1. Applicant Identification: Virginia Polytechnic Institute and State University
   Office of Sponsored Programs
   300 Turner St. NW, Suite 4200
   Blacksburg, VA 24061

2. Funding Requested: a. Community-wide Assessment Grant
   b.i. $500,000
   b.ii. No waiver requested

3. Location: Commonwealth of Virginia with a focus on the Central Appalachian Region of Virginia, including Allegany, Bath, Botetourt, Craig, Highland, and Rockbridge Counties, and the independent cities of Buena Vista, Covington, and Lexington

4. Target Area and Priority Site/Property Information
   **Town of Buchanan**
   Groendyk Button Factory
   19318 Main Street
   Buchanan, VA 24006

   Glow-a-rama Building
   19812-19818 Main Street
   Buchanan, VA 24006

   **City of Buena Vista**
   Equipment Yard
   W 28th Street
   Buena Vista, VA 24416

   Bernson Silk Mill
   1865 Sycamore Ave
   Buena Vista, VA 24416
5. Contacts:
   i. Project Director
      Elizabeth Gilboy, Director
      Community Design Assistance Center
      101 S. Main Street, Suite 2
      Blacksburg, VA 24061
      Phone: (540) 231-5644

   ii. Authorized Official
      Trudy Riley, Associate Vice President for Research and Innovation, Sponsored Programs
      Office of Sponsored Programs
      300 Turner St NW, Suite 4200
      Blacksburg, VA 24061
      Phone: (540) 231-5381

6. Population:
   Virginia: 8,454,463
   Town of Buchanan: 1,369
   City of Buena Vista: 6,484

7. Other Factors Checklist  Please identify which of the below items apply to your community/proposed project.

<table>
<thead>
<tr>
<th>Other Factors</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community population is 10,000 or less.</td>
<td>5</td>
</tr>
<tr>
<td>The applicant is, or will assist, a federally recognized Indian tribe or United States territory.</td>
<td></td>
</tr>
<tr>
<td>The priority brownfield site(s) is impacted by mine-scarred land.</td>
<td></td>
</tr>
<tr>
<td>The priority site(s) is adjacent to a body of water (i.e., the border of the priority site(s) is contiguous or partially contiguous to the body of water, or would be contiguous or partially contiguous with a body of water but for a street, road, or other public thoroughfare separating them).</td>
<td>2</td>
</tr>
<tr>
<td>The priority site(s) is in a federally designated flood plain.</td>
<td>2</td>
</tr>
<tr>
<td>The reuse of the priority site(s) will facilitate renewable energy from wind, solar, or geothermal energy.</td>
<td>4</td>
</tr>
<tr>
<td>The reuse of the priority site(s) will energy efficiency measures.</td>
<td></td>
</tr>
<tr>
<td>30% or more of the overall project budget will be spent on eligible reuse planning activities for priority brownfield site(s) within the target area.</td>
<td>9-10</td>
</tr>
<tr>
<td>The target area(s) is located within a community in which a coal-fired power plant has recently closed (2011 or later) or is closing.</td>
<td></td>
</tr>
</tbody>
</table>

8. Letter from the State Environmental Authority: A letter from the Virginia Department of Environmental Quality is attached.
9. Releasing Copies of Applications: Not applicable
November 9, 2021

Elizabeth Gilboy, Director
Community Design Assistance Center
Virginia Tech
101 South Main Street, Suite 2
Blacksburg, Virginia 24061

VIA ELECTRONIC MAIL

Subject: Acknowledgement and Support
USEPA’s Community Wide Brownfields Assessment Grant
EPA-OLEM-OBLR-21-04
Virginia Tech – Community Design Assistance Center

Dear Ms. Gilboy:

The Virginia Department of Environmental Quality (DEQ) is in receipt of your request for support to the above referenced Brownfields Grant application. The request will be for a community-wide EPA Brownfields Assessment grant for sites with potential contamination from hazardous substances and/or petroleum in the Appalachian Region of Virginia and the Virginia Tech Community Design Assistance Center (CDAC) will serve as the applicant for the grant.

CDAC has been actively assisting communities in Virginia improve their natural and built environments through research, community engagement, brownfields assessment, redevelopment planning, and interdisciplinary design. The focus area of this grant will be communities in the Appalachian Region located along the historic US Route 11 corridor running between the Blue Ridge and Appalachian mountains. These communities, such as the initial Target Areas of Buchanan and Buena Vista, were often once heavily dependent on a single manufacturing facility; however, as global competitive pressures forced these facilities to close, the communities suffered. However, these forward-looking communities are attempting to capitalize on the unique cultural and natural resources of the area and rebuild local economies around connections between local downtowns and opportunities for outdoor recreation. The grant will enable the CDAC to further encourage the redevelopment of key brownfield properties
Acknowledgement and Support
USEPA’s Community Wide Brownfields Assessment Grant
EPA-OLEM-OBLR-21-04
Virginia Tech – Community Design Assistance Center

in accordance with each community’s plan to capitalize on the area’s cultural and natural heritage from their downtowns.

As you know, DEQ has been working closely with CDAC for many years on brownfields revitalization efforts and realizes the incredible impact that previous brownfields funding has had in communities across the Appalachian region. The DEQ Brownfields Program is thrilled to provide our support for this grant proposal. If I can be of further assistance, please don’t hesitate to call me at (804) 698-4064.

Sincerely,

Vincent A. Maiden, CPG
Brownfields Program Coordinator

ec: Nikki Herschler – DEQ-BRRO
    Graham Simmerman – DEQ-VRO
    Meade Anderson – DEQ - CO
    Joe Morici – Cardno
1. **PROJECT AREA DESCRIPTION AND PLANS FOR REVITALIZATION**

   a. **Target Area and Brownfields**

      i. **Background and Description of Target Area:**

         For 33 years, the Community Design Assistance Center (CDAC), an outreach center of Virginia Tech, has worked closely with communities in Virginia by developing place-based redevelopment strategies to overcome community, economic, and environmental challenges within a regional context. Through our work, we have discovered that many of the prime sites the communities wish to redevelop face additional challenges due to their past, suspect environmental history. With brownfield funding, we will be able to continue to provide critical environmental assessment and redevelopment planning assistance to the communities in need. Our focus area for the project will be six counties in the central Appalachian region of Virginia, including Allegany, Bath, Botetourt, Craig, Highland, and Rockbridge Counties, which have largely been impacted by changing transportation and economic conditions. Within this region, our initial target areas will be the town of Buchanan and the independent city of Buena Vista. Located between the Blue Ridge and Appalachian mountains, the economies of Buchanan and Buena Vista were once dependent on their locations on historic transportation routes and the manufacturing and commercial industries, which located there to take advantage of the routes; however, as transportation systems changed and global competitive pressures forced these facilities to close, the communities suffered.

         From its earliest development the town of Buchanan was the principal crossing of the James River via the “Great Valley Road” and other regional transportation networks. People settled in Buchanan and commercial and manufacturing enterprises located there because of the Town’s advantageous location for the transport of raw materials, goods, and products. Buchanan has always been distinguished as the point of intersection between two principal transportation corridors: the great northeast-southwest overland route (later US Hwy 11, and then I-81) west of the Blue Ridge Mountains between Pennsylvania and the old Upland south; and the James River, the principal river system of central Virginia that provides and east-west route for transport of goods from the mountains to Chesapeake Bay. The Town experienced further industrial and commercial growth as the railroads were built through town. However, expansion of the highway system contributed to Buchanan’s decline during the 1970’s through the early 1990’s. Downtown and surrounding neighborhoods spiraled into physical and economic decline as people became more mobile, shopping and living farther from the center of Town. Then, in 2000, the community lost its major textile employer, when the Groendyk button factory finally succumbed to global competition and economic pressures.

         Similarly, the city of Buena Vista’s beginnings are also tied directly to transportation routes. In the late 1800s, the city began when a tannery was established at the crossroads of two rail lines and the James River Canal. In 1889, the discovery of a large deposit of iron ore resulted in a boom of economic activity that lasted until 1892. In just those three years, the community grew extensively, adding a paper and pulp mill, a saddle factory, a cashmere mill, two brick and clay works, a wagon works, an egg crate factory, an electric light plant, a furniture and chair factory, a boiler factory, an iron furnace and steel factory, a glass foundry, and several wood and lumber establishments. Manufacturing in the city hit a peak after WWII, but the industries waned and many of the factories closed over the next 50 years in response to the changes in the global economy. Just since 2000, manufacturing employment in Buena Vista has decreased by over 35%.¹

         Today, these forward-looking communities are attempting to capitalize on the unique cultural and natural resources of the area and rebuild local economies around connections between local downtowns and opportunities for outdoor recreation. The transportation and economic changes have left the communities with several brownfield sites, including former factories and mills, vacant warehouses, closed schools, empty downtown buildings, and abandoned rail and canal infrastructure, blighting the landscape and raising concerns of potential contamination. However, the brownfields also present an opportunity for the Target Areas to revitalize their communities. Thus, CDAC will

focus on the region and these initial Target Areas to identify, assess, plan, and facilitate the transformation of brownfield sites.

ii. Description of the Priority Brownfield Sites:

In 2021, the Virginia Department of Environmental Quality (VDEQ) completed an EPA Small Communities Grant in Buchanan, which focused on developing a strategic roadmap for the community to transform brownfield sites into opportunities for redevelopment. The sites for Buchanan were specifically identified by community members present at the Community Workshop held in May 2021 as the top priorities to be addressed:

Groendyk Button Factory – In Buchanan, the remnants of the Groendyk Button Factory lies vacant on 4.5 acres. Built in the early 1900s, documented historical uses include metal can, button, and artillery parts manufacturing. The factory operated for nearly 100 years, closing in the early 2000s. The facility’s final use was for the manufacturing of molded, extruded and sheet organic rubber and silicone products. Over the next several years, many of the buildings were demolished, but the historic factory building built in 1950 with just under 19,000 square-feet of space remains vacant and deteriorating. A smaller 4,000 square foot maintenance building also remains, with many of its windows broken or missing. A cracked asphalt parking lot and concrete slabs cover a good portion of the remaining acreage. The former factory sits between the railroad on its eastern side and just above the floodplain of the James River on US Hwy 11 to the west. As an early factory town, residential homes are located in close proximity to the south and across the railroad tracks to the east. Previous limited assessment have identified the potential use of solvents, degreasers, adhesives, fuel oil, lubricants, and hydraulic oils as concerns, which present concerns of potential contamination of heavy metals, volatile organic compounds (VOCs), semi-VOCs (SVOC), and polycyclic aromatic hydrocarbons (PAHs) in site soils and groundwater. In addition, due to the age of the structures, asbestos-containing materials (ACM) and lead-based paint (LBP) may be present.

Other high priority sites in Buchanan identified during the Community Workshop include the Glow-a-rama Building – a two-story structure with over 20,000 square feet is located in the middle of the historic downtown. The commercial structure was home to a furniture store for 48 years, but a portion became a black-light game room until it closed in 2015. Since then the building has sat empty, and community members complain of its unsightliness and of the horrible smell of mold emanating from the building, impacting downtown pedestrians and patrons of nearby businesses. Sale and redevelopment of the building are hampered by ACM, LBP, mold, and heating oil concerns. Other high priority sites identified were the former school located in a federally-designated flood plain across the street from a riverside park, the former Virginia Forge (steel forge that closed in 2015, eliminating 125 jobs), a former Esso gas station, and several other downtown and light industrial buildings.

Similarly, CDAC met with community stakeholders in Buena Vista in August 2021 and identified the following sites as priorities for this project based on their potential for redevelopment and their impact on surrounding properties and the community:

Equipment Yard – On the northern end of Buena Vista, a former rail siding property is currently used as an equipment laydown yard, storage for vehicles in various stages of repair (or disrepair), and a dumping ground for various miscellaneous items. Located between a flood protection berm for the City’s public works facility on one side and the railroad and Maury River on the other, the triangular 1.5 acre property is located in the floodplain of the river. The site is located at the northern end of the Maury River Walk, currently a 2.5-mile recreational trail with magnificent views of the Maury River and surrounding wildlife. Unfortunately, the current state of the property and the junk piled on it detracts from those views and makes a poor impression on visitors and trail users. In addition to the typical concerns related to railroad operations – potential heavy metals, PAHs, and pesticides – petroleum impacts from the junk vehicles and equipment on the site as well as an adjacent upgradient gas station are concerns.

Other high priority sites in Buena Vista include the Bernson Silk Mill – located just south of the downtown, the former mill stretches across 8 acres of property between US Hwy 501 to its east side.
and the railroad and Maury River to its west. The mill was one of the founding industries of the city in 1891, and the building grew to over 130,000 square feet in size as many additions were constructed over the years. Once a major employer, the mill was forced to close in the 1990s. The large structure is now underutilized. Most of the building is currently vacant or used for storage with the exception of a Habitat ReStore, which occupies one of the newer, former warehouse spaces. Reuse appears to be hindered by the typical concerns related to textile mills – potential heavy metals, ACM, VOCs, SVOCs, and PAHs. Other sites within the city include a former Ford dealership property, an automotive repair shop, a car parts manufacturing facility, and several vacant downtown properties.

As funding allows, CDAC will work with community stakeholders to identify and prioritize the additional sites as well as identify and prioritize site in other Target Areas within the region.

b. Revitalization of the Target Area

i. Reuse Strategy and Alignment with Revitalization Plans

**Buchanan** is once again building its economy based upon transportation routes – recreational transportation routes and the significant eco-tourism growing in the region. Today, Buchanan receives thousands of visitors who wish to float the James River during the warm weather months. All year long, cyclists pass through town on the national US Bike Route 76 that follows US Hwy 11 through town. Many others visit town to access numerous mountain hiking trails, including the popular Appalachian Trail. Unfortunately, many of these visitors currently only pass through town, so town staff and the community are working to make downtown Buchanan a more vibrant place to live, visit, eat, shop, and have fun. In September 2021, VDEQ finished an EPA Small Communities Grant by developing a *Revitalization Roadmap* for the town. Developed in partnership with the town staff and based upon significant community input, the roadmap identified the priority sites, suggested potential redevelopment opportunities for those sites to help the revitalization of downtown and leverage the growing eco-tourism economy, and recommended potential grants and funding sources (including this grant application) to pursue to help achieve the revitalization goals. The **Groendyk Button Factory** presents an opportunity for a mixed-use development to create more residential living in the downtown area with entertainment/restaurant space. Since the completion of the roadmap, a developer has purchased the property with the intent to convert the larger building into 22 market-rate apartments and the smaller building into a craft brewery and tasting room (a nice stop for a thirsty biker). The developer does not intend to start the project until the Fall 2022 and has requested assistance with the environmental assessment as well as cleanup and redevelopment planning. Meanwhile, the suggested plans for the **Glow–a–rama Building** includes converting the second floor to apartments to bring more residential vitality to the downtown and the repurposing the ground floor for retail, entertainment, and restaurant space to cater to the eco-tourists and growing downtown residential population. Suggestions for the former school building include a needed fitness center, whose locker room facilities could also be open the many outdoor enthusiasts as they finish their adventures.

In February 2021, **Buena Vista** completed a *Downtown Revitalization Strategy*, which recommended the city “improve and envision the River Walk as a primary destination for local and regional visitors” as well as “renovate blighted and unoccupied buildings” and “attract new business owners to locate downtown.” In accordance with that strategy, the city envisions redeveloping the **Equipment Yard** as the northern trailhead for the currently River Walk and the connection point for the trail’s future expansion to connect with the Chessie Trail and Appalachian Trail. The **Bernson Silk Mill** offers ample space for a vibrant mixed-use development that repurposes the historic mill buildings to create opportunities for residential, entertainment, and commercial business development.

With funding from this brownfield project, CDAC will work closely with each community to further refine and create redevelopment plans for the priority sites based on the findings of environmental assessments, community input, and data gathered through reuse planning efforts.

ii. Outcomes and Benefits of Reuse Strategy

As the table in section 2.a.i. shows, the Target Areas consist of disadvantaged communities with high rates of poverty, low per capita and median household incomes, and a higher percentage of
population over the age of 65. The redevelopment of the priority properties has the potential to significantly attract public and private investment, create jobs, and improve the health and welfare of these Target Areas and disadvantaged communities. By addressing the lingering questions regarding the potential environmental issues at the sites, the project will help facilitate their redevelopment and spur economic growth within the Target Areas. For example, the redevelopment of the Groendyk Button Factory in Buchanan will require an investment of $1.8 to $2.5 million. Data from Housing Forward Virginia predicts this level of investment will yield a short term estimated local economic growth of $2.2 million with 34 short-term jobs created and an expected long-term economic growth of $140,000 annually, just for the residential component of the redevelopment.\(^2\) The development of a local, craft brewery will not only require a significant investment, but will also create an attractive destination and reason for visitors to spend more time and money within the downtown. Similarly, the reuse of the Glow-a-rama Building site will create additional shops and restaurants for visitors, as well as new affordable, energy efficient apartments for residents, while also mitigating a site currently driving both visitors and residents away from downtown due its current state and smell. In Buena Vista, improvements to the River Walk trail will attract more visitors and residents to the downtown, boost spending at downtown businesses, create jobs, reduce downtown vacancy rates\(^3\), increase the property values of nearby properties, and continue to offer healthy opportunities for recreation. The redevelopment of the Equipment Yard will be a significant improvement to the River Walk by eliminating current blight that negatively impacts the current trail and providing needed parking to increase access to the trail. The repurposing of the Bernson Silk Mill will facilitate new business creation with much-needed job opportunities for the target community. Due to the size of the building, a significant investment of $15-$20 million will be required to ultimately reuse the entire site. The investment will yield a significant amount of new tax income in both sales and property taxes that can be reinvested in the community.

c. Strategy for Leveraging Resources  
i. Resources Needed for Site Reuse  
As a state entity and university, CDAC is eligible for multiple federal and state grants, and our Target Area government partners, Buchanan and Buena Vista, are eligible for numerous state and federal grants and loans, but many require the environmental assessments and cleanup planning to be completed before award consideration. This project will enable the CDAC and our Target Area partners to continue to seek and secure funding to facilitate the cleanup and redevelopment of the brownfield sites. For any supplemental assessment work required beyond the financial means of this project, the Target Area governmental partners may pursue funding from the Virginia Brownfield Assistance Fund (VBAF), which provides assessment and planning grants of up to $50,000 and remediation grants of up to $500,000. The grants require a 1:1 match, which many communities are often unable raise; however, the funds expended under this project will count as match and be leveraged to secure a VBAF grant. For site cleanup, the our partners may pursue VBAF grants, EPA Brownfield Cleanup grants, Community Development Block Grants (CDBG), Enterprise Zone Real Property Improvement Grants, and Appalachian Regional Commission funding. For site redevelopment, CDBG funding, Virginia Department of Housing and Community Development (DHCD) Industrial Revitalization Fund (IRF) grants, Enterprise Zone Real Improvement Grants, and grants from the Department of Conservation and Recreation (DCR) can all be leveraged. For example, developers of the Groendyk Button Factory and Bernson Silk Mill may take advantage of state and federal historic tax credits. The Glow-a-rama Building or Bernson Silk Mill developers may pursue IRF grants for the building renovations. The city may seek grants from DCR, such as the Land and Water Conservation Fund, to transform the Equipment Yard into a trailhead.

ii. Use of Existing Infrastructure  
As former industrial and commercial properties, the target sites have the needed infrastructure in

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\(^3\) In Dunedin, FL, after the creation of the Pinellas Trail, the downtown went from a 35% storefront vacancy rate to a 100% storefront occupancy with a waiting list. [https://conservationtools.org/guides/97-economic-benefits-of-trails](https://conservationtools.org/guides/97-economic-benefits-of-trails)
place to serve the proposed redevelopments. Existing water, sewer, gas, and electricity services are of the needed size and capacity to be re-used for general service. Each site is located within communities and will reuse the existing street grids and sidewalks. No additional infrastructure is anticipated.

2. COMMUNITY NEED AND COMMUNITY ENGAGEMENT

a. Community Need

1. The Community’s Need for Funding

CDAC is dedicated to helping communities in the Central Appalachian region address long-standing issues and reinvent their communities; however, CDAC must rely on grant funding to provide any assistance to communities. As a state entity, Virginia Tech is facing the same budgetary pressures as all state agencies, and state assistance on a per student basis continues to drop. Virginia Tech’s budget focuses on its core mission of education, and funds are not allocated to CDAC to provide the assistance directly. The small amounts of grant funding CDAC receives from other sources, such as the Virginia Department of Forestry, cannot be used for environmental assessment and cleanup planning. Therefore, CDAC is unable to directly assist the brownfield communities in the Target Areas without additional grant funding. As the following table shows, both of the Target Areas have low populations and low incomes. The median household incomes are 22% to 56% less than Virginia’s, and the poverty rates are higher (2.7x times for Buena Vista) than those of Virginia’s. Median Home values in the Target Areas are also significantly less than the State. Moreover, both Target Areas show significantly worse numbers than their surrounding counties. With tax bases consisting of small, low income populations, the Target Areas struggle to provide basic services and do not have the resources or staff to address the brownfield sites themselves. This project will enable CDAC to provide the needed assistance and funding to these communities to help solve their brownfield challenges.

<table>
<thead>
<tr>
<th>Demographic Data (ACS 2019 5-year estimates)</th>
<th>Buchanan</th>
<th>Botetourt County</th>
<th>Buena Vista</th>
<th>Rockbridge County</th>
<th>Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>1,369</td>
<td>33,343</td>
<td>6,484</td>
<td>22,570</td>
<td>8,454,463</td>
</tr>
<tr>
<td>% Elderly (≥65)</td>
<td>15.8</td>
<td>21.9</td>
<td>17.0</td>
<td>25.5</td>
<td>15.0</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$57,716</td>
<td>$71,110</td>
<td>$32,485</td>
<td>$54,600</td>
<td>$74,222</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>$26,734</td>
<td>$35,893</td>
<td>$21,419</td>
<td>$31,539</td>
<td>$39,278</td>
</tr>
<tr>
<td>% All In Poverty</td>
<td>10.7</td>
<td>3.2</td>
<td>25.5</td>
<td>14.2</td>
<td>10.6</td>
</tr>
<tr>
<td>% Families with Children in Poverty</td>
<td>14.8</td>
<td>29.1</td>
<td>30.3</td>
<td>16.6</td>
<td>11.2</td>
</tr>
<tr>
<td>Median Home Value</td>
<td>$125,200</td>
<td>$227,700</td>
<td>$126,600</td>
<td>$199,600</td>
<td>$273,100</td>
</tr>
</tbody>
</table>

ii. Threats to Sensitive Populations

(1) Health or Welfare of Sensitive Populations

As the previous table shows, the Target Areas consist of sensitive populations of low-income and elderly individuals. These sensitive populations are more susceptible to the risks of exposure to environmental contamination, including the potential heavy metals, petroleum constituents, PAHs, VOCs, SVOCs, solvents, and ACM on the priority sites. As the next tables show, the Target Areas, and consequently the sensitive populations, have higher incidences of cancers than the state; and the areas have higher rates heart disease compared to the state. Furthermore, nearby residents, trespassers, and those living downstream are at risk of exposure from contamination on site, plumes migrating offsite, or contaminated runoff washed from the sites into James or Maury Rivers. In addition, the blighted sites impact the welfare of the target community by depressing the adjacent values of homes and property, as shown by the low median home values in the Target Areas. Assessments under this project will allow the Target Area communities to identify the actual risks on the sites and take actions to mitigate any potential threats. Left unmitigated, these properties will continue to negatively affect the communities that surround them by dampening property values and impacting the health and well-being of residents.

(2) Greater Than Normal Incidence of Disease and Adverse Health Conditions

The Target Area’s sensitive populations are particularly susceptible to chronic health impacts that the suspected contaminants may cause. Contaminants of concern associated with the former brownfields include heavy metals, petroleum constituents, PAHs, VOCs, SVOCs, solvents, and ACM,
which are known to cause multiple negative health effects such as respiratory, neurological, reproductive, dermal, and gastrointestinal harm. As the following table shows, the Target Areas experience increased rates of cardiovascular diseases. Exposure to heavy metals, solvents, and pesticides – suspected contaminants on the priority sites – are linked to increased rates of hypertension, and coronary heart disease.

<table>
<thead>
<tr>
<th>Individuals experiencing Health Conditions (%)</th>
<th>Buchanan</th>
<th>Botetourt Co.</th>
<th>Buena Vista</th>
<th>Rockbridge Co.</th>
<th>Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Heart Disease</td>
<td>1.5</td>
<td>3.1</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>High Blood Pressure (Hypertension)</td>
<td>25.7</td>
<td>23.7</td>
<td>23.4</td>
<td>23.7</td>
<td>22.1</td>
</tr>
<tr>
<td>Asthma</td>
<td>9.8</td>
<td>9.5</td>
<td>7.9</td>
<td>9.5</td>
<td>10.3</td>
</tr>
</tbody>
</table>

Many of the residents of the Target Areas have lived their entire lives in the area, resulting in long-term potential exposure to carcinogens on the adjacent brownfields. Thus, the overall age-adjusted death rate from cancer rate is significantly higher in Buena Vista Target Area than the State or US, as the following table shows. No data was available for the Town of Buchanan, and only some data was available for Buena Vista. However, given the demographic data presented in Section 2.a.i., the incidence rates are likely higher than those shown for their surrounding counties. Thus, both Target Areas have higher rates of Lung Cancers, which have been linked to PAHs, and Colon Cancers, linked to pesticides. Buchanan likely has higher incidences of Kidney Cancers, also linked to PAHs; while Buena Vista has a higher incidence of Non-Hodgkin Lymphoma, linked to exposure to benzene.

Furthermore, the counties surrounding the Target Areas experience a much greater rate of birth defects compared to the State\(^6\), and exposures to heavy metals (Lead), pesticides, and solvents (all suspected contaminants on the priority sites) have been linked to birth defects.

<table>
<thead>
<tr>
<th>Birth Defects</th>
<th>Botetourt County</th>
<th>Rockbridge County</th>
<th>Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate per 10,000 live births</td>
<td>700.73</td>
<td>626.67</td>
<td>493.89</td>
</tr>
</tbody>
</table>

The assessments funded by this grant and eventual remediation and redevelopment of these properties will reduce the targeted communities’ exposure risk to the suspected contaminants and help lower the incidences of adverse health conditions.

(3) Promoting Environmental Justice

Data from the EPA EJSCREEN tool (see following table) indicate the Target Areas are, in particular, disproportionately impacted by the percentage of housing built prior to 1960 (lead-based paint risk) and higher wastewater discharge indicators, while the Buena Vista Target Area has a higher percentile for proximity to facilities with Risk Management Plans. Both Target Areas have higher percentiles of elderly and those with less than a high school education, and the Buena Vista Target Area has a higher percentile of low income population.

<table>
<thead>
<tr>
<th>EJSCREEN Demographic and Environmental Indicators for Target Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJSCREEN Mapper Tool (Nov 2021)</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>Demographic Indicators (percentile)</td>
</tr>
<tr>
<td>Low Income</td>
</tr>
<tr>
<td>Less than High School Education</td>
</tr>
<tr>
<td>Greater than age 64</td>
</tr>
<tr>
<td>Environmental Indicators (percentile)</td>
</tr>
<tr>
<td>Lead Paint Indicator</td>
</tr>
<tr>
<td>RMP Proximity</td>
</tr>
<tr>
<td>Wastewater Discharge Indicators</td>
</tr>
</tbody>
</table>

According to recent (2017) research out of the University of Virginia, rural Appalachia, including the central Appalachian region of Virginia, is disproportionately impacted by environmental health

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\(^1\) [http://www.city-data.com](http://www.city-data.com), Accessed November 2021


issues and the resulting health outcomes. Cancer incidence has declined in much of the country since 1969 — but not in rural Appalachia. Here, the cancer mortality rate is 19% higher than it is for urban, non-Appalachian people in the rest of the country. People in much of rural Appalachia are more likely to die within three to five years of their diagnoses than those in urban areas across the US.4 Researchers point to economic, social, and environmental factors, including the historic heavy industrial and rail operations in the area, as reasons behind the disparities.7 As described previously, both the Buchanan and Buena Vista Target Areas have been impacted by heavy industrial and rail operations. Widespread poverty make it difficult to overcome these barriers, which the Target Areas have been battling for decades. This project will help address some of those environmental justice challenges, by encouraging the redevelopment of brownfield sites to mitigate health risks, revitalize the economy, and create jobs for the region. The redevelopment of the Groendyk Button Factory and the Glow-a-Rama Building into quality, market-rate apartments will provide new LBP-free housing options, while the craft brewery and new retail spaces will create jobs for the Target Area in Buchanan as well as attract visitors and their economic impact to the community. The proposed redevelopment of Equipment Yard into a trailhead will create an inviting gateway to recreational space for residents and visitors to develop healthier exercise habits, while the repurposing of the Bernson Silk Mill will provide opportunities to create new businesses, bring jobs, and new housing to the Target Area in Buena Vista. These funds will provide the communities the needed catalyst to overcome the barriers to these redevelopments.

b. Community Engagement

i. Project Involvement and ii. Project Roles

CDAC will work with the Target Areas to establish a Community Steering Committee composed of local staff, elected officials, local stakeholders, and representatives of community groups to guide the brownfield projects in their community. The following groups will support the initial Target Areas:

<table>
<thead>
<tr>
<th>i. Partner Name</th>
<th>Point of contact</th>
<th>ii. Specific role in the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buchanan Town Improvement Society</td>
<td>Harry Gleason</td>
<td>Started in 1903, the group performs charitable activities with an emphasis on historic preservation; will support outreach, site selection, and reuse planning.</td>
</tr>
<tr>
<td></td>
<td>hgleason@b Buchanan-v alternative</td>
<td></td>
</tr>
<tr>
<td>Rockbridge Outdoors</td>
<td>Jean Clark</td>
<td>A partnership of 44 orgs collaboratively advancing, creating, and promoting outdoor recreational opportunities in the region; will support outreach and reuse planning.</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:director@lexingtonvirginia.com">director@lexingtonvirginia.com</a></td>
<td></td>
</tr>
<tr>
<td>Buchanan Special Events Committee</td>
<td>Susan McColluch</td>
<td>Volunteers that help the Downtown Revitalization Program produce numerous events and festivals throughout the year; will support outreach, site selection, and reuse planning.</td>
</tr>
<tr>
<td></td>
<td>smcolluch@b Buchanan-v alternative</td>
<td></td>
</tr>
<tr>
<td>The Advancement Foundation</td>
<td>Annette Patterson</td>
<td>Nonprofit center for business incubation &amp; acceleration plus outdoor recreation; located in the former Mundet factory on the River Walk; will help with outreach and reuse planning.</td>
</tr>
<tr>
<td></td>
<td>(540) 283-7062</td>
<td></td>
</tr>
<tr>
<td>Buena Vista Main Street</td>
<td>Jamie Goodin</td>
<td>Org with volunteers dedicated to the revitalization of the historic downtown; will support site selection, outreach and reuse planning.</td>
</tr>
<tr>
<td></td>
<td>(540) 319-4181</td>
<td></td>
</tr>
</tbody>
</table>

iii. Incorporating Community Input

Recognizing the importance of community engagement in the success of CDAC’s previous brownfield projects, CDAC has already begun to engage local community stakeholders in the Target Areas to share details of the brownfields program and grant proposal process with particular emphasis on the importance of community input in brownfields redevelopment. We will continue to use this community-centered approach throughout the project to identify potential sites and communities in need. For each Target Area, we will create a community-specific steering committee to actively guide and participate in the project. The committee will be open to any community and business stakeholders who want to make a difference and improve their community, and CDAC will work to ensure the committee is representative of the entire community, including minority, lower-income, and other disadvantaged populations. Each committee will have three primary functions: 1) communicate project updates and success stories to the broader community and solicit feedback; 2) identify

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provide critical input and feedback on the project decisions, such as site selection or cleanup decisions; 3) participate in redevelopment visioning for the sites and provide critical input and feedback on the redevelopment plans. The steering committees will meet at least three times for each project, and meeting will be either in-person, virtually through video-conferencing, or a hybrid approach, if still necessary due to COVID. All in-person meetings will also implement social distancing and other CDC-recommended mitigation measures, if needed at the time. Accommodations will also be made when non-English speaking communities are identified in the project area.

The steering committees will be an essential tool for our community outreach efforts. All committee meetings will be open to public, and CDAC and our local government partners will widely advertise and invite participation for each meeting. The steering committees with the help of CDAC will 1) encourage community involvement; 2) post fliers, contact the media, and advertise community meetings through social media; and, 3) invite the local media to community meetings. These meetings will include several specific elements for communicating progress to the broader community including (1) informing of program information and determining ongoing information needs; (2) listening and understanding community interests, priorities and concerns; (3) responding and creating a plan to address community needs; and, (4) creating opportunities for participation in the program.

3. TASK DESCRIPTIONS, COST ESTIMATES, AND MEASURING PROGRESS

a. Description of Tasks/Activities and Outputs

i. Project Implementation

CDAC is requesting funding for project management, community outreach, site assessment, and redevelopment planning on potential brownfield sites. With over 33 years of experience working in the region, CDAC will use our intimate knowledge of the area and local expertise to create community-based redevelopment strategies within the regional context. As such, CDAC will self-perform the majority of the project activities, including Tasks 1, 2, and 4; and, will rely upon a Qualified Environmental Professional’s (QEP’s) expertise to complete Task 3:

<table>
<thead>
<tr>
<th>Task 1: Project Management &amp; Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. The CDAC Project Director will oversee the grant management and compliance with EPA cooperative agreement terms and conditions. The CDAC Project Director will ensure tasks are completed efficiently and will be responsible for oversight of the QEP. She will hold weekly project team meetings to review the project and make corrections as needed to stay on schedule and meet the project’s goals. CDAC will complete EPA quarterly reports, Federal Financial Report (FFR) and Disadvantaged Business Enterprise (DBE) utilization forms, and ACRES database entries/updates. CDAC staff will also attend national and regional training workshops relevant to brownfields redevelopment. At the end of the project, CDAC will draft a Final Performance Report to document accomplishments and lessons learned.</td>
</tr>
</tbody>
</table>

ii. Anticipated Project Schedule: October 1, 2022 – September 30, 2025

iii. Task/Activity Lead: CDAC Project Director

iv. Outputs: 156 Project Team Meetings; 12 Quarterly Reports; 3 FFR and DBE forms; ACRES updates; 1 Final Performance Report

<table>
<thead>
<tr>
<th>Task 2: Community Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. CDAC has extensive experience with conducting community outreach activities, and our staff will continue to actively seek and encourage citizen input throughout the site assessment and redevelopment planning process. For each of the target areas, CDAC will first hold a community meeting to discuss the project and view potential sites. We will then form community steering committees. The committees’ mission will be to serve as the voice of the community to provide input on site selection and redevelopment plans, raise community concerns, disseminate project information, and promote the benefits and opportunities of the program. CDAC will schedule meetings and prepare outreach and promotional materials and notify local media about community and steering committee meetings.</td>
</tr>
</tbody>
</table>

ii. Anticipated Project Schedule: October 2022 – September 2025; initiate 4 projects by holding community meetings in Fall (1), Summer (1), and Spring (2) semesters each year; outreach materials will be prepared after the community meeting to promote the Steering Committee

iii. Task/Activity Lead: CDAC Project Director

iv. Outputs: 12 Community Meetings; 12 sets of outreach materials
Task 3: Site Assessments

i. The QEP will complete site assessments on sites identified as priorities for the community. Site Eligibility Forms will be completed for EPA approval, and petroleum determinations will be obtained from VDEQ UST Division. Phase I ESAs will be performed by the QEP in accordance with ASTM E1527-13 and the EPA All Appropriate Inquiry Final Rule. Phase II ESAs will be conducted by the consultant in accordance with ASTM E1903-19, after the approval of a Generic Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plans (SAPs). The consultant will also develop Health and Safety Plans (HSPs) prior to field work. ACM and LBP surveys will be completed for many of the older buildings and/or building debris piles on priority sites. If contamination is identified, cleanup plans will be developed for high priority sites. The Analysis of Brownfields Cleanup Alternatives (ABCA) will identify potentially applicable remediation options for the site, based on potential reuse scenarios.

ii. Anticipated Project Schedule: Generic QAPP will be submitted in the 1st quarter. Phase I ESAs will be initiated in the 2nd quarter and continue as funding allows until the 10th quarter. Surveys and Phase II ESAs will be initiated in the 3rd quarter after approval of QAPP and SAPs and will continue as funding allows until the 11th quarter. ABCAs will start after Phase II ESAs in the 4th quarter through the 12th. The QEP will also provide support to CDAC at the Steering Committee Meetings.

iii. Task/Activity Lead: QEP with oversight from CDAC Project Director

iv. Outputs: 12 Phase I ESAs; 1 QAPP; 4 SAPs, HSPs, & Phase IIs; 10 ACM/LBP Surveys; 2 ABCAs

Task 4: Redevelopment Planning

i. In order to encourage the redevelopment of the brownfield sites in the targeted communities, CDAC will work with the community steering committee and community at large to envision potential reuses. Once the environmental issues are clarified, CDAC will create a redevelopment plan with a quality design that fits the community’s need and promotes a healthy, sustainable way of life. The project will also provide opportunities for students to engage with communities, connecting university knowledge with real world experience. Each steering committee will meet at least three times – for an initial visioning session, then for students to present two conceptual designs and the community to provide feedback, and finally for students to present the final design that incorporates the community’s feedback.

ii. Anticipated Project Schedule: October 2022 – September 2025; 4 projects each year.

iii. Task/Activity Lead: CDAC Project Director

iv. Outputs: 36 Meetings; 24 Preliminary Conceptual Designs; 12 Final Designs; 12 Final Reports

b. Cost Estimates

The following cost estimates are based on the expenses incurred on CDAC’s 2018 Brownfields Assessment Project. Direct personnel and fringe expenses are included, and 5% administrative costs.

task 1 – Project Management:

Personnel: Average of 3.5% time ranging from 1-7% time per year = $32,330
Fringe: Personnel x approved fringe rate (33.93%, 36.56%) per year ≈ $10,970
Travel: 2 staff attend 3 regional workshops (2x3x$561/person = $3,368) + 2 staff attend 2 national conferences (2x2x$1,539/person = $6,156) = $9,524

Task 2 – Community Outreach:

Personnel: Average of 3% time/year = $15,737
Fringe: Personnel x approved fringe rate (33.93%, 36.56%) = $5,339
Travel: State car rental/gas: 4 trips per year ($120 x 4=$480) x 3yrs = $1,044

Task 3 – Site Assessments and Cleanup Planning:

Contractual: 12 Phase I ESAs (12x$3,500 = $42,000); 10 ACM & LBP Surveys (10x$4,500 = $45,000); 1 QAPP ($3,000); 4 SAPs (4x$3,000 = $12,000); 4 HSPs (4x$500 = $2,000); 2 ABCAs (2x$4,000 = $8,000); 36 community meetings (36x$500 = $18,000) = $237,827

Task 4 – Redevelopment Planning:

Personnel: Average of 4.25% time ranging from 1-10% time per yr = $36,488
Personnel: Avg of 12 students/yr x ($16/hr x 10 hrs/wk x 17wks = $32,640) x 3 yrs = $97,920
Fringe: Personnel x approved fringe rate (33.93%, 36.56%) = $12,010
Fringe: Student personnel x approved fringe rate (8.21%) = $8,040
Travel: State van & car rental/gas: 3 trips/project for community mtgs x 4 projects/yr (3x$119x4=$1,428) x 3 yrs = $4,284
Supplies: Material for redevelopment plans (plotter paper/ink, presentation boards, drawing supplies): Average of $1,558/yr x 3 yrs = $4,675

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<tr>
<td>Personnel</td>
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<td>$11,892</td>
<td>$8,171</td>
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<tr>
<td>Total</td>
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<td>$23,227</td>
<td>$249,719</td>
<td>$171,588</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

### c. Measuring Environmental Results

The CDAC project team meets weekly to track the project’s progress in fulfilling the scope of work, goals, and objectives. When necessary, the Project Director will take corrective actions to ensure project goals continue to be met and the funds are expended in an efficient and timely manner. This may include redirecting contractors or procuring additional contractors or resources, as needed. All outputs (as noted in the tables above) and outcomes (including but not limited to the number of acres redeveloped, the increase in the tax base, the number of jobs created, the amount of redevelopment dollars expended) resulting from the implementation of this program will be measured and communicated to the EPA as part of the quarterly progress reports and ACRES information updates. The project team will communicate regularly with the EPA Project Officer and the VDEQ Brownfields Coordinator to review progress and address any issues.

### 4. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

#### a. Programmatic Capability

i. Organizational Capacity, ii. Organizational Structure, and iii. Key Staff: CDAC has the requisite capacity to administer the EPA grant funds as demonstrated by the successful implementation of two previous EPA Brownfields Assessment grants as well as previous experience in federal and state grant management. Ms. Elizabeth Gilboy, Director, will serve as the project manager and oversee all grant activities. She has overseen over one hundred projects at CDAC, as well as initiating several publications and events. Mr. Nick Proctor, Project Manager, will assist Ms. Gilboy in the execution of the grant activities. He oversees planning and design assistance and is trained in workshop facilitation. Both individuals have extensive experience in project management, community outreach, and community-based redevelopment planning. CDAC will utilize in-house staff and student interns to complete the majority of project activities. Virginia Tech’s Office of Sponsored Programs will assist in ensuring grant and financial management are in compliance with terms and conditions. In addition, CDAC will use the services of a QEP with experience on EPA Brownfield projects to complete the environmental assessments for this project.

iv. Acquiring Additional Resources: Upon grant announcements in the spring, CDAC will once again move quickly to contract with a firm under Virginia Tech’s general environmental services contract vehicle. Virginia Tech followed the procedures in 2 CFR 200 and EPA’s rule at 2 CFR 1500 to procure three professional consulting firms to provide services under the contract for a five-year period of performance, expiring in 2023. The brownfields-related services are included within the scope of this contract vehicle. CDAC will negotiate a task order under this existing contract for the QEP to complete the technical aspects of this project. Systems are in place to replace key staff and procure additional contractor services, as needed.

#### b. Past Performance and Accomplishments

i. Has received an EPA Brownfields Grant: CDAC received an EPA Cooperative Agreement in October 2015 and 2018. Under the 2015 project, CDAC completed assessments and redevelopment plans for sites in seven communities. A total of 6 Phase I ESAs, 3 Phase II ESAs, 2 ACM surveys, 1 LBP survey, and 10 redevelopment plans were completed. Under the 2018 project, CDAC completed assessments and redevelopment plans for sites in six communities. At total of 7 Phase I ESAs, 2 Phase II ESAs, 5 ACM surveys, 3 LBP surveys, and 8 redevelopment plans were completed. As a result, CDAC and the communities have already spent or received award notices for over $1 million in leveraged funding for further assessment, acquisition, redevelopment planning, and construction and implementation of reuse plans. Both project were closed with all but nominal funds remaining.
1. **Applicant Eligibility**
   The Community Design Assistance Center (CDAC) is an outreach vehicle of the Virginia Tech College of Architecture and Urban Studies. Virginia Tech is a government entity created by the General Assembly in 1872.

2. **Community Involvement**
   CDAC will use a community-centered approach throughout the project to identify potential sites and communities in need. For each Target Area, we will create a community-specific steering committee to actively guide and participate in the project. The committee will be open to any community and business stakeholders who want to make a difference and improve their community, and CDAC will work to ensure the committee is representative of the entire community, including minority, lower-income, and other disadvantaged populations. Each committee will have three primary functions: 1) communicate project updates and success stories to the broader community and solicit feedback; 2) identify community needs and provide input on project decisions, such as site selection or cleanup decisions; 3) participate in redevelopment visioning for the sites and provide critical input and feedback on the redevelopment plans. These meetings will include several specific elements for communicating progress to the broader community including (1) informing of program information and determining ongoing information needs; (2) listening and understanding community interests, priorities and concerns; (3) responding and creating a plan to address community needs; and, (4) creating opportunities for participation in the program.

3. **Named Contractors and Subrecipients**
   Not applicable. CDAC has not named a contractor in the narrative application. Virginia Tech followed the procedures in 2 CFR 200 and EPA’s rule at 2 CFR 1500 to procure three professional consulting firms to provide general environmental services under an A/E contract for a five-year period of performance, expiring in 2023. The brownfields-related services are included within the scope of this contract vehicle. CDAC will negotiate a task order with one of the firms under this existing contract for the QEP to complete the technical aspects of this project.

4. **Expenditure of Existing Grant Funds**
   Not applicable. CDAC does not have an open EPA Brownfields Assessment Grant or Multipurpose Grant.
14. Areas Affected by Project (Cities, Counties, States, etc.):

Allegany, Bath, Botetourt, Craig, Highland, and Rockbridge Counties, City of Buena Vista