



Environmental Assessment (EA)

Reconstruction of Clendenin Elementary School

Clendenin, Kanawha County, West Virginia
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List of Acronyms and Abbreviations

APE – Area of Potential Effect	KCBOE – Kanawha County Board of Education
ASTM – American Standard Testing Method	LOD – Limit of Disturbance
BFE – Base Flood Elevation	NFIP – National Flood Insurance Program
BMP – Best Management Practice	NGVD – National Geodetic Vertical Datum
CAA – Clean Air Act	NHPA – National Historic Preservation Act
CEQ – Council on Environmental Quality	NO ₂ – Nitrogen Dioxide
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act	NPDES – National Pollutant Discharge Elimination System
CFR – Code of Federal Regulations	NLEB – Northern Long-eared Bat
CO – Carbon monoxide	NRCS – Natural Resources Conservation Service
CWA – Clean Water Act	NRHP – National Register of Historic Places
dB – Decibels	NWI – National Wetlands Inventory
EA – Environmental Assessment	O ₃ – Ozone
EDR – Environmental Data Resources	OSHA – Occupational Safety and Health Administration
EIS – Environmental Impact Statement	PA – Public Assistance
EO – Executive Order	PCBs – Polychlorinated Biphenyls
EPA – Environmental Protection Agency	PM _{2.5} & PM ₁₀ – Particulate Matter
ESA – Environmental Site Assessment	SBA – School Building Authority
FAA – Federal Aviation Administration	SFHA – Special Flood Hazard Area
FCC – Federal Communications Commission	SO ₂ – Sulfur Dioxide
FEMA – Federal Emergency Management Agency	THPO – Tribal Historic Preservation Office
FIRM – Flood Insurance Rate Map	USACE – United States Army Corps of Engineers
FPL – Federal Poverty Level	USFWS – United States Fish and Wildlife Service
FPPA – Farmland Protection Policy Act	USGS – United States Geologic Survey
HPI – Historic Property Inventory	VOC – Volatile Organic Compounds
IPaC – Information for Planning and Conservation	WVDE – West Virginia Department of Education
KCBOE – Kanawha County Board of Education	WVDEP – West Virginia Department of Environmental Protection
LESA – Land Evaluation and Site Assessment	WVDOH – West Virginia Division of Highways
MOA – Memorandum of Agreement	WVDOT – West Virginia Department of Transportation
NCA – Noise Control Act of 1972	
NEPA – National Environmental Policy Act	

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SECTION ONE: BACKGROUND

1.1 Project Authority

The School Building Authority (SBA), in conjunction with the Kanawha County Board of Education (KCBOE) as a client, has applied through the West Virginia Division of Homeland Security and Emergency Management (WVDHSEM) to the Federal Emergency Management Agency (FEMA) Public Assistance (PA) grant program for funding assistance, under the Presidentially Declared Disaster FEMA-DR-4273-WV, for the reconstruction of Clendenin Elementary School. In accordance with FEMA Directive 108-1 and FEMA Instruction 108-1-1, this Environmental Assessment (EA) is being prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ) in 40 CFR Parts 1500-1508. The purpose of the EA is to analyze the potential environmental impacts of the proposed project, and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.2 Location

The location of the formerly mentioned Clendenin Elementary School is the Town of Clendenin, West Virginia. According to the United States Census Bureau 2010 Population Schedule, Clendenin has a population of 1,173. The town is in Kanawha County, approximately 20 miles northeast of the City of Charleston, and approximately 12 miles northeast of Elkview. Alternatives discussed in this EA include properties both within and adjacent to the city limits of Clendenin. A general location map is included in **Appendix A**.

1.3 Purpose and Need

According to the United States Geological Survey (USGS), central West Virginia experienced intense convection storms along a stationary front on June 23, 2016. The stalled movement of the storms led many areas to receive up to 10 inches of rainfall within 24 hours, producing a 1,000-year storm event. The intense rainfall resulted in widespread flash flooding, claiming 23 lives and crippling the state with substantial damage to residences, commercial structures, and public infrastructure. The areas that were impacted the greatest were primarily in the Greenbrier, Elk, and Gauley River watersheds (USGS, 2016). In Kanawha County, the Elk River watershed includes the communities of Clendenin and Elkview, which were both significantly impacted by the flood event.

Statewide, the flood event damaged more than two dozen schools in 10 counties, including four schools in the Elk River Valley of Kanawha County: Clendenin Elementary School, Elkview Middle School, Bridge Elementary School, and Herbert Hoover High School. Clendenin Elementary School and Herbert Hoover High School were determined to be substantially damaged and, as such, were deemed eligible for replacement under the FEMA PA grant program.

Due to Clendenin Elementary School's location within the 100-year floodplain, reconstruction of the school on the original site at the same elevation, would not alleviate risk from future flood

events. Because of the extent of the damage to Clendenin Elementary School, a new school is needed to provide elementary classroom education in a permanent facility that is safe, accessible, and meets all applicable codes and standards.

In accordance with federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of viable alternatives and a discussion of the potential environmental impacts. This EA was prepared in accordance with NEPA, 40 CFR Parts 1500-1508, and FEMA's implementing procedures for NEPA, including those in FEMA Instruction 108-1-1. As part of this NEPA review, the requirements of other environmental laws and executive orders were evaluated.

1.4 Existing Facility

For most of the 2016-2017 school year, students of Clendenin Elementary School attended class at Bridge Elementary School, in the nearby community of Elkview, located at 5120 Elk River Road. Portable classroom buildings were installed at Bridge Elementary School in April 2017 to accommodate an increased number of students attending both schools. Since that time, Clendenin Elementary School has continued to operate out of the portable classrooms, consisting of 12 mobile units, and intends to do so until a permanent facility is established. A map depicting the location of Bridge Elementary School is in **Appendix A**.

The original Clendenin Elementary School building located at 503 Maywood Avenue East in Clendenin, was determined substantially damaged after the June 2016 flooding event and has since remained vacant. As a result of the damages, the building was approved for demolition under FEMA project #PA-03-WV-4273-PW-00698. Demolition activities are separate from reconstruction activities and thus were independently evaluated for environmental compliance. Environmental and historic preservation review for the demolition of Clendenin Elementary School was concluded in March of 2018. The demolition activities met the criteria for a categorical exclusion under NEPA and therefore did not require the publication of an EA. However, the demolition was determined to have an adverse effect on a historic property because Clendenin Elementary School was considered eligible for listing in the National Register of Historic Places (NRHP) as a representative example of Art Deco architecture in educational buildings. To resolve the adverse effect to the historic property, a *Memorandum of Agreement Among the Federal Emergency Management Agency, West Virginia State Historic Preservation Officer, The West Virginia Division of Homeland Security and Emergency Management, School Building Authority of West Virginia, and the Kanawha County Board of Education Regarding the Demolition of Clendenin Elementary* was executed. This Memorandum of Agreement (MOA) prescribed treatment measures for resolving the anticipated adverse effect. See Section 3.5 for details of the MOA as they relate to reconstruction activities. A map depicting the location of the damaged Clendenin Elementary School is located in **Appendix A**.

SECTION TWO: ALTERNATIVE ANALYSIS

To determine a path forward for Clendenin Elementary School following the 2016 flood event, several options were evaluated including no action, new development offsite, and redevelopment

on-site. Focus was placed on finding an alternative location that would allow for new development outside of the Special Flood Hazard Area (SFHA). Selection of possible site locations was pursuant to West Virginia Department of Education (WVDE) Policy 6200, which provides a comprehensive outline of considerations for site selection, including a minimum of nine acres. The selection process required the cooperative effort of the county board, central office and school staff, planning committee, architect, and legal consultants. KCBOE solicited community involvement through meetings, local news outlets, and correspondence with community officials. Site selection criteria included, but was not limited to, development costs, availability of utilities, transportation and access to main transportation routes, attendance demographics, highways, distance, traffic congestion, potential exposure to flood risk, potential impacts to the human environment, proximity to hazardous contaminants, proximity to utility transmission lines, and acreage.

2.1 Alternative 1 – No Action

Under the No Action Alternative, redevelopment of Clendenin Elementary School would not be conducted. The elementary school age students of the Town of Clendenin and surrounding community would continue to attend school at the portable classrooms located at Bridge Elementary School in Elkview.

2.2 Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

Under the Proposed Action Alternative, Clendenin Elementary School would be replaced with a comparable facility at a new location. The proposed action would acquire 101.64 acres located off Hokie Lane/Wolverton Mountain Road and Fairwater Road in Elkview, of which 39.27 acres would be developed. In addition to the surface rights, subsurface (mineral) rights would be acquired for the entire property. The 101.64 acres is comprised of 19 tax parcels, some of which are owned and occupied by private residents. Due to the terrain in the area, the development would bisect the properties and remove private water crossings to accommodate new stormwater drainage. This development would eliminate access to the tracts and private residences, leaving them undesirable and undevelopable, thus requiring the tracts to be acquired as whole pieces. The site consists of primarily forested, moderate relief hillsides, except for small clearings to accommodate the five residential structures spread across the site. Two residential structures are located on the northern extent of the subject property. Access to the two northern residential structures is provided by Wolverton Mountain Road, an unpaved gravel road transecting the proposed site north to south. The central area of the proposed site is primarily forested and undeveloped, except for a cleared area and site access associated with Hayes Cemetery. Three residential structures are located on the southern extent of the property within a valley along an unnamed tributary to the Elk River. Access to the three southern residential structures is provided by Fairwater Road and Ballenger Lane. Approximately 29 streams are located on the proposed site associated with moderate topographic relief flowing south and ultimately discharging into the Elk River. An underground natural gas pipeline is located directly south of the two northern residential structures transecting the proposed site east to west. The proposed access road crosses a 20-inch high pressure natural gas line owned by Tennessee Gas Company. Tennessee Gas Company is responsible for monitoring and maintenance of the pipeline. Due to the shallow

nature of the line at the road crossing, Tennessee Gas Company has requested that a protective cover be built to bridge over the line to protect it from both construction traffic and school traffic once the road is complete. The pipeline would not be crossed until properly protected and approved by Tennessee Gas Company personnel. The proposed layout is included in **Appendix A**.

The proposed action would require extensive site preparation, including an access road to accommodate ingress and egress to the northern extent of the subject property, and grading activities that would provide an appropriate area for construction of the elementary school, extracurricular facilities, and associated parking areas. The limit of disturbance (LOD) for the development is estimated at 39.27 acres. Preliminary drawings and design plans are attached in **Appendix A**. The remaining 62.37 acres located outside of the LOD would not be developed. The five existing residential structures within the acquired acreage would be demolished prior to the start of construction.

It is anticipated that earth-moving heavy equipment would be utilized for construction activities, such as, but not limited to: excavators for material handling, trenching, rough grading, and heavy lifting; backhoe loaders for digging and minor grading; bulldozers for earth moving grading activities; skid-steer loaders for moving material throughout the jobsite; trenchers for connecting to existing utilities; and common dump trucks for transporting large amounts of material throughout the jobsite. Precise construction and staging areas would be outlined in the final design.

The proposed site meets all the requirements listed under WVDE Policy 6200. Development at this site would provide adequate educational facilities for elementary age students in the Town of Clendenin. As an additional benefit, the new facility would be able to accommodate the Bridge Elementary School student population, whose current facility has its own history of flood related damage.

Coordinates for the center of the subject property are 38.477853 latitude, -81.376292 longitude, as noted in the map provided in **Appendix A**. A street map depicting the subject property and property boundary map with LOD are also represented in **Appendix A**.

2.3 Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, the damaged Clendenin Elementary School would be demolished, and redevelopment would occur on the existing site, located at 503 Maywood Avenue East, Clendenin, West Virginia. The site consists of approximately six acres of gently sloping developed land in the SFHA. Due to the acreage, use of the site would require the approval of the West Virginia Board of Education, as outlined in WVDE Policy 6200, Section 203.04. Coordinates for the center of the subject property are 38.490781 latitude, -81.338453 longitude, as noted in the map in **Appendix A**.

Prior to development, the site would be elevated above the Base Flood Elevation (BFE), according National Flood Insurance Program (NFIP) regulations and local floodplain ordinances, utilizing soil from an offsite location. The design would accommodate population needs and allow students to have a permanent learning facility. Because the KCBOE already owns the site of the damaged

Clendenin Elementary School, this alternative would avoid land acquisition and would minimize concerns with new ground disturbance. Redevelopment of Clendenin Elementary School would include construction of a facility comparable to the previous facility in size, at a minimum of 37,000 square feet with ancillary structures. Existing utilities are available on site; therefore, only minor trenching activities would take place to connect utilities to the new facility. Site grading and construction activities would be anticipated to utilize earth-moving heavy equipment.

2.4 Alternatives Considered and Eliminated from Further Consideration

Multiple locations were evaluated during the relocation site selection process conducted by Professional Construction Services (PCS), and many locations met most, but not all, requirements outlined in the WVDE Policy 6200. The following properties were dismissed due to preliminary cost analysis, location (proximity to student attendance zone), size, site access, topography, concerns with existing transmission utility lines, and transportation during flood events. The KCBOD Site Selection Narrative, attached in **Appendix B**, is available for further information.

Jenkins Property

The site consists of approximately 376 acres located along Route 4 (Elk River Road), northeast of Clendenin. Portions of the subject property are within the city limits excluding the northern extent. Coordinates for the center of the subject property are 38.493867 latitude, -81.335922 longitude. The parcel is completely outside of the SFHA. The preliminary evaluation of this site indicated that the site had access to all utilities. However, the investigation determined that there was a high amount of underground natural gas utilities, pipelines, and oil/gas wells located on the subject property. Due to the amount of natural gas utilities, this site was dismissed due to potential environmental and safety concerns.

Warbutton Branch Road

The site consists of approximately 185 acres of property adjacent to Interstate 79, outside of the Clendenin city limits. Coordinates for the center of the subject property are 38.529803 latitude, -81.363586 longitude. The property is located two miles north of the city limits, away from the Elk River Valley and surrounding communities. Additionally, the primary route of transportation to and from the site (Route 119), is within the 100-year floodplain which could lead to entrapment issues. The site was dismissed due to distance from the student base, as well as a potentially hazardous transportation route.

Clendenin Hill Site

The site consists of approximately 20 acres of property located outside of the Clendenin city limits, south of the town. The site is outside of the SFHA. Coordinates for the center of the subject property are 38.486261 latitude, -81.335747 longitude. The site was dismissed due to distance from the student base and presence of natural gas transmission utilities.

Hamrick Property

The site consists of approximately 25 acres of property located within the Clendenin city limits. The site is outside of the SFHA. Coordinates for the center of the subject property are 38.486256 latitude, -81.348244 longitude. The property would require the acquisition of additional parcels to gain site access and is primarily high relief hillsides. The site was dismissed due to challenges with topography and site access.

THL Realty Property

The site consists of approximately 5.9 acres of property located adjacent to Route 4 (Elk River Road) and is outside of the SFHA. Coordinates for the center of the subject property are 38.489467 latitude, -81.325469 longitude. This site was dismissed because it did not meet the required acres specified in WVDE Policy 6200 for a new elementary school.

Range Road Property

The site consists of approximately 19 acres of property along Route 119 (Spencer Road), located north of Clendenin. The proposed property is primarily high gradient hillsides with one main ridge. The majority of the property is located outside of the SFHA. Coordinates for the center of the subject property are 38.495844 latitude, -81.353878 longitude. The site was not given further consideration by PCS due to topographic setting and site access challenges.

SECTION THREE: AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 Physical Environment

3.1.1 Geology, Seismicity and Soils

The Town of Clendenin is located entirely within the Appalachian Plateau Province of West Virginia, predominately in the Conemaugh Group and Allegheny Formation of the Pennsylvanian System. These rocks generally consist of cyclic sequences of shale, siltstone, sandstone, limestone, and coals (EDR Radius Report attached in **Appendix B**). The Natural Resources Conservation Service (NRCS) Web Soil Survey (**Appendix B**) was consulted for detailed soil information for the Town of Clendenin. While the general soil association varies throughout the town, the dominant soil types are listed below:

- **Gilpin-Upshur complex 10-20, 20-30 percent, and steep (GsC3, GsD3, and GuE3, respectively)** – These soils are classified as steep, severely eroded, well drained soils derived from fine-loamy residuum weathered from interbedded sedimentary rock. Gilpin-Upshur soils typically are deposited on hillsides, ridges, or structural benches with a gradual to steep slope. Permeability is moderately high and available water capacity is low.
- **Gilpin-Upshur Silt Loams**
 - 20-30% (*GpD*) – These soils are classified as silt loams derived from fine loamy residuum weathered from interbedded sedimentary rock commonly occurring

along ridges and structural benches. The soil is well drained, has moderate permeability, low porosity, and does not flood.

- Steep (*GRE*) – These soils are classified as silt loams derived from fine loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges, hillsides, and structural benches. The soil is well drained, has moderate permeability, low porosity, and does not flood, occurring on a slope of 30 to 35 percent.
- **Clymer-Dekalb complex variants** – These soils are characterized as primarily coarse loamy soils occurring on slopes originating from weathered sandstone and/or coarse loam derived from shale and siltstone. The soils are typically well drained and have high permeability with low porosity.
- **Kanawha fine sandy loam, 0-8 and 3 to 8 percent slopes (KaA & KaB)** – These soils are characterized by fine sandy loams occurring on slopes originating from fine loamy alluvium associated with the weathering of sedimentary rock. The soils are typically well drained and have high permeability and porosity. The soils are characterized as prime farmland.
- **Gilpin Silt Loam Variants** – These soils are characterized by silt loams derived from the erosion of fine-loamy residuum weathered from interbedded sedimentary rock. The soils have moderately high permeability. The soils are well drained soils occurring on hillsides and ridges.
- **Hackers Silt Loam Variants** – These soils are characterized by silt loams derived from the erosion of fine-silty alluvium derived from shale and siltstone. The soils have moderately high permeability. The soils are well drained, occurring on low gradients, and characterized as prime farmland.
- **Laidig Channery Sandy Loam Variants** – These soils are characterized by channery loams derived from the erosion of fine-loamy colluvium derived from interbedded sedimentary rock. The soils have moderately low to high permeability. The soils are well drained, occurring on moderate slopes, are non-hydric, and characterized as farmland of statewide importance.

The Farmland Protection Policy Act (FPPA – Public Law 97-98, 7 U.S.C. 4201) is intended to minimize the extent to which federal programs have on unnecessary and irreversible conversion of farmland to nonagricultural uses. Implementing procedures included in associated regulations found in Title 7 of the Code of Federal Regulations, Section 658, established the farmland conversion impact rating system to evaluate the impacts Federal programs have on the conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are implemented or assisted by a Federal agency.

Seismic activity in the Central Plateau region of West Virginia is negligible because the area is not tectonically active (USGS Seismic Hazards Map). Therefore, seismic concerns for all the alternatives are relatively low and will not be discussed further in this assessment.

Alternative 1 – No Action

The elevation of the Clendenin Elementary School site is approximately 627 feet National Geodetic Vertical Datum (NGVD). Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off towards the Elk River. The general soil association at the school site is comprised of Kanawha Fine Sandy Loam Variants, per the NRCS Web Soil Survey (**Appendix B**). Geologically, the site is in Quaternary alluvium associated with the Elk River. Under the No Action Alternative there would be no impacts to geological features after the school is demolished and the site regraded. Normal geomorphological erosional processes would occur on a long-term basis. The Alternative 1 Base Map in **Appendix A** is the USGS WV, 7.5-minute topographic Clendenin quadrangle. There would be no FPPA compliance requirements at this site.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

The elevation of the proposed site in Elkview is approximately 900 feet NGVD. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off towards the Elk River, located south-southeast of the subject property. The Alternative 2 Base Map in **Appendix A** is the USGS WV, 7.5-minute topographic Blue Creek quadrangle.

The NRCS Web Soil Survey (**Appendix B**) of the subject property was consulted for soil information. The general soil association for the subject property is comprised of Clymer-Dekalb complex (CDF), Gilpin-Upshur silt loams/complex variants, and Kanawha fine sandy loam.

- **Gilpin-Upshur complex 10-20, 20-30 percent, and steep (GsC3, GsD3, and GuE3, respectively)** – These soils are observed throughout the subject property. Gilpin-Upshur complex soils are classified as steep, severely eroded, well drained soils derived from fine-loamy residuum weathered from interbedded sedimentary rock. Gilpin-Upshur soils typically are deposited on hillsides, ridges, or structural benches with a gradual to steep slope. Permeability is moderately high and available water capacity is low. GsC3 is farmland of statewide importance, GsD3 is farmland of local importance, and GuE3 is not prime farmland.
- **Gilpin-Upshur Silt Loams**
 - **20-30% (GpD)** – These soils are classified as silt loams derived from fine loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges and structural benches. The soil is well drained, has moderate permeability, low porosity, does not flood, and is farmland of statewide importance.

- *Steep (GRE)* – These soils are classified as silt loams derived from fine loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges, hillsides, and structural benches. The soil is well drained, has moderate permeability, low porosity, does not flood, occurring on a slope of 30 to 35 percent, and is farmland of local importance.
- **Clymer-Dekalb complex, very steep (CDF)** – These soils are characterized as primarily coarse loamy soils occurring on slopes of 40 to 70 percent originating from weathered sandstone and/or coarse loam derived from shale and siltstone. The soils are typically well drained, have high permeability with low porosity, and are not prime farmland.
- **Kanawha fine sandy loam, 3 to 8 percent slopes (KaA, KaB)** – These soils are characterized by fine sandy loams occurring on slopes of 3 to 8 percent originating from fine loamy alluvium associated with the weathering of sedimentary rock. The soils are typically well drained, have high permeability and porosity, and are prime farmland.

Potesta & Associates, Incorporated (Potesta) performed a geotechnical subsurface investigation consisting of soil borings, sampling, and analysis. The borings were performed using a track mounted rotary drill rig at 19 locations throughout the proposed project site. Total depths of each boring varied according to location, relative to project design and ranged from 6.2 to 145.0 feet below the surface. Depth to rock ranged from 6.2 to 22.3 feet below the ground surface. Soil encountered during the geotechnical investigation included silty clays, sandy clays, and sands. Borings along the proposed access road encountered hard silty clays and dense sands. Borings advanced for the school site were primarily medium stiff to hard silty clays and sandy clays. Borings in the proposed elementary school location encountered medium stiff to hard reddish-brown sandy clays and silty clays. Bedrock encountered included interbedded sequences of shale, claystone, and sandstone.

Cut slope recommendations indicated that the final grading plan should consider benching and slope toe offsets to minimize the potential for differential erosion and weathering of the exposed rock face. Final designs would conform to the West Virginia Department of Transportation, Division of Highways, Design Directive DD403, Guide for Design in Cut Sections through Bedrock. The long-term performance and stability of excavated cut slopes in the rock along the roadway would be affected by several factors such as variable ranges in strength, degrees of weathering, and inherent geologic conditions. This continual and ongoing weathering would result in the accumulation of shale debris and rock fragments along the intermediate benches and toe offset bench.

It is recognized that the site would require a large valley fill to provide a campus for the school and most of the fill material would be derived from bedrock consisting of shale, claystone, and sandstone. The fill material must be broken down and placed in appropriately thin lifts for compaction to be suitable for this site.

All excavation below grade should be completed in compliance with Occupational Safety and Health Act (OSHA) requirements related to shoring, sloping, or benching during construction. All organic materials including trees, vegetation, and any other unsuitable materials would be

removed if encountered during fill placement activities. Any other unsuitable materials, such as rock and soil, that is not appropriate for the lift thickness, would also be removed.

Building foundations must be placed below frost depth. Potesta recommended shallow foundations for the major structures on site at a minimum of 36 inches below the surrounding exterior grade elevations. For more detailed information pertaining to foundation recommendations, see the attached Geotechnical Report in **Appendix B**.

Area soils would be moderately disturbed during short-term construction and site grading activities. Soil loss may occur directly from construction activities or indirectly via high wind or rain events. To reduce soil erosion, appropriate Best Management Practices (BMPs) would be required at the construction location and would be identified through the WVDEP NPDES permitting process. BMPs may include an erosion and sedimentation (E&S) control plan utilizing silt fences, re-vegetation of disturbed soils, and maintenance of site soil stockpiles during construction to prevent soils from eroding and dispersing off-site. Erosion control fiber mesh would be utilized for disturbed and seeded lawn impact areas. All short-term soil storage would not occur within floodplain areas.

Moderate long-term impacts associated with drainage at the site are anticipated due to the increase in impervious surfaces which would diminish natural soil infiltration. Stormwater drainage at the proposed site would be accomplished via storm drain systems that would reroute water offsite and downstream towards the Elk River. Excavation depths at the site would vary according to the area of grading and construction. Performance of soils, rock staging, placement, and compaction activities would be pursuant to the geotechnical recommendations from Potesta's final Geotechnical Report found in **Appendix B**. Provided that the recommendations made in the geotechnical report were followed entirely, minimal long-term impacts to soils and geology would be anticipated.

Subject to FPPA requirements, a consultation was conducted with NRCS, with the determination that the project does convert prime or other important farmland and is subject to the FPPA, thus requiring completion of AD-1006 by the federal agency. FEMA completed the AD-1006 form, requested a land evaluation on February 5, 2019, and received the land evaluation response from NRCS on February 22, 2019. The Proposed Action Alternative converts 0.9 acres of Prime Farmland and 53 acres of statewide or local important farmland. The relative value of farmland to be converted (on a scale of 0 to 100) was rated 27.7, with the total site assessment points equaling 71 (out of 160). For projects where the total is 160 or greater (out of 260), federal agencies must consider alternative actions that could reduce adverse impacts. At this site, the total was 98.7. Thus, the completion of AD-1006 meets the compliance requirements for FPPA. The final Land Evaluation and Site Assessment (LESA) form and correspondence with NRCS can be found in **Appendix C**.

Alternative 3 – Redevelopment of Clendenin Elementary School

The elevation of the site is approximately 627 feet NGVD. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off towards the Elk River to the north. The Alternative 3 Base Map in **Appendix A** is the USGS WV, 7.5-minute topographic

Clendenin quadrangle. The NRCS Web Soil Survey (**Appendix B**) of the subject property was consulted for soil information. The general soil association for the subject property is comprised of Kanawha Fine Sandy Loam Variants. Geologically, the site is in Quaternary alluvium associated with the Elk River. There would be no FPPA compliance requirements at this site.

Soil loss would occur directly from construction activities or indirectly via high wind or rain events. To reduce soil erosion, appropriate Best Management Practices (BMPs) would be required at the construction location and would be identified through the WVDEP NPDES permitting process. BMPs may include an erosion and sedimentation (E&S) control plan utilizing silt fences, re-vegetation of disturbed soils, temporary stormwater management, and maintenance of site soil stockpiles during construction to prevent soils from eroding and dispersing off-site. Erosion control fiber mesh would be utilized for disturbed and seeded lawn impact areas. All short-term soil storage would not occur within floodplain areas.

Due to the previous development, the site is impacted by a lack of natural soil infiltration and stormwater would be managed through an improved stormwater system. Although construction activities would create a moderate short-term impact to on-site soils, appropriate BMPs would mitigate effects from the elevation of the site. The site design would incorporate stabilization techniques to minimize impacts to the added soils and increase long-term resiliency. Therefore, minimal impacts to geology or soils would be expected on a short or long-term basis.

3.1.2 Water Resources and Water Quality

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into waters of the United States. In addition, Executive Order (EO) 11990 (Protection of Wetlands) requires Federal agencies to avoid, to the extent possible, adverse impacts to wetlands.

Alternative 1 – No Action

Under the No Action Alternative, no adverse impacts to water resources near the former school site would occur.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

The proposed site of the new school is in a traditional hydrogeological system; meaning that surface topography presumably is indicative of the direction of groundwater flow in the absence of manmade systems. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off to two perennial streams, ultimately migrating south to the Elk River. Two USGS wells are located southwest of the proposed site along the Elk River. According to the United States Environmental Protection Agency (EPA), the only named tributary to the Elk River on the site is Big Creek, located on the eastern extent of the property. The West Virginia Department of Environmental Protection (WVDEP) does not have any data or assessment information available for Big Creek. The nearest waterway with assessment information is the Elk River, located south of the subject property, which is listed as having metal, bacteria, and microbe pollution. WVDEP Water Quality Assessment Status for 2010 indicates that the river is impaired

due to elevated levels of fecal coliform and iron. There have not been any Total Maximum Daily Loads developed for the river, from the State of West Virginia.

A Preliminary Jurisdictional Determination produced by the United States Army Corps of Engineers (USACE) identified 29 Potential Jurisdictional Waters of the United States. These include three perennial streams (6,386 linear feet), four intermittent streams (3,252 linear feet), and twenty-two ephemeral streams (8,395 linear feet). The Aquatic Resource Assessment Report for the subject property, dated October 2017, can be found in **Appendix B** of this report.

The Aquatic Resource Assessment delineated a total of 18,033 feet of potential Jurisdictional Waters of the U.S. within the subject property boundary. Implementation of the proposal would result in the discharge of permanent dredged and/or fill material below the ordinary high-water mark of 1,407.98 linear feet, or 0.0879 acre, of six (6) streams for the discharge of permanent cut/grade/fill. Modifications would vary throughout the site but would include permanent fill with cut rock and culvert installation for water conveyance.

The proposed action would qualify for Nationwide Permit #39, with a waiver from the USACE Huntington District office, as the impact is below 0.5 acres of permanent aquatic loss. Compensatory mitigation is required for the permanent loss of 1,407.98 linear feet of aquatic resources and a waiver has been coordinated to allow for compensatory stream mitigation credits to satisfy this requirement. The compensatory mitigation plan has been approved by USACE and involves purchasing credits from the West Virginia Stream Mitigation Banks at a cost of \$835,392.00. The Oxbow Mitigation Bank in Ritchie County has been identified as a secondary service area that can accommodate the purchase of the credits. As a condition of the use of Nationwide Permit #39, the project would require Individual State Water Quality Certification from WVDEP. The permitting process through USACE and WVDEP will be finalized upon completion of this EA. Activities authorized under NWPs, by definition, have no more than minimal individual and cumulative adverse environmental effects, according to USACE Decision Documents (which also fulfill requirements for Environmental Assessments required under NEPA).

Stormwater drainage at the proposed site would be accomplished via storm drain systems that would reroute water offsite and downstream towards the Elk River. A Construction Stormwater General Permit and Notice of Intent is required by the WVDEP and would be submitted prior to construction activities.

The project would have moderate short-term negative impacts on surface waters during the construction process due to increased turbidity and sedimentation. The contractor would implement BMPs, as required by WVDEP permits, during construction to limit impacts to waterways. Examples of BMPs may include but are not limited to: soil erosion monitoring at the project site; temporary silt fencing; and staging of construction equipment in existing developed areas, such as paved parking lots. If project activities include stockpiling of soil or fill on-site, the contractor would cover these soils to help prevent fugitive dust from entering stormwater pathways. Following construction, any bare soils would be vegetated to prevent future soil erosion.

An underground natural gas pipeline is located directly south of the two northern residential structures transecting the proposed site east to west. The proposed access road crosses a 20-inch high pressure natural gas line owned by Tennessee Gas Company. Tennessee Gas Company is responsible for monitoring and maintenance of the pipeline. During the Phase I Environmental Site Assessment, completed by Terradon, no signs of leakage, noxious odors, or staining were observed. Further discussion and information on the Phase I Environmental Site Assessment are discussed in Section 3.3. Due to the shallow nature of the line at the road crossing, Tennessee Gas Company has requested that a protective cover be built to bridge over the line to protect it from both construction traffic and school traffic once the road is complete. The pipeline would not be crossed until properly protected and approved by Tennessee Gas Company personnel, and no impacts to water resources are anticipated.

The foundation depths and grading for site development will vary as specified by the geotechnical investigation performed by Potesta. According to Potesta's *Geotechnical Report for Clendenin Elementary* (October 2018), groundwater assessments were conducted following the completion of drilling operations using an electronic static water level meter. During their investigation, no groundwater was encountered during drilling activities. Potesta indicated that elevated seasonal or perched groundwater conditions could be encountered in localized areas of the site during construction activities. If groundwater is encountered during construction activities, additional groundwater collection through the installation of adequate buried collection and conveyance drains would be considered in the design. Minimal to no impact to groundwater is anticipated for the proposed project. Please find the Geotechnical Report attached in **Appendix B**. Long term impacts to water resources would be negligible once the site is developed and mitigation procedures are implemented.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, redevelopment of the existing Clendenin Elementary School may have temporary-short term impacts to downstream surface waters due to potential soil erosion during construction activities. Stormwater would be managed at the site by an existing drainage system which would be modified during construction activities to meet requirements of the new development. To reduce impacts to surface water, the applicant would implement appropriate BMPs, such as installing silt fencing during construction, and revegetation of bare soils following construction. Minor impacts to surface water would be anticipated both short- and long-term due to the site's proximity to the Elk River and the increase of soil at the site. Changes to groundwater quality would not be anticipated as the development would not increase the amount of impervious surface.

3.1.3 Floodplain Management (Executive Order 11988)

Executive Order (EO) 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the 100-year floodplain, whenever there is a practicable alternative. FEMA's regulations for complying with EO 11988 and 11990 are promulgated in 44 CFR Part 9. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify properties located within the SFHA. FIRM maps for all alternative sites are attached in **Appendix A**.

Floods and flood-related damage are common in Kanawha County. Kanawha County experienced twenty-two federally declared flood related disasters between 1967 and 2019, more than half of which occurred since 2000. Kanawha County participates in the NFIP and floodplain development permits would be required at all sites prior to beginning any work within the 100-year floodplain. Kanawha County's current Floodplain Ordinance was adopted in February 2008. The Town of Clendenin also adopted their current Floodplain Ordinance in February 2008. As all alternatives are located either partially or completely within the SFHA, the Eight-Step Planning Process for Floodplains and Wetlands has been included below.

Eight-Step Planning Process for Floodplains and Wetlands	
<p>Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100- year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.</p>	<p>Project Analysis: According to FIRM Panel 54039C0280E, effective 2/6/2008, the entire No Action Alternative is located within the 100-year floodplain (Zone AE) and the Regulatory Floodway.</p> <p>According to FIRM Panel 54039C0285E, effective 2/6/2008, the far southeast corner of the Proposed Action Alternative is within the 100-year floodplain (Zone AE), and the rest of the site is outside the 500-year floodplain. Project plans show that this would overlap a small section of roadway to the site, approximately 250ft.</p> <p>According to FIRM Panel 54039C0302E, effective 2/6/2008, the entire Reconstruction Alternative is located within the 100-year floodplain (Zone AE).</p>
<p>Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making process.</p>	<p>Project Analysis: An initial Public Notice regarding the potential for work to occur within the floodplain was published following the declaration of DR-4273-WV, in July 2016.</p>
<p>Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.</p>	<p>Project Analysis: The following alternatives were considered in selecting the proposed action:</p> <p><i>No Action Alternative:</i> Under the No Action Alternative, redevelopment of Clendenin Elementary School would not be conducted. The elementary school age students of the Town of Clendenin and surrounding community would continue to attend school at the portable classrooms located at Bridge Elementary School in Elkview</p> <p><i>Proposed Action Alternative:</i> Under the Proposed Action Alternative, Clendenin Elementary School would be replaced with a comparable facility at a new location, with the school entirely outside of the SFHA. A small section of the main access road would fall within the</p>

	<p>100-yr floodplain, but an alternative route would be constructed.</p> <p><i>Reconstruction Alternative:</i> Under the Reconstruction Alternative, the damaged Clendenin Elementary School would be demolished, and redevelopment would occur on the existing site, elevated above the BFE. However, all points of ingress and egress would be within the 100-yr floodplain.</p> <p>The Proposed Action Alternative is the best option to locate the new school facility and access road entirely outside the SFHA. The rest of the 8-step will address the Proposed Action Alternative.</p>
Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.	Project Analysis: Development in the floodplain would be limited to approximately 0.35 acres, consisting of approximately 250 linear feet of roadway, temporary equipment staging areas, and new connections to existing utility lines. Additional development because of this action is not anticipated.
Step 5: Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.	Project Analysis: To minimize impacts to the floodplain, appropriate drainage would be constructed to manage all stormwater on-site. A secondary access road located entirely outside of the SFHA, would be available north of the development. Additionally, the entire school facility would be constructed outside of the SFHA.
Step 6: Re-evaluate the Proposed Action to determine: 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.	Project Analysis: The Proposed Action remains practicable based on reducing the exposure of risk at the new school location and the minimal (if any) increase to flood elevations nearby, resulting from the road development in the SFHA.
Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.	Project Analysis: Public notice of the Proposed Action Alternative will be given as a function of this EA, informing the public of a potential FEMA funded action, that would occur partially within the SFHA.
Step 8: Review the implementation and post-implementation phases of the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.	Project Analysis: This step is integrated into the NEPA process and FEMA project management and oversight functions.

Alternative 1 – No Action

Under the No Action Alternative, no additional impacts to floodplains would occur. The elementary school age students of the Town of Clendenin and surrounding community would continue to attend school at the temporary classrooms at Bridge Elementary School, located within the SFHA in Elkview, but elevated above BFE. Regardless of the alternative selected, the current Clendenin Elementary School building would be demolished. If a new school is not constructed on that site, the land would be turned into open space. Based on the review, Alternative 1 would have no impact on the floodplain in Clendenin. However, it would have a moderate long-term impact on the floodplain, as the children would continue to attend school at temporary classroom facilities in Elkview within the floodplain.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

Under the Proposed Action Alternative, most of the development in Elkview would occur outside of the floodplain. The best available data from FIRM Map 54039C0301E, dated 02/06/2008, shows a portion of the developable parcel within Zone AE, the 100-year floodplain. Development in the floodplain would be limited to approximately 0.35 acres, consisting of approximately 250 linear feet of roadway, equipment staging areas, and new connections to existing utility lines. An initial Public Notice regarding the potential for work to occur within the floodplain and/or wetlands was published following the declaration of DR-4273-WV. Additional notice is being provided as part of this Environmental Assessment.

Due to the topography of the area in and around Clendenin, there are limited viable options to construct a school and the associated infrastructure outside of the SFHA. Although the project would include a portion of the access road located in the SFHA, the preceding Eight-Step analysis determines the most practicable alternative is to relocate elementary school students to a facility that is located entirely outside of the SFHA. Construction within the SFHA would be limited to the minimum necessary to access the Wolverton Mountain Road site. A secondary access road is planned to the north of the proposed site, which alleviates concern of potential entrapment from flood events. The development and impervious surfaces added during the construction may result in higher discharge rates that could cause minor changes to the floodplain downstream of the project area, potentially increasing flood risk. Approval from the local floodplain administrator would be required prior to any construction activity, which may include hydrology analyses to determine changes to discharge rates downstream.

The current Clendenin Elementary School building will be demolished using separate funding, and the land will be turned into open space.

Based on the Eight-Step review conducted for Alternative 2, there would be a minor impact on floodplains. The impact would not be significant because construction would be dependent on approval from the local floodplain administrator, and the entire school building would be outside of the floodplain.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under Alternative 3, the best available data from FIRM Map 54039C0302E, dated 02/05/2008, shows the existing Clendenin Elementary School within Zone A, the 100-year floodplain. The redevelopment of the school would require a change in the current elevation to meet the criteria of FEMA and NFIP Codes and Standards, potentially resulting in a change to the flood risk of adjacent properties. Fill would be brought to the site to elevate the reconstructed school outside of the SFHA, however support facilities, such as parking lots, may still be located within the SFHA. All work would be completed to construct the school building in accordance with NFIP Codes and Standards. The property is bound by the Elk River Rd and the Elk River, which limits ingress and egress to the site to Elk River Rd. This could lead to entrapment issues at the school during a flood event. While Alternative 3 would be minimally impacted by flood events due to the elevation of the school above the BFE, the development could substantially impact flood risk to surrounding properties. Additionally, the only point of ingress and egress would remain in the SFHA, creating an entrapment risk.

3.1.4 Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards to protect the public from potentially harmful amounts of air pollutants. Primary and secondary air quality standards are established by the EPA. Primary air quality standards protect the public health, including the health of sensitive populations, such as people with asthma, older adults, and children. Secondary air quality standards protect public welfare by implementing and promoting healthy ecosystems, preventing poor visibility, and preventing damage to crops and buildings. The EPA has set national ambient air quality standards for six of the following criteria pollutants: Ozone (O₃), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Inhalable Particulate Matter (PM_{2.5} and PM₁₀), and Lead (Pb). WVDEP Division of Air Quality (DAQ) enforces and monitors air quality standards in the State of West Virginia. WVDEP monitors the above-mentioned pollutants, meteorology, and Air Toxic Pollutants such as metals, carbonyls, and Volatile Organic Carbons (VOCs). According to the EPA and WVDEP, Kanawha County is classified as an attainment area, defined as an area that meets National Ambient Air Quality Standards.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to air quality would result from the portable classrooms remaining at Bridge Elementary School.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

Under the Proposed Action Alternative, minor short-term impacts to air quality would occur in Elkview during construction activities. To reduce impacts, contractors would be required to wet down construction areas as needed to mitigate fugitive dust. Emissions from fuel-burning engines (e.g. heavy machinery and earthmoving machinery) could also temporarily increase the levels of some of the criteria pollutants, such as CO, NO₂, O₃, PM₁₀, and noncriteria pollutants such as VOCs. To mitigate these emissions, BMPs such as management of engine run times and maintenance BMPs for fuel burning equipment would be implemented. Due to the development size, localized area of grading, and the limited duration of construction activities, Air Quality Permitting through WVDEP is not anticipated. Marketable timber would be removed from the property and sold,

while unmarketable timber and wood debris would be burned on-site in accordance with WVDEP and Division of Forestry regulations. An application to conduct open burning of land clearing debris must be submitted and approved by the WVDEP DAQ before burning would be permitted. Long-term impacts to local air quality near the new school site, including from increased traffic and utility usage, would be negligible.

Alternative 3 – Redevelopment of Clendenin Elementary School

To reduce impacts during construction, the contractors would be required to wet down construction areas as needed to mitigate fugitive dust. Emissions from fuel-burning engines could also temporarily increase the levels of some of the criteria pollutants, such as CO, NO₂, O₃, PM₁₀, and noncriteria pollutants such as VOCs. To mitigate these emissions, BMPs such as management of engine run times and maintenance BMPs for fuel burning equipment would be implemented. Due to the development size and grading impact, Air Quality Permitting through WVDEP is not anticipated. Short-term air quality impacts during construction would be anticipated to be minor. Over the long-term, impacts to air quality would be negligible, no greater than they were when the school previously operated.

3.2 Biological Environment

3.2.1 Terrestrial and Aquatic Environment

Alternative 1 – No Action

Under the No Action Alternative, there would be no impacts to the terrestrial and aquatic habitats or species.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

During TERRADON Corporation's site reconnaissance, varying plant species were observed. Dominant plants observed during the reconnaissance survey were similar throughout the site. Dominant Upland Tree Vegetation is composed of Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), Southern Red Oak (*Quercus falcata*), Northern White Oak (*Quercus alba*), Black Walnut (*Juglans nigra*), Virginia Pine (*Pinus virginiana*), Black Locust (*Robinia pseudoacacia*), Pignut Hickory (*Carya glabra*), Mockernut Hickory (*Carya alba*), American Beech (*Fagus grandifolia*), American Basswood (*Tilia Americana*), American Elm (*Ulmus Americana*), and Tulip Poplar (*Liriodendron tulipifera*). Dominant herbaceous plants are composed of Japanese Honeysuckle (*Lonicera japonica*), Deer Tongue (*Dichanthelium clandestinum*), American Vetch (*Vicia americana*), Eastern Poison Ivy (*Toxicodendron radicans*), and Common Milkweed (*Asclepias syriaca*).

Per the West Virginia Division of Natural Resources, there are over 600 species of animals in the state. This includes more than 57 species of reptiles and amphibians, 70 wild mammals, 178 species of fish and 300 species of bird. Commonly observed species in the area include the Eastern Cottontail (*Sylvilagus floridana*), Common Raccoon (*Procyon lotor*), Virginia Opossum (*Didelphis virginiana*), Eastern Gray Squirrel (*Sciurus carolinensis*), Deer Mouse (*Peromyscus maniculatus*),

White-tailed Deer (*Odocoileus virginianus*), Pileated Woodpecker (*Dryocopus pileatus*), Rock Pigeon (*Columba livia*), American Crow (*Corvus brachyrhynchos*), Wild Turkey (*Meleagris gallopavo*), Eastern box turtle (*Terrapene c. carolina*), and the Eastern garter snake (*Thamnophis s. sirtalis*). Additional transient species may be observed in the area.

Construction activities would take place in both forested and aquatic environments and would include the removal of up to 39.27 acres of forested land. During construction, the applicant would employ temporary fences around the tree line to prevent impacts to other forested areas caused by encroachment of personnel and equipment. Aquatic features were observed and reported on the subject property as stated in TERRADON Corporation's Aquatic Resource Assessment, dated October 2017 (**Appendix B**). Site access, facilities, extracurricular areas, and parking areas were designed with the intent of limiting impacts to aquatic resources.

Impacts to terrestrial species resulting from the Proposed Action Alternative are expected to be minor, on the scale of the community as a whole. Mobile species could relocate to nearby areas not affected by construction. Non-mobile species could be killed in areas cleared or filled, which represent less than 40% of the new school site. Loss of aquatic habitat would be limited to 995 linear feet, and loss of habitat function would be mitigated through the purchase of offsite compensatory mitigation credits. Compensatory mitigation credits can be purchased from mitigation banks, which are aquatic resource areas established to offset the impacts to aquatic resources through the sale of said credits.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, most of the subject property would be elevated using clean fill from an offsite location which would eliminate most of the existing vegetation. Due to the previous development on the site existing vegetation is minimal and loss of both plant and animal species would be negligible. While there would be no work in water, the most likely potential negative impact could result from a temporary runoff of materials into the Elk River, which may degrade water quality and negatively impact aquatic species. The contractor would include appropriate BMPs to limit impacts to the river during construction; therefore, impacts would be minimal.

3.2.2 Wetlands (Executive Order 11990)

The USACE regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the CWA. In addition, EO 11990 (Protection of Wetlands) requires Federal agencies to avoid, to the extent possible, adverse impacts on wetlands that may result from federally funded actions.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to wetlands would occur.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

A site-specific analysis was conducted to identify the presences or absence of wetlands within the proposed action area. TERRADON Corporation was contracted to complete a wetland delineation for the project site from August 8-11, 2017. The wetland delineation was performed in accordance with appropriate USACE Section 404 wetland delineation procedures. No wetlands were identified during the delineation. Therefore, under the Proposed Action Alternative, no impacts to wetlands would occur.

Alternative 3 – Redevelopment of Clendenin Elementary School

There are no wetlands mapped on the subject property and a wetland delineation is not required due to the existing development on site. Under the Reconstruction Alternative, no impacts to wetlands would occur.

3.2.3 Threatened and Endangered Species

Section 7 of the Endangered Species Act requires any federal agency that funds, authorizes, or carries out an action to ensure that its action is not likely to jeopardize the continued existence of any endangered or threatened listed species or result in the destruction or adverse modification of designated critical habitats.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to listed species, their habitats, or designated critical habitat would occur.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

An Official Species List from the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) tool, dated January 30, 2019, revealed that the project is located within a potential area of occurrence for fourteen (14) threatened and endangered species. Several species that were returned on the IPaC report were immediately removed from consideration after validating the report against the 'Status and Distribution of Threatened and Endangered Species' document on the USFWS West Virginia Field Office website. These species include the diamond darter, clubshell mussel, fanshell mussel, northern riffleshell mussel, pink mucket (pearlymussel), rayed bean mussel, sheepnose mussel, snuffbox mussel, spectaclecase mussel, and tubercled blossom (pearlymussel). No critical habitat is present in the project area. The remaining four species under consideration included the Indiana bat, Gray bat, Virginia big-eared bat, and Northern Long-eared bat (NLEB).

TERRADON Corporation submitted to the USFWS West Virginia Field Office a request for a project review of the proposed development plans for the site. TERRADON Corporation received a response on April 19, 2018, which indicated that the area may contain suitable habitat for the Indiana Bat and NLEB. The project does not fall within any of the Indiana bat or NLEB known-use areas, but the Proposed Action Alternative would remove 17 or more acres of potential Indiana bat summer habitat. As a result, site surveys were recommended to determine whether these species may be adversely affected by the proposed action.

TERRADON Corporation contracted Copperhead Environmental Consulting (Copperhead) to conduct acoustic presence/probable absence surveys, develop avoidance measures, and coordinate the results with USFWS. Copperhead submitted a Summer 2018 Acoustic Bat Survey for the proposed project to the USFWS dated July 11, 2018. Copperhead identified two NLEB call files during the survey period, and no call files for the Indiana Bat. The full survey can be found in **Appendix C** of this report. A Concurrence Form for Myotis Bat Survey Reports was issued in response dated September 5, 2018.

In a Section 7 Consultation letter, dated February 7, 2019, FEMA determined that the proposed project *may affect, but is not likely to adversely affect* the Indiana bat, Gray bat, or Virginia big-eared bat. Any take of NLEB associated with this project is exempted under the 4(d) rule, and no conservation measures are required. USFWS concurred with this determination on March 14, 2019. Please see relevant correspondence and the consultation letter attached in **Appendix C**.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, all construction activities, including staging, would take place within the developed lot. Although the site is near the Elk River, which is known habitat for several listed mussel species and critical habitat for the Diamond Darter, there is a vegetated area, approximately 75 feet, separating the parcel from the river that would provide some protection from sedimentation. Additionally, BMPs, such as silt fencing, would be implemented during construction activities to avoid negative impacts to water quality. Therefore, this alternative would likely result in a *may affect, but not likely to adversely affect* federally listed species or critical habitat determination; however, FEMA has not consulted with USFWS about this alternative.

3.3 Hazardous Materials

TERRADON Corporation completed a Phase I Environmental Site Assessment (ESA) for the relocation alternative site. A Phase I ESA consists of an onsite reconnaissance and review of Environmental Data Resources (EDR). An EDR report consists of radius maps, historical aerial photographs, historical topographic maps, historical Sanborn maps, city directory information, assessor information, environmental liens, NWI mapping, floodplain information, historical well data, and other information used to characterize potential environmental hazards.

The Phase I ESA was performed in conformance with the scope and limitations of ASTM E 1527-13 and in general accordance of the agreement between KDBOE and TERRADON Corporation. After review of the EDR report and geographic locations of potential environmental concerns, it was determined that none of the nearby sites posed a recognized environmental concern to the potential new school sites or current facility. The full Phase I ESA report including the EDR report and site photographs can be found in **Appendix B**.

During construction, hazardous materials would be stored in a locked, covered, facility wherever possible. Recyclable materials would be hauled off-site for recycling and construction waste would be disposed of at a permitted landfill facility.

Alternative 1 – No Action

Under the No Action Alternative, no impacts from hazardous materials are anticipated. No change to the status quo is anticipated, and no recognized environmental concerns were listed or found in EDR database information that would impact the continued operation of portable classrooms at Bridge Elementary.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

Under the Proposed Action Alternative, no impacts from hazardous materials are anticipated. No recognized environmental concerns were listed or found in EDR database information that would impact the site. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, State, and Federal regulations.

An underground natural gas pipeline is located directly south of the two northern residential structures transecting the proposed site east to west. The proposed access road crosses a 20-inch high pressure natural gas line owned by Tennessee Gas Company. Tennessee Gas Company is responsible for monitoring and maintenance of the pipeline. During the Phase I Environmental Site Assessment, completed by Terradon, no signs of leakage, noxious odors, or staining were observed. Due to the shallow nature of the line at the road crossing, Tennessee Gas Company has requested that a protective cover be built to bridge over the line to protect it from both construction traffic and school traffic once the road is complete. The pipeline would not be crossed until properly protected and approved by Tennessee Gas Company personnel.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, no impacts from hazardous materials are anticipated because no recognized environmental concerns were listed or found in EDR database information that would impact the site, and the former school will have been demolished, with any contaminants removed, prior to construction of a new school. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, State, and Federal regulations.

3.4 Socioeconomics

3.4.1 Zoning and Land Use

According to the Kanawha County Commission Department of Planning and Development, the Town of Clendenin does not have any zoning regulations in effect. The Kanawha County Department of Planning and Development oversees and enforces land use ordinances in the unincorporated areas of the county, including the community of Elkview.

Alternative 1 – No Action

The properties consisting of the damaged Clendenin Elementary School are listed as Parcel ID 20-02-0007-0032-0000 and 20-02-0007-0033-00000, according to the Kanawha County Assessor. The subject properties land uses are currently listed as residential Property Class of 612-School, totaling nearly 6 acres. Under this Alternative, no land use or zoning changes would be required at this site.

The land use of the site of the portable classrooms is currently listed by the County as 100-Residential Vacant Land. The No Action Alternative and continued use of the portable classrooms would require the area near Bridge Elementary School where the portable classrooms are located to be reclassified as '612-School' per Kanawha County guidelines; therefore, changing the property listing long term. The Kanawha County Commission Department of Planning and Development does not require a permit for this reclassification. In addition, this would not represent a change in land use, as compared to the current state quo.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

The proposed project location consists of multiple parcels outside of the city limits of Clendenin, within community of Elkview, which neighbors Clendenin to the west. According to Kanawha County Assessor information, the subject properties have two land classifications, 101-Residential 1 Family and 100-Residential Vacant Land. The proposed site development would result in reclassifying the parcels to '612-School' per Kanawha County guidelines; therefore, changing the property listing long term. The Kanawha County Commission Department of Planning and Development does not require a permit for this reclassification. Land use at the site would no longer be residential, and residents of five houses on the proposed site would need to relocate. The constitutes only a minor impact on land use in Elkview due to the limited acreage associated with the proposed action.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, no zoning changes would be required. The existing Clendenin Elementary School site is listed as 612-School. Land use patterns would be similar to land uses prior to the disaster, so any impacts would be negligible.

3.4.2 Noise

Noise is generally defined as undesirable sound and is federally regulated by the Noise Control Act of 1972 (NCA). Although the NCA gives the EPA the authority to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards; the EPA's guidelines, and those of many federal agencies, state that outdoor sound levels in excess of 55 dB are "normally unacceptable" for noise-sensitive land uses such as residences, schools, and hospitals. A noise ordinance does not exist for Clendenin or Elkview.

Alternative 1 – No Action

Under the No Action Alternative, no increased long-term noise impacts are anticipated.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

Under the Proposed Action Alternative, construction and developmental noise impacts would be temporary and limited to the duration of construction activities. The nearest properties to the proposed school site are residential and to reduce the impacts of noise generated, construction activities would be restricted to normal business hours. Equipment and machinery utilized at the site would be required to meet all State and Federal noise regulations. Long term, the noise level at immediate site is anticipated to be slightly higher due to the operation of the new facility (e.g., when children are outdoors, or heating or cooling systems are operating). Developed sites near the proposed site are sufficiently far away that they would not experience increased noise levels from the school campus. Noise levels along the roads used to access this site may increase slightly due to traffic when students need to be dropped off or picked up. Considering that increases to noise would be limited to normal business hours, minor impacts to noise levels in the surrounding area are anticipated.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, construction and developmental noise impacts would be temporary and limited to the duration of construction activities. To reduce noise levels during that period, construction activities would be restricted to normal business hours. Equipment and machinery utilized at the site would meet all State and Federal noise regulations. Moderate, short-term, increases in noise levels would be anticipated to occur during construction activities. Long term, vehicle traffic would increase back to pre-disaster levels with students returning to Clendenin Elementary School.

3.4.3 Public Services and Utilities

Public services to the alternative locations are provided by private industries, local municipalities, and the State of West Virginia. These include police, fire, water, sewer, utilities, and road connections.

Alternative 1 – No Action

Under the No Action Alternative, public services would continue to be provided with no impact.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

Under the Proposed Action Alternative, public services and utilities are already established. Water supply services are provided by West Virginia American Water; sewage services are provided by Elk Valley Public Service District; natural gas heating is available in the general area of the subject property; electric power service in the adjacent area of the subject property is provided by American Electric Power; emergency fire services are provided by the local fire department; emergency medical services are provided by Kanawha County Emergency Ambulance Authority and/or General Ambulance Services; and police services are provided by Kanawha County, West Virginia State Police, and/or local police. The nearest medical facility is the Clendenin Health Center located 2.2 miles away and the nearest hospital is CAMC General Hospital located 21.1 miles away. The primary road providing access to the site by potential emergency services is Route

119. The general area of the subject property is already developed, with partial site utility access to water supply, sewage, electricity, and natural gas, at the southern extent of the subject property. Trenching would be required to connect the new development to these utilities. During construction, minor, short-term utility outages may occur in the surrounding area due to utility development; however long-term effects due to utility access would not be anticipated.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, there would be slight increases in public service or utility usage during construction activities at the existing site that would ultimately return to pre-disaster service levels.

3.4.4 Traffic and Circulation

The West Virginia Division of Highways (WVDOT) via the West Virginia Department of Transportation (WVDOT) is responsible for planning, engineering, right of acquisition, construction, reconstruction, traffic regulation and maintenance of state roads, highways, and a portion of federal roads within West Virginia's boundaries. Arterials, connectors, rural roads, local roads, and county roads are constructed and maintained by county or city governments.

Alternative 1 – No Action

Under the No Action Alternative, no changes to existing roads or traffic patterns would occur.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

The Proposed Action Alternative is located along Wolverton Mountain Road and Ballenger Lane. The proposed layout (**Appendix A**) illustrates that the road transecting the subject property from the southern to the northern extent would be enlarged to accommodate vehicular traffic ingress and egress associated with the school facilities. The main entrance and exit of the proposed project would connect to Elk River Road (US 119). As such, a vehicular traffic study was conducted by A. Morton Thomas and Associates, Inc. (AMT) to ensure that appropriate designs are made to accommodate the new vehicular traffic pattern. This study is dated November 2018 and is attached in **Appendix B**. According to the study, the site is proposed to be primarily served by a single access, full-movement connection to US 119, directly aligning with the access road intersection. The driveway would be operated under stop-control. AMT recommended that the school access driveway be constructed as a full movement approach east of Wolverton Mountain Road, with one ingress lane and two egress lanes and a right and left turn approach. The right turn lane is recommended to be at a minimum of 75 feet of full-width storage with an appropriate length of bay taper. The driveway approaches are recommended to operate under stop-control. AMT also recommended that an exclusive left-turn lane be constructed on the eastbound approach of US 119 with a minimum of 75 feet of full-width storage with appropriate length of

bay taper. The minimum of 75 feet for the left turn lane is recommended to accommodate the arrival of multiple busses and to provide additional traffic storage. According to the results of the capacity and queueing analysis, traffic is expected to increase by 55% to/from the west and 45% to/from the east, along US 119. Based upon the results of the traffic study and recommended improvements, the trips generated by the proposed site would have minor long-term impacts to traffic on US 119.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, there would be temporary impacts to current traffic patterns during construction activities. No long-term impacts are anticipated, compared to traffic patterns that existed prior to the disaster, when the school was in use.

3.4.5 Environmental Justice (Executive Order 12898)

EO 12898 (Environmental Justice in Minority Populations and Low-Income Populations) mandates that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number of minority or low-income persons have the potential to be adversely affected by the proposed project.

United States Census Bureau Data was used to assemble the following community profiles for Kanawha County and the communities of Clendenin and Elkview. Official 2010 Census Data was used as applicable, while additional information was taken from the 2013-2017 American Community Survey 5-Year Estimate (U.S. Census Bureau, American Fact Finder).

West Virginia has a population of 1,852,994, with school age children making up 18.1% of the population (2010 Demographic Profile). The state has an educational attainment rate of 85.9% of high school graduates and higher. The median household income is \$44,061 and 17.8% of individuals are identified as living below the Federal Poverty Level. Of the state population, approximately 1.5% of individuals identify as being of Hispanic or Latino origin. The majority of the population identifies as white, with 1.7% of individuals indicating they are of two or more races; for more details see **Table 1** below. Approximately 97.5% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate).

Kanawha County has a population of 193,063, with school age children making up 17.2% of the population (2010 Demographic Profile). The county has an educational attainment rate of 88.3% of high school graduates and higher. The median household income is \$46,859 and 16.5% of individuals are identified as living below the Federal Poverty Level. Of the Kanawha County population, 1.1% of individuals identify as being of Hispanic or Latino origin. Almost 9 out of 10 people in the county identify as white; for more information on the racial composition of the

county, see **Table 1** below. Approximately 97.7% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate). Therefore, publication of a non-English EA or public notice is not warranted. However, appropriate plain language guidance would be made available if requested for limited English-speaking residents

The Town of Clendenin has a population of 1,227, with school age children making up 18.9% of the population (2010 Demographic Profile). The town has an educational attainment rate of 77.8% of high school graduates and higher. The median household income is \$40,772 and 21.2% of individuals are identified as living below the Federal Poverty Level. Of the Clendenin population, 0.1% of individuals identify as being of Hispanic or Latino origin. The majority of the population identifies as white, with 4% of individuals indicating they are of two or more races; for more details, see **Table 1** below. Approximately 98.6% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate).

The community of Elkview has a population of 1,222, with school age children making up 14.8% of the population (2010 Demographic Profile). The community has an educational attainment rate of 82.7% of high school graduates and higher. The median household income is \$56,167 and 17.5% of individuals are identified as living below the Federal Poverty Level. Of the Elkview population, 0.9% of individuals identify as being of Hispanic or Latino origin. The majority of the population identify as white, and almost 5% of the population is Asian; for more information, see **Table 1** below. Approximately 95.1% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate).

There is not a minority population in Elkview or Clendenin, as defined under EO 12898. However, in both towns, the percentage of persons living below the poverty threshold is a little higher than in the county as a whole. The American Community Status data for the same time period (2013 – 2017) for the state of West Virginia as a whole indicated that 17.8% of people across the state were living below the Federal Poverty Level, which is a similar poverty rate to the rate in Elkview and slightly higher than the rate in Clendenin.

Table 1 – Summary of Percent Populations for Kanawha County, West Virginia

Race	West Virginia	Kanawha County	Clendenin	Elkview
White	93.9	88.5	96.2	92.4
Black or African American	3.4	6.9	0	0
American Indian and Alaska Native	0.2	0.1	0	0
Asian	0.7	1.1	0	4.8

Native Hawaiian or Other Pacific Islander	0	0	0	0
Some other race	0.3	0.2	0	0
Two or more races	1.5	3.2	3.8	2.8

Alternative 1 – No Action

Under the No Action Alternative, the redevelopment of Clendenin Elementary School would not be conducted, and FEMA funding would not be provided. The entire school-aged population would suffer from adverse impacts. There would not be disproportionate and adverse impacts on low-income or minority populations. The No Action alternative would impact the educational development for all elementary age students in Clendenin. Following the near destruction of the former Clendenin Elementary School in the 2016 flood event, the school's former students have been accommodated at Bridge Elementary School site in another community in portable classroom facilities. Due to the increased number of students at Bridge Elementary, the facilities are operating beyond their intended capacity, resulting in overcrowded classrooms. In addition, school facilities in the floodplain, but elevated above BFE, could leave students, faculty, and staff at risk, including the risk of entrapment during a flood, and the risk of interruptions in school services after a flood.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

The proposed action would not have disproportionately high and/or adverse effects on minority or low-income populations, as it would impact all populations in each community equally. Under the Proposed Action Alternative, there would not be a major change regarding the proximity of the school to the population of Clendenin, as the project site is located just outside of city limits. The driving distance between the former Clendenin Elementary School and the proposed site is 2.5 miles and is an approximately ten (10) minute drive, barring traffic. The driving distance between the existing Bridge Elementary School and portable facilities is 6.4 miles along a major interstate that is also an approximately ten (10) minute drive, barring traffic. Students from Clendenin would have to travel less far to this new site than they currently travel to Bridge Elementary School. The proposed project would relocate all students, teachers, and staff using Bridge Elementary School (both those from Clendenin and those from Elkview) to a new facility and operate under all guidance mandated under WVDE Policy 6200. Some students from Elkview (and, at times, their family members) would have to travel further to the new school than they do to Bridge Elementary School. This alternative would not permanently increase the number of residents in the project vicinity and would not generate additional demand for housing or jobs. The site location and proximity to current location would be beneficial to the Clendenin students and surrounding community, allowing for relative ease of access to Clendenin residents to after school programs and extracurricular activities. Because the proposed school site is 6.4 miles from Bridge Elementary School, it could be more difficult for some residents of Elkview to reach the school, which could constitute a minor adverse impact. An important advantage for the students

from Elkvie would be that they would no longer be attending a school that has been historically subject to flood damage.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, there would not be impacts to environmental justice or demographics. This alternative would allow for appropriate facilities to be built on the site of the former Clendenin Elementary School that would accommodate educational needs not currently being met in the portable classrooms. The facility would be built in the floodplain but elevated above BFE. Ingress and egress routes would continue to be within the floodplain which could leave students, faculty, and staff at risk, including the risk of entrapment during a flood, and the risk of interruptions in school services after a flood. This alternative would not have disproportionate and adverse effects on minority or low-income populations.

3.4.6 Safety and Security

To minimize risks to safety and human health, all construction activities would be performed using qualified personnel trained in the proper use of equipment, including all safety precautions. Additionally, all activities would be conducted in accordance with the standards specified in OSHA regulations. EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks) mandates that Federal agencies identify and assess health risks and safety risks that may disproportionately affect children. Environmental health and safety risks include those that are attributable to products or substances that the child is likely to encounter or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to).

Alternative 1 – No Action

Under the No Action Alternative, there would be no change to the status quo. There are no known health or safety issues for students or others if there is not a future flood. There would continue to be risks to the safety and security of students, faculty, and staff in the event of flooding, because the school facilities are within the SFHA, although the temporary classrooms are elevated above BFE. The Bridge Elementary School and access roads to the site are located within the floodplain and regulatory floodway, and the area has a history of repetitive flooding during high rain events. Floodwaters are often contaminated with hazardous materials, such as chemicals and raw sewage, and facility exposure to floodwaters increases the likelihood of mold. Given the history of flooding at this location, and its location within the SFHA, it is reasonable to believe that the area will flood again. Future flooding would present an increased risk to children present in the floodplain at the time of flooding. In the event of a future flood affecting school buildings, the school system would be responsible for preventing children from returning to this site before flood damages have been fully remediated; there may also be risks to any adults returning to the site.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

The Proposed Action Alternative would require extensive construction activities associated with development. Construction activities would require all personnel to have appropriate OSHA certifications and knowledge associated with their profession. Appropriate counter measures

would be taken along with Health Site and Safety Plans. As this location is primarily located away from the larger population of the community, significant short-term risks to the public during construction activities are not anticipated. During construction, appropriate signage and fencing would be implemented to ensure the public does not enter an active construction zone. Safety concerns for this alternative would be limited to short term development of the site and facilities and would not have a long-term adverse effect on safety or security. Over the long term, students, faculty, and staff who use the new school would be at a decreased risk in the event of flooding compared to scenarios involving using school buildings in the SFHA with access roads that could be flooded.

An underground natural gas pipeline is located directly south of the two northern residential structures transecting the proposed site east to west. The proposed access road crosses a 20-inch high pressure natural gas line owned by Tennessee Gas Company. Tennessee Gas Company is responsible for monitoring and maintenance of the pipeline. During the Phase I Environmental Site Assessment, completed by Terradon, no signs of leakage, noxious odors, or staining were observed. Due to the shallow nature of the line at the road crossing, Tennessee Gas Company has requested that a protective cover be built to bridge over the line to protect it from both construction traffic and school traffic once the road is complete. The pipeline would not be crossed until properly protected and approved by Tennessee Gas Company personnel.

Alternative 3 – Redevelopment of Clendenin Elementary School

The Reconstruction Alternative would require extensive construction activities associated with development at the site of the former Clendenin Elementary School. Construction activities would require all personnel to have appropriate OSHA certifications and knowledge associated with their profession. Appropriate counter measures would be taken along with Health Site and Safety Plans. During construction activities, signage and fencing would be utilized to ensure the public does not enter an active construction zone. Although the reconstruction activities would be within a populated residential area, appropriate counter measures would mitigate safety risks to the public and no short-term risks would be anticipated.

Additionally, the safety and security of students, faculty, and staff associated with Clendenin Elementary School would be at risk due to future flood disasters on a long-term basis. The former Clendenin Elementary School is located within the floodplain and the area has a history of repetitive flooding during high rain events. Given the history of flooding at this location, and its location within the SFHA, it is reasonable to believe that the area will flood again. Although construction would elevate the site above BFE, the surrounding properties, including the main point of ingress and egress to the school, would remain at risk.

3.5 Historic and Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, 54 U.S.C. §306108, requires Federal agencies to consider the impact an undertaking has on historic properties. The review activities required under NHPA are referred as the Section 106 process. According to 36 CFR 60.4, historic properties are defined as districts, sites, buildings, structures, and/or objects that are listed in or eligible for listing in the National Register of Historic Places

(NRHP). In accordance with the 36 CFR 800.4, Federal agencies are required to identify historic resources within an undertaking's Area of Potential Effect (APE). As defined in 36 CFR Part 800.16(d), the APE "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist." In consultation with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), Federal agencies must evaluate the identified historic resources for NRHP eligibility and assess the potential effects to those historic properties resulting from the proposed undertaking. If the undertaking is determined to have an adverse effect on historic properties, then the agency must attempt to avoid, minimize, or mitigate that adverse effect. For each of the proposed alternatives, FEMA conducted an archives search utilizing West Virginia SHPO's Interactive GIS Map. A summary of those results and subsequent consultation is provided in the below paragraphs. With regards to tribal resources, because of known cultural areas of interest in Kanawha County, FEMA consulted with Seneca Nation of Indians in July of 2016, immediately following the disaster declaration for DR-4273-WV. At the time, the Seneca Nation of Indians did not express concerns with DR-4273-WV Public Assistance activities within the declared counties, including Kanawha County. However, due to the degree of ground disturbance involved with the proposed alternative, on April 11, 2019, FEMA issued a project-specific consultation letter to the Seneca Nation of Indians.

Alternative 1 – No Action

A search of West Virginia SHPO's Interactive GIS map in the vicinity of Bridge Elementary identified several nearby residential structures for which Historic Property Inventory (HPI) forms had been created; however, there were no known NRHP-eligible or NRHP-listed properties present. Under the No Action Alternative, no new impacts to historic properties would result from the portable classrooms remaining at Bridge Elementary.

Alternative 2 – Relocation of Clendenin Elementary School (Proposed Action)

A search of West Virginia SHPO's Interactive GIS map in the vicinity of the proposed construction site identified no known historic properties. Because the proposed construction involves the disturbance of 39.27 acres of land, the acquisition and demolition of three properties over fifty years of age, and the ultimate sale of the Bridge Elementary School building, FEMA consulted with the West Virginia SHPO to assess potential impacts to historic properties. FEMA determined that there were no historic properties within the APE and therefore no historic properties affected by the undertaking. WV SHPO concurred that there were no historic properties within the 39.27 acres of disturbance at the new construction site, but determined Bridge Elementary's eligibility for the NRHP to be inconclusive. "Due to the lack of an adequate preservation plan for future ownership, the undertaking *may* impose an *adverse effect* on the Bridge Elementary School property" (WV SHPO to FEMA, March 26, 2019). However, West Virginia SHPO opined that FEMA's submission of a West Virginia HPI form for Bridge Elementary fulfilled the requirement to mitigate the potential effects of the undertaking, thus concluding the Section 106 process unless the project scope of work should change. A clarification of the limits of ground disturbance in the vicinity of Hayes Cemetery led to further consultation with West Virginia SHPO on April 1, 2019. Ground disturbance related to the proposed access road would occur within thirty feet of burials; however, that disturbance would be on the outside of the existing cemetery fence and in an area

previously disturbed by the installation of gas lines. The result of the April 1, 2019 consultation was West Virginia SHPO's opinion that Hayes Cemetery is not eligible for listing in the NRHP. Therefore, on April 3, 2019, West Virginia SHPO concurred with the determination that the proposed undertaking would have no effect on Hayes Cemetery. All aforementioned correspondence with West Virginia SHPO was forwarded to the Seneca Nation of Indians of New York (Seneca Nation of Indians) on April 11, 2019 for comment. Though the Seneca Nation of Indians has established areas of interest in counties associated with the Adena culture (including Kanawha County), the Seneca Nation of Indians concurred with WV SHPO's finding of no effect on May 1, 2019. This concluded the Section 106 Process for the Proposed Action Alternative and documenting its compliance with the NHPA. Copies of correspondence between FEMA and West Virginia SHPO (including HPI and Cemetery Inventory forms) and FEMA and the Seneca Nation of Indians can be found in **Appendix C** of this report.

Alternative 3 – Redevelopment of Clendenin Elementary School

Under the Reconstruction Alternative, a search of West Virginia SHPO's Interactive GIS map in the vicinity of the original Clendenin Elementary School site revealed three previously surveyed resources within the APE: 1. Clendenin Historic District (NRHP #96000442); 2. School Garage (KA-0036-0059); 3. Big Sandy High School/Clendenin Elementary School (KA-0036-0058). It is likely reconstruction on the original Clendenin Elementary School site will have visual impacts on the Clendenin Historic District, particularly since a new school building would have to be elevated above the BFE to comply with local floodplain ordinances. A determination of eligibility has not been issued for the School Garage, but the structure is over fifty years of age and would likely have to be demolished to accommodate the new facilities due to space constraints on the lot. As mentioned in Section 1.4 of this document, demolition of the original Clendenin Elementary school would result in an adverse effect to a historic property. This adverse effect was resolved through a MOA executed October 20, 2017. The treatment measures outlined in the MOA include the installation of a walking trail around the perimeter of the original school property, the installation of a mural on the School Garage wall, the installation of a memorial incorporating the "Big Sandy High School" door surround to be salvaged from the original school building during demolition, and the installation of a flagpole with a brick planter surround. Because the MOA stipulates that each of these treatment measures be installed on the original Clendenin Elementary School property, the Reconstruction Alternative could not occur in conjunction with the treatment measures, as originally identified. If the Reconstruction Alternative were to take place on the original Clendenin Elementary School site, it would not be possible to comply with all the elements of the MOA, and thus the MOA would need to be amended as per stipulation VIII in the agreement.

3.6 Comparison of Alternatives

The primary impacts from the No-Action Alternative would be associated with the risks stemming from keeping the temporary classrooms in a location where ingress and egress routes could be flooded (as the temporary classrooms are within the floodplain but elevated above BFE) and potential safety impacts associated with continued occupancy of the floodplain. The impacts from the Proposed Action-Alternative would include changes to land use (including displacement of residents who currently live on the proposed site), minor short-term impacts from construction

activities, and minimal long-term impacts to farmland, water resources, and the floodplain. The impacts from the Redevelopment Alternative would include minor short-term impacts from construction activities, with long term-impacts to the safety and security of the school and children due to the location of the building and surrounding areas within the floodplain. The following table summarizes the potential impacts analyzed for all three alternatives.

Table 4- Summary of Environmental Impacts

Affected Environment	No Action Alternative	Proposed Action Alternative	Redevelopment Alternative
Soils and Geology	No impact and no FPPA compliance requirements.	Moderate short-term impacts, long term impacts to be mitigated following recommendations from Geotech Report. Long-term impacts to drainage at the site due to increase in impervious surface. Converts 0.9 acres of Prime Farmland and 53 acres of statewide or local farmland to other uses.	Minimal impacts on a short or long-term basis. No FPPA compliance requirements.
Water Resources and Water Quality	No impact.	Minimal short-term impacts and negligible long-term impacts. Impacts to 995 ft. of stream to be mitigated by compensatory mitigation credits. Possible minimal long-term groundwater impacts.	Minimal short-term impacts, no long-term impacts.
Floodplain Management	No impact in Clendenin. Moderate impact in Elkview, portable classrooms are above BFE, but within the SFHA.	Minimal floodplain impact, 0.35 acres of development would occur in the floodplain for the access road. All other development would occur outside the floodplain.	Moderate impact, as the school would be elevated above BFE during redevelopment; however, children would continue to use flood prone areas, with all egress from routes from the school through the floodplain.
Air Quality	No impact.	Negligible short-term impacts during construction.	Negligible short-term impacts during construction.
Terrestrial and Aquatic Environment	No impacts.	Minimal impacts to terrestrial species and the aquatic resources.	No impact to terrestrial species, minimal impact to aquatic resources.

Affected Environment	No Action Alternative	Proposed Action Alternative	Redevelopment Alternative
Wetlands	No impacts.	No impacts.	No impacts.
Threatened and Endangered Species	No impacts.	May affect, but not likely to adversely affect, listed species.	May affect, but not likely to adversely affect, listed species and critical habitat.
Hazardous Materials	No impacts.	No impacts.	No impacts.
Zoning and Land Use	No impact.	Minimal impact.	No impact.
Noise	No impact.	Moderate short-term impact due to construction noise, minimal long-term impacts.	Moderate short-term impact due to construction noise, no long-term impacts.
Public Service and Utilities	No impact.	Minor short-term impact during construction, no long-term impacts.	Minor short-term impact during construction, no long-term impacts.
Traffic and Circulation	No impacts.	Minor short-term construction impacts and minor traffic impacts to US119.	Minor short-term construction impacts. No long-term impacts.
Environmental Justice	No disproportionate and adverse effects on minority or low-income populations.	No disproportionate and adverse effects on minority or low-income populations.	No disproportionate and adverse effects on minority or low-income populations.
Safety and Security	No short-term construction impacts. Moderate long-term impacts due to possibility of future flooding.	Negligible short-term construction impacts; no long-term impacts to health and safety of children.	Negligible short-term construction impacts; Moderate long-term impacts in the event of future flooding.
Historic Structures	No historic properties affected.	No historic properties affected within construction site; Potential for adverse effect to Bridge Elementary School resolved through submission of HPI form.	No historic properties affected, contingent upon renegotiation of MOA.

Affected Environment	No Action Alternative	Proposed Action Alternative	Redevelopment Alternative
Archaeological Resources	No historic properties affected.	No historic properties affected.	No historic properties affected.
Tribal and Religious Sites	No effect.	No effect.	No effect.

SECTION FOUR: CUMULATIVE IMPACTS

Cumulative effects are defined by the CEQ as the impact on the environment, resulting from the incremental impacts of the evaluated actions when added to other past, present, and reasonably foreseeable future actions, regardless of the source, such as Federal or non-Federal. Per 40 CFR §1508.7, cumulative impacts can result from individually minor but collectively significant actions taken over time.

Kanawha County is currently engaged in numerous flood recovery projects, funded from various Federal and state sources, as well as local and private sources. Past and present recovery activities include demolition of flood damaged residential, commercial and public buildings, restoration of flood-impacted facilities, acquisition of residential homes, and mitigation of residential homes through elevation or reconstruction above BFE. While these activities are being undertaken as part of the necessary recovery efforts following the 2016 flood, focus is being placed on reducing future risk by removing or mitigating properties in the SFHA.

In addition to the loss of the former Clendenin Elementary School, the community also experienced substantial damage and subsequent demolition of Herbert Hoover High School which serves the northeastern portion of Kanawha County. While the school has been operating out of a separate shared space in Elkview, they are pursuing a reconstructed school which is being evaluated under a separate FEMA EA. Several options are being considered under the Herbert Hoover EA; however, none of the alternatives are expected to present significant impacts either individually or cumulatively.

Reasonably foreseeable future actions in the area include the replacement of Herbert Hoover High School and continued public and private recovery projects. Past, present and future actions are not expected to result in increased long-term development or population growth, as the goal is to restore pre-disaster services to the community. While acknowledging that this project is a component of many actions being undertaken as recovery efforts from the 2016 flood, the alternatives presented in this EA would not have significant cumulative effects on the Town of Clendenin, the community of Elkview, or Kanawha County.

SECTION FIVE: PUBLIC PARTICIPATION

Prior to the start of the formal federal NEPA process, the selection of a site to construct the new Clendenin Elementary School was the focus of public meetings. Public involvement included Kanawha County public meetings, KCBOE meetings, and Clendenin Town Hall meetings to

establish an open discussion with the surrounding community. Throughout the process representatives from state, local, and federal agencies, State and Federal Representatives, politicians, local community, and families of Clendenin Elementary School students have participated in the public comment process. Public involvement was also solicited regarding the consolidation of Clendenin Elementary School with Bridge Elementary School, as presented under the Proposed Action Alternative.

The NEPA process required that opportunities be provided for public review and comment. In addition to the opportunities described above, the project provided formal opportunities for public involvement during the scoping process and circulation of the draft EA.

KCBOE advertised the Draft Environmental Assessment for the relocation of Clendenin Elementary School as per National Environmental Policy Act (NEPA) requirements. The proposed project site activities consist of approximately 39.37 acres situated within nearly 101.64 acres located along Hokie Lane/Wolverton Mountain Road, and Fairwater Road in Elkview. The Subject Property is currently owned/occupied by multiple residences and landowners. Coordinates for the center of the subject property are 38.477853 latitude, -81.376292 longitude. The 30-day comment period began from the date of the advertisement in the Charleston Gazette newspaper and the WV Secretary of State web site, June 6, 2019. The Draft Environmental Assessment Document was made available at a public location and posted online at the FEMA website at <https://www.fema.gov/disaster/4273>. Written comments were submitted by email to FEMA-R3-EHP-PublicComment@fema.dhs.gov or by mail, addressed to FEMA Region III, Disaster 4273, 615 Chestnut Street, Sixth Floor Philadelphia, PA 19106, ATTENTION: KCBOE Clendenin Elementary NEPA Comments. FEMA also held a public meeting on the Draft EA on June 18, 2019, to solicit feedback. Substantive comments received during the public comment process were addressed in Appendix E and incorporated into the EA. A Response to Comments Document was generated and included with the updated EA, as **Appendix E**.

As a result of a public comment received regarding the mineral (subsurface) rights under the Proposed Action site, the applicant secured the unencumbered mineral and surface rights to the entire property. Following this action, the Draft EA became final, the initial Public Notice also served as the final Public Notice, and a FONSI was issued.

SECTION SIX: MITIGATION MEASURES AND PERMITS

- The applicant (SBA and KCBOE) is responsible for obtaining and complying with all required local, State and Federal permits and approvals.
- Work must be conducted in the fashion it is proposed in any permit applications. Changes to project design would require reopening consultations with regulatory agencies.
- Terms and conditions set by USACE and WVDEP to minimize effects to water quality will be abided by the applicant. Per Nationwide Permit 39, projects require Individual State Water Quality Certification if impacting Section 10 waters and adjacent wetlands or placing in-stream stormwater management facilities. The applicant must abide by all conditions.
- The Compensatory Mitigation Plan for stream impacts submitted will be in compliance with USACE and WVDEP regulations.

- Construction BMPs, as identified in the Sediment and Erosion Control Plan prepared for the proposed action, will be utilized and maintained throughout construction to control soil erosion and sediment, reduce spills and pollution, and provide habitat protection.
- Erosion controls will be in place prior to any ground disturbing activity.
- Avoided wetland and streams will be fenced during construction as no-work areas.
- Site soils will be covered and/or wetted during construction to minimize fugitive dust.
- Construction activities will be conducted during the daytime hours to reduce adverse noise impacts.
- The applicant (SBA and KCBOE) will monitor ground disturbance during the construction phase; should human skeletal remains, or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the applicant shall notify the coroner's office (in the case of human remains), FEMA, and the State Historic Preservation Office.
- Any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations, with WVDEP being the lead agency regarding compliance. During all activities, appropriate measures to remove, prevent, contain, minimize, and control spills of any potentially hazardous materials will be employed.
- Heavy machinery and equipment to be used for the proposed action will meet federal clean air standards. In addition, all equipment used shall have sound control devices no less effective than those provided on the original equipment. No equipment shall have un-muffled exhaust.
- All equipment shall comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency.
- If deviations from the proposed scope of work result in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, prior to the start of work the applicant (SBA and KCBOE) must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.

SECTION SEVEN: CONSULTATIONS AND REFERENCES

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USGS 7.5-Minute Topographic Quadrangle Map

West Virginia Department of Environmental Protection-Division of Air Quality

West Virginia Department of Natural Resources

West Virginia Wildlife Diversity Program

West Virginia National Heritage Program

West Virginia Department of Wildlife

West Virginia Division of Highways

West Virginia Division of Transportation

West Virginia State Historic Preservation Office

West Virginia State Historic Preservation Office Map Viewer,
<https://mapwv.gov/shpo/viewer/index.html>.

Pertinent and available local, state, and federal government listing of recognized environmental conditions were reviewed for evidence of activities, which may have an adverse impact on the subject property. Some of those agencies/listings and the databases searched by Environmental Data Resources, Incorporated (EDR) include the following:

- US Environmental Protection Agency (USEPA);
- West Virginia Department of Environmental Protection (WVDEP);
- Division of Water Resources (DWR);
- National Priorities List (NPL);
- Proposed National Priority List sites;
- National Priority List Deletions (Delisted NPL);
- Federal Superfund Liens (NPL Liens);
- active Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS);
- CERCLIS No Further Remedial Action Planned sites (CERC-NFRAP);
- Corrective Action Report sites (CORRACTS);
- Resource Conservation and Recovery Information System (RCRIS) databases including the Treatment, Storage and Disposal Facility (TSD) list and large and small quantity generator list (LQG/SQG) sites;
- Emergency Response Notification System (ERNS);
- Hazardous Materials Information Reporting System (HMIRS);
- Engineering Controls Sites List (US ENG CONTROLS);
- sites with Institutional Controls (US INST CONTROLS);
- Department of Defense Sites (DOD);
- formerly used defense sites (FUDS);
- US Brownfield;
- Superfund Consent Decrees (CONSENT);
- Records of Decision (ROD);
- Uranium Mill Tailings Sites (UMTRA);
- Open Dump Inventory (ODI);
- Toxic Chemical Release Inventory System (TRIS);
- Toxic Substances Control Act (TSCA);
- FIFRA/TSCA Tracking System (FTTS);
- Section 7 Tracking Systems (SSTS);
- Land Use Control Information System (LUCIS);
- Incident and Accident Data (DOT OPS);

- Integrated Compliance information System (ICIS);
- FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS);
- Drug Lab Site Locations (CDL);
- Radiation Information Database (RADINFO);
- CERCLA Lien Information (LIENS 2);
- PCB Activity Database System (PADS);
- Material Licensing Tracking System (MLTS);
- Mines Master Index File (MINES);
- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS);
- RCRA Administrative Action Tracking System (RAATS);
- Indian Reservations (INDIAN RESERV);
- Indian LUST (INDIAN LUST);
- Indian UST (INDIAN UST);
- Manufactured gas plants;
- State hazardous waste sites (SHWS);
- Municipal Solid Waste Landfills/Transfer Stations (State Landfill);
- Leaking Underground Storage Tank (LUST) list;
- Registered underground storage tank (UST);
- Spills listing (SPILLS);
- Sites with Institutional Controls (INST CONTROLS);
- Voluntary Remediation Sites (VCP);
- List of Drycleaner Locations (DRYCLEANERS);
- Wastewater Discharge Permits Listing (NPDES); and,
- Permitted Facility and Emissions Listing (AIRS)

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APPENDICES

Appendix A Maps and Figures

Appendix B Technical Reports

Appendix C Agency Correspondence

Appendix D Public Notice

Appendix E Public Comments