential, commercial, and industrial growth trends.
- The number of substantially damaged or improved structures by flood zone and review of jurisdictional NFIP membership.
- Renovations to public infrastructure, including water, sewer, drainage, roads, bridges, gas lines, and buildings.
- Natural hazard occurrences that required activation of the Emergency Operations Center (EOC) and whether the event resulted in a presidential disaster declaration.
- Natural hazard occurrences that were not of a magnitude to warrant activation of the EOC or a federal disaster declaration but were severe enough to cause damage in the community or closure of businesses, schools, or public services.
- The dates of hazardous events, narratives, and documented damages.
- Closures of places of employment or schools and the number of days closed.
- Road or bridge closures due to the hazard and the length of time closed.
- Assessment of the number of private and public buildings damaged and whether the damage was minor, substantial, major, or if buildings were destroyed. The assessment will include residences, mobile homes, commercial structures, industrial structures, and public buildings, such as schools and public safety buildings.
- Review of any changes in federal, state, and local policies to determine the impact of these policies on the community and how and if the policy changes can or should be incorporated into the Hazard Mitigation Plan.
- Review of the implementation status of projects/actions (mitigation strategies). The reason for delay will be discussed for any projects that are behind schedule or not yet started.

4.2.1 Continued Public Involvement

Continued public involvement is imperative to the overall success of the plan's implementation. The update process provides an opportunity to solicit participation from

new and existing stakeholders, publicize mitigation success stories, and seek additional public comment. The plan maintenance and update process will include continued public and stakeholder involvement and input through attendance at designated committee meetings, web postings, press releases to local media, and public hearings.

Public Involvement Process for Annual Reviews

The public will be notified via the Sumner County website or any other form of a publicized social platform (i.e., local newspaper, Facebook, Twitter) well in advance of any public meetings or comment periods.

Public Involvement for Five-year Update

When the HMPC reconvenes for the five-year update, they will coordinate with all stakeholders participating in the planning process—including those that joined the committee since the planning process began—to update and revise the plan. In reconvening, the HMPC will develop a plan for public involvement and will be responsible for disseminating information through various media channels detailing the plan update process. As part of this effort, public meetings will be held, and public comments will be solicited on the plan update draft.

APPENDIX A

Planning Documentation

Attendance Sheets:

Name	Title	Department	Email Address	Phone Number
Lawrence Daniel Jr.	Commander	Hendersonville Police Dept	ldaniel@hvpd.org	615-972-1923
Meley Summers	Deputy Director	Sumner EMA	msummers@sumnerema.org	(615)450-3416
Autumn Jarrou	Planner	TEMA	Autumn.jarrou@tema.gov	—
Pete Griffin	District Coordinator	TEMA	Pete.Griffin@tema.gov	615-976-0322
Brandon Head	Fire Chief	Millersville FIRE	Brandon.head@millersville.com	(615) 936-3225
Fabrizio Melillo	Fire Chief	White House FD	fabrizio@whitehousefire.org	210-881-2100
Carla Miller	Admin Asst	Sumner EMA	cmiller@sumnerema.org	(615) 782-1376
Jeff Beaman	Calculated	Calculated	jeff.beaman@calculated.org	901-326-7177
Paul Allen Fornes	Client Executive	Spafolast	paul.fornes@gmail.com	(615) 566-7923
Dustin Durnin	ESC Manager	TEMA	dustin.durnin@tema.gov	(615) 557-5358
Karl Wimmer	DIRECTOR	EMA	kawimmer@ema.gov	615-741-4000
Jennifer LeFevre	CIO-City	IT	jennifer.lefevre@gallatinmta.gov	—
Preston Deller	GIS Specialist	IT	preston.deller@gallatinmta.gov	—
Bill McCork	CITY PLANNER	CITY OF GALLATIN	william.mccork@gallatinmta.gov	615-451-5716
Katie Brown	Schools Director	SLBOE	Katie.brown@slboe.org	615-451-6500

Page ___ of ___

Name	Title	Department	Email Address	Phone Number
Bill Kuhlbeck	Capt	Detective PD	bucklaurer@glb.twp.pa.us	615-4721513

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APPENDIX A: PLANNING DOCUMENTATION



SUMNER COUNTY EMERGENCY MANAGEMENT

255 AIRPORT RD., GALLATIN, TN. 37066
PHONE 615-452-7584 FAX 615-451-0171

E.O.C

SIGN-IN SHEET DATE: 4.4.23
C900

OPERATION: HAZARD MITIGATION (200M) SHEET: 1 OF 1

NAME	AGENCY	PHONE NUMBER	E-MAIL
1. Kim Naffery	SUMNER CO. HAZARD COORD.		
2. Simon Roney	GASTONVILLE PD		
3. Kenneth Reeves	GASTONVILLE PD		
4. R. Venable	GASTON PD		
5. Heidi Summers	VOL STATE OC		
6. Denise Graham	Mt. Sterling	438-3089	mayor@cityofmtstirling.com
7. Ken W. Edwards	SUMNER EMA		
8. Carla Miller	EMA		
9. Mickey Summers	EMA		
10. Autumn Johnson	EMA		
11. Chelsea Cobb	CITY OF PORTLAND		
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SUMNER COUNTY EMERGENCY MANAGEMENT

255 AIRPORT RD., GALLATIN, TN. 37066
PHONE 615-452-7584 FAX 615-451-0171

E.O.C

SIGN-IN SHEET DATE: 4.17.23

OPERATION: LEPC / HAZARD MITIGATION PUBLIC MISC SHEET: 1 OF 2

NAME	AGENCY	PHONE NUMBER	E-MAIL
1. Ken W. Edwards	EMA	714-4256	KWEIDNER@sumner-ema.org
2. Mickey Summers	EMA	450-3416	MSSUMMERS@sumner-ema.org
3. Scott W. Edwards	GFD	582-1136	SCOTT.W.EDWARDS@GALLATIN.TN.GOV
4. Steven Craig	VOLSTATE	230-3595	STEVEN.CRAIG@VOLSTATE.EDU
5. Carla Miller	EMA	712-1374	cmiller@sumner-ema.org
6. Joe Beaman	Gallatin FD	401-356-9137	jbeaman@sumner-ema.org
7. Doyle Harris	WATKINSVILLE NC COE/EPD	665-830-8218	doyleharris@bell-south.net
8. Steven Jolley	Westmoreland Police	615-572-9248	sjolley@westmorelandtn.gov
9. Billy Vekladieva	Donkin PD	615-452-1313	bvekladiev@sumner-ema.org
10. John M. Doss	EMA	615-818-4769	jdoss@sumner-ema.org
11. Laura Baisert #K9M	City of	860-367-5557	andtimber@sumner-ema.org
12. Jennifer LeFevre	City of Gallatin		jennifer.lefevre@gallatin.tn.gov
13. Chelsea Cobb	City of Portland	615-323-8293	ccobb@cityofportland.tn.gov
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APPENDIX A: PLANNING DOCUMENTATION



SUMNER COUNTY EMERGENCY MANAGEMENT

255 AIRPORT RD., GALLATIN, TN. 37066
PHONE 615-452-7584 FAX 615-451-0171

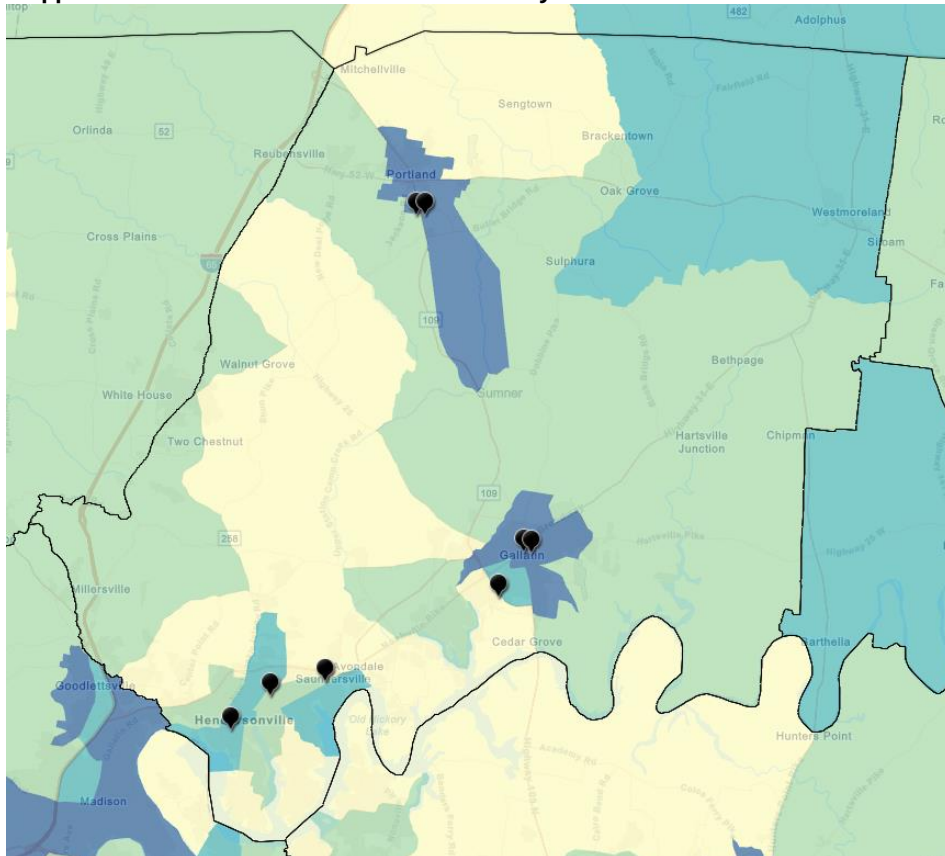
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SIGN-IN SHEET DATE: 4/19/23

OPERATION: CERC/HAROLD MITIGATION PRIC MOETW SHEET: 2 of 2

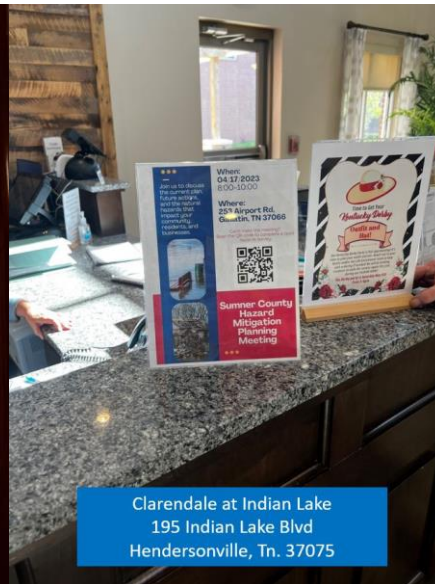
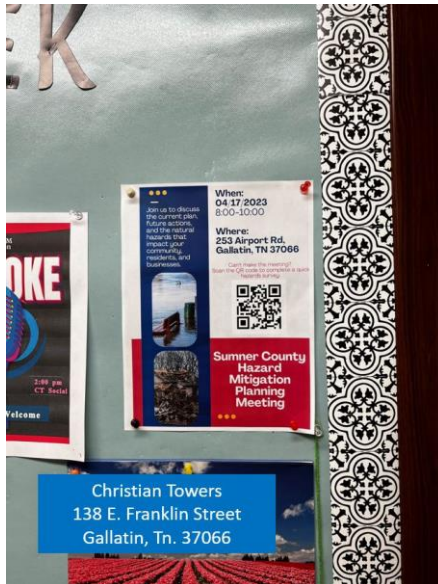
NAME	AGENCY	PHONE NUMBER	E-MAIL
1 PETE GR. HAN	TEMA	615-970-0032	Peter.Griffin@tn.gov
2 Kim Norment	Sumner County	615-442-1163	Kim.Norment@sumnercountytn.gov
3 Tom Matthews	Sumner County	615-474-6470	Tom.Matthews@sumnercountytn.gov
4 Greg Miller	Sumner EMA	615-712-4404	Greg.Miller@sumnerema.org
5 Katie Brown	Sumner Schools	615-403-8681	Katie.Brown@sumnerschools.org
6 Paul Torres	Spatisoft Inc	615-366-7723	paul.torres@gmail.com
7 Sarah Locke	City of Hendersonville	615-417-1733	Sarah.Locke@hendersonville.org
8 LANCE DAVIS	Hendersonville PD	615-972-1523	Lance.Davis@hendersonville.org
9 BILL MCCORD	CITY OF GALLATIN	615-432-5796	William.McCord@gallatin.gov
10 John C. Smith	Sumner County	615-715-1225	John.C.Smith@sumnercountytn.gov
11 Jay Austin	Sumner EMS	615-715-1220	Jay.Austin@sumnerems.org
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Mapped Public Notice Locations with CDC SVI Layer:

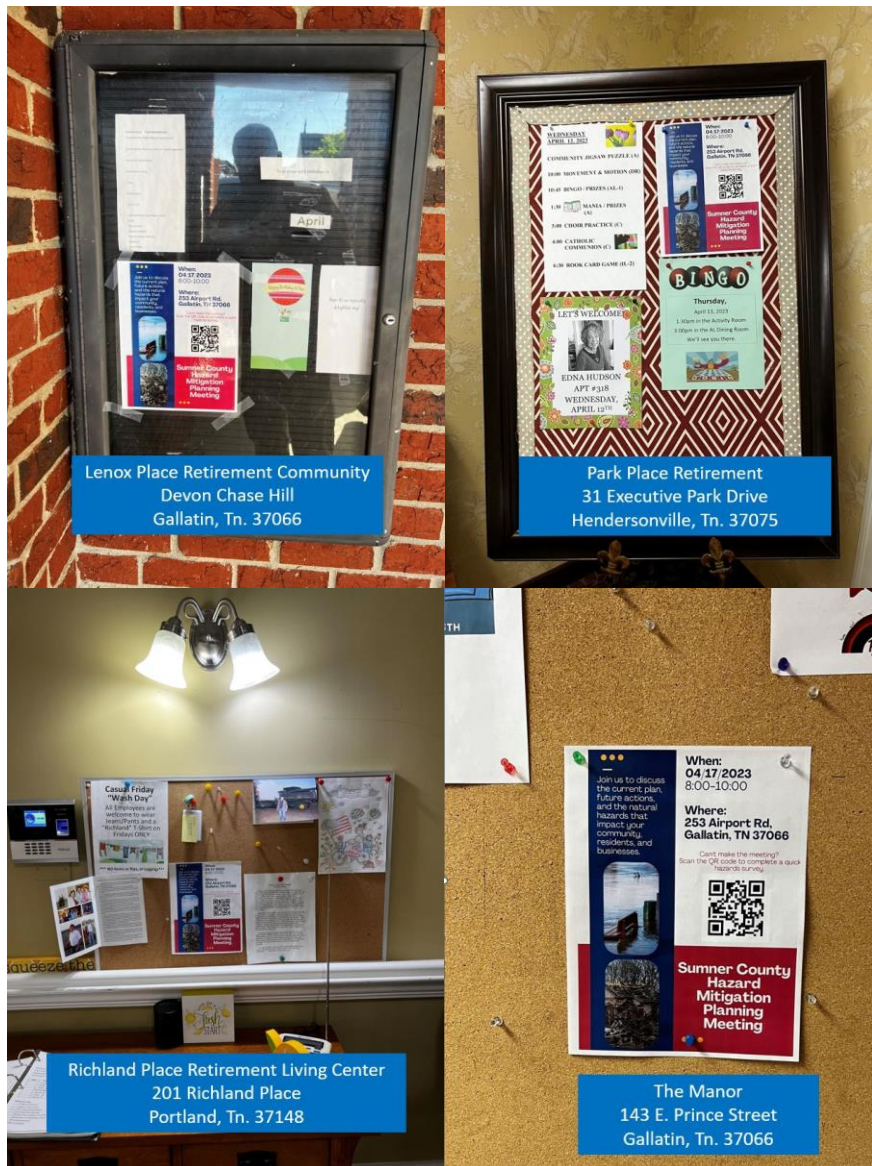


APPENDIX A: PLANNING DOCUMENTATION

Public Notice Flyer Locations:



APPENDIX A: PLANNING DOCUMENTATION



Social Media Post:



Sumner County EMA
April 11 at 10:31 AM · 🌐

Get involved in emergency preparedness!

Sumner County Hazard Mitigation Meeting

Join us to discuss the current plan, future actions, and the natural hazards that impact your community, residents, and businesses.



Can't make the meeting?
Scan the QR code to complete a quick hazards survey.





Where: 253 Airport Rd, Gallatin, TN 37066
When: Monday 04/17/2023 8:00-10:00

 11

 8

 Like

 Comment

APPENDIX B

Historical Hazard Data

APPENDIX C: HISTORICAL HAZARD DATA

Drought

Location	Date	Deaths	Injuries	Property Damages	Crop Damages
SUMNER (ZONE)	5/1/2007	0	0	0	0
SUMNER (ZONE)	6/1/2007	0	0	0	0
SUMNER (ZONE)	7/1/2007	0	0	0	0
SUMNER (ZONE)	8/1/2007	0	0	0	0
SUMNER (ZONE)	9/1/2007	0	0	0	0
SUMNER (ZONE)	10/1/2007	0	0	0	0
SUMNER (ZONE)	11/1/2007	0	0	0	0
SUMNER (ZONE)	11/1/2008	0	0	0	0
SUMNER (ZONE)	12/1/2008	0	0	0	0
SUMNER (ZONE)	7/3/2012	0	0	0	0
SUMNER (ZONE)	11/1/2016	0	0	0	0
SUMNER (ZONE)	12/1/2016	0	0	0	0
SUMNER (ZONE)	6/25/2022	0	0	0	0
SUMNER (ZONE)	7/1/2022	0	0	0	0
SUMNER (ZONE)	5/1/2007	0	0	0	0

Flood

Location	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
HENDERSONVILLE	6/23/1996	Flash Flood	0	0	0	0
HENDERSONVILLE	7/21/1996	Flash Flood	0	0	0	0
WHITE HOUSE	9/27/1996	Flash Flood	0	0	0	0
HENDERSONVILLE	9/27/1996	Flash Flood	0	0	0	0
HENDERSONVILLE	12/16/1996	Flash Flood	0	0	0	0
COUNTYWIDE	3/1/1997	Flash Flood	0	0	50000	0
WESTMORELAND	3/2/1997	Flash Flood	0	0	80000	0
GALLATIN	3/5/1997	Flash Flood	0	0	0	0
COUNTYWIDE	4/16/1998	Flash Flood	0	0	0	0
PORTLAND	5/10/1998	Flash Flood	0	0	0	0
GALLATIN	6/5/1998	Flash Flood	0	0	0	0
PORTLAND	6/10/1998	Flash Flood	0	0	0	0
COUNTYWIDE	1/22/1999	Flash Flood	0	0	0	0
SOUTHWEST PORTION	2/13/2000	Flash Flood	0	0	0	0
COUNTYWIDE	12/16/2000	Flash Flood	0	0	0	0
COUNTYWIDE	2/16/2001	Flash Flood	0	0	0	0
COUNTYWIDE	1/24/2002	Flash Flood	0	0	0	0
COUNTYWIDE	3/17/2002	Flash Flood	0	0	0	0
COUNTYWIDE	6/6/2002	Flash Flood	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

WEST PORTION	6/18/2003	Flash Flood	0	0	0	0
PORTLAND	7/13/2003	Flash Flood	0	0	0	0
COUNTYWIDE	9/22/2003	Flash Flood	0	0	10000	0
	2/5/2004	Flood	0	0	0	0
HENDERSONVILLE	3/20/2004	Flash Flood	0	0	0	0
GALLATIN	12/7/2004	Flash Flood	0	0	1000	0
GALLATIN	4/30/2005	Flash Flood	0	0	1000	0
PORTLAND	8/29/2005	Flash Flood	0	0	2000	0
COUNTYWIDE	1/22/2006	Flash Flood	0	0	1000	0
GALLATIN	8/10/2006	Flash Flood	0	0	1000	0
WHITE HOUSE	5/9/2009	Flash Flood	0	0	200000	0
BRANSFORD	9/26/2009	Flash Flood	0	0	1000	0
BRANSFORD	5/2/2010	Flood	0	0	5800	1000
ROCKLAND	5/14/2010	Flash Flood	0	0	50000	1000
TROUSDALE	8/19/2010	Flash Flood	0	0	50000	1000
ROGANA	8/5/2012	Flood	0	0	0	0
MILLERSVILLE	4/27/2013	Flash Flood	0	0	25000	0
OLD HICKORY	8/8/2013	Flash Flood	0	0	500000	0
BRANSFORD	8/12/2013	Flash Flood	0	0	0	0
CLEARVIEW	8/20/2014	Flood	0	0	0	0
MITCHELLVILLE	5/11/2016	Flash Flood	0	1	3000000	0
MITCHELLVILLE	5/26/2016	Flash Flood	0	0	5000	0
TROUSDALE	6/13/2016	Flood	0	0	0	0
MITCHELLVILLE	7/7/2016	Flash Flood	0	0	5000000	0
PLEASANT GROVE	7/29/2016	Flash Flood	0	0	100000	0
BETHPAGE	5/11/2017	Flash Flood	0	0	0	0
OCANA	5/19/2017	Flash Flood	0	0	10000	0
OCANA	5/19/2017	Flash Flood	0	0	5000	0
MITCHELLVILLE	6/5/2017	Flash Flood	0	0	0	0
MITCHELLVILLE	6/5/2017	Flood	0	0	5000	0
MILLERSVILLE	9/1/2017	Flash Flood	0	0	10000	0
MITCHELLVILLE	12/23/2017	Flash Flood	0	0	0	0
ROCKLAND	2/10/2018	Flood	0	0	0	0
MILLERSVILLE	4/23/2018	Flash Flood	0	0	5000	0
FOUNTAIN HEAD	5/20/2018	Flash Flood	0	0	0	0
SAUNDERSVILLE	10/15/2018	Flood	0	0	0	0
MILLERSVILLE	11/5/2018	Flash Flood	0	0	5000	0
TWO CHESNUT	2/23/2019	Flash Flood	0	0	0	0
MILLERSVILLE	2/23/2019	Flash Flood	0	0	50000	0
HENDERSONVILLE	6/9/2019	Flash Flood	0	0	0	0
GALLATIN	6/26/2019	Flash Flood	0	0	10000	0

APPENDIX C: HISTORICAL HAZARD DATA

CLEARVIEW	6/26/2019	Flash Flood	0	0	0	0
PORTLAND	12/16/2019	Flash Flood	0	0	0	0
WESTMORELAND	12/16/2019	Flash Flood	0	0	0	0
GALLATIN	12/29/2019	Flash Flood	1	0	0	0
KANSAS	9/13/2020	Flash Flood	0	0	0	0
ROCKLAND	9/13/2020	Flash Flood	0	0	0	0
GALLATIN	9/13/2020	Flash Flood	0	0	0	0
ROGANA	9/13/2020	Flash Flood	0	0	0	0

Wind

Location	Date	Event Type	Mag (kts.)	Deaths	Injuries	Property Damage	Crop Damage
	5/26/1960	Thunderstorm Wind	0	0	0	0	0
	7/23/1960	Thunderstorm Wind	53	0	0	0	0
	8/7/1962	Thunderstorm Wind	0	0	0	0	0
	8/9/1969	Thunderstorm Wind	0	0	0	0	0
	7/1/1973	Thunderstorm Wind	0	0	0	0	0
	4/1/1974	Thunderstorm Wind	0	0	0	0	0
	4/3/1974	Thunderstorm Wind	0	0	0	0	0
	1/13/1976	Thunderstorm Wind	0	0	0	0	0
	8/24/1976	Thunderstorm Wind	0	0	0	0	0
	8/24/1976	Thunderstorm Wind	0	0	0	0	0
	3/3/1979	Thunderstorm Wind	0	0	0	0	0
	7/19/1982	Thunderstorm Wind	0	0	0	0	0
	6/3/1983	Thunderstorm Wind	0	0	0	0	0
	7/1/1983	Thunderstorm Wind	0	0	0	0	0
	3/15/1984	Thunderstorm Wind	50	0	0	0	0
	3/15/1984	Thunderstorm Wind	0	0	0	0	0
	5/6/1984	Thunderstorm Wind	0	0	0	0	0
	5/6/1984	Thunderstorm Wind	0	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

	6/11/1985	Thunderstorm Wind	0	0	0	0	0
	8/30/1985	Thunderstorm Wind	0	0	0	0	0
	8/30/1985	Thunderstorm Wind	0	0	0	0	0
	7/10/1986	Thunderstorm Wind	0	0	2	0	0
	7/14/1986	Thunderstorm Wind	0	0	0	0	0
	7/31/1986	Thunderstorm Wind	0	0	0	0	0
	7/31/1986	Thunderstorm Wind	0	0	0	0	0
	3/18/1987	Thunderstorm Wind	0	0	0	0	0
	11/4/1988	Thunderstorm Wind	0	0	0	0	0
	5/20/1989	Thunderstorm Wind	0	0	0	0	0
	6/12/1989	Thunderstorm Wind	0	0	0	0	0
	8/26/1989	Thunderstorm Wind	0	0	0	0	0
	5/16/1990	Thunderstorm Wind	0	0	0	0	0
	6/6/1990	Thunderstorm Wind	0	0	0	0	0
	9/10/1990	Thunderstorm Wind	0	0	0	0	0
	9/10/1990	Thunderstorm Wind	0	0	0	0	0
	10/4/1990	Thunderstorm Wind	0	0	0	0	0
	4/9/1991	Thunderstorm Wind	0	0	0	0	0
	5/12/1991	Thunderstorm Wind	0	0	0	0	0
	8/6/1991	Thunderstorm Wind	0	0	0	0	0
	5/12/1992	Thunderstorm Wind	0	0	0	0	0
	6/18/1992	Thunderstorm Wind	0	0	0	0	0
	6/18/1992	Thunderstorm Wind	0	0	0	0	0
	6/24/1992	Thunderstorm Wind	0	0	0	0	0
	6/24/1992	Thunderstorm Wind	0	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

	7/16/1992	Thunderstorm Wind	0	0	0	0	0
	7/16/1992	Thunderstorm Wind	0	0	0	0	0
	8/27/1992	Thunderstorm Wind	0	0	0	0	0
	8/27/1992	Thunderstorm Wind	0	0	0	0	0
	11/22/1992	Thunderstorm Wind	0	0	0	0	0
	11/22/1992	Thunderstorm Wind	0	0	0	0	0
GALLATIN	4/15/1993	Thunderstorm Wind	0	0	0	500	0
WHITE HOUSE	5/3/1993	Thunderstorm Wind	0	0	0	500	0
CASTALIAN SPRINGS	8/17/1993	Thunderstorm Wind	0	0	0	500	0
GALLATIN	3/7/1995	Thunderstorm Wind	0	0	0	30000	0
WHITE HOUSE	5/18/1995	Thunderstorm Wind	0	0	0	1	0
GALLATIN	6/6/1995	Thunderstorm Wind	0	0	0	1000	0
GALLATIN	6/7/1995	Thunderstorm Wind	0	0	0	10000	0
WHITE HOUSE	7/22/1995	Thunderstorm Wind	0	0	0	1000	0
GALLATIN	1/18/1996	Thunderstorm Wind		0	0	100	0
HENDERSONVILLE	4/20/1996	Thunderstorm Wind		0	0	500	0
PORTLAND	4/20/1996	Thunderstorm Wind		0	0	0	0
PORTLAND	5/26/1996	Thunderstorm Wind		0	0	500	0
PORTLAND	5/27/1996	Thunderstorm Wind	50	0	0	0	0
GALLATIN	5/27/1996	Thunderstorm Wind	50	0	0	0	0
PORTLAND	5/27/1996	Thunderstorm Wind	50	0	0	0	0
NORTHERN SECTIONS	6/3/1996	Thunderstorm Wind	50	0	0	0	0
COUNTYWIDE	7/21/1996	Thunderstorm Wind	50	0	0	0	0
GALLATIN	7/29/1996	Thunderstorm Wind	50	0	0	0	0
GALLATIN	9/16/1996	Thunderstorm Wind	50	0	0	1000	0

APPENDIX C: HISTORICAL HAZARD DATA

MITCHELLVILLE	9/27/1996	Thunderstorm Wind		0	0	30000	0
HENDERSONVILLE	1/4/1997	Thunderstorm Wind		0	0	5000	0
BETHPAGE	1/4/1997	Thunderstorm Wind	50	0	0	0	0
WHITE HOUSE	1/24/1997	Thunderstorm Wind	50	0	0	0	0
COUNTYWIDE	2/21/1997	Thunderstorm Wind	50	0	0	0	0
GALLATIN	3/1/1997	Thunderstorm Wind	50	0	0	0	0
WESTMORELAND	3/1/1997	Thunderstorm Wind		0	0	50000	0
HENDERSONVILLE	6/13/1997	Thunderstorm Wind	50	0	0	0	0
GALLATIN	6/13/1997	Thunderstorm Wind	50	0	0	5000	0
GALLATIN	6/13/1997	Thunderstorm Wind	50	0	0	1000	0
COUNTYWIDE	7/28/1997	Thunderstorm Wind	50	0	0	0	0
GALLATIN	8/19/1997	Thunderstorm Wind	50	0	0	0	0
GALLATIN	9/9/1997	Thunderstorm Wind	50	0	0	20000	0
PLEASANT GROVE	3/8/1998	Thunderstorm Wind	50	0	0	0	0
WEST CENTRAL PORTION	5/21/1998	Thunderstorm Wind	50	0	0	0	0
GALLATIN	5/21/1998	Thunderstorm Wind	50	0	0	0	0
PORTLAND	5/25/1998	Thunderstorm Wind	50	0	0	0	0
NORTHEAST PORTION	5/31/1998	Thunderstorm Wind	50	0	0	0	0
NORTHEAST PORTION	5/31/1998	Thunderstorm Wind	50	0	0	0	0
COUNTYWIDE	6/14/1998	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	6/20/1998	Thunderstorm Wind	50	0	0	0	0
WEST CENTRAL PORTION	6/21/1998	Thunderstorm Wind	50	0	0	0	0
PORTLAND	7/2/1998	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	7/3/1998	Thunderstorm Wind	50	0	0	0	0
GALLATIN	1/17/1999	Thunderstorm Wind	50	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

WEST PORTION	1/17/1999	Thunderstorm Wind	50	0	0	0	0
PORTLAND	2/7/1999	Thunderstorm Wind	50	0	0	0	0
GALLATIN	4/5/1999	Thunderstorm Wind	52	0	0	0	0
GALLATIN	5/5/1999	Thunderstorm Wind	80	0	0	0	0
GALLATIN	6/4/1999	Thunderstorm Wind	51	0	0	0	0
PORTLAND	8/12/1999	Thunderstorm Wind		0	0	5000	0
NORTH PORTION	1/3/2000	Thunderstorm Wind	50	0	0	0	0
WEST CENTRAL PORTION	1/3/2000	Thunderstorm Wind		0	0	500	0
WESTMORELAND	1/3/2000	Thunderstorm Wind	50	0	0	0	0
WESTMORELAND	4/20/2000	Thunderstorm Wind	60	0	0	0	0
GALLATIN	5/27/2000	Thunderstorm Wind	65	0	0	100000	0
GALLATIN	8/3/2000	Thunderstorm Wind	50	0	0	0	0
GALLATIN	8/5/2000	Thunderstorm Wind	50	0	0	0	0
COUNTYWIDE	11/9/2000	Thunderstorm Wind	50	0	0	10000	0
EAST PORTION	11/9/2000	Thunderstorm Wind	55	0	0	0	0
HENDERSONVILLE	5/7/2001	Thunderstorm Wind	50	0	0	0	0
WESTMORELAND	5/7/2001	Thunderstorm Wind	50	0	0	0	0
	6/4/2001	High Wind	52	0	0	0	0
PORTLAND	6/21/2001	Thunderstorm Wind	60	0	0	0	0
MILLERSVILLE	6/21/2001	Thunderstorm Wind	52	0	0	0	0
BETHPAGE	7/4/2001	Thunderstorm Wind	50	0	0	0	0
WEST PORTION	7/5/2001	Thunderstorm Wind	55	0	0	0	0
GALLATIN	10/24/2001	Thunderstorm Wind	61	0	0	0	0
HENDERSONVILLE	4/28/2002	Thunderstorm Wind	55	0	0	0	0
WEST CENTRAL PORTION	5/1/2002	Thunderstorm Wind	50	0	0	0	0
COUNTYWIDE	5/13/2002	Thunderstorm Wind	50	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

HENDERSONVILLE	6/25/2002	Thunderstorm Wind	50	0	0	0	0
PORTLAND	7/2/2002	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	7/10/2002	Thunderstorm Wind	50	0	0	0	0
WESTMORELAND	11/10/2002	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	5/1/2003	Thunderstorm Wind	55	0	0	0	0
HENDERSONVILLE	5/5/2003	Thunderstorm Wind	65	0	0	0	0
PORTLAND	5/7/2003	Thunderstorm Wind	55	0	0	0	0
CASTALIAN SPGS	5/7/2003	Thunderstorm Wind	85	0	1	0	0
GALLATIN	6/10/2003	Thunderstorm Wind	50	0	0	0	0
GALLATIN	6/11/2003	Thunderstorm Wind	57	0	0	0	0
HENDERSONVILLE	6/16/2003	Thunderstorm Wind	55	0	0	0	0
HENDERSONVILLE	6/16/2003	Thunderstorm Wind	50	0	0	0	0
PORTLAND	7/16/2003	Thunderstorm Wind	60	0	0	0	0
GALLATIN	7/16/2003	Thunderstorm Wind	60	0	0	0	0
CASTALIAN SPGS	7/16/2003	Thunderstorm Wind	60	0	0	0	0
HENDERSONVILLE	7/21/2003	Thunderstorm Wind	50	0	0	0	0
CASTALIAN SPGS	7/21/2003	Thunderstorm Wind	55	0	0	0	0
PORTLAND	8/4/2003	Thunderstorm Wind	55	0	0	0	0
HENDERSONVILLE	8/11/2003	Thunderstorm Wind	50	0	0	0	0
GALLATIN	8/22/2003	Thunderstorm Wind	55	0	0	0	0
GRABALL	8/22/2003	Thunderstorm Wind	55	0	0	0	0
HENDERSONVILLE	8/22/2003	Thunderstorm Wind	57	0	0	0	0
HENDERSONVILLE	8/27/2003	Thunderstorm Wind	50	0	0	50000	0
GALLATIN	3/20/2004	Thunderstorm Wind	50	0	0	0	0
BETHPAGE	5/30/2004	Thunderstorm Wind	50	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

COUNTYWIDE	5/30/2004	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	6/12/2004	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	6/13/2004	Thunderstorm Wind	50	0	0	0	0
GALLATIN	7/5/2004	Thunderstorm Wind	50	0	0	0	0
PORTLAND	7/13/2004	Thunderstorm Wind	70	0	0	10000	0
GALLATIN	7/13/2004	Thunderstorm Wind	55	0	0	50000	0
WESTMORELAND	1/13/2005	Thunderstorm Wind	50	0	0	0	0
WESTMORELAND	1/13/2005	Thunderstorm Wind	50	0	0	0	0
COUNTYWIDE	4/22/2005	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	5/19/2005	Thunderstorm Wind	50	0	0	0	0
GALLATIN	6/14/2005	Thunderstorm Wind	55	0	0	10000	0
PORTLAND	8/4/2005	Thunderstorm Wind	55	0	0	20000	0
COUNTYWIDE	8/6/2005	Thunderstorm Wind	50	0	0	0	0
TYREE SPGS	8/13/2005	Thunderstorm Wind	50	0	0	0	0
	8/30/2005	Strong Wind	35	0	0	1000	0
GALLATIN	11/6/2005	Thunderstorm Wind	50	0	0	0	0
	11/28/2005	High Wind	50	0	0	5000	0
HENDERSONVILLE	3/9/2006	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	3/9/2006	Thunderstorm Wind	50	0	0	0	0
PORTLAND	3/9/2006	Thunderstorm Wind	60	0	0	2000	0
PORTLAND	4/2/2006	Thunderstorm Wind	70	0	0	0	0
SUGAR GROVE	6/22/2006	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	9/23/2006	Thunderstorm Wind	50	0	0	0	0
HENDERSONVILLE	6/8/2007	Thunderstorm Wind	50	0	0	800	0
	1/29/2008	High Wind	50	0	0	10000	0
GALLATIN	2/5/2008	Thunderstorm Wind	70	0	0	50000	0
CAIRO	2/5/2008	Thunderstorm Wind	60	0	0	5000	0

APPENDIX C: HISTORICAL HAZARD DATA

PORTLAND	7/22/2008	Thunderstorm Wind	50	0	0	5000	0
TYREE SPGS	8/6/2008	Thunderstorm Wind	50	0	0	200	0
JOHNSONS XRDS	8/6/2008	Thunderstorm Wind	50	0	0	5000	0
GALLATIN	2/11/2009	Thunderstorm Wind	60	0	0	0	0
HENDERSONVILLE	2/11/2009	Thunderstorm Wind	62	0	0	12000	0
SUGAR GROVE	6/11/2009	Thunderstorm Wind	50	0	0	10000	0
HENDERSONVILLE	6/11/2009	Thunderstorm Wind	55	0	0	10000	0
GRABALL	6/16/2009	Thunderstorm Wind	50	0	0	8000	0
WHITE HILL	6/22/2009	Thunderstorm Wind	55	0	0	2000	0
WHITE HOUSE	6/22/2009	Thunderstorm Wind	55	0	0	10000	0
GALLATIN	6/22/2009	Thunderstorm Wind	55	0	0	50000	0
BETHPAGE	6/30/2009	Thunderstorm Wind	40	0	1	50000	0
GRABALL	7/12/2009	Thunderstorm Wind	55	0	0	50000	0
GALLATIN	4/24/2010	Thunderstorm Wind	50	0	0	10000	0
HENDERSONVILLE	5/2/2010	Thunderstorm Wind	60	0	0	10000	0
GALLATIN	5/16/2010	Thunderstorm Wind	55	0	0	5000	0
CAIRO	6/2/2010	Thunderstorm Wind	55	0	0	1500	0
COTTONTOWN	6/2/2010	Thunderstorm Wind	55	0	0	15000	0
GALLATIN	6/2/2010	Thunderstorm Wind	55	0	0	1500	0
BUCK LODGE	7/31/2010	Thunderstorm Wind	55	0	0	15000	0
PLEASANT GROVE	8/5/2010	Thunderstorm Wind	55	0	0	7500	0
CASTALIAN SPGS	8/5/2010	Thunderstorm Wind	55	0	0	10000	0
HENDERSONVILLE	2/24/2011	Thunderstorm Wind	74	0	0	75000	0
ROCKLAND	2/24/2011	Thunderstorm Wind	55	0	0	5000	0
ROCKLAND	4/4/2011	Thunderstorm Wind	55	0	0	5000	0

APPENDIX C: HISTORICAL HAZARD DATA

GALLATIN	4/4/2011	Thunderstorm Wind	55	0	0	1000	0
GALLATIN	4/4/2011	Thunderstorm Wind	55	0	0	5000	0
GALLATIN	4/4/2011	Thunderstorm Wind	55	0	0	10000	0
	4/15/2011	Strong Wind	43	0	0	25000	0
	4/15/2011	Strong Wind	43	0	0	1000	0
BETHPAGE	4/27/2011	Thunderstorm Wind	55	0	0	25000	0
AVONDALE	5/21/2011	Thunderstorm Wind	55	0	0	5000	0
AVONDALE	5/21/2011	Thunderstorm Wind	55	0	0	5000	0
GALLATIN MUNI ARPT	5/21/2011	Thunderstorm Wind	55	0	0	5000	0
KANSAS	5/23/2011	Thunderstorm Wind	70	0	0	50000	0
GALLATIN	5/24/2011	Thunderstorm Wind	55	0	0	25000	0
PLEASANT VLY	5/25/2011	Thunderstorm Wind	55	0	0	10000	0
PORTLAND	5/25/2011	Thunderstorm Wind	55	0	0	5000	0
HENDERSONVILLE	5/25/2011	Thunderstorm Wind	52	0	0	0	0
HENDERSONVILLE	5/25/2011	Thunderstorm Wind	58	0	0	25000	0
GALLATIN	5/25/2011	Thunderstorm Wind	55	0	0	25000	0
ROCKLAND	6/28/2011	Thunderstorm Wind	52	0	0	10000	0
JOHNSONS XRDS	6/28/2011	Thunderstorm Wind	52	0	0	1000	0
WHITE HOUSE	7/7/2011	Thunderstorm Wind	55	0	0	10000	0
GALLATIN MUNI ARPT	9/3/2011	Thunderstorm Wind	55	0	0	10000	0
WHITE HOUSE	1/23/2012	Thunderstorm Wind	50	0	0	5000	0
CUMMINGS XRDS	1/23/2012	Thunderstorm Wind	50	0	0	5000	0
ROCK BRIDGE	1/23/2012	Thunderstorm Wind	50	0	0	10000	0
HENDERSONVILLE	1/23/2012	Thunderstorm Wind	50	0	0	1000	0
AVONDALE	1/23/2012	Thunderstorm Wind	50	0	0	5000	0
LIBERTY	1/23/2012	Thunderstorm Wind	54	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

GALLATIN	3/17/2012	Thunderstorm Wind	55	0	0	0	0
GALLATIN	5/31/2012	Thunderstorm Wind	55	0	0	30000	0
PORTLAND	5/31/2012	Thunderstorm Wind	55	0	0	10000	0
CUMMINGS XRDS	6/11/2012	Thunderstorm Wind	52	0	0	2000	0
GALLATIN	7/6/2012	Thunderstorm Wind	55	0	0	10000	0
GALLATIN	7/6/2012	Thunderstorm Wind	55	0	0	30000	0
CEDAR GROVE	7/6/2012	Thunderstorm Wind	55	0	0	25000	0
GALLATIN	7/6/2012	Thunderstorm Wind	55	0	0	25000	0
PORTLAND	7/19/2012	Thunderstorm Wind	55	0	0	10000	0
PLEASANT VLY	7/19/2012	Thunderstorm Wind	55	0	0	10000	0
ROCKLAND	7/19/2012	Thunderstorm Wind	55	0	0	5000	0
ROCKLAND	7/19/2012	Thunderstorm Wind	55	0	0	5000	0
HENDERSONVILLE	7/19/2012	Thunderstorm Wind	55	0	0	15000	0
KANSAS	8/9/2012	Thunderstorm Wind	52	0	0	3000	0
PORTLAND	8/16/2012	Thunderstorm Wind	52	0	0	5000	0
COTTONTOWN	1/30/2013	Thunderstorm Wind	52	0	0	10000	0
ROCKLAND	1/30/2013	Thunderstorm Wind	56	0	0	20000	0
NUBIA	1/30/2013	Thunderstorm Wind	52	0	0	10000	0
	5/3/2013	Strong Wind	35	0	0	2000	0
CEDAR GROVE	5/21/2013	Thunderstorm Wind	60	0	1	250000	0
SOUTH TUNNEL	6/9/2013	Thunderstorm Wind	52	0	0	3000	0
WALNUT GROVE	6/20/2013	Thunderstorm Wind	48	0	0	2000	0
SOUTH TUNNEL	6/20/2013	Thunderstorm Wind	52	0	0	3000	0
	10/31/2013	Strong Wind	43	0	0	5000	0
WHITE HILL	10/31/2013	Thunderstorm Wind	52	0	0	2000	0
TYREE SPGS	12/21/2013	Thunderstorm Wind	52	0	0	1000	0

APPENDIX C: HISTORICAL HAZARD DATA

WHITE HOUSE	12/21/2013	Thunderstorm Wind	48	0	0	1000	0
	12/21/2013	Strong Wind	43	0	0	2000	0
PORTLAND	2/20/2014	Thunderstorm Wind	52	0	0	3000	0
TWO CHESNUT	4/28/2014	Thunderstorm Wind	70	0	0	10000	0
WESTMORELAND	4/28/2014	Thunderstorm Wind	52	0	0	5000	0
BETHPAGE	7/27/2014	Thunderstorm Wind	50	0	0	1000	0
WESTMORELAND	7/27/2014	Thunderstorm Wind	50	0	0	1000	0
PORTLAND	8/7/2014	Thunderstorm Wind	52	0	0	2000	0
HENDERSONVILLE	8/23/2014	Thunderstorm Wind	52	0	0	3000	0
LIBERTY	10/7/2014	Thunderstorm Wind	48	0	0	1000	0
TYREE SPGS	10/13/2014	Thunderstorm Wind	52	0	0	1000	0
HENDERSONVILLE	4/3/2015	Thunderstorm Wind	60	0	0	3000	0
SAUNDERSVILLE	4/3/2015	Thunderstorm Wind	52	0	0	1000	0
SOUTH TUNNEL	4/10/2015	Thunderstorm Wind	52	0	0	1000	0
PROVIDENCE	4/20/2015	Thunderstorm Wind	52	0	0	1000	0
PORTLAND	5/17/2015	Thunderstorm Wind	65	0	0	20000	0
SAUNDERSVILLE	5/17/2015	Thunderstorm Wind	52	0	0	1000	0
GALLATIN	5/17/2015	Thunderstorm Wind	52	0	0	2000	0
SAUNDERSVILLE	5/27/2015	Thunderstorm Wind	56	0	0	10000	0
PEYTONA	6/26/2015	Thunderstorm Wind	52	0	0	1000	0
TROUSDALE	7/14/2015	Thunderstorm Wind	52	0	0	3000	0
WHITE HILL	7/28/2015	Thunderstorm Wind	48	0	0	1000	0
ROCKLAND	7/28/2015	Thunderstorm Wind	52	0	0	5000	0
ROCKLAND	7/28/2015	Thunderstorm Wind	56	0	0	15000	0
ROCKLAND	7/28/2015	Thunderstorm Wind	52	0	0	1000	0
GALLATIN	11/6/2015	Thunderstorm Wind	50	0	0	1000	0

APPENDIX C: HISTORICAL HAZARD DATA

HENDERSONVILLE	4/6/2016	Thunderstorm Wind	52	0	0	1000	0
CEDAR GROVE	4/6/2016	Thunderstorm Wind	52	0	0	1000	0
HENDERSONVILLE	5/10/2016	Thunderstorm Wind	48	0	0	1000	0
TROUSDALE	6/13/2016	Thunderstorm Wind	50	0	0	4000	0
PORTLAND	6/15/2016	Thunderstorm Wind	52	0	0	2000	0
SHACKLE IS	6/15/2016	Thunderstorm Wind	52	0	2	1000	0
HENDERSONVILLE	6/15/2016	Thunderstorm Wind	50	0	0	2000	0
GALLATIN	6/15/2016	Thunderstorm Wind	52	0	0	5000	0
GALLATIN	6/15/2016	Thunderstorm Wind	48	0	0	1000	0
CASTALIAN SPGS	6/15/2016	Thunderstorm Wind	50	0	0	1000	0
KANSAS	6/15/2016	Thunderstorm Wind	52	0	0	3000	0
PLEASANT VLY	6/16/2016	Thunderstorm Wind	50	0	0	2000	0
JOHNSONS XRDS	6/16/2016	Thunderstorm Wind	52	0	0	3000	0
BRANSFORD	7/6/2016	Thunderstorm Wind	50	0	0	1000	0
PORTLAND	7/6/2016	Thunderstorm Wind	50	0	0	5000	0
COTTONTOWN	7/6/2016	Thunderstorm Wind	50	0	0	3000	0
HENDERSONVILLE	7/6/2016	Thunderstorm Wind	50	0	0	2000	0
HENDERSONVILLE	7/6/2016	Thunderstorm Wind	50	0	0	1000	0
CASTALIAN SPGS	7/6/2016	Thunderstorm Wind	50	0	0	3000	0
PORTLAND	7/7/2016	Thunderstorm Wind	48	0	0	3000	0
WESTMORELAND	7/7/2016	Thunderstorm Wind	50	0	0	5000	0
HENDERSONVILLE	7/7/2016	Thunderstorm Wind	48	0	0	3000	0
TWO CHESNUT	7/8/2016	Thunderstorm Wind	50	0	0	2000	0
FOUNTAIN HEAD	7/8/2016	Thunderstorm Wind	50	0	0	1000	0
HIGHLAND ACADEMY	7/8/2016	Thunderstorm Wind	50	0	0	2000	0

APPENDIX C: HISTORICAL HAZARD DATA

MILLERSVILLE	7/8/2016	Thunderstorm Wind	50	0	0	1000	0
CORINTH	7/8/2016	Thunderstorm Wind	50	0	0	2000	0
SAUNDERSVILLE	7/8/2016	Thunderstorm Wind	52	0	0	6000	0
GALLATIN	7/8/2016	Thunderstorm Wind	50	0	0	5000	0
ROCK BRIDGE	7/8/2016	Thunderstorm Wind	52	0	0	5000	0
GALLATIN	7/8/2016	Thunderstorm Wind	50	0	0	3000	0
HENDERSONVILLE	8/5/2016	Thunderstorm Wind	52	0	0	3000	0
KANSAS	9/10/2016	Thunderstorm Wind	48	0	0	1000	0
CEDAR GROVE	11/28/2016	Thunderstorm Wind	52	0	0	2000	0
HENDERSONVILLE	12/17/2016	Thunderstorm Wind	52	0	0	1000	0
	1/10/2017	Strong Wind	43	0	0	3000	0
ROCKLAND	3/1/2017	Thunderstorm Wind	65	0	0	30000	0
PORTLAND	3/1/2017	Thunderstorm Wind	56	0	0	15000	0
BETHPAGE	3/1/2017	Thunderstorm Wind	52	0	0	2000	0
BRANSFORD	3/1/2017	Thunderstorm Wind	52	0	0	2000	0
HENDERSONVILLE	3/9/2017	Thunderstorm Wind	43	0	0	3000	0
TWO CHESNUT	3/27/2017	Thunderstorm Wind	50	0	0	3000	0
GALLATIN	3/27/2017	Thunderstorm Wind	52	0	0	3000	0
	4/22/2017	Strong Wind	43	0	1	50000	0
OLD HICKORY	4/30/2017	Thunderstorm Wind	50	0	0	2000	0
HENDERSONVILLE	4/30/2017	Thunderstorm Wind	50	0	0	2000	0
HENDERSONVILLE	4/30/2017	Thunderstorm Wind	50	0	0	1000	0
GALLATIN	4/30/2017	Thunderstorm Wind	50	0	0	1000	0
	5/1/2017	Strong Wind	39	0	0	1000	0
WHITE HOUSE	5/20/2017	Thunderstorm Wind	50	0	0	1000	0
CORINTH	5/20/2017	Thunderstorm Wind	50	0	0	2000	0
GALLATIN	5/27/2017	Thunderstorm Wind	50	0	0	3000	0

APPENDIX C: HISTORICAL HAZARD DATA

CEDAR GROVE	5/27/2017	Thunderstorm Wind	50	0	0	1000	0
	8/31/2017	Strong Wind	43	0	0	10000	0
PORTLAND	11/18/2017	Thunderstorm Wind	48	0	0	1000	0
CEDAR GROVE	11/18/2017	Thunderstorm Wind	61	0	0	5000	0
CEDAR GROVE	11/18/2017	Thunderstorm Wind	52	0	0	3000	0
HENDERSONVILLE	2/24/2018	Thunderstorm Wind	48	0	0	2000	0
OAK GROVE	4/3/2018	Thunderstorm Wind	50	0	0	1000	0
ROCK BRIDGE	5/20/2018	Thunderstorm Wind	50	0	0	3000	0
PORTLAND	6/10/2018	Thunderstorm Wind	50	0	0	3000	0
PORTLAND	6/10/2018	Thunderstorm Wind	50	0	0	5000	0
CAIRO	6/11/2018	Thunderstorm Wind	50	0	0	3000	0
PROVIDENCE	6/12/2018	Thunderstorm Wind	50	0	0	2000	0
PROVIDENCE	6/12/2018	Thunderstorm Wind	48	0	0	2000	0
GALLATIN	6/17/2018	Thunderstorm Wind	43	0	0	3000	0
TWO CHESNUT	6/27/2018	Thunderstorm Wind	50	0	0	3000	0
HIGHLAND ACADEMY	6/27/2018	Thunderstorm Wind	52	0	0	4000	0
CATALIAN SPGS	6/27/2018	Thunderstorm Wind	50	0	0	3000	0
GALLATIN	8/30/2018	Thunderstorm Wind	45	0	0	5000	0
	3/14/2019	Strong Wind	43	0	1	50000	0
PLEASANT VLY	3/30/2019	Thunderstorm Wind	50	0	0	1000	0
CATALIAN SPGS	3/30/2019	Thunderstorm Wind	50	0	0	3000	0
GALLATIN	5/2/2019	Thunderstorm Wind	50	0	0	2000	0
HENDERSONVILLE	6/19/2019	Thunderstorm Wind	50	0	0	5000	0
WHITE HOUSE	6/21/2019	Thunderstorm Wind	52	0	0	15000	0
HENDERSONVILLE	6/21/2019	Thunderstorm Wind	52	0	0	3000	0
GALLATIN	6/26/2019	Thunderstorm Wind	50	0	0	3000	0

APPENDIX C: HISTORICAL HAZARD DATA

CEDAR GROVE	6/27/2019	Thunderstorm Wind	50	0	0	1000	0
PEYTONA	6/27/2019	Thunderstorm Wind	50	0	0	1000	0
GALLATIN	6/27/2019	Thunderstorm Wind	50	0	0	1000	0
PORTLAND	6/27/2019	Thunderstorm Wind	50	0	0	3000	0
CASTALIAN SPGS	7/2/2019	Thunderstorm Wind	45	0	0	1000	0
WHITE HOUSE	8/6/2019	Thunderstorm Wind	52	0	0	3000	0
GALLATIN MUNI ARPT	9/10/2019	Thunderstorm Wind	51	0	0	0	0
HENDERSONVILLE	4/8/2020	Thunderstorm Wind	50	0	0	3000	0
GALLATIN MUNI ARPT	4/8/2020	Thunderstorm Wind	50	0	0	3000	0
KANSAS	4/8/2020	Thunderstorm Wind	50	0	0	1000	0
GALLATIN	5/3/2020	Thunderstorm Wind	52	0	0	15830	0
MILLERSVILLE	5/25/2020	Thunderstorm Wind	43	0	0	1000	0
CORINTH	3/25/2021	Thunderstorm Wind	74	0	4	200000	0
WHITE HOUSE	5/4/2021	Thunderstorm Wind	56	0	0	15000	0
CLEARVIEW	5/4/2021	Thunderstorm Wind	56	0	0	10000	0
GALLATIN	5/4/2021	Thunderstorm Wind	52	0	0	3000	0
COTTONTOWN	12/6/2021	Thunderstorm Wind	52	0	0	2000	0
GALLATIN	12/11/2021	Thunderstorm Wind	61	0	0	10000	0
	3/30/2022	Strong Wind	48	0	0	10000	0
TROUSDALE	3/30/2022	Thunderstorm Wind	52	0	0	3000	0
PORTLAND	6/17/2022	Thunderstorm Wind	50	0	0	1000	0
CEDAR GROVE	7/5/2022	Thunderstorm Wind	52	0	0	10000	0
AVONDALE	7/7/2022	Thunderstorm Wind	50	0	0	1000	0
SOUTH TUNNEL	7/7/2022	Thunderstorm Wind	50	0	0	1000	0
PORTLAND	7/26/2022	Thunderstorm Wind	56	0	0	25000	0

APPENDIX C: HISTORICAL HAZARD DATA

Hail

Location	Date	Magnitude (in.)	Deaths	Injuries	Property Damage	Crop Damages
	3/26/1959	1.75	0	0	0	0
	4/6/1965	0.75	0	0	0	0
	5/19/1973	1.75	0	0	0	0
	3/7/1975	1.75	0	0	0	0
	5/6/1984	1	0	0	0	0
	5/7/1984	1	0	0	0	0
	6/4/1985	1.5	0	0	0	0
WHITE HOUSE	3/31/1993	0.75	0	0	0	0
PORTLAND	3/31/1993	0.75	0	0	0	0
PORTLAND	6/26/1994	1	0	0	50	0
WHITE HOUSE	2/27/1996	0.75	0	0	0	0
PORTLAND	3/16/1996	0.75	0	0	0	0
BETHPAGE	3/16/1996	1.75	0	0	0	0
WHITE HOUSE	5/26/1996	0.75	0	0	0	0
GALLATIN	1/4/1997	0.75	0	0	0	0
GALLATIN	3/5/1997	0.75	0	0	0	0
WESTMORELAND	3/28/1997	1.5	0	0	0	0
GALLATIN	7/4/1997	0.75	0	0	0	0
WALNUT GROVE	4/3/1998	2.75	0	0	0	0
COTTONTOWN	4/3/1998	1.75	0	0	0	0
GALLATIN	4/3/1998	1.75	0	0	0	0
PORTLAND	4/16/1998	0.75	0	0	0	0
PORTLAND	4/16/1998	0.88	0	0	0	0
WESTMORELAND	4/16/1998	0.88	0	0	0	0
HENDERSONVILLE	4/16/1998	1	0	0	0	0
GALLATIN	5/21/1998	0.88	0	0	0	0
GALLATIN	5/25/1998	0.75	0	0	0	0
BETHPAGE	5/29/1998	0.75	0	0	0	0
SHACKLE IS	6/10/1998	0.88	0	0	0	0
GALLATIN	1/17/1999	0.75	0	0	0	0
HENDERSONVILLE	4/5/1999	0.75	0	0	0	0
GALLATIN	4/5/1999	0.75	0	0	0	0
PORTLAND	4/19/1999	0.75	0	0	0	0
GALLATIN	4/19/1999	0.75	0	0	0	0
GALLATIN	4/19/1999	0.75	0	0	0	0
BETHPAGE	5/4/2000	0.75	0	0	0	0
WESTMORELAND	5/24/2000	1.75	0	0	0	0
MILLERSVILLE	7/27/2000	0.75	0	0	0	0
MILLERSVILLE	7/27/2000	1	0	0	0	0
PORTLAND	5/7/2001	0.75	0	0	0	0
HENDERSONVILLE	4/28/2002	0.88	0	0	0	0
WEST CENTRAL PORTION	5/1/2002	0.75	0	0	0	0
WEST CENTRAL PORTION	5/1/2002	0.88	0	0	0	0
GALLATIN	5/1/2002	0.75	0	0	0	0
GALLATIN	5/1/2002	0.88	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

GALLATIN	4/29/2003	1	0	0	0	0
BETHPAGE	4/29/2003	0.75	0	0	0	0
GALLATIN MUNI ARPT	5/5/2003	0.75	0	0	0	0
PORTLAND	5/5/2003	0.75	0	0	0	0
PORTLAND	8/4/2003	1	0	0	0	0
GALLATIN	5/30/2004	1.5	0	0	0	0
PORTLAND	7/14/2004	1	0	0	0	0
GALLATIN	4/2/2006	0.88	0	0	0	0
GALLATIN	4/2/2006	1	0	0	0	0
GALLATIN	4/7/2006	1	0	0	0	0
GALLATIN	4/7/2006	1	0	0	0	0
HENDERSONVILLE	4/7/2006	1.75	0	0	0	0
GALLATIN	4/19/2006	0.75	0	0	0	0
GALLATIN	6/22/2006	1.75	0	0	0	0
GALLATIN	6/22/2006	0.88	0	0	0	0
SUGAR GROVE	6/22/2006	0.75	0	0	0	0
GALLATIN	2/21/2007	1.75	0	0	0	0
GALLATIN	2/21/2007	0.88	0	0	0	0
HENDERSONVILLE	2/5/2008	0.88	0	0	0	0
GALLATIN	2/5/2008	1	0	0	0	0
GALLATIN	2/5/2008	1	0	0	0	0
GALLATIN	2/5/2008	1	0	0	0	0
PORTLAND	7/22/2008	0.88	0	0	0	0
PORTLAND	3/28/2009	0.75	0	0	0	0
WESTMORELAND	4/10/2009	0.75	0	0	0	0
NUBIA	5/8/2009	0.88	0	0	0	0
OLD HICKORY	6/2/2009	0.88	0	0	0	0
HENDERSONVILLE	5/14/2010	0.88	0	0	0	0
GALLATIN	5/14/2010	1	0	0	0	0
KANSAS	5/28/2010	1	0	0	0	0
CAIRO	4/15/2011	0.75	0	0	0	0
PORTLAND	4/20/2011	1	0	0	0	0
GALLATIN	4/24/2011	0.88	0	0	0	0
SHACKLE IS	5/2/2011	0.88	0	0	0	0
GALLATIN	6/5/2011	0.88	0	0	0	0
WESTMORELAND	6/5/2011	0.88	0	0	0	0
GALLATIN	6/15/2011	0.88	0	0	0	0
GALLATIN	6/15/2011	0.88	0	0	0	0
BON AIR	6/19/2011	2.75	0	0	0	0
WESTMORELAND	6/19/2011	1.75	0	0	0	0
WESTMORELAND	6/19/2011	1.75	0	0	2000	0
WESTMORELAND	6/19/2011	1	0	0	0	0
HENDERSONVILLE	10/18/2011	0.75	0	0	0	0
GALLATIN	1/21/2012	1	0	0	0	0
GALLATIN	1/21/2012	1	0	0	0	0
CASTALIAN SPGS	3/2/2012	0.88	0	0	0	0
HIGHLAND ACADEMY	3/14/2012	1.5	0	0	0	0
WESTMORELAND	3/14/2012	1	0	0	0	0
MILLERSVILLE	3/14/2012	1	0	0	0	0
MILLERSVILLE	3/14/2012	1	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

HIGHLAND ACADEMY	3/14/2012	1.75	0	0	5000	0
GALLATIN	3/14/2012	1	0	0	0	0
OAK GROVE	3/15/2012	1	0	0	0	0
BETHPAGE	3/15/2012	1.75	0	0	0	0
WESTMORELAND	3/15/2012	0.88	0	0	0	0
GALLATIN	3/15/2012	0.88	0	0	0	0
WESTMORELAND	4/26/2012	1	0	0	0	0
WESTMORELAND	4/26/2012	1.75	0	0	0	0
HENDERSONVILLE	4/26/2012	0.88	0	0	0	0
HENDERSONVILLE	4/26/2012	1	0	0	0	0
HENDERSONVILLE	5/6/2012	1	0	0	0	0
PEYTONA	5/19/2012	0.88	0	0	0	0
CLEARVIEW	4/27/2013	0.88	0	0	0	0
MILLERSVILLE	6/9/2013	0.75	0	0	0	0
SHACKLE IS	6/9/2013	0.88	0	0	0	0
KANSAS	6/9/2013	0.88	0	0	0	0
BETHPAGE	6/9/2013	1	0	0	0	0
CEDAR GROVE	7/27/2014	0.88	0	0	0	0
COTTONTOWN	10/7/2014	0.88	0	0	0	0
GALLATIN	10/7/2014	1	0	0	0	0
WHITE HOUSE	4/3/2015	1	0	0	0	0
ROCK BRIDGE	4/3/2015	1	0	0	0	0
WESTMORELAND	5/15/2015	0.75	0	0	0	0
MITCHELLVILLE	6/8/2015	1.25	0	0	0	0
PORTLAND	6/8/2015	1	0	0	0	0
WHITE HOUSE	5/10/2016	1	0	0	0	0
SOUTH TUNNEL	5/10/2016	1	0	0	0	0
GRABALL	5/10/2016	1.25	0	0	0	0
GRABALL	5/10/2016	1	0	0	0	0
HENDERSONVILLE	5/10/2016	1.75	0	0	0	0
NEW DEAL	7/6/2016	0.75	0	0	0	0
PORTLAND	7/8/2016	0.88	0	0	0	0
GALLATIN	7/19/2016	0.75	0	0	0	0
WHITE HOUSE	3/27/2017	0.88	0	0	0	0
MILLERSVILLE	3/27/2017	1	0	0	0	0
PORTLAND	4/5/2017	0.88	0	0	0	0
HENDERSONVILLE	5/6/2018	0.75	0	0	0	0
BETHPAGE	6/11/2018	0.88	0	0	0	0
WESTMORELAND	6/11/2018	0.75	0	0	0	0
CAIRO	6/11/2018	1	0	0	0	0
PORTLAND	3/9/2019	0.75	0	0	0	0
GALLATIN	6/26/2019	1	0	0	0	0
HENDERSONVILLE	9/10/2019	1	0	0	0	0
HENDERSONVILLE	2/28/2021	0.75	0	0	0	0
HENDERSONVILLE	2/28/2021	0.88	0	0	0	0
HENDERSONVILLE	2/28/2021	1	0	0	0	0
COTTONTOWN	3/25/2021	1.5	0	0	0	0
CHERRY MOUND ARPT	3/25/2021	2	0	0	0	0
PORTLAND	3/25/2021	1.5	0	0	0	0
HIGHLAND ACADEMY	7/7/2022	1.5	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

PORTLAND	7/12/2022	0.75	0	0	0	0
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Lightning

Location	Date	Deaths	Injuries	Property Damage	Crop Damages
PORTLAND	8/19/1997	0	0	20000	0
PORTLAND	9/20/1999	0	0	40000	0
OAK GROVE	7/10/2001	0	1	0	0
GALLATIN	3/15/2002	0	1	0	0
PORTLAND	6/11/2003	0	0	100	0
PORTLAND	2/24/2011	0	0	1000	0
SAUNDERSVILLE	7/1/2015	0	0	300000	0
ROCKLAND	7/28/2015	0	0	1000	0
MILLERSVILLE	7/7/2016	0	0	250000	0
GALLATIN MUNI ARPT	7/14/2017	0	0	2000	0
SAUNDERSVILLE	8/8/2018	0	0	5000	0

Winter Weather

Location	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damages
SUMNER (ZONE)	1/6/1996	Winter Storm	0	0	0	0
SUMNER (ZONE)	1/6/1996	Winter Storm	0	0	0	0
SUMNER (ZONE)	12/24/1998	Winter Storm	0	0	0	0
SUMNER (ZONE)	12/4/2002	Winter Storm	0	0	0	0
SUMNER (ZONE)	12/22/2004	Winter Storm	0	0	0	0
SUMNER (ZONE)	3/7/2008	Winter Storm	0	0	0	0
SUMNER (ZONE)	1/19/2009	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/8/2010	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/10/2010	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/14/2010	Winter Weather	0	0	0	0
SUMNER (ZONE)	12/15/2010	Winter Weather	0	0	0	0
SUMNER (ZONE)	12/24/2010	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/7/2011	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/10/2011	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/11/2011	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/20/2011	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/7/2011	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/9/2011	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/12/2012	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/10/2012	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/19/2012	Winter Weather	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

SUMNER (ZONE)	1/15/2013	Winter Weather	0	0	7000	0
SUMNER (ZONE)	1/25/2013	Winter Weather	0	0	5000	0
SUMNER (ZONE)	1/25/2013	Winter Weather	0	0	50000	0
SUMNER (ZONE)	1/25/2013	Winter Weather	0	0	10000	0
SUMNER (ZONE)	1/31/2013	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/1/2013	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/1/2013	Winter Weather	0	0	0	0
SUMNER (ZONE)	12/7/2013	Winter Weather	0	0	0	0
SUMNER (ZONE)	12/9/2013	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/2/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/5/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/21/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/25/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/2/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/7/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/2/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	11/17/2014	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/23/2015	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/26/2015	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/16/2015	Winter Storm	0	0	100000	0
SUMNER (ZONE)	2/18/2015	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/20/2015	Winter Storm	0	0	500000	0
SUMNER (ZONE)	2/25/2015	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/4/2015	Winter Storm	0	0	0	0
SUMNER (ZONE)	1/20/2016	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/21/2016	Winter Storm	0	0	10000	0
SUMNER (ZONE)	2/8/2016	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/12/2016	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/14/2016	Winter Weather	0	0	0	0
SUMNER (ZONE)	12/18/2016	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/6/2017	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/11/2017	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/12/2018	Winter Storm	0	0	0	0
SUMNER (ZONE)	1/15/2018	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/12/2018	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/20/2018	Winter Weather	0	0	0	0
SUMNER (ZONE)	12/8/2018	Winter Weather	0	0	10000	0
SUMNER (ZONE)	1/19/2019	Winter Weather	0	0	0	0
SUMNER (ZONE)	11/11/2019	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/6/2020	Winter Weather	0	0	0	0
SUMNER (ZONE)	11/30/2020	Winter Weather	0	0	0	0

APPENDIX C: HISTORICAL HAZARD DATA

SUMNER (ZONE)	1/15/2021	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/1/2021	Winter Weather	0	0	0	0
SUMNER (ZONE)	2/14/2021	Winter Storm	0	0	0	0
SUMNER (ZONE)	2/17/2021	Winter Storm	0	0	0	0
SUMNER (ZONE)	1/2/2022	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/6/2022	Winter Storm	0	0	0	0
SUMNER (ZONE)	1/16/2022	Winter Weather	0	0	0	0
SUMNER (ZONE)	1/19/2022	Winter Weather	0	0	0	0
SUMNER (ZONE)	3/11/2022	Winter Storm	0	0	0	0

Tornado

Location	Date	Magnitude (EF Scale)	Deaths	Injuries	Property Damages	Crop Damages
	3/4/1955	F2	0	4	0	0
	4/24/1955	F2	0	0	250000	0
	2/27/1956	F3	0	4	25000	0
	4/3/1956	F1	0	0	25000	0
	4/27/1970	F4	1	10	2500000	0
	6/19/1971	F0	0	0	0	0
	5/19/1973	F1	0	0	0	0
	5/17/1980	F1	0	3	25000	0
	7/5/1980	F2	0	0	25000	0
	3/20/1982	F1	0	0	25000	0
	5/6/1984	F2	0	0	250000	0
	5/6/1984	F2	0	0	25000	0
	5/7/1984	F1	0	0	250000	0
	11/10/1984	F1	0	3	25000	0
Bethpage	3/7/1995	F0	0	0	10000	0
	5/18/1995	F2	0	28	3000000	0
Millersville to	5/18/1995	F1	0	0	5000	0
PORTLAND	1/24/1997	F0	0	0	0	0
COTTONTOWN	4/3/1998	F2	0	0	200000	0
GALLATIN	5/5/1999	F2	0	17	1000000	0
PORTLAND	11/10/2002	F2	0	6	500000	0
GALLATIN	5/11/2003	F1	0	0	0	0
HENDERSONVILLE	11/15/2005	F0	0	0	0	0
GALLATIN	4/7/2006	F3	7	121	69000000	0
CASTALIAN SPGS	2/5/2008	EF3	7	14	10000000	0
MILLERSVILLE	2/6/2008	EF0	0	0	0	0
LIBERTY	2/6/2008	EF1	0	0	0	0
JOHNSONS XRDS	4/10/2009	EF1	0	0	200000	0

APPENDIX C: HISTORICAL HAZARD DATA

BRANSFORD	7/30/2009	EF1	0	0	100000	0
ROCKLAND	5/2/2010	EF1	0	0	450000	15000
MILLERSVILLE	1/30/2013	EF0	0	0	120000	30000
CLEARVIEW	1/30/2013	EF0	0	0	19000	15000
AVONDALE	1/30/2013	EF0	0	0	225000	40000
CASTALIAN SPGS	1/30/2013	EF0	0	0	65000	25000
ROGANA	1/30/2013	EF0	0	0	45000	25000
PORTLAND	11/17/2013	EF0	0	0	200000	0
WHITE HOUSE	5/4/2021	EF0	0	0	5000	0
CLEARVIEW	5/4/2021	EF0	0	0	5000	0
SAUNDERSVILLE	5/4/2021	EF0	0	0	25000	0
GALLATIN MUNI ARPT	5/4/2021	EF0	0	0	15000	0
CASTALIAN SPGS	5/4/2021	EF0	0	0	10000	0
OLD HICKORY	12/11/2021	EF1	0	0	1500000	0
GRABALL	12/11/2021	EF0	0	0	25000	0
HUNTERS PT	12/11/2021	EF0	0	0	10000	0

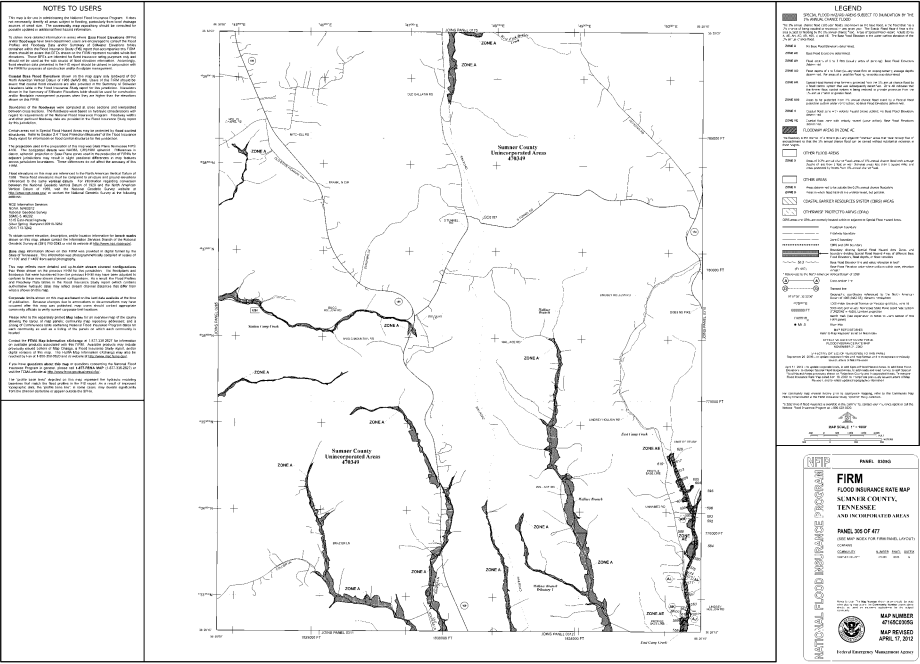
Thunderstorm

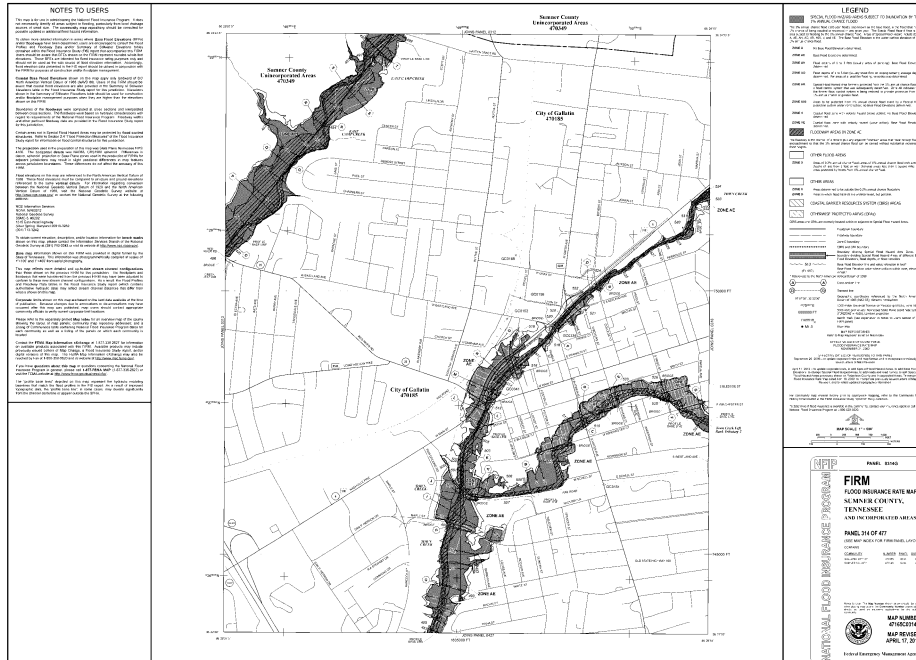
Location	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
ROCK BRIDGE	5/11/2016	Heavy Rain	0	0	0	0
ROCK BRIDGE	5/11/2016	Heavy Rain	0	0	0	0
CASTALIAN SPRINGS	7/6/2016	Heavy Rain	0	0	0	0
ROCK BRIDGE	7/6/2016	Heavy Rain	0	0	0	0
SAUNDERSVILLE	7/6/2016	Heavy Rain	0	0	0	0
CASTALIAN SPRINGS	7/7/2016	Heavy Rain	0	0	0	0
BETHPAGE	5/11/2017	Heavy Rain	0	0	0	0
ROCK BRIDGE	5/18/2017	Heavy Rain	0	0	0	0
WHITE HOUSE	5/19/2017	Heavy Rain	0	0	0	0
OCANA	4/23/2018	Heavy Rain	0	0	0	0

APPENDIX C

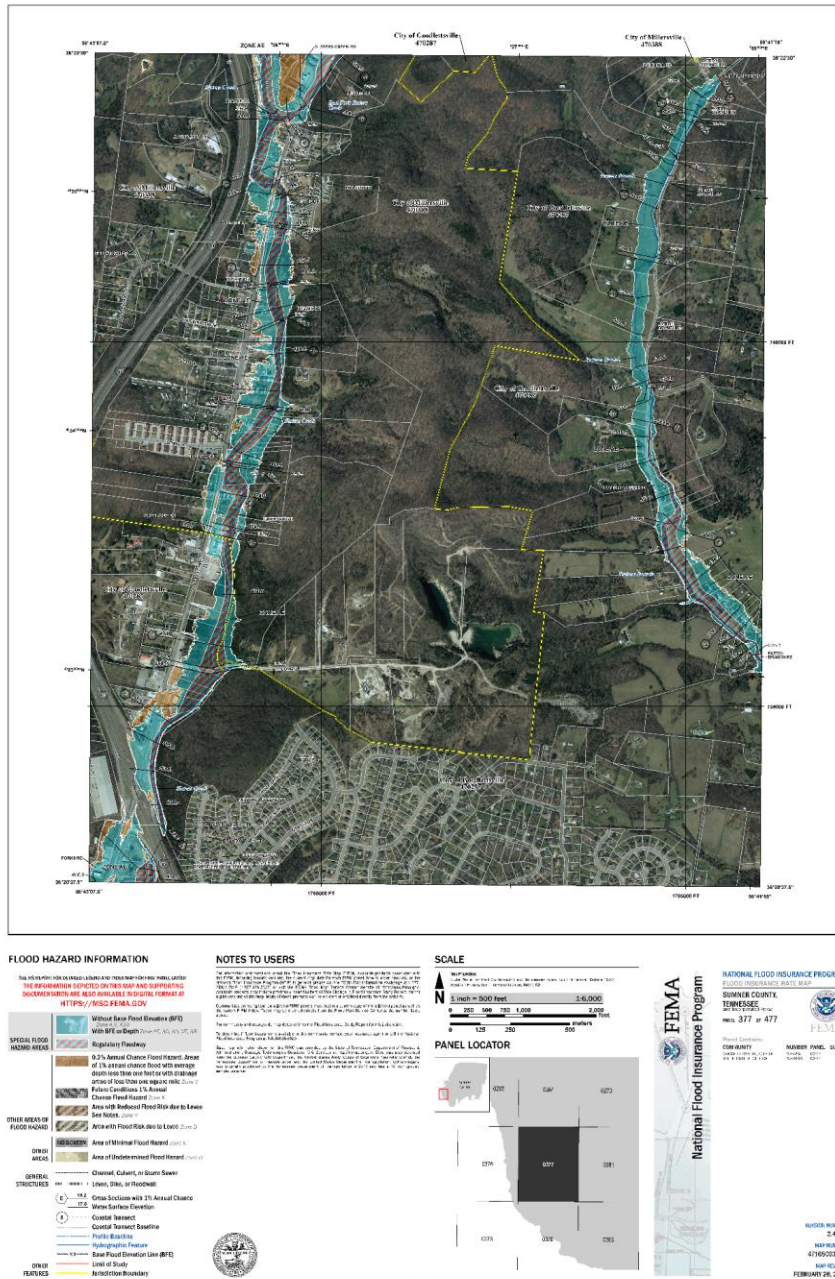
HAZUS/FIRM Panels

APPENDIX C: HAZUS/FIRM PANELS

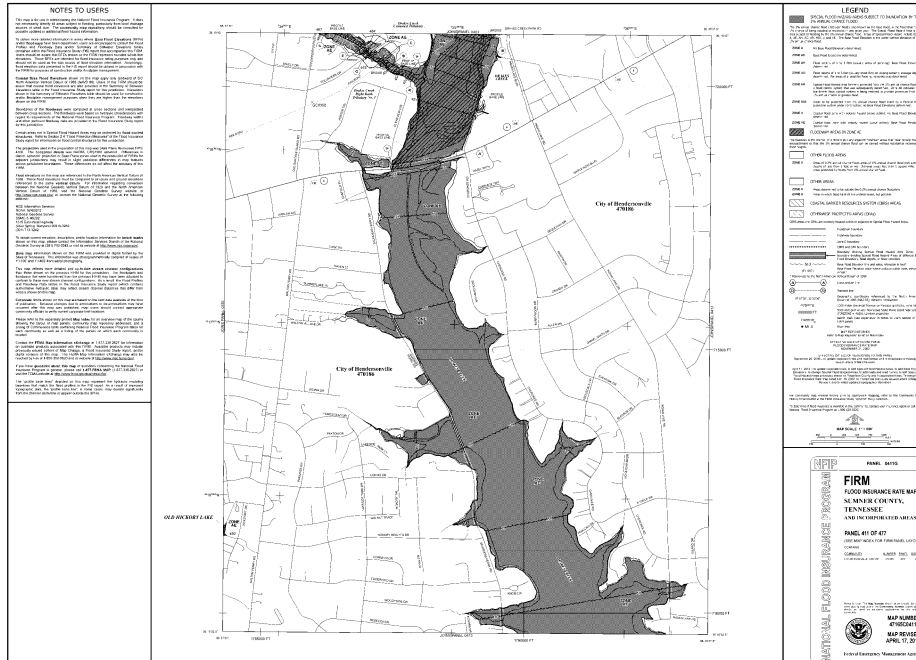




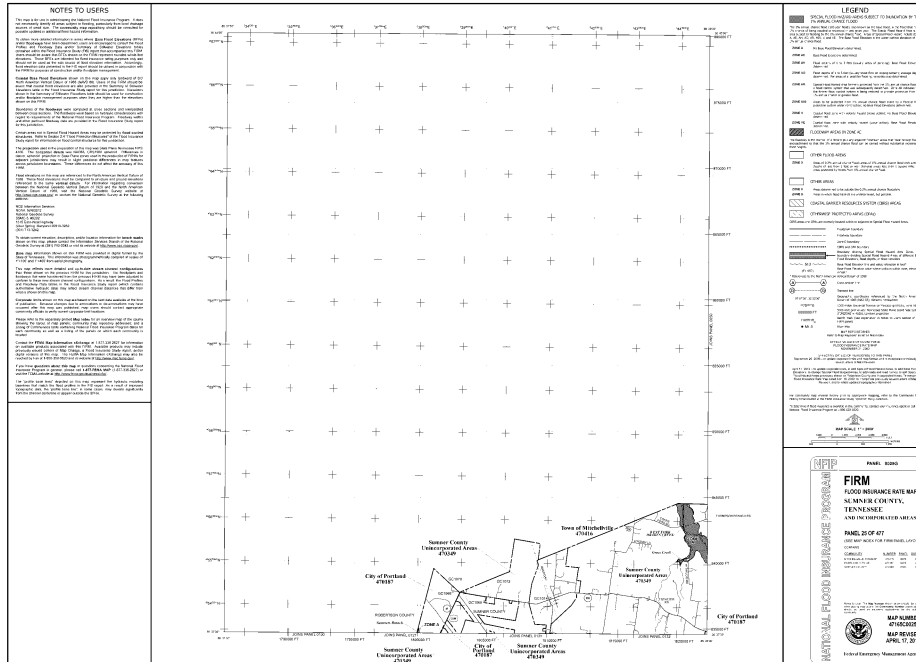
APPENDIX C: HAZUS/FIRM PANELS

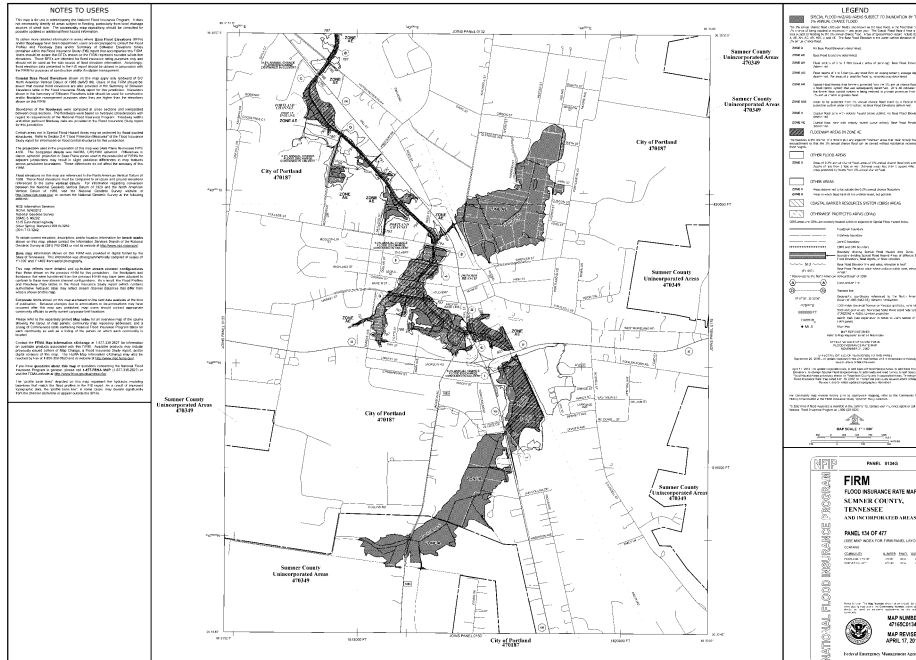


APPENDIX C: HAZUS/FIRM PANELS

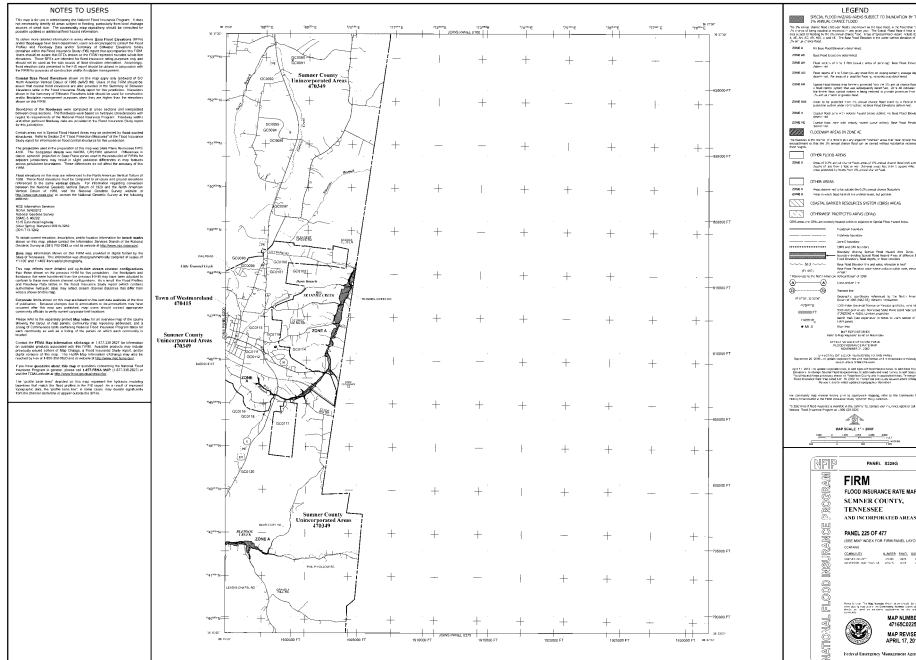


APPENDIX C: HAZUS/FIRM PANELS





APPENDIX C: HAZUS/FIRM PANELS



APPENDIX D

References

APPENDIX F: REFERENCES

<https://www.midsouthtornadoes.msstate.edu/index.php?cw=ohx>
<https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=47%2CTENNESSEE>
<https://www.census.gov/quickfacts/fact/table/US/PST045221>
<https://hazards.fema.gov/nri/map>
<https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx>
<https://www.countyhealthrankings.org/explore-health-rankings/how-to-use-your-data-snapshot>
<https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>
<https://www.mtida.org/regions-listings/northern-middle-region/sumner-county>

RESOLUTION

City of Portland, Tennessee

No. 23 - 54

A RESOLUTION TO RESCIND RESOLUTION 21-54 AND REPLACE WITH THIS RESOLUTION TO AUTHORIZE CSR ENGINEERING AND KLOBER ENGINEERING SERVICES FOR PROFESSIONAL ON-CALL SERVICES FOR ENGINEERING REVIEW FOR PLANNING SUBMITTALS

WHEREAS, at certain times and on certain projects, the City requires outside consultants for engineering review services for planning submittals; and

WHEREAS, two (2) engineering firms are necessary for plans review in the event that one of the above identified firms submits plans for review; and

WHEREAS, CSR Engineering and Klobner Engineering Service have both consented to assist the City with plans review; and

WHEREAS, CSR Engineering will be the primary firm used for plan reviews, with Klobner Engineering as a secondary; and

WHEREAS, these services shall be billed on a time and material basis as listed in the attachment; and

NOW, THEREFORE BE IT RESOLVED by the Mayor and Board of Aldermen of the City of Portland to approve CSR Engineering and Klobner Engineering Services for professional On-Call Services for engineering review for Planning Submittal reviews; and

BE IT FURTHER RESOLVED that this Resolution shall become effective upon its passage, the public welfare requiring it.

Mike Callis, Mayor

Rachel Slusser, City Recorder

Approved this ____ day of _____.



CSR Engineering Inc.
1116 Main Street
Pleasant View, TN 37146
Phone: (615) 212-2389
Fax: (615) 246-3815
www.csrengineers.com

2022 SCHEDULE OF FEES

RATE SCHEDULE FOR PROFESSIONAL SERVICES	
Classification	2022 Billing Rate
Principal Engineer	\$135.00
Civil Manager	\$125.00
Senior Engineer / Manager	\$115.00
Project Manager	\$110.00
Project Engineer	\$100.00
Senior Design Associate	\$95.00
Engineer Intern	\$80.00
Environmental Specialist	\$80.00
Senior Technician / Inspector	\$80.00
Design Associate	\$75.00
Technician / Inspector	\$60.00
Administrative	\$48.00

REIMBURSABLE EXPENSE SCHEDULE	
Expense	Cost
Vehicle Mileage	\$0.50 / mile
Hi-Rail Vehicle (on or off rail)	\$0.75 / mile
Per Diem (meals)	\$50 / day

All other necessary direct expenses, including subcontractors, third party printing, lodging, airfare, equipment rental, and overnight mail will be reimbursed at actual cost.

KLOBER ENGINEERING STANDARD RATES

All civil engineering work on this project would be performed according to the following rate schedule:

• Managing Principal	\$ 185 per hour
• Senior Project Manager	\$ 160 per hour
• Project Manager	\$ 135 per hour
• Project Engineer (PE)	\$ 135 per hour
• Project Engineer Intern	\$ 100 per hour
• Senior Civil Designer	\$ 115 per hour
• Civil Designer	\$ 100 per hour
• CAD Technician	\$ 85 per hour
• Mileage	\$ 0.67 per mile
• Reimbursable and Applicable expenses	Cost plus 15%
• Black and White Plotting	\$ 3/sheet (24x36)
• Color Plotting	Varies (\$6 to \$18/sheet)

Ordinance

City of Portland, Tennessee

No. 23 - 27

First Reading

AN ORDINANCE TO ENTER AN AGREEMENT WITH BRATTON & ASSOCIATES TO PROVIDE PROFESSIONAL LAND ACQUISITION SERVICES FOR THE CITY OF PORTLAND OAK HILL WATER SYSTEM IMPROVEMENTS AND 2021 MASON TANK 12-INCH CONNECTOR FOR WATER SYSTEM IMPROVEMENTS

WHEREAS, the following proposal has been received for professional land acquisition services for the 2021 Mason Tank 12-inch Connector and Oak Hill Water System Improvements; and

WHEREAS, Bratton & Associates proposal is to provide professional land acquisition services for the water main easements related to the 2021 Mason Tank 12-inch Connector and Oak Hill Water System Improvements; and

WHEREAS, the scope of services will include establishing fair market value for utility easements for eight (8) separate parcels related to the 2021 Mason Tank 12-inch Connector and eighteen (18) separate parcels related to Oak Hill Water System Improvements; and

WHEREAS, the proposed fees are:

2021 Mason Tank 12-inch Connector	\$24,000.00
<u>Oak Hill Water System Improvements</u>	<u>\$54,000.00</u>
Total Fee:	\$78,000.00

NOW, THEREFORE BE IT ORDAINED by the Mayor and the Board of Aldermen of the City of Portland that an agreement shall hereby be approved with Bratton and Associates for professional land acquisition services for water easements related to the 2021 Mason Tank 12-inch Connector and Oak Hill Water System Improvements; and

BE IT FURTHER ORDAINED that this Ordinance shall become effective upon its passage, the public welfare requiring it.

Mike Callis, Mayor

Attest: Rachel Slusser, City Recorder

Passed First Reading:

Passed Second Reading:

BRATTON & ASSOCIATES

820 South Broadway
Portland, Tennessee 37148

May 5, 2023

Ms Megan Heisler, P.E.
Utilities Engineer, City of Portland
100 South Russel St
Portland, TN 37148

SUBJECT: PROPOSAL FOR PROFESSIONAL SERVICES

Dear Ms Heisler,

Thank you for reaching out to our office requesting that we revise our original proposal submitted on January 19, 2023. Based upon the City of Portland's revised scope of services received on May 1, 2023, please review and consider the proposal outlined below.

Scope of Services:

Create and provide market analysis to present for value consideration (a low to high range per square foot price), title research / title opinion letter, and acquisition documents

- Create file to include title opinion letter, acquisition documents, tax card, GIS if applicable, and agent log
- Acquire easements on eighteen (18) parcels for Oak Hill Water System Improvements & eight (8) parcels for Masons Tank 12-Inch Connector:
 - Send out notification letters to the property owners of the easements we are needing to obtain for the project, notifying them that our firm will be reaching out to them soon (if requested by the City)
 - Contact owner, negotiate, and notarize signed documents
 - Submit documents to the City and request check
 - Obtain completed W-9 tax forms
 - Deliver check(s) and have owner sign Receipt of Funds/Hold Harmless Form
- If property owner has specific request to property being repaired or "cost to cure" for said easement that the City has agreed to, provide a document stating all the specifics of what was agreed upon with the negotiation and have the Property Owner sign the document.
- Record Easement Documents at the County
- Submit final package as required by the City
- There will be no additional charges for minor change requests

Per your request the proposed fee would be as follows:

- | | |
|---------------------------------------|----------|
| 1. 2021 Mason Tank 12" Connector | \$24,000 |
| 2. Oak Hill Water System Improvements | \$54,000 |

Total proposed fee for acquisition of 26 parcels = \$78,000.00

If you require any additional information please feel free to contact our office at 615-325-2233.

Sincerely,

Luther Bratton CR-621

Luther Bratton, CR-621
Bratton & Associates

cc: File