

Area-Wide One Cleanup Program Pilot Project

Report of the
Little Elk Creek Reuse Committee

May 2006

Area-Wide One Cleanup Program Pilot Project

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Little Elk Creek Reuse Committee

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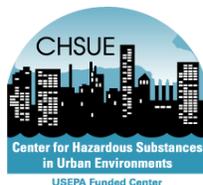
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Introduction

The United States Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE) selected the Little Elk Creek watershed in Cecil County, Maryland as an Area-Wide Pilot and a demonstration project for the EPA's One Cleanup Program and Land Revitalization Agenda (OCP / LRA) initiatives. The pilot area is centered around an industrial park located along the Little Elk Creek in Cecil County, MD just west of the town of Elkton. EPA selected this area primarily based on concerns expressed by MDE about widespread groundwater contamination coming from numerous active and inactive facilities located in and around the industrial park. The contaminants of concern from the sites in the area are both similar and co-mingled in several locations. Community notice and involvement is an important component of the site investigation and cleanup process. Particularly, it is important to understand the community's needs and plans for eventual reuse of a site after cleanup so that EPA and MDE can establish appropriate cleanup goals to support reuse of the site. The community may also provide valuable information to assist in the site assessment process. Community participation in the project is vital to meeting the community's needs. In order to gain community input concerning reuse and development of the sites in the project area, the Little Elk Creek Reuse Committee was formed. This committee met eight times over the course of a year and held three community meetings. The goal of the committee was to provide reuse recommendations for the project sites. These recommendations are based on information gathered throughout the course of the committee and community meetings and included such issues as contamination levels, use of surrounding properties, and cost of cleanup. The committee's membership included community members, property owners, and local government officials. Representatives from MDE and EPA also participated in the meetings. This report summarizes the findings of the Reuse Committee and presents its site reuse recommendations for all of the sites within the Little Elk Creek One Clean Up Project.

Section 1: *Reuse Recommendations for the Little Elk Creek One Cleanup Reuse Project Sites*

1.1 Introduction

In late 2004, MDE contacted the Center for Hazardous Substances in Urban Environments at the University of Maryland School of Nursing to identify community members to participate in the Reuse Committee and to facilitate the committee meetings. In order to identify community members, the School of Nursing contacted community members originally identified by MDE. Using a snowballing technique, other community members were identified. Other community stakeholders such as the local community college and hospital were also invited to join the reuse committee.

The Reuse Committee met eight times between February 2005 and February 2006. This report is the product of those meetings. Over the past year, the Reuse Committee's activities have focused on:

- Developing ground rules for committee meetings and clarifying the roles of the committee members in this process;
- Researching the sites' history, source(s) and type of contamination, and the sites' current clean up status;
- Touring the sites and the surrounding areas;
- Learning about perchlorate (See Appendix B)
- Learning about the history of fireworks manufacture in Elkton (See Appendix C);
- Developing a community survey to ascertain the community's views on reuse of the sites;
- Hearing about possible future land uses, including a presentation by a company with a proposal to use one of the sites in the project area as a construction and demolition landfill and a separate proposal for project area site reuse by a local architect (See Appendix D);
- Working with the Cecil County Planning office and the Town of Elkton Planning office to assess the potential impacts of industrial, residential, commercial, recreational, and civic reuses at the sites; and
- Reviewing project by the University of Maryland Landscape Architecture students (Appendix F).

Based on these discussions, analyses, and community input; the Reuse Committee has developed the following recommendations for the sites included in the One Clean Up Project.

1.2 Guiding Principles

Before discussing individual sites and general reuse of the study area, the Reuse Committee developed the following Guiding Principles as overall goals for redevelopment, when feasible:

- Protecting human health and the environment;
- Increasing the tax base;
- Encouraging mixed land use and affordable housing;
- Creating linkages with existing tax incentives (Triumph Industrial Park is in the State Enterprise Zone);
- Ensuring the compatibility of surrounding land uses and buffers around the sites;
- Identifying infrastructure improvements, including improved accessibility to the area through transportation alternatives and improved roads, and expanded access to public sewer and water that are vital to productive reuse;
- Ensuring that future development incorporates recreation space into the plans; and
- Evaluating possible solutions to address flooding along the Little Elk Creek and the creation of green space next to the creek.

1.3 Reuse Recommendations

As the committee developed their reuse recommendations, they evaluated the current use of the site, the type and level of contamination, where the site was in the clean process, proposed reuse plans (if any), level of infrastructure at the site (water and sewer), and the use of the surrounding properties.

GE Rail Car

This 28-acre property is located in the heart of an industrial zone. This facility is currently closed but had previously been used for rail car cleaning and repair and fireworks and munitions manufacturing. The property has groundwater contamination with benzenes and chlorinated solvents and the property owner is currently reviewing remediation options. There are currently no proposed reuse plans.

The committee noted that industrial sites are needed within Cecil County and industrial use would add to the tax base and provide employment. This site also has an added advantage in that it has water and sewer already in place.

The Reuse Committee would like to see this site used to its full potential and recommend that it have a commercial/industrial use.

Maryland Cork

An 18-acre property, Maryland Cork is currently in industrial use importing and selling cork. It is located next to the GE Rail Car property. This property has possible tetrachloroethene (PCE) groundwater contamination. MDE is preparing to conduct additional assessment of groundwater conditions at the site through the use of membrane interphase probes (MIPs).

The committee believes this property is underutilized. Water and sewer are both present at the site, but are limited. Service is purchased from the Town of Elkton. There is potential to increase capacity within the Industrial Park and activities to address infrastructure needs may already be underway. Also, liability issues related to contamination need to be

addressed prior to redevelopment. If coordinated with GE Rail Car reuse, the owner may have an incentive to sell the property.

The Reuse Committee recommends that this site continue with industrial use.

Central Chemical

This is a 12-acre property located in Triumph Industrial Park. It is currently in use by Aquafin, a manufacturer of products to repair, protect, and water and vapor proof concrete, masonry, brick, and some natural stone. The groundwater at the property is impacted by the offsite PCE plume emanating from the GE Rail Car property. There is a deed restriction on the property restricting use of groundwater and against residential use. There is no further action needed.



Central Chemical Building

The committee did not discuss this property, as it is currently in productive use by the owner.

Crouse Brothers

A 14-acre commercial property, this site is being used as a contractor's yard for equipment storage and repairs. The property has trichloroethylene (TCE) in the groundwater from the ATK/Thiokol property and there is a restriction on the use of groundwater. The TCE plume is currently under investigation. It is in a prime location on Route 40.

The Reuse Committee recommends that the property have a commercial use. The Reuse Committee prefers a more visually appealing reuse of the site and felt it might be an ideal location for food service. The Reuse Committee also felt that the County needs to pursue infrastructure support and may be able to obtain financing from MDE and the Revolving Loan Fund.

ATK/Thiokol

ATK/Thiokol is a 467-acre industrial site that is in productive use for manufacture of rocket fuel and systems. This property is contaminated with pesticides, PCE, and TCE in the soil, surface water, and groundwater. There is currently a pump and treat system in use for the groundwater contamination and further site investigations under the auspices of the EPA are ongoing.

The Reuse Committee recommends that the current owners continue with productive use of the property. The Reuse Committee would also like to encourage the current owners to continue their ongoing efforts for buffer zone and Little Elk Creek clean up and protection.

New Jersey Fireworks/Keystone Fireworks/Route 7 Chemical Dump

These three industrially zoned properties occupy 81 acres. The operations on the property included the manufacture, packaging, and disposal of fireworks and munitions. New Jersey Fireworks is currently used for processing stumps and brush into mulch. The Keystone Fireworks property is abandoned and the Route 7 Chemical Dump is vacant. The groundwater at these properties is contaminated by perchlorate. MDE is currently conducting site investigations at all three properties.

These properties are surrounded by mixed-use properties, most of which are underutilized. The committee noted that industrial sites are needed within Cecil County and industrial use would add to the tax base and provide employment. These properties are in need of infrastructure support and liability issues related to contamination need to be addressed prior to redevelopment.

The Reuse Committee recommends that these properties be used for industrial uses.

Dwyer and Vicon

The Dwyer and Vicon properties consist of two parcels totaling 133 acres. Both properties are zoned for business/industrial use and are currently vacant. The Vicon property is advertised for sale. The groundwater at both properties is contaminated with volatile organic compounds (VOCs) and inorganics. MDE has completed the remedial design at the Dwyer Property and will soon begin conducting pilot tests. Vicon is in the Voluntary Cleanup Program.

Industrial use properties surround these sites. Elkton does not have enough industrial property. The Town of Elkton is not aware of any plans to develop the property for residential uses.

The Reuse Committee recommends that these sites be used for commercial/industrial uses.

RMR

The 5.1-acre RMR, JMR Corporation property is located in a mixed-use area in Elkton. The property was used for agricultural purposes prior to 1938. The single story building was constructed in 1938 and expanded in 1957. The RMR, JMR Corporation purchased the property in 1969 and began operations. From 1982 to 1989, the manufacturing operations at the facility generated waste oil, corrosives (sodium hydroxide, black oxide, ammonia), Xylol, degreaser fluid (1,1,1, trichloroethane), methylene chloride, waste paint, methanol, transformer oil containing polychlorinated biphenyls (PCBs), caustics (paint stripper, shaft cleaner, varnish stripper), degreaser still bottoms, and naphtha. In 1989, the RMR, JMR Corporation declared bankruptcy and boarded up the property. The site is currently in Maryland's Voluntary Cleanup Program. The current property owner has indicated that he wants to rehabilitate and reuse the property for offices or warehousing.

The Reuse Committee recommends that this site be used for commercial/industrial uses.

Ionics

A nineteen acre property the Ionics site was formerly used as a manufacturing and mixed-use facility and is abandoned. This site is contaminated with VOC's in the groundwater. There is a deed restriction against the use of groundwater and no further action is needed. This property was recently purchased and the new owner intends to use the property as a multi-tenant office space.

This property was not discussed by the Reuse Committee given the new owner's established reuse plans.

W.L. Gore

W.L. Gore is the current owner of a 19-acre property that is presently serving as a warehouse. This property has surface water contamination with VOCs. In 1997, Maryland conducted a removal action that resulted in the identification and removal of buried drums. Additional investigation has been recommended for the site. This property was previously for sale but has been taken off the market. This site has flooding issues as the berms overflow frequently.

The Reuse Committee recommends that this site be used for commercial/industrial uses. They also recommend that there be improved buffer and protections of Little Elk Creek.

MD Sand, Gravel, and Stone

A former sand and gravel quarry, MD Sand, Gravel, and Stone was used for industrial waste disposal. It is a Superfund Site listed on the National Priorities List (NPL). The groundwater is contaminated with volatile and semi-volatile organic compounds. A limited area of on-site surface soil is contaminated with pesticides, PCBs, and metals. The contaminated groundwater is being addressed by under the Federal Superfund program. The remedial action includes groundwater monitoring as well as a groundwater pump and treat system. On-site soils will be excavated, treated on-site, and backfilled.

Reuse of the 150-acre site requires restoration to contour consistent with appropriate drainage needs in a way that will not interfere with the Superfund remedy. Days Cove Reclamation, Inc. has submitted a proposal to the property owner for reclamation of the site through the design, construction, operation and closure of a rubble fill. Reclamation would occur within a 10 to 15 year timeframe and it would then be made available by the Maryland Sand, Gravel, and Stone Company to the County for uses that it selects as appropriate. Days Cove made a presentation to the LEC to discuss its proposal. It is also discussing the project with Cecil County officials, EPA, and the neighbors of the Site. Alternative proposals for reuse of the site might include using non-structural fill for bringing site to level or to use the site for drip or spray irrigation for treated wastewater treatment plant effluent. These proposals have not been submitted to the property owner.

Following remediation and reclamation appropriate uses of the property might include commercial/industrial uses; active recreational uses (e.g. reserved parkland), or mixed use.

The Reuse Committee recommends the adoption and approval of a reclamation plan for the entire Site which results in the quickest return of the property to productive use as combination commercial/ light industry uses along Route 40, and a mix of active and passive recreational uses of the property which borders residential properties, and which does not interfere with the Superfund remedy.

Herron Farm/Firehole

The Herron Farm/Firehole has been in use as cultivated farmland. This property has a history of being used for munitions waste disposal at the Firehole, a rocket motor cleaning and recovery area, and in the early 1980s wastes from the Galaxy Chemical plant were disposed and/or stored on the farm. The groundwater is contaminated with chlorinated solvents and explosive related materials are found in on-site surface and subsurface soils.

EPA is conducting an emergency removal of the Firehole that will most likely take six to nine months to complete. According to MDE, it would not be permissible to use the Firehole portion of the site for residential purposes. Contamination in other areas of the site are uncertain and are currently under investigation. A potential developer is willing to do additional cleanup for redevelopment and a proposal has been submitted by this developer for residential use. High-density residential use would meet the demand for housing that exists in the area. It would also help the County start water and sewer service and enhance economic development. Concerns regarding the property's proximity to ATK were addressed during rezoning. An industrial zone was placed on the portion of the property that abuts ATK so no residential use will occur next to ATK.

The Reuse Committee recommends reuse of the Farm site (not the Firehole) for residential use only once cleared for reuse by MDE/EPA. The Reuse Committee acknowledges that the Firehole will not be used for residential redevelopment and that it may have additional restrictions on reuse, dependent on the extent of clean up possible.

1.4 Examples of Potential Reuse Scenarios

Examples of generic industrial uses include:

- Light manufacturing or assembly
- Small scale distribution facilities
- Defense uses
- Research and development facilities

Examples of generic commercial uses include:

- Office space
- Outlets
- Retail uses such as restaurants, grocery stores, clothing stores

1.5 Action Plan

In order to disseminate this Report and the findings of the Reuse Committee an Action Plan was developed by the committee. This Plan includes distribution of the report, meetings with local government officials, and recommendations to local, state and federal government officials.

- **Distribution of the Report**

Hard copies of the report will be sent to EPA, MDE, Cecil County and Elkton government administrators, property owners, the Chamber of Commerce, Elkton Alliance, the county library, Cecil County Government Administration Building, and the city halls of all the towns in the county. Links to the Report will be placed on the EPA and MDE websites. Committee members will ask permission to have the report placed on the Cecil County and Chamber of Commerce websites.

- **Presentation of the Report**

The Reuse Committee will present the Report to the Cecil County and Town of Elkton Commissioners. A press release will be issued prior to the presentation at the public meeting with the commissioners. The Committee will also present the report to the Cecil County Economic Development Committee and the Elkton Alliance.
- **Recommendations to Local Government Officials**

The Reuse Committee recommends that the addition of water and sewer in the Growth Corridor be expedited.
- **Recommendations to MDE and EPA**

The Reuse Committee recommends that site cleanups be expedited. They would like to see MDE and EPA educate the local government, public, developers, and other interested parties about the Project through their websites and success stories. The committee would like for MDE and EPA to continue to communicate with the committee members and commissioners about the sites and issue press releases when goals are accomplished at the sites.
- **Other Recommendations**

The Reuse Committee recommends the state government, the governor, the Board of Public Works, and federal government increase funding for similar projects. They would like for the properties that are cleaned-up and redeveloped be recognized and celebrated, possibly with some type of award. They also recommend that MDE and the Cecil County Office of Economic Development monitor the success at the sites and the economic benefits attained through site cleanup and redevelopment.

Section 2: *The Little Elk Creek One Cleanup Reuse Project Sites: Site History, Contamination, and Status*

The information presented below describes the status of the sites at the time this report was published. For more up-to-date information, please visit:

<http://www.epa.gov/Region3/revitalization/maryland.htm>

Another resource that may be of use is the National Oceanic and Atmospheric Administration (NOAA) Little Elk Creek Watershed Database and Mapping Project. NOAA has been working with EPA, MDE, and the Maryland Department of Natural Resources (MDNR) on the Little Elk Creek pilot project. NOAA's main concerns are characterizing, protecting, and restoring aquatic resources (in particular, anadromous fish species) in Little Elk Creek and associated tributaries. The information is provided on their website to project partners and the community for use in site revitalization planning and for community outreach and education. NOAA has developed a Geographic Information Systems (GIS) project and project specific GIS layers.

<http://mapping.orr.noaa.gov/website/portal/LittleElkCreek/>

ATK /Thiokol Propulsion

Site History

On September 22, 1997, MDE renewed and modified the ATK Tactical Systems Company LLC; formerly Thiokol Corporation and later Thiokol Propulsion (ATK) Controlled Hazardous Substances Storage and Treatment Facility Permit (Permit Number A-052), thus the corrective action permit issued to ATK on October 8, 1989 remains in effect and is overseen by the EPA. The permit requires ATK to: 1) conduct sampling investigations of the groundwater and/or soil to verify if releases of hazardous waste/constituents have occurred or are likely to occur from six solid waste management units (SWMUs); 2) conduct a RCRA Facility Investigation (RFI) to characterize the subsurface conditions and nature and extent of releases based on the results of the sampling investigations; 3) implement minor corrective measures at three SWMUs; and 4) submit the results of an initial source identification TCE groundwater investigation resulting from the contamination of two production drinking water wells detected in December 1984.

Site Contamination

At this multi-component corrective action facility, limited SWMU investigations have identified pesticide, volatile organic, inorganic and contamination in the soil, surface water, and ground water. A groundwater plume migrating from the central portion of the facility towards the southeast is contaminated with predominantly TCE and its degradation products. In response to EPA providing notice of a more sensitive analytical method for detecting perchlorate at 1 part per billion (ppb), ATK sampled selected on-site wells in October 1998 for the solvent constituents of concern and perchlorate. Perchlorate was detected at 500 ppb in the facility production well. EPA is currently evaluating the human health and ecological risks associated with perchlorate to establish clean up standards. Additional data is needed to correlate the contamination identified

by the SWMU investigations and the TCE ground water plume investigation and to calculate the human health and ecological risks.

Current Site Status

The initial investigations were conducted over a period of approximately four years at six of the SWMUs. EPA's final approval of five of the SWMU investigations issued in 1997 and 1998 identified the need for performing a site wide investigation of the groundwater and soil.

The approved recommended minor corrective measures required by the permit were previously implemented at the three SWMUs in 1986 and 1987. The initial TCE source identification groundwater investigation and residential well survey was performed in 1987. The investigation and survey were undertaken as a result of a consent agreement between ATK and the Maryland Department of Health and Mental Hygiene (MDHMH) entered on March 30, 1987. Further TCE groundwater investigations were performed in 1988 and 1995 based on recommendations of each earlier investigation and groundwater-monitoring program implemented. The 1995 investigation and the monitoring program results identified the need for further investigation in the southern area of the facility and the potential threat to residential wells not previously connected to public water supply resulting from the earlier residential well survey and sampling in 1988. To address the findings of the TCE groundwater investigations and monitoring results, ATK implemented two interim measures. ATK installed a groundwater pump and treatment system with a stripping tower in the 1980s and on July 1, 1998 installed additional capture wells and a second stripping tower. The results of the monitoring program revealed that the second well containment system has not adequately captured the plume and the stripping towers are not effectively reducing the contaminant plume. Additional characterization of the groundwater contamination was performed as part of the Supplemental Site-Wide Investigation (SSWI).

The SSWI was conducted from August 19, 2002 to November 15, 2002. The findings of the SSWI are documented in the SSWI Analytical Data Report (February 28, 2003) (AD Report) and the draft Interim Site-Wide Investigation (ISWI) Technical Report and Work Plan (June 19, 2003). ATK conducted the ISWI in the spring of 2004. This phase of the investigation further characterized and/or delineated the groundwater in the area of the Beryllium Area SWMU, Still Bottoms Area SWMU, Pesticide Area SWMU and Area A Burnfield SWMU/TCE Plume/Residential area. Based on the findings of this investigation it is determined that the Area A Burnfield TCE/Perchlorate plume Area and Beryllium Area SWMU are fully delineated. The findings of the investigation of the Still Bottoms Area SWMU and the bordering property revealed that additional investigation of this area is needed; and will be conducted in findings of the ISWI also identified the need for further delineation of the shallow groundwater in the southern portion of the Pesticide Area SWMU.

Central Chemical Corporation

Property Description

The Central Chemical site is located in the Triumph Industrial Park, Elkton, Maryland. The 12.12-acre property is located approximately 0.75 miles southwest of the intersection

of the Blue Ball Road entrance to the Triumph Industrial Park.

Site History

Triumph Industrial Park was utilized as a munitions manufacturing facility during World War II. MDE is unable to determine the exact use of the Central Chemical property during World War II, or the use of the property from that time until 1966. However, pre-1966 blueprints indicate the presence of four small structures and what appears to be a warehouse on the Central Chemical site. In 1966, Central Chemical Corporation purchased the site from the Elkton Company. During the next few years, Central Chemical Corporation developed the property and constructed the existing buildings and facilities. Following development of the site in the late 1960s, Central Chemical Corporation utilized the facility to mix and hammer-mill dry chemicals including pesticides, fertilizers, and herbicides. The mixing and milling processes utilized at the facility generated solid waste in the form of waste chemicals and liquid waste in the form of “wash down” water generated from cleaning the equipment. In order to dispose of the solid waste, Central Chemical Corporation installed an industrial waste incinerator (one of the first in the United States). Liquid waste consisted of soapy “wash down” water and was disposed of as non-hazardous waste by a waste removal and disposal contractor.

Site Contamination

In 1970, the Maryland Department of Water Resources submitted an order to Central Chemical to cease violations in their handling of wastewater and install an adequate wastewater treatment facility. MDE does not have any records regarding the nature of the violation that resulted in the 1970 order.

In 1987, chlorinated solvents were detected in groundwater samples collected from the production well that exists on the Central Chemical property. The samples were collected as part of the ongoing investigations of the surrounding Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites (notably G.E. Railcar, W.L. Gore, Thiokol Inc., Crouse Excavation, and the Dwyer Property). As a result of the detection of these contaminants, Central Chemical was placed on the EPA CERCLIS database in September 1989 and on the State Master Lists for further investigation.

In 1989, MDE completed a Preliminary Assessment (PA) of the site. The assessment concluded that the detected chlorinated solvent contamination was unlikely to have resulted from on-site activities as no chlorinated solvents were in use in the dry mixing and milling process and no solvent waste was generated on the property. The assessment further concluded that the detected contamination likely migrated from either the neighboring Thiokol Inc. or G.E. Railcar sites. Central Chemical does not use the contaminated production well and the well house is used to store flammable materials. Given the lack of an on-site source for the contamination and lack of pathways that pose a risk to human health, U.S. Environmental Protection Agency (EPA) required no further remedial action for the property.

In 1999, MDE conducted a site survey of the Central Chemical site. The Site Survey Initiative was proposed to reassess the status of those sites that were previously designated No Further Remedial Action Planned by EPA. This initiative is intended to determine if site conditions have remained stable, provide a current description of the site, and identify

and address any new pathways for contamination. MDE concluded that conditions at the site had not changed since the 1989 PA and recommended that EPA should not consider any further action at the site, but that MDE would continue to investigate the site as part of the ongoing investigation of the groundwater contamination at Triumph Industrial Park.

Current Site Status

In 2003, Central Chemical ceased operations at the site and put the property up for sale. Aquafin, Inc., a producer of concrete sealing products, was interested in purchasing the property as a manufacturing facility for its products.

In June 2004, Aquafin, Inc. submitted a Phase I and II assessment of the property to MDE seeking a “No Further Action” determination. Based on the information submitted, and a review of the information submitted by General Electric, MDE has concluded that the VOC contamination in the Central Chemical well can be positively attributed to the contaminant plume emanating from the GE property. No other contaminants exceeding industrial standards were reported in the Phase II study. On August 12, 2004, Aquafin, Inc. placed a deed restriction on the land that prohibits the use of groundwater for potable use and prohibits the use of the property for residential purposes. Based on the assessment conducted by Aquafin, Inc. and the recording of the requested deed restrictions, the Department has given the site a No Further Action determination and moved the site to its Formerly Investigated Site category.

Crouse Brothers Excavating

Property Description

The Crouse Brothers Excavating site is located at 415 West Pulaski Highway in Elkton, Cecil County, Maryland. The site is 1,000 feet west of the U.S. Route 40 intersection with Maryland Route 279. An abandoned railroad track lies north of the site and U.S. Route 40 is to the south. The Crouse site is approximately 11 acres and contained two office buildings 80 feet from U.S. Route 40, with a parking area immediately behind them. A privately owned rubble landfill extended approximately 2,000 feet towards the north from behind the buildings. Marshlands and ponds occupy the area north of the buildings and east of the landfill. The general area is residential, commercial and light industrial. The Morton Thiokol property surrounded the site and nearby residences and businesses.

Site History

The Crouse site was acquired as two separate parcels. The Crouse family purchased the southern parcel in 1972 from John and Ruth Prial. The buildings along U.S. Route 40 were used for several decades as a maintenance shop for excavation vehicles and for repair and maintenance of heating/ventilation/air conditioning units. In October 1981, R. and H. Crouse purchased the northern parcel from Gilpin Manor Development Corporation. It is not known how Gilpin Manor used the property.

Site Contamination

The rubble dump at the Crouse site was discovered in early to mid 1986 during an investigation of residential wells related to groundwater contamination originating on the

adjacent Morton Thiokol, Inc. site. It is believed that dumping occurred after 1970 as an aerial photograph taken in February 1970 showed the dump area to be wooded land, so dumping began some time after 1970. Site inspections and an aerial survey by Maryland Department of Health and Mental Hygiene (DHMH) in 1986 found numerous regulated wastes in the Crouse landfill. DHMH issued a Site Complaint (SC-0-86-097) to cease and desist all land filling other than tree stumps, brush, concrete, and clean fill dirt since the site was unpermitted. The MDE made three additional site inspections between July and September 1987. In November 1987, Crouse Brothers submitted the information requested by DHMH. By December 1987, the unacceptable materials found in the landfill were removed.

The investigation of groundwater contamination at Morton Thiokol, Inc. in 1988 identified a TCE plume along U.S. Route 40. The domestic wells down gradient of the Crouse landfill and monitoring wells at the toe of the landfill, installed in 1989 by MDE's Hazardous and Solid Waste Management Administration (HSWMA), were found to have the highest concentrations of TCE.

HSWMA completed a Preliminary Assessment (PA) of the Crouse site in March 1989 and a Screening Site Inspection report in September 1990. During field activities for the Site Inspection, HSWMA sampled six monitoring wells and three residential wells for organic and inorganic pollutants. The sampling results demonstrated that groundwater in the vicinity of the Crouse landfill was contaminated with compounds in concentrations that exceeded the established or recommended Maximum Contaminant Level. The most notable contaminant was TCE. The four wells installed by HSWMA demonstrated that the lateral extent of the contaminant plume was larger than previously believed, but a sole source responsible for the contamination could not be established.

In May 1988, MDE notified Morton Thiokol, Inc., Crouse Brothers Excavation, and the U.S. Navy of its intent to design and install a water line to extend community water to approximately 20 residences with contaminated water-supply wells. In February 1990, Morton Thiokol, Inc. and Crouse Brothers signed a Consent Order agreeing to install the water line. Installation began in March 1990 and was completed in August 1990. Except for several wells retained by MDE for groundwater-monitoring purposes; all residential wells were abandoned once the houses were hooked up to the water line.

Current Site Status

In January 1992, EPA gave the site a designation of No Further Remedial Action Planned (NFRAP). Although there is groundwater contamination present at the site, the plume is currently being investigated as part of the ATK site. This site is also on the State Master List that identifies potential hazardous waste sites in Maryland. The designation of NFRAP by EPA does not mean that MDE has reached the same conclusion concerning further investigation at the site.

Dwyer Property

Site History

The Dwyer Property site is located north of the corner of Maryland Routes 545 and 279, in Elkton, Maryland. The approximate 72.86-acre property is located on the northwest

side of Elkton, just within the city limits.

According to Department records, the property was agricultural prior to 1933. In 1933, the property was purchased by Triumph Fusee and Fireworks Company and used to produce “fusees,” a type of signal flare, and fireworks. In 1938, the company changed its name to Triumph Explosives, Inc. and production was geared to the manufacture of various munitions and trinitrotoluene-based explosives.

To satisfy growing demand for munitions during the early years of World War II, Triumph Explosives, Inc. changed the company name to Triumph Industries and expanded their operation to include the land located west of Blue Ball Road. Triumph Industries used the original property (the Dwyer Property site) to produce Army munitions, and the facilities west of Blue Ball Road to produce naval munitions.

In 1942, the Department of the Navy assumed control of operations at Triumph Industries for six months. The Navy took over operations by executive order resulting from internal management problems in the company. Triumph Industries continued munitions production until the end of World War II.

In 1946, the Bowers Battery & Spark Plug Company purchased the site. This company used the land to manufacture carbon batteries. In 1948, the property was sold to Aerial Products, Inc., a fireworks and munitions manufacturer. Mr. Martin Dwyer was President of Aerial Products, Inc. throughout the life of the company, which ceased operations in 1958.

Mr. Dwyer purchased the property in 1958 and possibly used the property for the manufacture of incendiary flares until 1972. MDE records also indicate that Mr. Dwyer may have utilized the property as grazing land for a nearby dairy farm. Mr. Dwyer transferred the property to Mr. Andrew Dwyer, et al., with Mr. Andrew Dwyer as the current contact, in 1986. Since then, the property has become overgrown with vegetation. Unpermitted dumping of household waste has occurred in various portions of the property.

Site Contamination

In March 1989, MDE completed a Preliminary Assessment (PA) of the property. The property came to the attention of MDE as a result of a real estate transaction. As part of the Preliminary Site Assessment, three groundwater-monitoring wells were installed on the property. Results of the laboratory analysis of the collected groundwater samples indicated high concentrations of volatile organic contamination in the parts per million range.

In December 1989, after completing the Preliminary Site Assessment of the property, MDE completed a Screening Site Investigation (SSI). The SSI reiterated the results of the Preliminary Assessment.

In September 1994, MDE completed an Expanded Site Inspection (ESI) of the Dwyer Property. This investigation included sampling of surface water, sediment, soil, and groundwater. Analysis of samples indicated the presence of chlorinated solvents and

inorganic contaminants in the groundwater beneath the property and various chlorinated solvents in the surface water located in Dogwood Run. However, no contaminants were detected in any of the neighboring residential wells at that time.

In June 1999, MDE completed a Site Survey report to reassess the status of the site previously designated No Further Remedial Action Planned by the EPA. MDE recommended EPA consider the site for further investigation under a future Cooperative Agreement.

In January 2001, MDE completed an ESI that revealed the presence of high concentrations of chlorinated solvents in the upper part of the aquifer. This may indicate the presence of Dense Non-Aqueous Phase Liquid (DNAPL) onsite. In April 2002, MDE contracted ENSAT Corporation to manage an exploratory soil-boring program as the initial phase of further characterization and potential remediation of the VOC contamination of the groundwater onsite. Nine borings were advanced to the overburden/saprolite interface to gain stratigraphic information across the site. Groundwater samples collected during boring advancement revealed elevated levels of VOCs (up to 726,574 parts per billion).

In April 2003, the second phase of the groundwater investigation began with the installation of ten additional monitoring wells in the areas explored during the April 2002 investigation.

In January 2004, Membrane Interface Probe (MIP) technology identified two distinct plumes of chlorinated solvents onsite. In August 2005, Tetra Tech, under contract with MDE, completed a Remedial Investigation/Feasibility Study (RI/FS). The RI confirmed the presence of the two chlorinated solvent phases and established that one of the plumes is migrating offsite in a southwest direction. Elevated levels of perchlorates were also detected offsite. The FS recommended additional characterization of the offsite plume and chemical injections to remediate the chlorinated solvent contamination of the groundwater onsite.

Current Site Status

MDE is currently utilizing MIPS technology to investigate the offsite plume and is developing a bid to contract the chemical injection remediation of the groundwater onsite.

Herron Farm/Firehole

Site History

The Elkton Farm site is located two miles northwest of Elkton, Maryland near the intersection of Routes 40 and 279. Throughout most of its history, the Elkton Farm site has been used as a livestock farm with much of the surrounding fields under cultivation. Triumph Explosives, Incorporated (TEI) purchased the Elkton Farm property in the early 1940s. TEI used an area known as the "Firehole" for the disposal of waste explosives materials generated by the operations at TEI. TEI reportedly collected waste material from the manufacture of explosive ordinance and placed it in drums. This accumulated waste was kept wetted with alcohol or ether to prevent spontaneous combustion, and then carried to a shallow pit off Zeitler Road, spread thinly, and allowed to burn. Plant personnel monitored the burn until the waste explosive was consumed. Photographs in

the TEI newsletter from the 1940s show the operation of the Firehole burn pit but the exact location of the pit was unknown.

The current owners, the Herron Family/MARVA Ltd. Partnership, acquired the property in 1948. In the late 1950s and early 1960s, the Thiokol Corporation leased a one-acre plot of the property for a rocket motor cleaning and recovery area. In the early 1980s wastes from the Galaxy Chemical plant were disposed and/or stored on the farm. The farm property is currently leased to a commercial farming operation that rotates seasonal crops through the fields.

Site Contamination

For investigative purposes, the Elkton Farm property has been divided into four hazardous waste disposal areas:

Unit One comprises two areas of the farm that were used by a property owner for the storage of hazardous waste, including drums of ash produced from the Thiokol area (Unit 3), ordnance debris from the TEI operation and drums of waste from Galaxy Chemical. In the early 1980s, the owner of the farm attempted to dispose of 53 drums of hazardous waste from Galaxy Chemical, a nearby solvent recycler, at Norris Farm Landfill in Baltimore County, Maryland. Norris Farm Landfill refused to accept the waste and Galaxy refused to take the waste back. Consequently, the owner of Elkton Farm stored the drums in the two farm buildings until he reported them to MDE almost ten years later. A CERCLA removal action was completed at Unit One in 1992, which resulted in the removal of drums containing flammable organic compounds, base neutral compounds, halogenated organic compounds, drums of solids, and 10 tons of contaminated soil.

Unit Two is the World War II era waste ordnance combustion pit known as the "Firehole," which was used by TEI during the 1940s. Other than it being identified as located on the Elkton Farm property, the exact location of the firehole was not known.

In May 2002, MDE contracted NAEVA Geophysics, Inc. to conduct a geophysical survey of the suspected area of the Firehole. The survey indicated several distinct anomalies on the portion of the property east of Laurel Run and south of Zeitler Road. Observations indicate that the Firehole is not one discrete area but rather a series of burn pits located across the property.

In October 2002 and May 2003, MDE performed a site investigation of this property under the PA/SI Cooperative Agreement with EPA. Results of the investigation indicate explosives in surface and subsurface soils, elevated levels of lead, mercury, and PCBs in the Firehole and trichloroethene in the groundwater. In December 2004 and January 2005, MDE conducted further investigation of this unit by using a remote geoprobe to collect subsurface samples in the suspected burn pits. Elevated concentrations of explosives and inorganics were found in the burn pits.

Unit Three is a 1-acre plot of land leased by the Thiokol Corporation in the late 1950s and early 1960. It is important to note that Unit Three overlays a component of Unit Two. The abandoned structures for this test area are located on the west side of the property. Thiokol Corporation constructed several small buildings, undefined underground structures, and

a network of steel gantries. Thiokol used the facility to combust residual fuel and clean rocket motors for reuse. An explosion in the 1960s led to the site's abandonment.

In May and June of 2003, MDE performed a site investigation of this property under the PA/SI Cooperative Agreement with EPA. Results of the investigation indicate explosive compound in the surface and subsurface soils and perchlorate in the subsurface soils on this site. In July of 2005, ATK (formerly Morton Thiokol), conducted a voluntary removal of the structures, both aboveground and belowground on this one acre parcel.

Unit Four is a 55-acre parcel on the farm that was reportedly impacted by disposal on adjacent lands or used in the past to store or dispose of waste organic solvents. A plume of groundwater contamination had been documented immediately south of Unit Four in the GE Rail Car property and appeared to be coming from this property.

In June and July of 2003, MDE performed a site investigation of this property under the PA/SI Cooperative Agreement with EPA. Results of the investigation indicate an impact to groundwater in the vicinity of Unit Four; however, it does not appear that the contamination is coming from Unit Four.

Chlorinated solvents have been found in groundwater while explosives, perchlorate, lead, mercury, and PCBs have been detected in onsite surface and subsurface soils.

Current Site Status

EPA has initiated a removal action at Units 2 and 3, the Firehole area. EPA has contracted the US Army Corps of Engineers to perform the removal, which will occur in two phases. The first phase, which began in February 2006, will consist of removing the Munitions of Explosive Concern (MEC) at the surface. Phase one activities could last for three to six months depending on weather conditions and the amount of potentially explosive material found.

Buried wastes, found below the top 18 inches of soil, will remain at the completion of phase one. During phase two, EPA will remove all buried wastes from the site. Phase two will begin later in 2006. Updated site information is available at: http://www.epaosc.org/site_profile.asp?site_id=1299

GE Railcar

Site History

The GE facility is located in Cecil County, at 505 Blue Ball Road in the Triumph Industrial Park in Elkton, Maryland. The facility is 28 acres of mostly vacant land. The last use of the site was as a rail car cleaning and repair facility primarily for tanker type rail cars. The facility handled all types of mechanical repairs and maintenance of freight cars. The repair and maintenance included: steel fabrication, welding, cutting, and brazing. The facility also steam cleaned, sandblasted, and painted the interior and exterior of rail cars. GE closed the facility in 1988. Under the Maryland Department of Environment direction, GE has performed various investigations and closure activities.

Prior to GE, several other companies owned and/or managed the property, including the U.S. Navy, and various chemical and rail car maintenance facilities.

Site Contamination

In October 1999, EPA conducted an Environmental Indicator (EI) inspection to determine whether human exposures and groundwater releases were under control. EPA determined that more information is necessary. GE submitted a Site Investigation Workplan to EPA, which was approved in August 2001. Site investigations were completed in the fall of 2002, and included extensive surface and subsurface soil sampling and installation of groundwater monitoring wells and groundwater sampling. EPA received the final report in August 2002 and approved it in May 2003. GE submitted plans for further work, which EPA approved. This work included a pilot study for in-situ remediation of on-site contaminated ground water, and an investigation to delineate off-site ground water contamination. Field work and reports were completed in December 2004. EPA approved the off-site ground water investigation, which proposed more off-site wells, and approved the in-situ pilot work. Off-site wells were installed and showed some contaminants that occur on-site.

GE agreed to perform the investigations pursuant to the Region's Facility Lead Corrective Action Agreement, which was signed in October 9, 2001. The Environmental Indicator Forms discuss that current human exposure to site contaminants is under control, and that further data is needed to determine whether migration of contaminated ground water is under control.

Benzene, chlorobenzene, and chlorinated solvents have been detected in ground water. There is limited surface and subsurface soil contamination (chlorinated solvents, PCBs, mercury and benzo (a) pyrene) in discrete areas.

Current Site Status

A report on off-site wells installed to the east of the property is due to EPA in mid-2006. EPA recommended soil remediation for one area of contaminated soil. GE and EPA are working on regulatory and remedial options for the soil.

Ionics, Incorporated Property

Property Description

The 19-acre property is located in a commercial/industrial area, approximately 750 feet east of Little Elk Creek. Groundwater flow and site drainage are both south to southwest. The Ionics property is located on flat terrain with no surface water bodies on-site. The property is currently used for the storage and distribution of bleach and windshield washer fluid. Site features include an open concrete fire pond, a 300,000 square foot manufacturing plant/warehouse on the eastern portion of the property, and a 20,000 square foot warehouse located on the western portion of the property.

Site History

In March 1920 and May 1930, the Philadelphia, Baltimore, and Washington Railroad Company purchased the property in two land transactions. In February 1947, the property was sold to the American Sugar Refining Company. In January 1957, Louis M. Golden,

Jr. purchased the property and sold it to Green River Realty Corporation in March 1960. General Cable Corporation purchased the property in March 1961. Pirelli Cable Corporation acquired the property in March 1978 and used the facility to produce and test specialty cable systems until 1987. In August 1987, Charles D. Benjamin purchased the property. Between 1987 and 1990, Majestic Industry manufactured and printed binders and book covers. In 1995, Ionics purchased the property. In 2005, Montgomery Brothers purchased the property and are currently offering it for lease.

Site Contamination

Environmental investigations conducted in 2001 and 2002 focused on investigating groundwater contamination, which was principally identified as volatile organic compounds. At the request of the property owner, MDE completed a Phase II Brownfields Assessment in October 2002. Analytical results indicated elevated levels of volatile organic compounds.

Elevated levels of volatile organic compounds such as trichloroethene, methyl tert-butyl ether (MTBE), 1,1-dichloroethene, and cis-1,2-dichloroethene have been detected in the ground water beneath the site.

Current Site Status

On January 15, 2003, Ionics submitted a Voluntary Cleanup Program (VCP) application to MDE seeking a “No Further Requirements Determination” as a responsible person. Following a regional groundwater investigation in the Elkton area, the Department issued a No Further Requirements Determination on August 20, 2004 for use of the Ionics property for commercial or industrial purposes and a prohibition on the use of groundwater beneath the property for any purpose.

Maryland Cork

Property Description

Maryland Cork is an 18-acre property that is currently in industrial use importing and selling cork. It is located next to the GE Rail Car property. This property has possible tetrachloroethene (PCE) groundwater contamination. MDE is preparing to conduct additional assessment of groundwater conditions at the site through the use of membrane interphase probes (MIPs).

New Jersey Fireworks Site

Property Description

The New Jersey Fireworks site is located approximately 2.4 miles west of Elkton and 2.5 miles east of the town of North East at 1726 Old Philadelphia Road in Cecil County, Maryland. The site consists of 2 parcels that comprise approximately 56.7 acres and is situated in a rural setting just north of the Elk Neck State Forest. Old Philadelphia Road (Route 7) forms the northern border of the site. Forest View Village Trailer Park borders the site to the east, Mill Creek and Amtrak railroad tracks form the western and southern borders of the site. The home of the Bello family is situated topographically up gradient and is located on a parcel at 1720 Old Philadelphia Road that pinches into the site near the midpoint of the property. A new office and gravel parking lot have been built and a

warehouse has been erected on the southern portion of the property.

Site History

In 1956, the New Jersey Fireworks Company purchased the property to manufacture "Class C" fireworks. Manufacturing occurred on the eastern portions of the property, while waste from the production of fireworks took place in a pond formerly used as a clay quarry located at the western portion of the property (Route 7 Dump).

In 1988, the New Jersey Fireworks Company was identified by the MDE as a hazardous waste generator and was subject to regulations set forth by the Hazardous Waste Enforcement Division of the MDE. The area near the sparkler manufacturing building was of primary concern, as concentrations of barium in the soil reached 63,000 mg/kg. Later that year, a Consent Order was issued by MDE to ensure the proper handling and disposal of hazardous and solid waste at the facility. Inspections by Hazardous Waste Enforcement Division personnel continue to occur at the New Jersey Fireworks site on a regular basis.

In 1999, the New Jersey Fireworks site was inspected by the Federal Bureau of Alcohol, Tobacco, and Firearms (ATF) and MDE. The inspection revealed that large amounts of fireworks were being stored in an unsafe manner. According to representatives of the ATF, the on-site manufacturing of fireworks ceased in the early 1990s. The types of fireworks previously manufactured include sparklers and black powder explosives.

The 1999 ATF/MDE inspection also revealed that several buildings on site contained old fireworks. Many of these buildings were in poor condition. Several pit-like depressions were located in a wooded area and were previously used for the burning and disposal of old fireworks. Rusted thirty-gallon and fifty-gallon drums litter the site. Some of the drums still possess legible labels indicating that they contained potassium perchlorate. Lastly, a waste disposal area is located on the south side of the New Jersey Fireworks property. This waste disposal area consisted of wooden pallets, drums, aerosol cans, oil containers, auto parts, cinders and other scattered debris, some of which looked like asbestos material.

As a result of the ATF/MDE inspection, extensive cleanup of the site has occurred. Nearly all of the dilapidated buildings have been demolished and removed. All of the abandoned aboveground storage tanks, most of the empty drums, most of the waste pile, and trailers that housed improperly stored hazardous and suspected hazardous materials have been removed with oversight of MDE's Hazardous Waste Enforcement Division.

In April 2000, MDE conducted a PA/SI at New Jersey Fireworks to assess potential contamination at the site. Elevated levels of a number of inorganics were found in onsite soils and sediments. Because perchlorates are used in the manufacture of fireworks, MDE also analyzed some of the samples for perchlorates. Because perchlorates are used in the manufacture of fireworks, MDE also analyzed some of the samples for perchlorates. None were detected; however, holding times on the samples were exceeded.

In response to perchlorate contamination in nearby community wells, in August 2004, MDE conducted an ESI to assess potential sources for the perchlorate contamination in the groundwater. Analytical results from the ESI identified perchlorate contamination

in the surface soil near the former Route 7 dump, the surface water and sediment in an unnamed tributary of Mill Creek near the NJF sparkler manufacturing building and in the NJF production well. As a result, MDE is recommending further investigation to better characterize the sparkler building area for possible remedial actions.

Site Contamination

This site may be a potential source of perchlorate, which has been found in groundwater in the area. Barium has been found in onsite soils.

Current Site Status

MDE is currently working with the responsible party in the development of a work plan to remediate the soils around the former NJ Fireworks sparkler building.

RMR, JMR Corporation Property

Property Description

The 5.1-acre RMR, JMR Corporation property is located in a mixed-use area in the town of Elkton. Improvements include a single story building (107,000 square feet) that manufactured fractional (<1) horsepower electric motors. The property and vicinity receive public water and sanitary sewer services from the town of Elkton.

The nearest surface water bodies to the site are Dogwood Run located 2,000 ft. to the northeast, Little Elk Creek located 2,800 ft. to the west- southwest, and Big Elk Creek located 2,800 ft. to the east. The Little Elk Creek and Big Elk Creek join about 8,000 ft. to the south and enter the Elk River, located two miles south of the property.

Site History

The property was used for agricultural purposes prior to 1938. The single story building was constructed in 1938 and expanded in 1957. Between 1964 and 1969 property owners included the Cecil Whig Publishing Company and the Milwill Realty Corporation. The current property owners, RMR, JMR Corporation, purchased the property from the Milwill Realty Corporation in 1969 and began operations.

Between 1969 and 1989, the manufacturing facility produced fractional horsepower electrical motors. During this period, permits were retained for wastewater discharge and controlled hazardous substances. The RMR, JMR Corporation is listed in MDE's records as a large quantity generator of controlled hazardous waste from 1982 to 1989. Manufacturing operations at the facility generated waste oil, corrosives (sodium hydroxide, black oxide, ammonia), Xylol, degreaser fluid (1,1,1, trichloroethane), methylene chloride, waste paint, methanol, transformer oil containing polychlorinated biphenyls (PCBs), caustics (paint stripper, shaft cleaner, varnish stripper), degreaser still bottoms, and naphtha. In 1989, the RMR, JMR Corporation declared bankruptcy and boarded up the property.

Site Contamination

On July 27, 1994, a tornado struck the building and the damage prompted an inspection by the MDE's Emergency Response Division. Approximately 30 transformers, 130 drums and several aboveground storage tanks (ASTs) were in the vicinity of the building.

The MDE requested and received assistance from U.S. EPA, Region III to perform a removal action in late-1994 to early-1995. The action involved combining similar waste streams, triple-rinsing PCB transformers with kerosene, cleaning and disposing of the AST contents, industrial cleaning of a concrete floor, and the removal of five 55-gallon drums of lead-impacted soil. Upon completion, the building and surrounding property were secured.

In 1994, the Waste Management Administration conducted a preliminary assessment of the property. Post-confirmatory sampling in areas of concern revealed low levels of PCBs and metals. Based on a toxicological evaluation, the Department concluded that the residual contamination did not pose a threat to human health and the environment. The property was designated by the EPA as “No Further Remedial Action Planned (NFRAP).”

VOCs have been found in the groundwater in the area. Low levels of PCBs and metals have been found in onsite soils.

Current Site Status

On August 21, 2001, the Voluntary Cleanup/Brownfields Division received an application from Schwab LLC seeking a Certificate of Completion Determination as an inculpable person. The intended future use of the property is for a warehouse or office facility. Following a review of the application, the Department requested soil vapor sampling and groundwater modeling. The Department received the supplemental information and the results of the soil vapor sampling and groundwater modeling were acceptable. In April 2004, the Department completed a groundwater quality survey in the Elkton area to verify whether any sensitive receptors are being impacted due to regional groundwater contamination from multiple sources.

In December 2005, the applicant performed a supplemental groundwater investigation on the property, and the Department is currently awaiting the submittal of the groundwater sampling data.

Route 7 Dump

Property Description

The Route 7 Dump site is located along Maryland Route 7 in Cecil County, Maryland, approximately 2.4 miles west of Elkton and 2.5 miles east of the town of North East. The site size is about 2 acres. The site is located at the confluence of Mill Creek and one of its unnamed tributaries to the south and east, respectively. The area surrounding the site consists of rural wooded lots. A number of quarrying operations and three Class C fireworks companies were once located within a 3-mile radius of the site.

Site History

In the early 1900s, the site was utilized as a clay quarry that supplied clay to a brick manufacturer. During the World War II period, by-products of munitions production, as well as scrap rubber from the Bayshore Rubber Plant, were disposed of on site.

In 1956, the New Jersey Fireworks Company purchased the property for use as a disposal

area for class C fireworks. The dumpsite was not permitted. The disposal area consisted of a burn pad and a water-filled pit that was used to dispose of the ash material. By 1980, wastes were burned at the site, and the ash was transported to the county landfill.

Between 1983 and 1986, the State Highway Administration used the on-site pond to dispose of fill dirt from road construction. Most of the fill dirt consisted of clays.

Site Contamination

The State of Maryland investigated the site in 1980, at which time sample results indicated contamination of an on-site ponded area, but no evidence of off-site contamination.

In December 1983, the EPA conducted a Site Inspection that included collecting samples from on-site surface waters and an adjacent stream. Lead detected in upstream and downstream aqueous samples was determined to be unrelated to the site. Only butyl benzyl phthalate (15 micrograms per liter, ug/l) was detected in aqueous samples, and it was determined to pose no evident hazard. A high concentration of barium (19,300 ug/l) was detected in the on-site pond aqueous sample, but no barium was detected off site.

In September 1992, MDE transmitted a Level I Site Investigation Prioritization (SIP) to EPA, and reported that New Jersey Fireworks Company still owned the site, and that the State Highway Administration disposed of fill dirt from road construction in the on-site pond from 1983 to 1986. MDE recommended considering the site for NFRAP under CERCLA.

This site may be a potential source of perchlorate, which has been found in groundwater in the area. Barium has been detected in onsite surface water.

Current Site Status

In May 2002, MDE became involved with a developing perchlorate problem in the groundwater impacting the Elkton well field. Perchlorates are used in the manufacture of fireworks. Since this dump was used for the disposal of wastes from New Jersey Fireworks, MDE determined that both the Route 7 Dump and the New Jersey Fireworks facility, which is adjacent to the dump, should be reassessed, to determine if either may be the possible source of groundwater contamination in the Elkton well field. In August 2004, MDE performed an Expanded Site Investigation (ESI) at both areas under the PA/SI Cooperative Agreement with EPA. Results show perchlorate and barium in the groundwater, surface water and soils. MDE is currently drafting the ESI report.

Maryland Sand, Gravel and Stone Site

Property Description

The Maryland Sand, Gravel and Stone Superfund Site is located north of U.S. Route 40, approximately 3 miles west of Elkton, Maryland. The Site consists of approximately 60 acres in the Eastern Excavation Area of a 150-acre former sand and gravel quarry.

Site History

From the late 1960s to the mid-1970s, the Site was used for the disposal of industrial and solvent recycling wastes. The dumping prompted citizen complaints about odors

emanating from the site. In turn, this led to an investigation by State officials and the end of disposal activities. More recently, under the direction of the EPA, potentially responsible parties (PRPs) have performed various investigations and cleanup activities.

Site Contamination

EPA's decisions on how to address Superfund site contamination are formally outlined in legal documents known as Records of Decision (ROD). EPA issued its first (Operable Unit One or OU1) ROD for the Site in 1985. The selected remedy included fencing the Site, excavating buried drums and taking them off-site for disposal, and installing and operating an interim pump-and-treat system for shallow groundwater. In 1988, a group of 40 PRPs entered into a Consent Decree with EPA, which established the terms under which they would implement the ROD. The fence was completed in 1989, and the excavation and removal of approximately 1,200 drums was completed in 1992. The groundwater collection and treatment system has been operating for approximately eight years. More than 88 million gallons of water have been treated to date.

EPA issued a second ROD in 1990. The Operable Unit Two (OU2) ROD addresses groundwater in the deeper aquifers at the Site. The ROD calls for on-site and off-site groundwater monitoring, the provision of an alternate water supply should Site-related contaminants be found in any private water supply well, and the recovery of ground water in the deeper aquifers should contaminant concentrations exceed the action levels given in the ROD. Forty-two PRPs signed an Amendment to the 1998 Consent Decree, agreeing to do this additional work.

During the first few years of monitoring, one residential well was found to contain site-related contaminants; this well has been replaced with a deeper well. Contamination has also been found in wells that monitor the aquifer directly below the contaminated shallow groundwater-bearing zone. Contaminated groundwater is being pumped from this aquifer and treated on-site. The extent of the contamination is being delineated and additional monitoring is being conducted in order to plan additional cleanup responses.

In 2002, EPA issued the third and final (Operable Unit Three or OU3) ROD for this Site. The final cleanup plan includes: excavating contaminated soil; treating this soil on-site using low-temperature thermal desorption; backfilling treated soil; expanding the recovery and treatment system for shallow groundwater and continuing its operation; and adding safe substances (e.g., molasses or oxygen) to the groundwater in order to facilitate the breakdown of hazardous substances by soil microbes.

Benzene, chlorobenzene, chlorinated solvents and 1,4-dioxane have been detected in subsurface soil and/or groundwater. Surface soil in a limited area is contaminated with pesticides, polychlorinated biphenyls (PCBs) and metals.

Current Site Status

EPA Region III is currently negotiating the performance of the final phase of cleanup under the Superfund program with a group of PRPs. Upon the successful completion of design development and EPA approval, the PRPs will perform the cleanup activities specified in the ROD for OU3 under the direction of EPA with assistance from MDE.

Vicon Property

Property Description

The 60-acre inactive Vicon property is currently zoned for commercial and industrial purposes. Currently, municipal water and sanitary sewer services are not provided to the vacant site, although both are available to accommodate future development at the property. Surrounding land use includes residential properties to the southeast and northeast and industrial land use to the south. Dogwood Run (a tributary of Little Elk Creek) is located along the western property boundary. Topography at the property slopes gently toward Dogwood Run. Shallow groundwater flow beneath the property varies locally across the site.

Site History

In 1919, Victory Sparkler & Specialty Company purchased the property and manufactured fireworks and small ordnance products under a U.S. government contract until 1946. In 1932, Gideon Steffey briefly assumed ownership of the property, which was re-sold to Victory Sparkler & Specialty Company in that same year. In 1946, Michael Pastuszek purchased the property as an individual entity and under the corporate titles of Penn Materials Company in 1947; and, Sheppard Company in 1953. It is unclear as to what types of activities occurred on the property during this nine year period.

Between 1953 and 1980, Sheppard Company manufactured explosives under a U.S. Army contract. The manufacture of military high explosives, incendiary devices, and military blasting caps ended in 1955 and the manufacture of fireworks ceased in the early-1960s. In 1980, the estate of Michael Pastuszek acquired the property, which was sold to Vicon Corporation in 1981. The buildings on-site were demolished in 1983. In 1987, Elkton Village Limited Partnership briefly assumed ownership of the property until it was sold in that same year to Michael Davitt and Baldwin & Associates, Inc. Windsor Pointe purchased the property in 1993. Since 1980 the property has been inactive.

Site Contamination

In 1978, an explosives investigation concluded that there was no explosive hazard associated with site soils and this finding was corroborated by another study conducted in 1987, which concluded that the explosives hazard associated with the site was minimal.

In 1990, MDE conducted a Preliminary Assessment (PA) of the site and recommended further investigation, based on past fireworks and munitions manufacturing activities. In 1990, an environmental investigation concluded that contaminants on site did not pose an environmental risk and recommended no further testing. In September 1994, MDE completed a Focused Site Inspection (FSI), which identified contamination in soils, in surface water and sediments in the settling ponds, and in the adjacent Dogwood Run surface water body.

In March 2002, Windsor Pointe, Inc. submitted a Voluntary Cleanup Program (VCP) application seeking a No Further Requirements Determination as an inculpable person. The Department requested supplemental sampling to further characterize the entire site. The supplemental investigation included installation of eight new groundwater monitoring wells, excavation of fifty-three test pits with surface and/or subsurface soil samples collected from each pit, and sampling of a total of 21 new and pre-existing monitoring wells.

Soil and groundwater samples were tested for a wide range of potential contaminants, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), priority pollutant metals (PPM), explosives, total petroleum hydrocarbons (gasoline and diesel range organics)(TPH-DRO and TPH-GRO), polychlorinated biphenyls (PCBs),and perchlorate. Multiple detected organic and metal contaminants exceeded the Department's groundwater cleanup standards, including trichloroethene (TCE), tetrachloroethene (PCE), naphthalene, antimony, chromium, lead, and nickel. No contaminants were detected in surface water or sediment at concentrations above the corresponding Department cleanup standards. Three metals, arsenic, lead, and mercury, were detected in surface soil above the Department's non-residential cleanup standards, though the mercury detect was below the regional anticipated typical concentration. TPH-DRO was detected in subsurface soil in a limited area above the non-residential cleanup standard. No detected noncarcinogenic or carcinogenic contaminants in soil or groundwater presented an unacceptable risk for vapor intrusion.

Chlorinated solvents and inorganics have been detected in the groundwater beneath the site.

Current Site Status

The Voluntary Cleanup Program (VCP) approved Windsor Pointe, Inc.'s application in June 2003. The Department notified Windsor Pointe, Inc. that a response action plan (RAP) must be developed and implemented to address environmental conditions at the site before the Department can issue a Certificate of Completion. A RAP was required because the levels detected exceeded the drinking water standard, and because contaminants in localized areas of surface soil present a potentially unacceptable carcinogenic risk to the child visitor commercial population via the incidental ingestion exposure pathway. The participant submitted a proposed RAP in March 2004. The RAP proposed capping of localized areas of surface soil, long-term groundwater monitoring, a groundwater use prohibition on the property, and other institutional controls. Additional sitewide groundwater sampling was completed in November 2004 to support finalizing a RAP for the property. The Department anticipates receiving a revised RAP by March 2006. Future plans for the site include subdividing the property for nonresidential development.

W.L. Gore (Left Bank) Site

Property Description

This property consists of approximately seven acres located in the Trinco Industrial Park, near the junction of Routes 279 and 545 in Elkton, Maryland. Situated north of the confluence of Dogwood Run and Little Elk Creek, the property includes a warehouse, a paved parking area, lawn areas and a wooded area. Directly adjacent to Little Elk Creek, the majority of the wooded area, which is topographically lower than the rest of the site (about 10 to 20 feet), lies within the Little Elk Creek floodplain. The former industrial dumpsite, covering approximately two acres, is located within the wooded area on the north bank of Little Elk Creek (also referred to as the "left bank"). Other commercial and industrial properties surround the site.

Site History

The Trinco Industrial Park property has been used for industrial operations since the 1940s. Through 1947, the property was used, owned and operated by Triumph Explosives for the manufacture of military ordnance. After World War II, the old munitions plant was demolished and the materials from the plant were deposited as fill in the area along the Little Elk Creek. The Elkton Company (later known as Trinco Industrial Park) purchased the property in 1947 and used it for light industry and warehousing. Historical records indicated that in 1968 and 1969, waste from Galaxy Chemical was disposed of at the property. In addition to the chemical waste, other waste and construction debris were disposed in the area along Little Elk Creek. In 1972, the property was sold to General Tire and Rubber Company, and in 1983, W. L. Gore purchased the property.

Site Contamination

The former dumpsite was first identified in 1983 by a Department of Health and Mental Hygiene inspector who was investigating another site within the Trinco Industrial Park. Samples collected from a small spring during the initial visit revealed elevated levels of potentially carcinogenic VOCs. As a result, the site was listed on the EPA's CERCLIS database. However, as other adjacent sites were under investigation at the time and there was no residential use of groundwater in the area, the site was not further investigated until the late 1980s.

In 1988, W.L. Gore conducted a preliminary assessment of the property. Trenches dug near the waste disposal area revealed dark stained soils and tar materials. Laboratory analysis indicated elevated levels of VOCs. During 1989 and 1990, additional investigations were conducted by MDE. It was concluded that the disposal area is a source of groundwater contamination in the area and that contaminants may bio-accumulate in fish and wildlife that inhabit the creeks and rivers in the vicinity and through direct exposure. In October 1991, during removal of scrap tires from the property, workers uncovered seven 55-gallon drums. MDE personnel conducted a limited removal action of the drums located on the surface. Beneath the drums, MDE discovered solid and liquid substances emitting solvent odors in the soils. Laboratory analysis of the soil indicated high concentrations of volatile hydrocarbons. A work plan was developed and a Removal Action (RA) of the source material was completed at the property in 1997.

VOCs were found in groundwater and soils including 1,1,2,2 -tetrachloroethane, tetrachloroethene, trichloroethene, and 1,2-dichloroethene. The inorganics chromium, manganese, and nickel were also found in groundwater. Low levels of perchlorate were also detected in the groundwater.

Current Site Status

In November 2003, MDE conducted a Brownfields investigation at the property at the request of a prospective purchaser. Inorganics and VOCs were found in surface and subsurface soils and groundwater. Low levels of perchlorate were also detected in the groundwater. MDE recommended that further investigation be undertaken and that any potential buyer enter the State Voluntary Cleanup Program prior to taking possession of the property. There are currently no plans to conduct further investigation at this property.

Section 3: *Community Survey*

3.1 Introduction

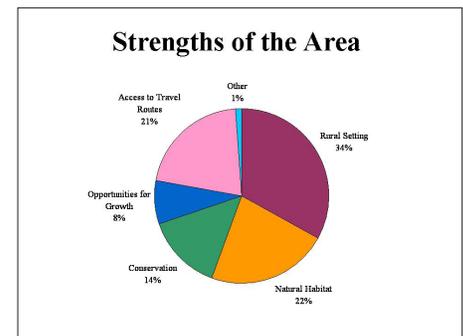
In order to garner the community's ideas and input on potential reuse of the properties that are available for redevelopment, the reuse committee developed a community survey (See Appendix E). The survey was distributed throughout the summer of 2005 and the results of the survey were presented at the second community meeting on October 20, 2005.

The survey was distributed by committee members, through the Elkton Alliance mailing list; was placed on the Cecil Community College, Elkton.net, and EPA websites; and was placed at the checkout counter at the Elkton Library. Staff from the School of Nursing also distributed the survey door-to-door in neighborhoods surrounding the project sites. An article in the Cecil Whig newspaper discussed the survey and directed residents to the websites where they could submit the survey.

3.2 Survey Results

Forty-one surveys were returned. The majority of respondents felt that the strengths of the area were the rural setting and natural habitat. Most felt that the area needs more nature/open spaces and recreational fields and would like to see that type of redevelopment in the project area. The respondents were evenly split on their views of the challenges of redevelopment between lack of water and sewer at the sites and environmental concerns.

See Appendix E for the complete survey and survey results.



Section 5: *The Little Elk Creek Reuse Committee*

5.1 Committee Composition

The Reuse committee's structure was designed to ensure that the community-based group included a diverse range of interests. The School of Nursing targeted the following to participate on the committee:

- Residents and property owners adjacent to the sites
- Residents and property owners from throughout Cecil County
- Local business interests
- Local government officials
- Site owners
- Potentially responsible parties

5.2 Committee Members' Roles

At the first committee meeting, the facilitator worked with the Reuse Committee to develop the roles of the committee members to use as a guide for the Reuse Committee's discussion and decision-making.

Committee Members' Roles

- Prioritize sites for discussion
- Learn about the sites prior to deciding reuse – contamination levels, use of surrounding properties, and cost of clean-up
- Look at long-term clean-up process and requirements
 - General description of levels of clean-up related to potential reuse categories
- Learn from/utilize expertise of companies whose properties are currently going through the clean-up process
- Discover what liabilities may be for new owners of sites contaminated by previous owner
- Communicate with the community
- Identify perceived positives and negatives of redevelopment
 - Barriers and suggestions for improvement
 - Green space is also a beneficial reuse
- Provide feedback to agencies on the community-based reuse committee process
 - Identify/connect with developers/investors/other financial resources (i.e. grants, low-cost loans, etc.)
 - Create community partnerships
- Oversight of reuse – ensure safety

5.3 Committee Ground Rules

At the first committee meeting, the facilitator worked with the Reuse Committee to develop the ground rules and decision-making structure for the Reuse Committee's discussions and decision-making. These rules included stating a mutual respect for each other and the individual member's area of expertise. The Reuse Committee decided that the decision making process should be by consensus and any strong minority would be noted if one exists.

5.4 Project Timeline

Reuse Committee Meeting Schedule:

Committee Meeting #1.....February 10, 2005 1:30-3:30 pm
Committee Meeting #2.....March 17, 2005 1:30-3:30 pm
Committee Meeting #3.....April 12, 2005 1:00-3:00 pm
Committee Meeting #4.....July 21, 2005 1:30-3:30 pm
Committee Meeting #5.....September 15, 2005 1:30-3:30 pm
Committee Meeting #6.....October 20, 2005 1:30-3:30 pm
Committee Meeting #7.....December 8, 2005 1:30-3:30 pm
Committee Meeting #8.....February 16, 2006 1:30-3:30 pm

Community Meetings Schedule:

Community Meeting #1.....April 21, 2005 6:30-8:00 pm
Community Meeting #2.....November 17, 2005 6:30-8:00 pm
Community Meeting #3.....January 12, 2006 6:30-8:00 pm

Committee Meeting Location:

Cecil County Government Administration Building
107 North Street
Elkton, MD

Community Meeting Locations:

Meetings #1 & #3

Auditorium
Cecil County Health Department
401 Bow Street
Elkton, MD

Meeting #2:

Room 221
Cecil Community College Elkton Center
107 Railroad Avenue
Elkton, MD

5.5 Community Meetings

The reuse planning process for the Little Elk Creek One Cleanup Reuse Project sites included three community meetings. These meetings provided an opportunity for the Reuse Committee to discuss the recommendation process with the community and to incorporate community ideas and feedback

Community Meeting #1: April 21

The project's first community meeting introduced the project to the community and provided Reuse Committee members with the opportunity to discuss their goals for the project and why they decided to participate in the Reuse Committee. MDE and EPA described the project and gave a brief history of the sites included in the project.

Community Meeting #2: November 17

The results of the community survey were presented at the second community meeting. Updates on the One Clean Up Project sites were also presented.

Community Meeting #3: January 12

The project's third community meeting provided an opportunity for the University of Maryland College Park Landscape Architecture Student project to be presented to the community. The Reuse Committee's draft reuse recommendations were presented and discussed.

Section 6: Resources

Cecil County Website

Provides information the latest happenings in the county government. It also lists all of the County Commissioners, Departments, and contact information.

<http://www.ccgov.org/>

Cecil County Office of Economic Development

Offers assistance to businesses planning a move, relocation or expansion into Cecil County, Maryland.

<http://www.cecilbusiness.org/>

Enterprise Zones

These zones offer tax advantages and government support to business located therein. Triumph Industrial Park is located in an Enterprise Zone.

<http://www.cecilbusiness.org/entzones.html>

Local Incentives

Cecil County has assembled a wide array of economic and other incentives for industrial investment and job creation. These include tax credits, revolving loan fund, and assistance with business planning.

<http://www.cecilbusiness.org/incent.html>

Cecil County Small Business Development Center

Provides assistance to emerging and small business in Cecil County. SBDC services include assisting small businesses with financial, marketing, production, organization, engineering and technical problems, and feasibility studies.

<http://www.cecilbusiness.org/sbdc.html>

Maryland Department of Business and Economic Development (DBED)

A variety of financing opportunities are available through Maryland Economic Development Assistance Authority and Fund (MEDAAF). DBED can also provide assistance with strategic planning and marketing, investment tax credits and loan guarantees, workforce development, regulatory and permitting assistance, business location services, and business and technology quality improvements.

<http://www.choosemaryland.org>

Maryland Department of the Environment

Offers funding in the form of grants, loan, or direct payments for a variety of uses. Funding may also be available through the Brownfields Revitalization Initiative. This program is intended to promote economic development, especially in distressed urban areas, by identifying and redeploying underutilized properties.

http://www.mde.state.md.us/Programs/LandPrograms/ERRP_Brownfields/bf_info/bffunding.asp

<http://www.mde.state.md.us/AboutMDE/grants/index.asp>

Maryland Department of Planning (MDP)

MDP promotes growth that fosters vibrant, livable communities, preserves and protects the environment, and makes efficient use of State resources. MDP provides data, trend

analysis, research assistance, and policy development and implementation support for local governments, communities, businesses, and organizations. The Department also provides technical assistance, local program review and planning design services for Maryland's counties and municipalities.

<http://www.mdp.state.md.us/>

Maryland State Department of Assessments and Taxation (SDAT)

SDAT administers the Enterprise Zone Property Tax Credit Program designed to promote economic development. The SDAT website also features various resources that may be of use to businesses relocating into Cecil County such as ownership and value information on property in Maryland.

<http://www.dat.state.md.us/>

Green Buildings Tax Credit

Businesses that construct or rehabilitate buildings in Maryland that conform to specific standards intended to save energy and to mitigate environmental impact may take a tax credit against a portion of the cost.

<http://business.marylandtaxes.com/taxinfo/taxcredit/greenbldg/default.asp>

Environmental Finance Center of the University of Maryland

The Environmental Finance Center works with communities to develop innovative funding and financing strategies for environmental and community development projects.

<http://www.efc.umd.edu/>

National Recreation Trails Program

This Program funds the development of community-based, motorized and non-motorized recreational trail projects.

<http://www.sba.state.md.us/exploremd/oed/trails/trails.asp>

US Environmental Protection Agency

EPA's Brownfields Program: EPA's Brownfields Program provides direct funding for brownfields assessment, cleanup, revolving loans, and environmental job training. To facilitate the leveraging of public resources, EPA's Brownfields Program collaborates with other EPA programs, other federal partners, and state agencies to identify and make available resources that can be used for brownfields activities. In addition to direct brownfields funding, EPA also provides technical information on brownfields financing matters.

<http://www.epa.gov/brownfields/pilot.htm>

On the Path to Becoming a Green Community

Green Communities promotes innovative tools that encourage successful community-based environmental protection and sustainable community development. They also provide technical assistance and training through their Assistance Kit, workshops, and the network of successful Green Communities throughout the country.

<http://www.epa.gov/greenkit/index.html>

Economic Development Administration

The EDA's mission is to lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy. In order to fulfill its mission, EDA offers a variety of investment programs designed to help communities develop and implement economic development and revitalization strategies.

<http://www.eda.gov/AboutEDA/Programs.xml>

Chesapeake Bay Trust

The Trust is a private, nonprofit grant making organization created by the Maryland General Assembly in 1985 to promote public awareness and participation in the restoration and protection of the Chesapeake Bay and its Maryland tributaries. To accomplish its mission, the Trust receives financial contributions from the general public and the private sector and distributes those contributions in the form of financial support grants to Bay-related programs.

<http://www.chesapeakebaytrust.org/index.html>

Sustainable Building Resource Directory

This is a website based information resource for the mid-Atlantic region. It provides information on construction and design of green buildings as well as local, state, and federal programs that support and promote the implementation of Green Building and Sustainable Development practices.

<http://www.sbrd.org/>

The Kresge Foundation – Green Building Initiative

Provides planning grants to cover costs associated with planning a green building.

http://www.kresge.org/initiatives/green_ini.htm

Wal-Mart Good. Works. Program

The Wal-Mart Foundation provides environmental grants to support environmental efforts and education in communities where their stores are located.

<http://www.walmartfoundation.org>

The Restoration Conservancy (TRC)

TRC assists communities with long-term issues associated with brownfields and other sites in communities that could benefit from land stewardship.

Ned Tillman, Program Manager *ntillman@columbiadata.com*

National Center for Bicycling and Walking: The Center provides technical assistance for trail development for pedestrians and bicycles.

<http://www.bikewalk.org/>

Appendices

Appendix A: Project Participants

Little Elk Creek Reuse Committee Members

Name/Title	Organization
Dick Biddle	Cecil County LEPC
Matheu Carter, Capital Facilities Administrator	Cecil County Government
Louis Casale, Owner	New Jersey Fireworks
Roy Clough, Economic Development Coordinator	Cecil County Office of Economic Development
Bob Crouse, Owner	Crouse Brothers Excavating
Simon Dance	Representing GE Railcar
Stephanie Garrity	Deputy Health Officer Cecil County Health Department
Dave Gipson, Vice President Facilities and Support	Union Hospital
Dwight Hair	Elkton Alliance
Laura Hartwell, Vice President	ATK Elkton
Timothy Henderson	Representing Maryland Sand, Gravel, & Stone
Harry Hepbron Vice President 3rd Commissioner District	Cecil County Board of Commissioners
George Hocker, Owner	Maryland Cork
Robert Hodge, Owner	Schultz Business Center
Mary Jo Jablonski	Elkton Alliance
Alfred Kessi, Owner	AquaFin
Bill Kilby	Cecil County Land Trust
Phyllis Kilby 4th Commissioner District	Cecil County Board of Commissioners
Bill Lucas	ATK Elkton
Steve Maloney	Representing New Jersey Fireworks
David Meiskin	Windsor Group
Joe Millward Coordinator of Student Services	Cecil County Public Schools
Jeanne Minner Director of Planning	Town of Elkton
Matthew Morgan	Windsor Group
Stephen Pannill President	Cecil Community College
Eric Schwab	Representing RMR

Eric Sennstrom, Director	Cecil County Office of Planning, Zoning, Parks and Recreation
Wayne Sher	Cecil County LEPC
Charles Smyser Director of Environmental Health	Cecil County Health Department
Bill Stephens	Stephens Environmental Consulting, Inc
Richard Stoll	Representing GE Railcar
T. Owen Thorne	ARCA
Bryan Waters	Triumph Industrial Park

Committee Resource Members

Name/Title	Organization
Jim Carroll	Program Administrator MDE
Carrie Deitzel, Superfund Community Involvement	EPA Region III
Robyn Gilden	University of Maryland School of Nursing Environmental Health Education Center
Simeon Hahn	National Oceanic and Atmospheric Administration
Katie Huffling	University of Maryland School of Nursing Environmental Health Education Center
Art O'Connell, Chief State Superfund Division	MDE
Donna Santiago, Project Manager Site Assessment of Brownfields	EPA Region III

Appendix B: *Perchlorate: What it is, what is not, why we care by David Gosen*

Perchlorate:

What it is,
What it is not,
Why we care

David Gosen
Director, Environmental Remediation
ATK
Edina, MN

Little Elk Creek
Area-Wide One Cleanup Program Reuse Committee
March 17, 2005



Perchlorate: What it is (and why are we here?)

- A salt-like substance made up of chlorine and oxygen. It is found in nature and is also manufactured.
- Perchlorate has been produced in 39 states and found in drinking water supplies in 18 states
- Prior to 1997, it could not be detected at less than 400 ppb
- In 1997, California Dept. of Health developed a method to detect perchlorate down to 4 ppb
- Methods are under development to detect perchlorate at less than 1 ppb.
- Health effects from exposure have been studied extensively



March 17, 2005

Perchlorate: How it is used

Fertilizer: Since the early 20th century Chilean nitrate fertilizer containing naturally-occurring perchlorate has been widely used in American agriculture. In 2000, 6,600 tons were imported to California, primarily for organic farming. In 2001, 88,000 metric tons were imported to the U.S.

Medicine: In the 1950's perchlorate was approved by the Food and Drug Administration to treat people with overactive thyroid glands. Because of the large amount of perchlorate needed, different drugs are now used. Typical dose was 400 to 2,000 mg/d (or 200,000 to 1,000,000 ppb at 2 liters/d)

Oxidizer: Perchlorate is mainly used today as an oxidizer for flares, fireworks, automobile air bag inflators and solid rocket propellant. That is, it provides the oxygen to support combustion.



March 17, 2005

Perchlorate: Movement in the Environment

Perchlorate is used in the explosives/pyrotechnics business is typically in the form of Ammonium Perchlorate or Potassium Perchlorate. These perchlorate salts are very soluble.

In the environment, the perchlorate ion disassociates from the ammonium or potassium. By itself, perchlorate is a very stable and mobile compound. It does not readily bind with other compounds in soil or water.

Because of this, it dissolves easily in water, quickly leaches from soil and moves at the same speed as groundwater.



March 17, 2005

Perchlorate: Why do we care?

- **Thyroid:** Thyroid hormones are critical determinants of growth, development and metabolic activity in humans. Thyroid hormones affect the functions of virtually every organ system and they must be constantly available to carry out these functions. It's an important organ.
- **Iodine:** Iodine is required by the thyroid to produce thyroid hormones. We get iodine from our diet. The thyroid is able to store iodine in times of excess and use it in times of deficit.
- **Perchlorate:** Competes with iodine as iodine is transported into the thyroid gland.
- We care because high levels of perchlorate can limit the amount of iodine transported into the thyroid and lower the production of thyroid hormones



March 17, 2005

Perchlorate: History of Regulatory Activity

- 1950's: Approved by the FDA for treatment of Grave's disease (hyperthyroidism)
- 1985: Perchlorate contamination discovered at Superfund sites
- 1992: Provisional Reference Dose (RfD) issued by EPA; 4 ppb
- 1995: Revised Provisional RfD issued by EPA; 4-18 ppb
- 1998: Perchlorate added to EPA's Candidate Contaminant List, Draft Risk Assessment released by EPA; 32 ppb
- 1999: EPA sponsored peer review of Draft Risk Assessment
- 2002: EPA releases Revised Draft Risk Assessment; 1ppb
- 2003/4: National Academy of Science (NAS) meets to assess health implications of perchlorate ingestion
- 2005: NAS releases report; Health Implications of Perchlorate Ingestion
- 2005: EPA revises RfD; 25 ppb



March 17, 2005

NAS Report Summary (January 2005)

Rats: The NAS concluded that rats are not as good of a surrogate as EPA had previously assumed

Adverse Effects:

1. The inhibition of the uptake of iodine alone was not considered an “adverse” effect, merely and adaptive effect. EPA had considered any inhibition to be adverse
2. The NAS concluded “ To cause a decline in thyroid hormone production that would have adverse health effects, iodine uptake would most likely have to be reduced by at least 75% for months or longer”.

Carcinogenicity: Perchlorate does not cause cancer. In fact, it is non-reactive in the body and is rapidly excreted unchanged in urine.



March 17, 2005

NAS Report Summary (January 2005)

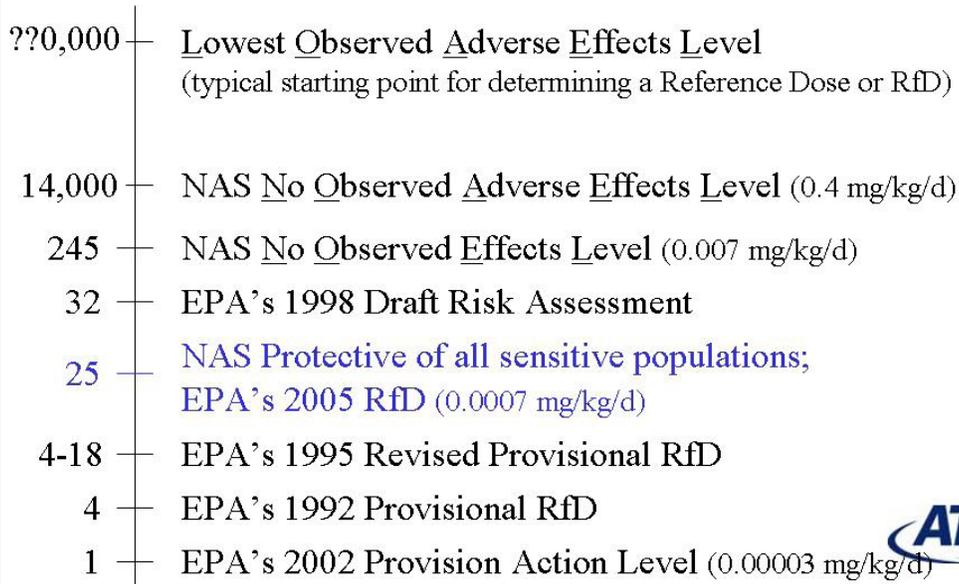
- NAS concluded the amount a healthy adult can ingest from all sources with no adverse effects is 14,000 ppb, (0.4 mg/kg/d)
- NAS concluded the amount a healthy adult can ingest from all sources with no effects is 245 ppb, (0.007 mg/kg/d) higher than EPA’s proposed level of 1 ppb (0.0003 mg/kg/d)
- However, to protect sensitive sub-populations, NAS applied an additional safety factor lowering the amount to 25 ppb (0.0007 mg/kg/d).



March 17, 2005

Perchlorate Effects Levels

ppb



March 17, 2005

Where to From Here?

National Drinking Water Standard? The EPA may or may not develop a national drinking water standard. If they opt to develop a standard, it is likely to be within the next 18 to 24 months.

State Standards?

California: currently debating the proposed level of 6 ppb

MD: proposed 1 ppb, but that was before the NAS report

MA: proposed 1 ppb, again, before the NAS report

Other Sources? It has been found at low levels in areas where there are no known sources. High Plains of Texas. Could be produced during electrical storms.

Presence in food: Limited studies have shown its present in milk (0 – 11 ppb), vegetables (0 – 420 ug/kg) and sporadically in bottled water (0 – 4 ppb)



March 17, 2005

Appendix C: *The Beginnings of the Fireworks Industry in Elkton, Maryland* by Fred Kelso



The Beginnings of the Fireworks Industry in Elkton, Maryland

Fred Kelso



Research Questions:

- **When did the fireworks industry first start in Elkton?**
- **Why Elkton?**
- **Who were the key players?**
- **What products were made?**

The ingredients that formed a recipe for fireworks in Elkton:

- **Match and sparkler companies paving the way in Newark, Delaware**
- **Pyrotechnic raw materials in Wilmington, Delaware**
- **Immigrants fresh to our shores, trained in the pyrotechnic arts**
- **Cheap land and ready workforce in Elkton**
- **A thriving spirit of entrepreneurship in America**



The Helio Match Factory was started in Newark in 1902 by 22-year-old John Jex off of Kershaw Street; the company's brand name was "Kohinoor Parlor Matches"



Jex's mother Jennie provided the funding – she owned quite a bit of rental properties in the area and was probably trying to distract her son from his true passion – acting

By 1907 Helio was out of business

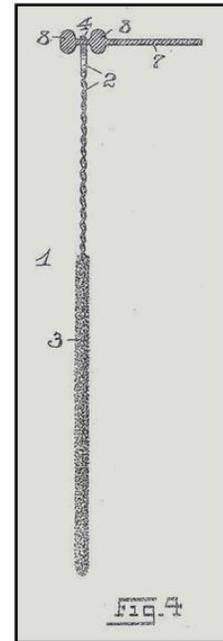
By the time of the 1910 census John Jex was living in Manhattan with his wife, son, and mother, and his occupation was listed as "dramatic actor" as was his wife Phoebe's

By 1910, Aaron Jedel had moved into the premises of the former Helio Match Co. in Newark

The A. Jedel Co. of New York City was also originally in the parlor match business



In 1907, however, Jedel had applied for his first patent for a “pyrotechnical toy”, which was a novel spinning sparkler design



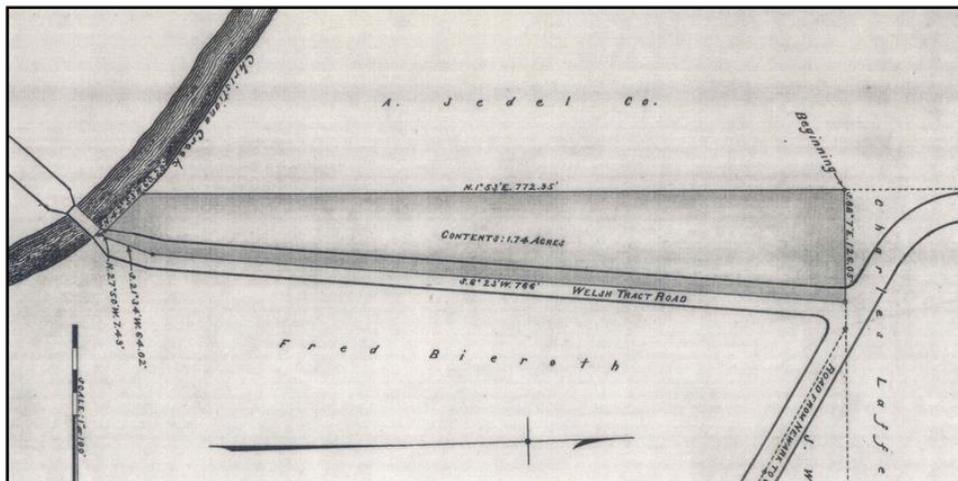
The first of all too many stories of local disasters at fireworks factories appeared on the front page of the Cecil Whig on Saturday, May 14, 1910, less than 3 months from the announcement that the A. Jedel sparkler factory was coming to town:



“Fire Works Factory Burned

The long brick structure, near the P., B. & W.R.R. station at Newark, Del., formerly the Helio Match Factory, for some months past used by A. Jedel & Co. of New York, manufacturers of fireworks novelties, was burned on Wednesday morning. The blaze started about 7 o'clock, just as the hands were going to work, and was caused by spontaneous combustion of chemicals, and there were numerous explosions during the fire's progress...”

By 1922, probably due to concerns for the safety of the town's residents, the A. Jedel sparkler company found new premises way outside of the town limits, near the old Welsh Tract Baptist Church



Although I have yet to find definitive proof, I believe that Ben Decker, the father of the Elkton fireworks industry, first worked for Aaron Jedel at his sparkler factory in Newark

According to the book Who's Who in Delaware, 1939, Josef Ben Decker was born in Dusseldorf, Germany in 1888. He attended the German Institute of Technology from 1910-1913, and he immigrated to the U.S. in 1914. By 1916 he was working as a chemist, and in 1919 his home was noted as New Castle County, Delaware.

His wife was a native of Newark, and his partner in the founding of Elkton's first fireworks company was a professor of Electrical Engineering at the University of Delaware

The 1919 purchase of the property which was to house Elkton's first fireworks factory:

\$1.50 U.S.I.R. Stamps # THIS DEED, made this 27th day of May, nineteen hundred and
Affixed and Cancelled # nineteen, by The Elkton Realty Company, a corporation, duly incorpor-
ated under the Laws of the State of Maryland;-

WITNESSETH That for and in consideration of the sum of fifteen hundred dollars in cash
paid, and a purchase money mortgage of even date herewith for the sum of five thousand dollars,
the said The Elkton Realty Company does hereby grant and convey unto George W. Koerber and
Joseph B. Decker, both of New Castle County, in the State of Delaware, all its right, title and
interest, in and to all that lot or parcel of land, situate on the north side of West High
Street, in the Town of Elkton, Cecil County, State of Maryland, described in metes and bounds,
courses and distances as follows;-

This was the site of the current Plasticoid Company on West High Street off of Bridge Street

The Father of the Elkton Fireworks Industry

Josef "Ben" Decker

- Chemist
- German immigrant to U.S. in 1914
- Founder of the Victory Sparkler Company and various successor organizations

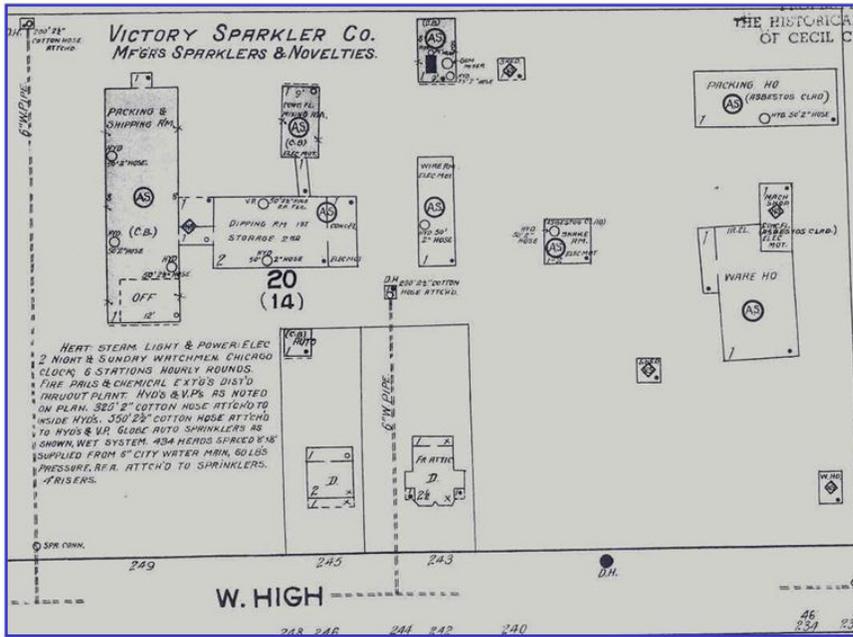


Photo from the Oct. 1942 Triumph Explosives Newsletter "TNT"

The subsequent transfer of the factory site to the newly formed Victory Sparkler Company:

 \$5.00 U.S.I.R. Stamps # THIS DEED made this 12th day of June, 1919, by George W.
 Affixed and Cancelled # Koerber and Joseph B. Decker, of New Castle County, in the State of
 ##### Delaware;-
 WITNESSETH That for and in consideration of the sum Five Thousand Dollars in cash and
 the assumption of a mortgage now on said property the principal sum of which is Five Thousand
 Dollars the said George W. Koerber and Joseph B. Decker, do grant and convey unto the Victory
 Sparkler Company, a corporation duly incorporated under the Laws of the State of Delaware, all
 their right, title and interest, in and to all that lot or parcel of land situate on the north
 side of West High Street, in the Town of Elkton, Cecil County, Maryland, described in metes and
 bounds, courses and distances as follows;-

1922 Sanborn Insurance Map of the Victory Sparkler Company Premises:



Like the A. Jedel Company in Newark, Victory Sparkler had its first accident within a year of opening:

Cecil Whig, May 15, 1920



“Fire At Local Plant

Monday afternoon an explosion occurred in the small mixing building of the Victory Sparkler Company, at Elkton. The building was wrecked and William H. Realey, an employee who was just entering the doorway, was painfully burned about the head and face... The explosion terrified the many girls employed in the large concrete building and several fainted.”

A second plant was opened on the Singerly Road just north of the town limits, and the original plant in town was shut down within a few years, most likely due to safety concerns.

Pre- WWII Timeline of Elkton Area Fireworks Industry

- **1910: Start of A. Jedel Co. (sparklers) in Newark, DE**
- **1919: Start of Victory Sparkler Co. in Elkton**
 - **prior to 1923 named changed to Victory Sparkler & Specialty Co.**
 - **prior to 1929 started branch in Chestertown, MD**
 - **1932 name changed to Victory Fireworks & Specialty Co.**
- **1933 – Start of Triumph Fusee & Fireworks Co. in Elkton**
- **1938 – Start of Triumph Explosives Inc. in Elkton**
 - **Start of Norristown Fireworks Co. near Elkton**

Some Early Products of the
Victory Sparkler & Specialty Co.
and its Successors

The
First
Public
Offering



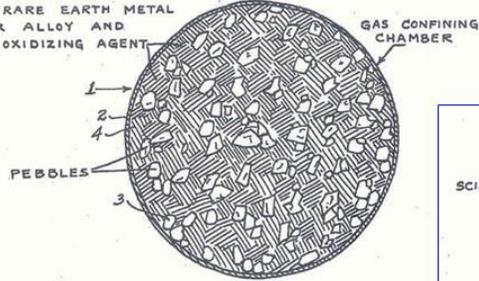
Sept. 18, 1934.

J. B. DECKER ET AL
PYROTECHNIC DEVICE
Filed March 22, 1932

1,974,015

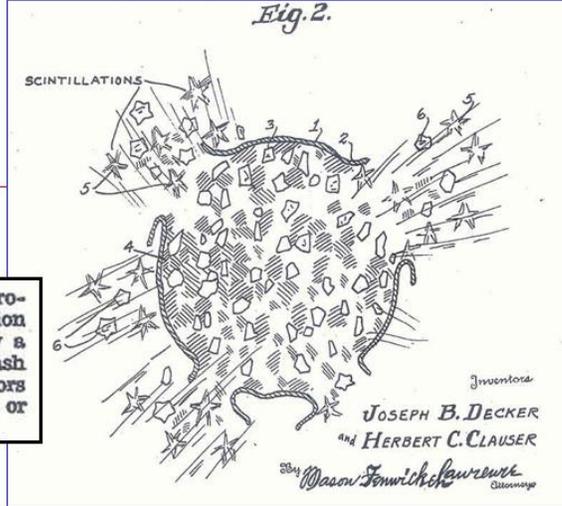
MIXTURE OF
RARE EARTH METAL
OR ALLOY AND
OXIDIZING AGENT

Fig. 1.

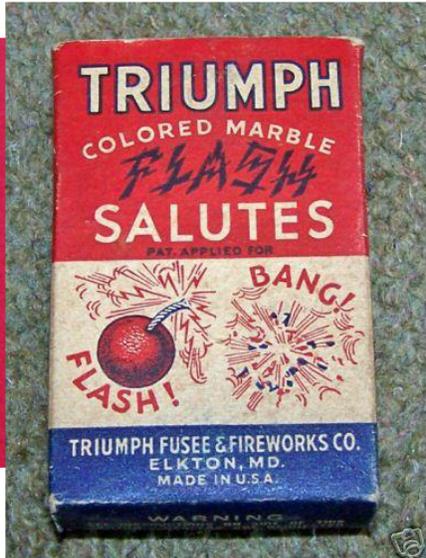
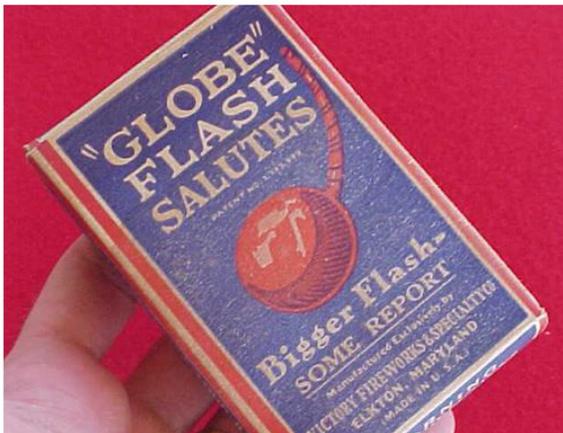


Globe Torpedoes

This invention relates to fulminating pyrotechnic devices, and its object is the provision of an improved toy torpedo characterized by a loud detonation accompanied by a brilliant flash which may, if desired, be of different colors and interspersed with scintillating particles or stars.



Globe Salutes



Patent #
1,783,999

ALBERTO CIMOROSI, OF ELKTON, MARYLAND
SALUTE AND METHOD OF MAKING SAME
Application filed January 18, 1929. Serial No. 333,297.

Dec. 9,
1930

The usual method of making salutes is to mix a quantity of the explosive ingredients in the required proportions, charge the containers with the required quantity of the mixture, insert a fuse and seal the container. As the separate ingredients of the explosive charge are not explosive, mixing them as the first step in the manufacture involves a considerable amount of direct handling of the explosive mixture. Further the salute as heretofore made, is merely a noise-making device.

Objects of my invention are, first, to provide an improved method of making salutes; Second, to provide a method of making salutes which obviates the necessity of directly handling the explosive mixture;

Third, to provide an improved salute;

Fourth, to provide a salute which, as it explodes, will produce a display of colored light, and

Fifth, to provide a salute which will be superior in its detonation qualities to known salutes.

Fig. 1.

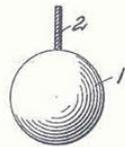


Fig. 2.

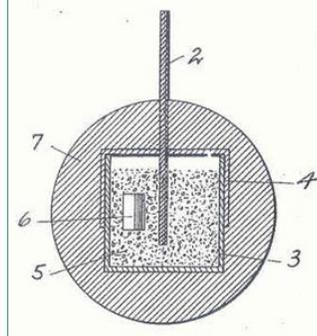
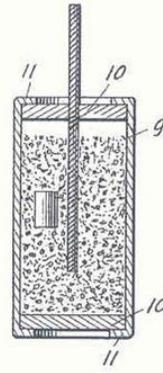


Fig. 3.



Alberto Cimorosi was quite a prolific pyrotechnic inventor, and seems to have been a key player in the success of the Victory Sparkler & Specialty Company. He immigrated from Italy in 1903 as a married man of 29.

Inventor Surname	First Name	City	State	Subject of	Date of Appl'cn	Date of Patent	Patent #	Title
CIMOROSI	Alberto (& Abraham GARBEIL)	Glassboro	NJ	Italy	12/8/1915	10/3/1916	1,199,775	Toy Torpedo
CIMOROSI	Alberto (& Abraham GARBEIL)	Glassboro	NJ	Italy	3/22/1916	10/3/1916	1,199,776	Explodible Paper Toy
CIMOROSI	Alberto	Buffalo	NY	Italy	6/30/1917	11/19/1918	1,285,040	Signaling-Torpedo
CIMOROSI	Alberto	Braintree	MA	Italy	12/30/1920	9/11/1923	1,467,755	Toy Torpedo
CIMOROSI	Alberto	Elkton	MD	Italy	6/9/1925	2/23/1926	1,573,914	Fuse
CIMOROSI	Alberto	Elkton	MD		4/22/1926	10/26/1926	1,604,547	Fuse
CIMOROSI	Clement	Elkton	MD		4/8/1927	10/16/1928	1,687,929	Torpedo Casing
CIMOROSI	Alberto	Elkton	MD		1/18/1929	12/9/1930	1,783,999	Salute and Method of Making Same
CIMOROSI	Alberto	Elkton	MD		10/25/1932	7/2/1935	2,006,537	Railroad Torpedo
CIMOROSI	Alberto	Elkton	MD		4/5/1935	10/27/1936	2,058,567	Automatically Righting Fireworks Article
CIMOROSI	Alberto	Elkton	MD		5/25/1937	9/13/1938	2,130,068	Fireworks
CIMOROSI	Alberto	Tippecanoe City	OH		5/18/1938	9/26/1939	2,174,202	Fireworks

Despite, or perhaps because of, its commercial success, Victory Sparkler & Specialty Company was involved in a number of ground-breaking lawsuits. In particular, the first case below involved the consumption of toxic chemicals by a child who thought a pyrotechnic article looked rather tasty, and the second involves an employee subjected to hazardous chemicals in the workplace.

In a case where a child died of **phosphorus poisoning** due to having eaten fireworks which contained yellow phosphorus, the manufacturer was held not to be liable on the grounds that fireworks were not intended for human consumption, and it could not be foreseen that anyone, even a child, would be likely to eat them. [Even though the company won the case, they soon patented products with design changes to make them less likely to be hazardous]

Victory Sparkler Co. v. Price (1927), 146 Miss. 192, 111 So. 487, 50 A.L.R. 1454.

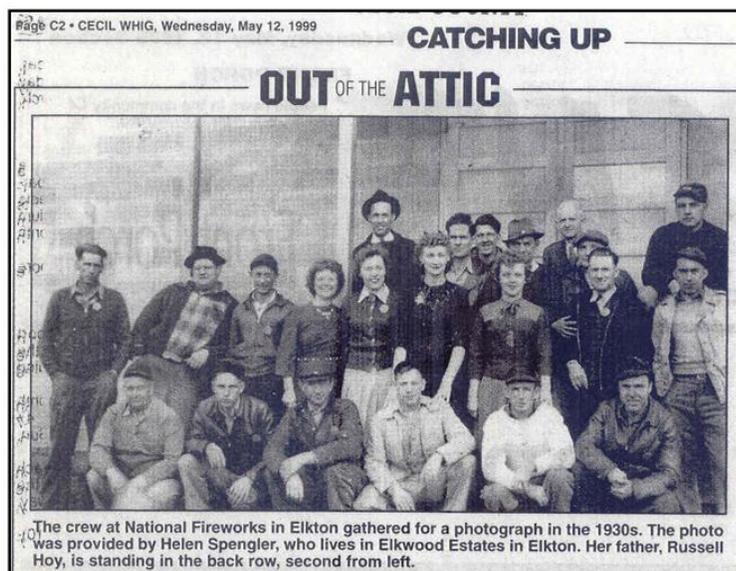
The reality of workplace exposure to toxic, or irritating, substances is not new to workers' compensation. Over 75 years ago, Maryland recognized that phosphorous poisoning, "[t]hrough the inhalation of dangerous and noxious fumes and gases," could be a compensable accident.

Victory Sparkler & Specialty Co. v. Francks, 147 Md. 368, 128 A. 635 (1925).

This case held that the employee was entitled to benefits and that the employer, though negligent, was protected from common law liability.

Other pre-WWII Fireworks Companies in Elkton:

National Fireworks of West Hanover, Massachusetts evidently had a plant here as early as the 1930's, and they were still here during the war, producing munitions

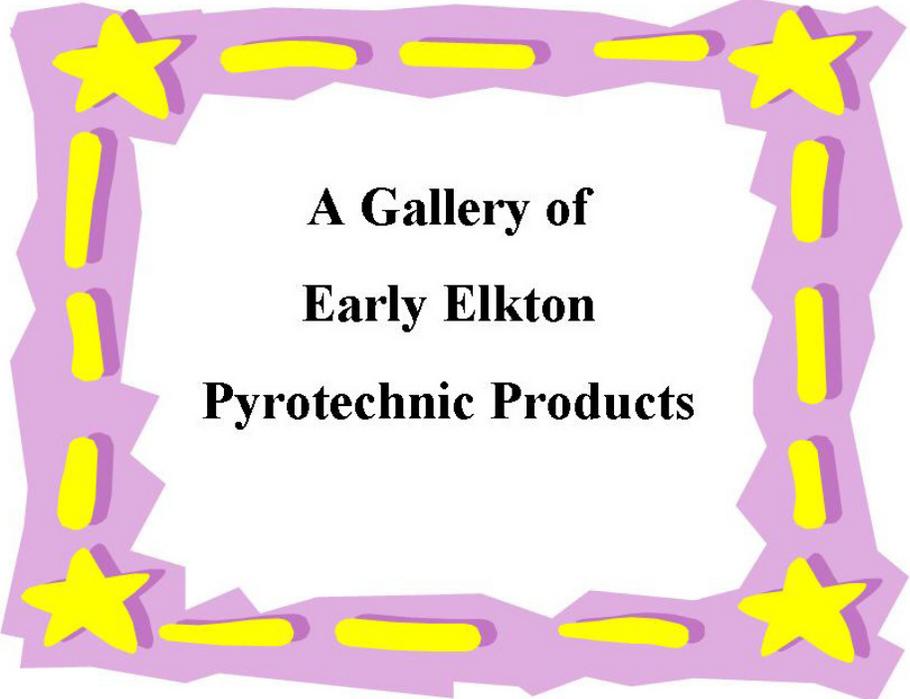


Other pre-WWII Fireworks Companies in Elkton:

Several sources indicate that Bennie Bello was manufacturing fireworks in the Elkton area in 1938. This first enterprise was Norristown Fireworks, possibly a spin-off branch of a previously-existing Pennsylvania company, as evidenced by a 1941 plant fire article and various federal records:

- Cecil Whig, July 14, 1941, Fire at the Norristown Fireworks Company on the North East Road, two miles from town; Bennie Bello superintendent and principal owner
- 1930 US Census for Plymouth Township, Montgomery Co., PA lists Bennie Bello living in the household of Pasquale Giovana – both are listed as fireworks laborers
- Pasquale Giannone, of Norristown, PA was awarded US Patent #1,564,134 on December 1, 1925, for a “Top-Torpedo-Filling Machine”

In the 1950's Bennie Bello owned and operated the Mid-State Fireworks Manufacturing Company on Route 7



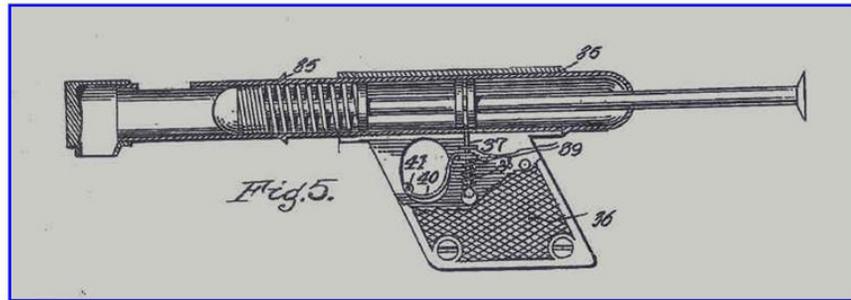
A Gallery of Early Elkton Pyrotechnic Products

2,051,564

TORPEDO FIRING PISTOL

Joseph Marra and Marie M. Marra, Elkton, Md.,
now by judicial change of name Joseph Mars
and Marie M. Mars

Application July 1, 1932, Serial No. 620,474



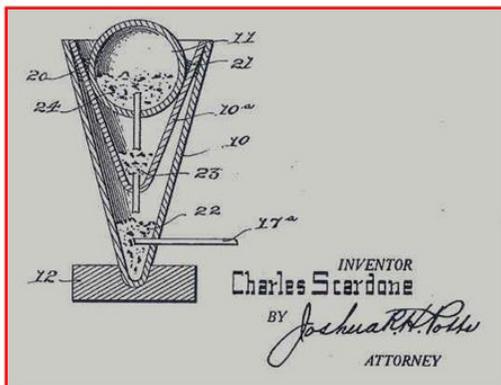
Patented Sept. 15, 1931

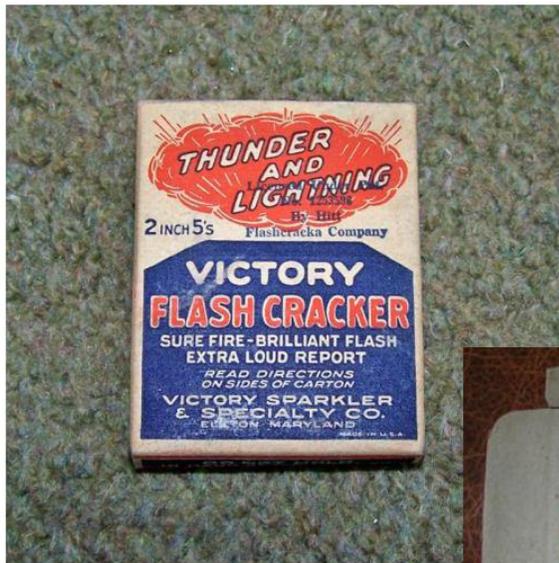
1,823,378

UNITED STATES PATENT OFFICE

CHARLES SCARDONE, OF ELETON, MARYLAND

ROCKET





Products manufactured by the Victory Sparkler & Specialty Company for the Hitt's Flashcracka Company of Seattle



"Toy Bird Songster" patented 2/13/1923 by Oscar Schwarzkopf of NYC and assigned to Victory Sparkler & Specialty Co. as U.S. Patent #1,445,362



From the 1939 Triumph Explosives, Inc. Catalog:

"BANGO"
"Auto Tire Joke Bomb"

Patent Applied For

THE LATEST AUTO FUN MAKER

The Auto Tire Joke Bomb is easily clamped to tire and produces a "Blowout" noise from which all concerned get a barrel of laughs.

Harmless to tires, and is "going over" in a big way.

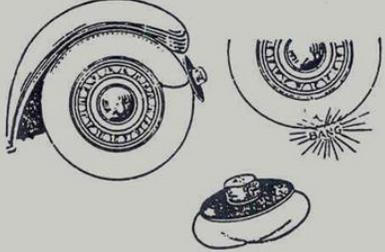
Get yours in and sell the year around.

Packed ½ dozen to carton, 10 dozen to case.
Weight, 20 lbs.

Price—\$6.35 per Gross Pieces.

CODE—Gross Auto Tire Joke Bombs—Bango.

Window Display Cards Furnished Free



The image contains three illustrations. On the left is a side view of the 'BANGO' device clamped onto a tire. On the right are two circular window display cards. The top card shows the device on a tire with the word 'BANGO' written below it. The bottom card shows a close-up of the device with a starburst effect and the word 'BANG' written below it.

Parting Thoughts:

Elkton has a long, proud tradition of energetic material production and is frequently referred to as "Boom-Town USA" in the national media

Since 1919, the fireworks industry has provided entertainment and employment for 4 generations of local residents

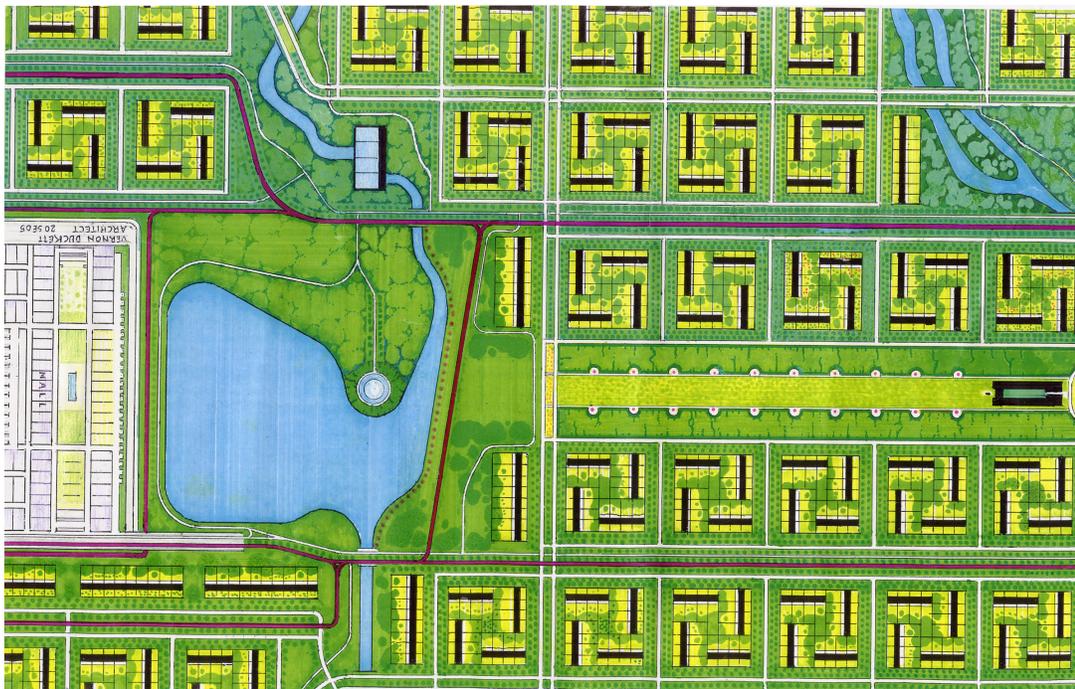
During World war II, the well-established fireworks infrastructure was easily modified to allow for the large-scale production of munitions, flares, signals, and other pyrotechnic devices to provide for the defense of our nation and the safety of our troops

This energetic materials heritage continues today with the production of solid rocket motors by ATK Elkton

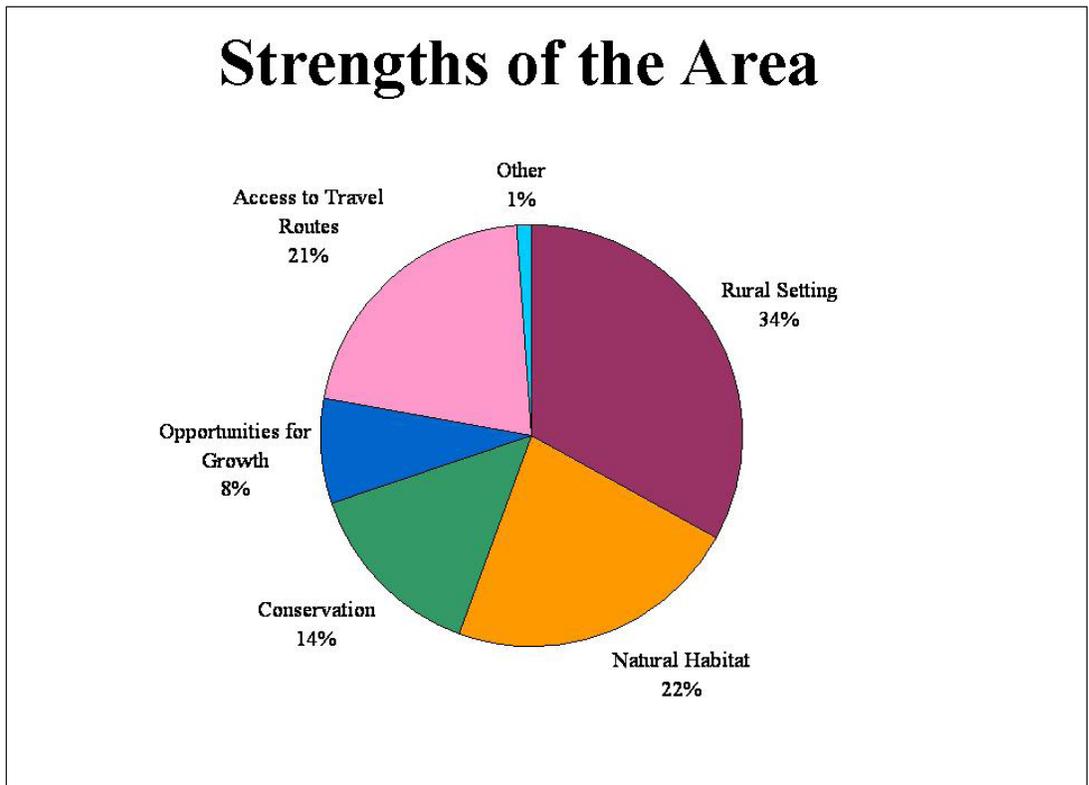
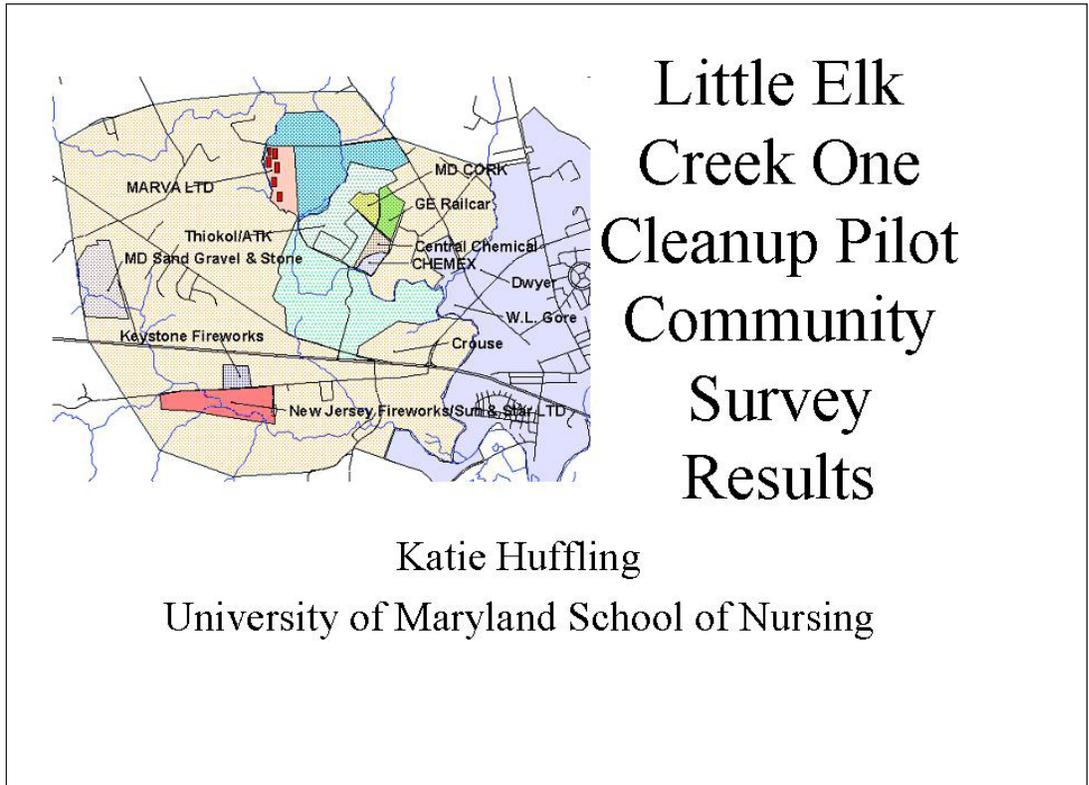
Appendix D: Site Reuse Proposal by Vernon Duckett

Vernon Duckett, AIA presented a concept proposal for the redevelopment of the Little Elk Creek Area-Wide Cleanup Project. A plan of the concept proposal is presented below.

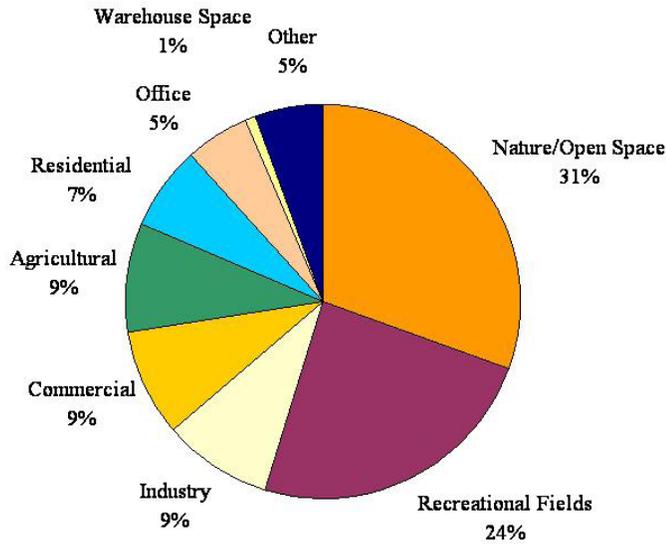
The proposal comprises 1,810 row houses, 840 high rise houses (2,650 total), 800 room resort hotel, 300,000 sf office building with facilities for medical & dental clinics, schools, 24 hour care center, mobile nursing unit, community facilities, Amtrak station, industrial zone parallel to the Conrail tracks with trolley access for freight deliveries, reservoir, water treatment plant, sewage disposal plant with effluent pond for irrigation, recycling center, swimming, tennis & golf clubs, horse stables with bridal paths for equestrians, hikers & carriage taxis through the Elk Neck State Forest which is proposed to be the Horse Park & a wild life preserve, and a Mall with total needs for shopping, recreation, entertainment & a 8,000 car parking garage. The proposal comprises 1,810 row houses, 840 high rise houses (2,650 total), 800 room resort hotel, 300,000 sf office building with facilities for medical & dental clinics, schools, 24 hour care center, mobile nursing unit, community facilities, Amtrak station, industrial zone parallel to the Conrail tracks with trolley access for freight deliveries, reservoir, water treatment plant, sewage disposal plant with effluent pond for irrigation, recycling center, swimming, tennis & golf clubs, horse stables with bridal paths for equestrians, hikers & carriage taxis through the Elk Neck State Forest which is proposed to be the Horse Park & a wild life preserve, and a Mall with total needs for shopping, recreation, entertainment & a 8,000 car parking garage.



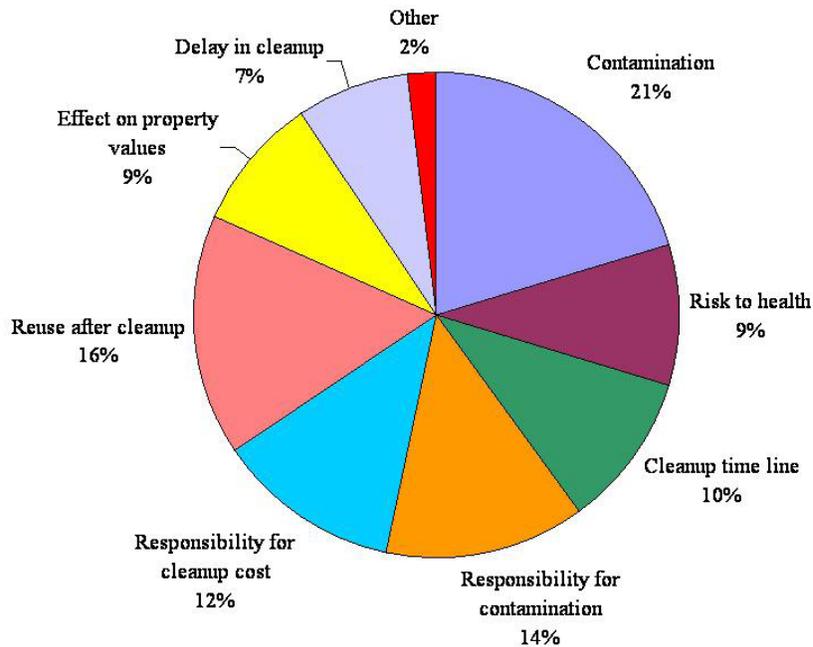
Appendix E: Little Elk Creek One Cleanup Project – Reuse Planning Initiative Community Questionnaire and Results



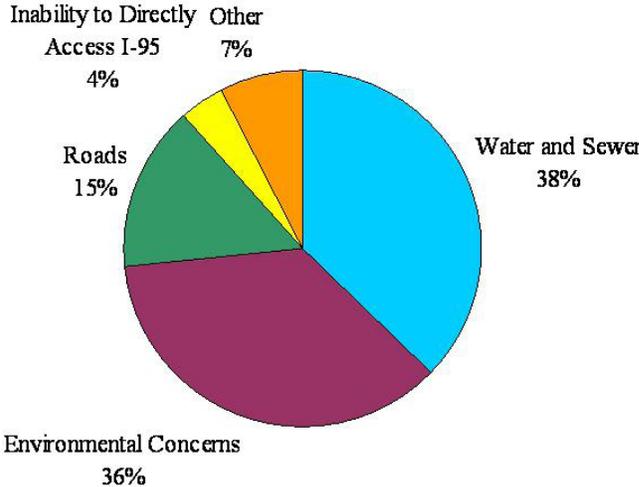
Needs for the Area



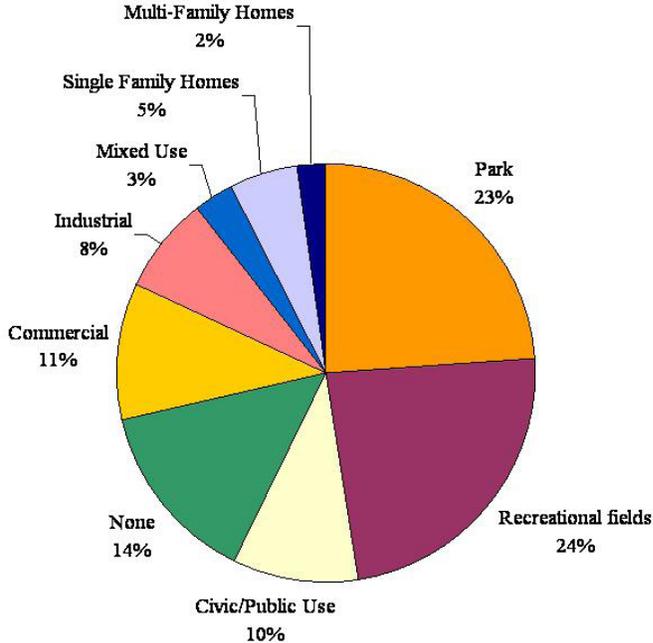
Community Concerns



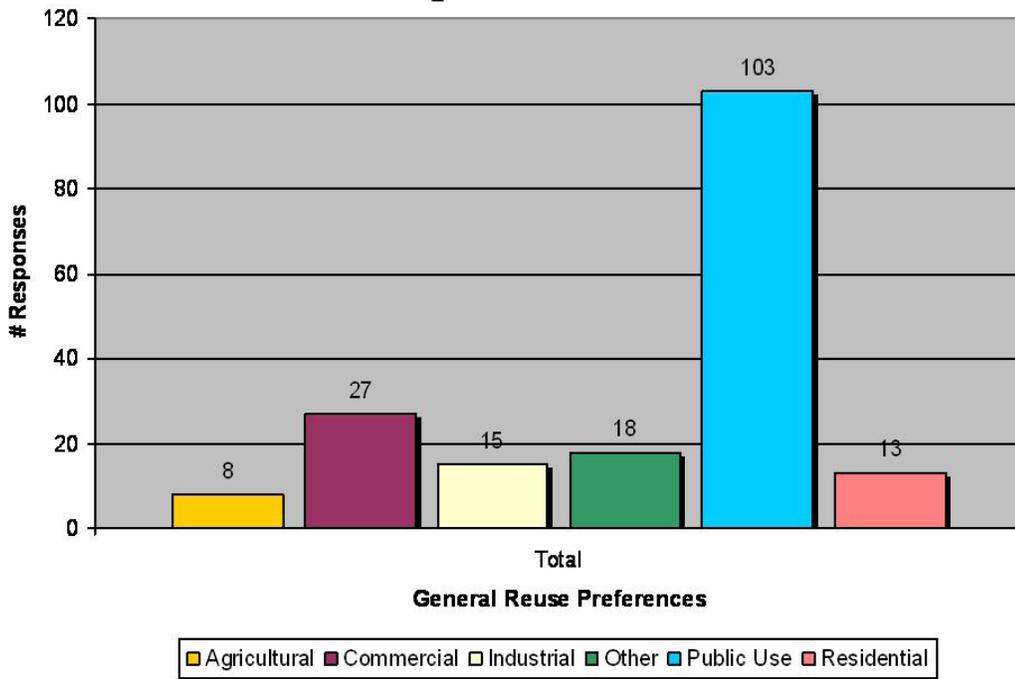
Challenges for Redevelopment



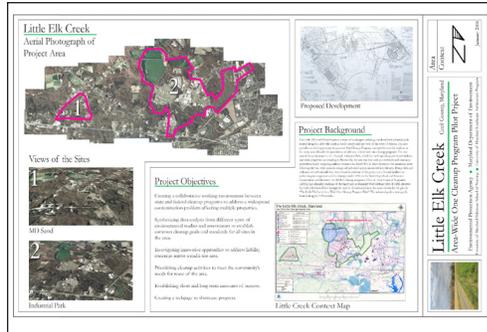
Redevelopment Ideas



Compiled Results



Appendix F: University of Maryland Landscape Architecture Students' Project



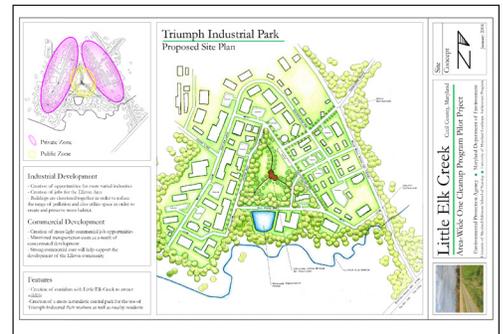
Project Area Context Sheet (p.64)



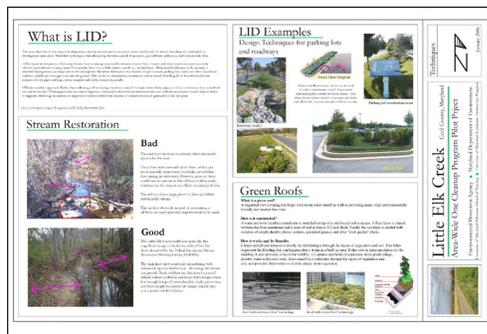
Area Concept Sheet (p.65)



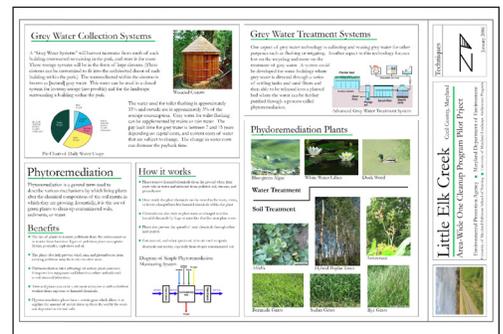
Project Site Context Sheet (p.66)



Project Site Concept Sheet (p.67)



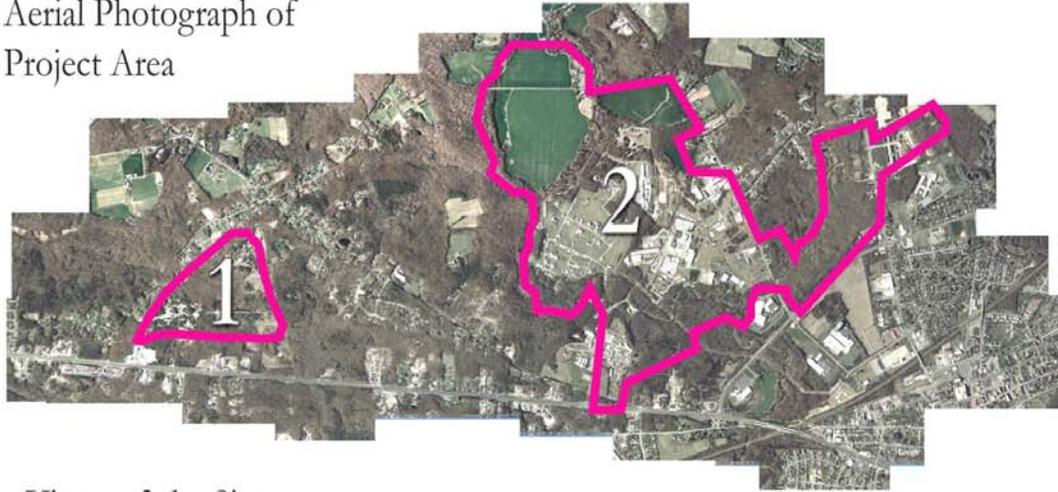
Storm Water Management Techniques (p.68)



Grey Water Treatment Techniques (p.69)

Little Elk Creek

Aerial Photograph of Project Area



Views of the Sites



MD Sand



Industrial Park

Project Objectives

Creating a collaborative working environment between state and federal cleanup programs to address a widespread contamination problem affecting multiple properties.

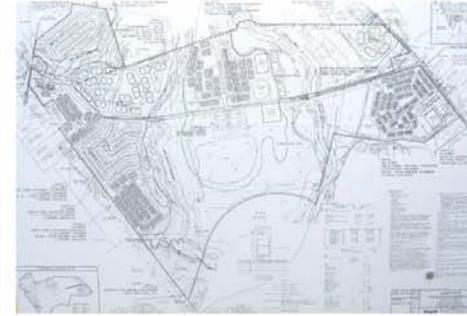
Synthesizing data analysis from different types of environmental studies and assessments to establish common cleanup goals and standards for all sites in the area.

Investigating innovative approaches to address liability concerns across a multi-site area.

Prioritizing cleanup activities to meet the community's needs for reuse of the area.

Establishing short and long term measures of success.

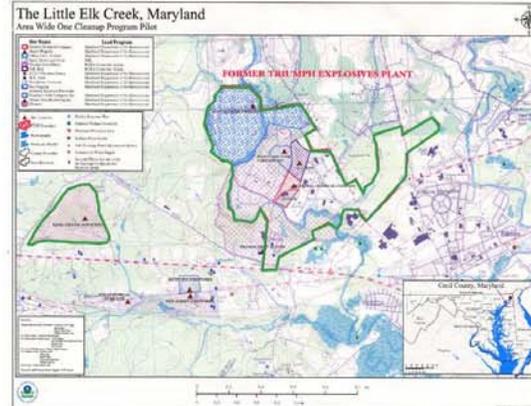
Creating a webpage to showcase progress.



Proposed Development

Project Background

The Little Elk Creek Pilot Project is a series of landscapes including a underutilized industrial park located along the Little Elk Creek in Cecil County, MD just west of the town of Elkton. The area provides an ideal opportunity to promote One Cleanup Program concepts because the facilities in the study area fall under the jurisdiction of different federal and state cleanup programs. The core area of the pilot project is the Triumph Industrial Park, which has both operating and closed facilities, and other properties surrounding it. Historically, the area was first used as a fireworks and munitions production facility supplying military ordnance for World War II. Since closure of the munitions plant following the war, other manufacturing and industrial operations moved into the area. Dump sites and ordnance related materials have been found in portions of the project area. Several facilities are performing investigations and/or cleanups under EPCAs or the State's Superfund and Resource Conservation and Recovery Act (RCRA) cleanup programs. The U.S. Army Corps of Engineers (ACOE) has identified portions of the target area as Formerly Used Defense Sites (FUDS). Because the Little Elk Creek flows through the core of the industrial area, the name chosen for the pilot is "The Little Elk Creek Area Wide One Cleanup Program Pilot." The industrial park is strategically located along the I-95 corridor.



Little Creek Context Map

Area

Context



January 2006

Little Elk Creek

Cecil County, Maryland

Area-Wide One Cleanup Program Pilot Project

Environmental Protection Agency ■ Maryland Department of Environment
University of Maryland Baltimore School of Nursing ■ University of Maryland Landscape Architecture Program



Little Elk Creek Concept Diagram



Work - Home - Greenways and Playways

Concept

- Increase** job density in center zone - improve design standards
- Increase** high density residential surrounding work core and change liabilities to assets
- Integrate** greenways and playways (trails) between work and living zone
- Create** a sense of integrated community and pride for economic and environmental success
- Celebrate** the past, plan for the future

Future Patterns

What will land use patterns be in...

2015 - 2020

Intermediate Uses

Industrial Parks

- Increase development density by utilizing LID technologies.
- Set landscape standards in public and selected zones
- Make linkages to residential areas
- Create stewardship and beautification programs with roadways and streams to build ownership
- Consider adjacent property purchase for redevelopment and economic/environmental sustainability

Existing Quarry

- Explore intermediate uses such as rubble fill.
- Consider standards for selected build out/green space

2025 - 2050

Build-Out Uses

Work Parks

- Build-out of maximum land use density
- Set landscape standards in public and selected zones
- Strengthen linkages to residential areas
- Establishment of a public core and broad range of service facilities
- Continued stewardship programs focused on roadways and streams

Existing Greenspace

- Convert rubble fill to greenspace land use for open space amenity
- Concentrate medium to high density residential development

Area

Concept



January 2006

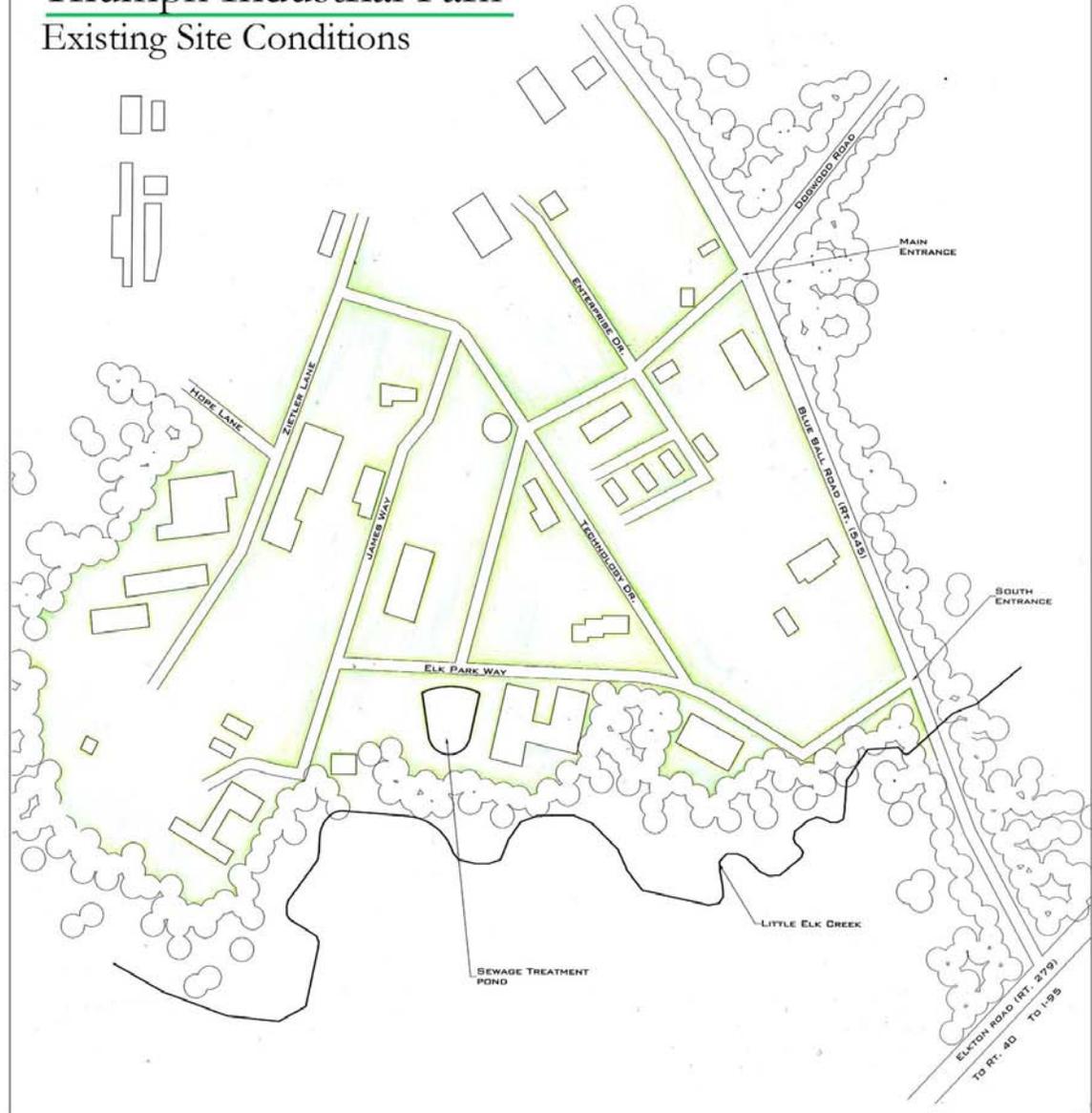
Little Elk Creek Cecil County, Maryland
Area-Wide One Cleanup Program Pilot Project

Environmental Protection Agency ■ Maryland Department of Environment
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Triumph Industrial Park

Existing Site Conditions



James Way

Before



After



Blue Ball Road

Before



After



Site

Context

Little Elk Creek

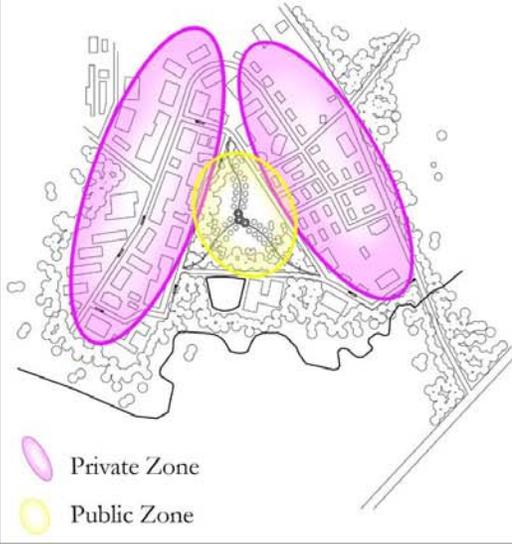
Cecil County, Maryland

Area-Wide One Cleanup Program Pilot Project

Environmental Protection Agency ■ Maryland Department of Environment
 University of Maryland Baltimore School of Nursing ■ University of Maryland Landscape Architecture Program



January 2006



Industrial Development

- Creation of opportunities for more varied industries
- Creation of jobs for the Elkton Area
- Buildings are clustered together in order to reduce the range of pollution and also utilize space in order to create and preserve more habitat.

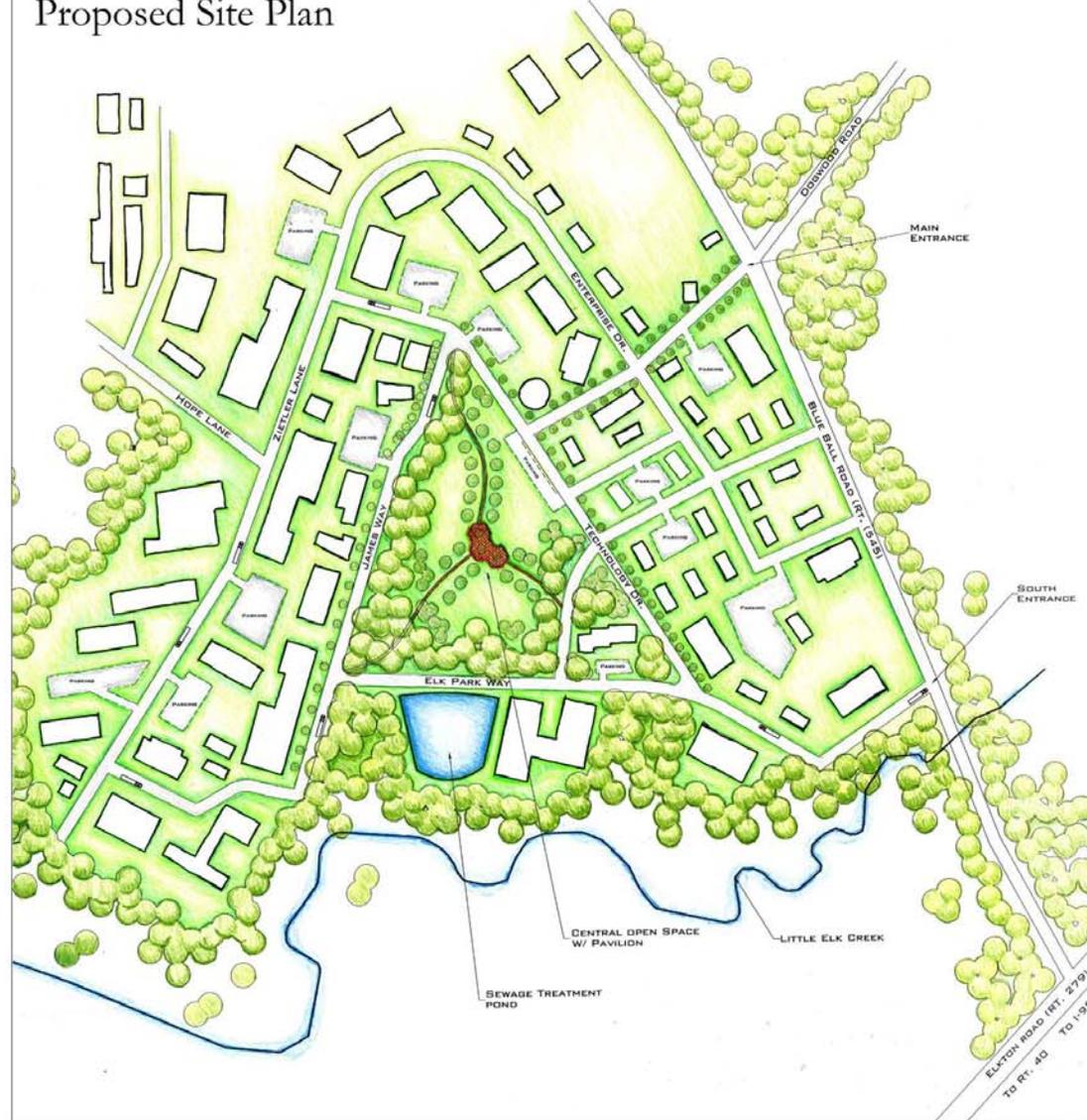
Commercial Development

- Creation of more light commercial job opportunities
- Minimized transportation costs as a result of concentrated development
- Strong commercial core will help support the development of the Elkton community

Features

- Creation of corridors with Little Elk Creek to attract wildlife
- Creation of a more naturalistic central park for the use of Triumph Industrial Park workers as well as nearby residents

Triumph Industrial Park Proposed Site Plan



Site

Concept



January 2006

Little Elk Creek Cecil County, Maryland
 Area-Wide One Cleanup Program Pilot Project

Environmental Protection Agency ■ Maryland Department of Environment
 University of Maryland Baltimore School of Nursing ■ University of Maryland Landscape Architecture Program



What is LID?

The main objective of low impact development is to help protect aquatic resources, water quality, and the natural hydrology of a watershed as development takes place. Watershed hydrology is the relationship between rainfall, evaporation, groundwater infiltration, and surface water flow.

LID is based on the premise that nature knows how to manage water and stormwater runoff best. Forests and other natural areas are extremely effective groundwater recharge areas. For example, there is very little surface runoff in a forested area. Most rainfall infiltrates to the ground, is absorbed by vegetation, or evaporates to the atmosphere. But when developers clear forests and put in roads, parking lots, roofs, and other impervious surfaces, rainfall can no longer soak into the ground. This results in a tremendous increase in surface runoff. Handling all of that additional water requires a lot of pipes and large, often unsightly and costly, stormwater ponds.

LID takes another approach. Rather than collecting and conveying stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, LID-designed sites use natural vegetation and small-scale treatment systems to treat and infiltrate stormwater runoff close to where it originates. Reducing the amount of impervious surfaces reduces the amount of stormwater runoff generated in the first place.

http://www.psat.wa.gov/Programs/LID/LID_whyweneed.htm

Stream Restoration



Bad

The pink lines show an unnaturally short streamside riparian buffer zone.

The yellow oval surrounds white foam, which can occur naturally from waves, waterfalls, or turbulent flow mixing air with water. However, none of these conditions are present in this still and shallow creek, which means the foam is very likely chemical pollution.

The red box shows large pieces of litter and debris strewn in the stream.

This creek is obviously in need of restoration, and there are many potential improvements to be made.



Good

The Little Elk Creek could look more like this unpolluted image in the future, with efforts like those described by the Federal Interagency Stream Restoration Working Group (FISRWG).

The pink lines show a naturally meandering, wide streamside riparian buffer zone. Restoring this feature can provide: bank stabilization, filtration for runoff (which reduces pollution and keeps water temperatures low enough for good stream health), shade, protection, and food supply for aquatic life unique critical edge and corridor wildlife habitats.

LID Examples

Design Techniques for parking lots and roadways



Roadside swales



Swale Flow Diagram

Swales and Bioretention Areas can be used to collect stormwater runoff from streets and parking lots instead of storm drains. This slows down surface runoff to streams and rivers and allows the water to naturally infiltrate on-site.



Parking lot bioretention areas



Green Roofs

What is a green roof?

A vegetated roof covering that helps with storm water runoff as well as providing many other environmentally friendly and needed functions.

How is it constructed?

A water and root-repellent membrane is installed on top of a reinforced roof structure. A filter layer is placed between the base membrane and a layer of soil as thin as 1.2 inch thick. Finally the soil layer is seeded with varieties of simple durable plants- sedums, perennial grasses and other "rock garden" plants.

How it works and Its Benefits:

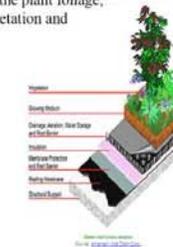
It traps rainfall and releases it slowly, by infiltrating it through the layers of vegetation and soil. This helps to prevent the flooding that can happen after a storm in a built-up area. It also acts as extra insulation for the building. It also provides a haven for wildlife. It captures and holds precipitation in the plant foliage, absorbs water in the root zone, slows runoff as it infiltrates through the layers of vegetation and soil, and provides clean water as well as energy from vegetation.



Roof with out Green Roof Technology



Roof with Green Roof Technology



Techniques



January 2006

Little Elk Creek Cecil County, Maryland
 Area-Wide One Cleanup Program Pilot Project
 Environmental Protection Agency ■ Maryland Department of Environment
 University of Maryland Baltimore School of Nursing ■ University of Maryland Landscape Architecture Program



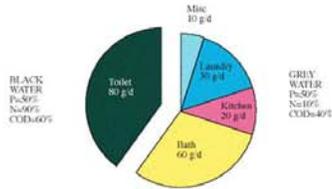
Grey Water Collection Systems

A "Grey Water System" will harvest rainwater from roofs of each building constructed or existing in the park, and store it for reuse. These storage systems will be in the form of large cisterns. (These cisterns can be customized to fit into the architectural decor of each building within the park.) The water collected within the cisterns is known as [natural] grey water. This water can be used in a closed system for lavatory usage (not potable) and for the landscape surrounding a building within the park.



Wooded Cistern

The water used for toilet flushing is approximately 33% and outside use is approximately 3% of the average consumption. Grey water for toilet flushing can be supplemented by mains or rain water. The pay back time for grey water is between 7 and 15 years depending on capital costs, and current costs of water that are subject to change. The change in water costs can decrease the payback time.



Pie Chart of Daily Water Usage

Phytoremediation

Phytoremediation is a general term used to describe various mechanisms by which living plants alter the chemical composition of the soil matrix in which they are growing. Essentially, it is the use of green plants to clean-up contaminated soils, sediments, or water.

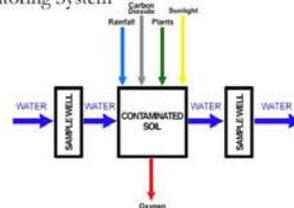
Benefits

- The use of plants to remove pollutants from the environment or to render them harmless. Types of pollution plants can uptake: Metals, pesticides, explosives and oil
- The plants also help prevent wind, rain, and groundwater from carrying pollution away from sites to other areas.
- Phytoremediation takes advantage of natural plant processes. It requires less equipment and labor than other methods such as soil removal/relocation.
- Trees and plants can make a site more attractive as well and relieve workers from exposure to harmful chemicals.
- Hyperaccumulative plants have a certain gene which allows it to regulate the amount of metals taken up from the soil by the roots and deposited in the leaf cells.

How it works

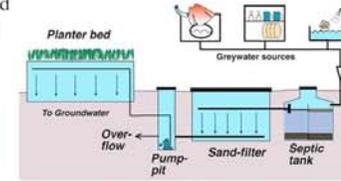
- Plants remove harmful chemicals from the ground when their roots take in water and nutrients from polluted soil, streams, and groundwater.
- Once inside the plant chemicals can be stored in the roots, stems, or leaves; changed into less harmful chemicals within the plant
- Chemicals can also stick to plant roots or changed into less harmful chemicals by bugs or microbes that live near plant roots
- Plants also prevent the spread of toxic chemicals through other land parcels
- Cottonwood, and other species of trees are used to uptake chemicals and metals, especially from deeper contaminated soil.

Diagram of Simple Phytoremediation Monitoring System



Grey Water Treatment Systems

One aspect of grey water technology is collecting and reusing grey water for other purposes such as flushing or irrigating. Another aspect to this technology focuses less on the recycling and more on the treatment of grey water. A system could be developed for some buildings where grey water is directed through a series of settling tanks and sand filters and then able to be released into a planted bed where the water can be further purified through a process called phytoremediation.



Advanced Grey Water Treatment System

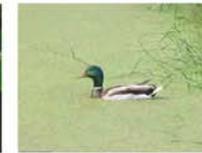
Phytoremediation Plants



Blue-green Algae



White Water Lilies



Duck Weed

Water Treatment

Soil Treatment



Alfalfa



Hybrid Poplar Trees



Arrowroot



Bermuda Grass



Sudan Grass



Rye Grass

Techniques



January 2006

Little Elk Creek Cecil County, Maryland
Area-Wide One Cleanup Program Pilot Project

Environmental Protection Agency ■ Maryland Department of Environment
University of Maryland Baltimore School of Nursing ■ University of Maryland Landscape Architecture Program



Appendix G: *Project-Related Acronyms*

CERCLA – (Comprehensive Environmental Response, Compensation, and Liability Act (1980)): The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

CERCLIS – (Comprehensive Environmental Response, Compensation, and Liability Information System): The Comprehensive Environmental Response, Compensation, and Liability Information System is EPA's database management system which maintains a permanent record of all information regarding all reported potential hazardous waste sites.

EPA – (U.S. Environmental Protection Agency): The federal agency whose mission is to protect human health and safeguard the natural environment.

MDE – (Maryland Department of the Environment): MDE protects and restores the quality of Maryland's air, land, and water resources, while fostering economic development, healthy and safe communities, and quality environmental education for the benefit of the environment and public health.

NFRAP – (No Further Remedial Action Planned): Determination made by EPA following a preliminary assessment that a site does not pose a significant risk and so requires no further activity under CERCLA.

NPL – (National Priorities List): The NPL is EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year. A site must be on the NPL to receive money from the Trust Fund for remedial action.

PA – (Preliminary Assessment): The PA is the first stage of the EPA site assessment process. It is a relatively quick, low-cost compilation of readily available information about the site and its surroundings. The PA emphasizes identifying populations and other targets that might be affected by the site. It includes a reconnaissance of the site and surrounding area, but not environmental sampling. The PA is designed to distinguish between sites that pose little or no potential threat to human health and sites that warrant further investigation.

PRP – (Potentially Responsible Party): A group that has been identified by EPA as being liable for incurring the costs of cleanup at a contaminated site.

RA – (Risk Assessment): Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

RCRA – (Resource and Recovery Act of 1976): The regulatory system that manages hazardous waste from the time they are generated to their final disposal. RCRA imposes standards for transporting, treating, storing, and disposing of hazardous wastes. It is designed to prevent the creation of new hazardous waste sites by authorizing EPA to take administrative, civil, and criminal actions against facility owners and operators who do not comply with RCRA requirements.

RD/RA – (Remedial Design/Remedial Action): Remedial Design (RD) is the phase in Superfund site cleanup where the technical specifications for cleanup remedies and technologies are designed. Remedial Action (RA) follows the remedial design phase and involves the actual construction or implementation phase of Superfund site cleanup. The RD/RA is based on the specifications described in the record of decision (ROD).

ROD – (Record of Decision): This EPA document represents the final remediation plan for a site. It documents all activities prior to selection of the remedy, and provides a conceptual plan for activities subsequent to the ROD. The purpose of the ROD is to document the remedy selected, provide rationale for the selected remedy, and establish performance standards or goals for the site or operable unit under construction. The ROD provides a plan for site remediation and documents the extent of human health or environmental risks posed by the site or operable unit. It also serves a legal certification that the remedy was selected in accordance with CERCLA and NCP requirements.

SI – (Site Investigation): The Site Inspection identifies sites that enter the NPL Site Listing Process and provides the data needed for Hazard Ranking System (HRS) scoring and documentation. SI investigators typically collect environmental and waste samples to determine what hazardous substances are present at a site. They determine if these substances are being released to the environment and assess if they have reached nearby targets. The SI can be conducted in one stage or two. The first stage, or focused SI, tests hypotheses developed during the PA and can yield information sufficient to prepare an HRS scoring package. If further information is necessary to document an HRS score, an expanded SI is conducted.

SWMU – (Solid Waste Management Unit): A unit, also known as SWMU, is located within a treatment, storage, and disposal facility that typically contains, stores, or in the past had stored hazardous wastes. Releases from SWMUs are typically the first step that can initiate a corrective action by the EPA.

VOC – (Volatile Organic Compounds): VOCs are organic compounds that evaporate readily into the air. VOCs include substances such as benzene, toluene, methylene chloride, and methyl chloroform.

VCP – (Voluntary Cleanup Program): Established by the state legislature in 1997, Maryland's Voluntary Cleanup Program (VCP) is administered by the Waste Management Administration's Department of Environmental Restoration and Redevelopment Program (WASERRP) to provide State oversight for voluntary cleanups of properties contaminated with hazardous substances. The goal of the program is to increase the number of sites cleaned by streamlining the cleanup process while ensuring compliance with existing environmental regulations.

Appendix H: Meeting Minutes

Committee Meetings

[February 10, 2005]

In attendance: Dick Biddle, Matheu Carter, Dave Gipson, David Gosen, Laura Hartwell, Harry Hepbron, Robert Hodge, Dick Jorgenson, Bill Kilby, Phyllis Kilby, Bill Lucas, David Meiskin, Cynthia Miller, Joe Millward, Jeanne Minner, Matthew Morgan, Eric Sennstrom, Wayne Sher, Charles Smyser, Bill Stephens, Brian Waters, Laura Young, Jim Carroll, Carrie Deitzel, Robyn Gilden, Katie Huffling, Donna Santiago

Introduction: Jim Carroll

Introduction of Committee members

Brief background of project – Jim Carroll

- Vision for the project and the committee
- Development of survey to be distributed in the community to get feedback on the use of the project sites, straw man survey based on surveys used at other sites
- Role of the UM College Park Landscape Architecture students

Questions?

- Will technical information about the sites be available to the community? *Yes*
- How detailed will the committee's recommendations be?
Broad based with a general recommendation. For example, light industrial, commercial, etc.
- Who will make the final determination of how the sites will be used?
The property owner, MDE, EPA, and other involved agencies will consider the recommendations when they are made. Recommendations of the panel for reuse/revitalization are not binding on property owners, unless they become part of a regulatory order or agreement (for example when a SEP [supplemental environmental project] becomes part of a cleanup order)
- How will the community be involved?
By participating in the survey and attending community meetings.

Schedule for future meetings

- 2nd or 3rd Thursday of the month, 1:30-3:30pm at the Cecil County Administration Building
- Next meeting is March 17, 2005 1:30-3:30pm

Committee Members' Roles

- Prioritize sites for discussion
- Learn about the sites prior to deciding reuse – contamination levels, use of surrounding properties, and cost of clean-up
- Look at long-term clean-up process and requirements
 - Art O'Connell can talk to committee about the sites

- General description of levels of clean-up related to potential reuse categories
- Learn from/utilize expertise of companies whose properties are currently going through the clean-up process
- Discover what liabilities may be for new owners of sites contaminated by previous owner
- Communicate with the community
- Identify perceived +/- of redevelopment
 - Barriers and suggestions for improvement
 - Green space is also a beneficial reuse
- Provide feedback to agencies on the community-based reuse committee process
- Identify/connect with developers/investors/other financial resources (i.e. grants, low-cost loans, etc.)
 - Create community partnerships
- Oversight of reuse – ensure safety

Committee Ground Rules

- Turn cell phones/pagers to vibrate
- There is no such thing as a stupid question
- Mutual respect for each other and our individual areas of expertise
- Food and coffee at meetings is conducive to productivity
- Follow stated agenda
- Decision making process: Although not discussed, one suggestion for comment and acceptance by the committee is to decide by consensus, noting any strong minority opinion if one exists.

Deliverables

- Site-specific report card detailing
 - Contamination
 - Tax incentives that may exist
 - Zoning limitations
 - Contact information
 - Suggested reuse(s)
 - Cleanup needed

Learning Needs

- Site information: contamination, zoning, infrastructure, proposals
- Liability issues
- Perchlorate and other chemicals, background information and clean-up
- Clean-up process and rules for each site
- Clean-up timeline
- Adjacent property use

Proposed Subcommittees

Steering committee for landscape architecture students:

- Eric Sennstrom
- Jeanne Minner
- Bill Stephens

Funding (identifying resources that may be used in redevelopment)

Contact (Owners of sites)

- Robert Hodge

Environmental Impact (site as is and proposed reuse). A question has arisen regarding the need of this topic to be addressed under subcommittee. Some have commented that this information may already exist and just needs to be compiled by the various agencies/ programs and presented to the whole committee for discussion by all.

- Joe Millward
- Bill Kilby
- Laura Young

Public Communication (via media and to general community)

- Cynthia Miller

Economic Development/Owner Liability (“packaging” the sites for redevelopment)

Homework

- Robert Hodge will be contacting property owners about coming to reuse committee meetings
- Committee members will think about what subcommittee they want to participate on and what other learning needs they have

Tentative agenda for March 17th meeting (1:30 – 3:30)

- David Gosen – Perchlorate
- Art O’Connell – Site information (history, contamination, clean-up process)

Tentative future meeting schedule and topics to discuss

- April/May – 1st Public Meeting
- May – Reuse Committee meeting
 - Site tours
 - Landscape Architect student projects
- July - Reuse Committee meeting
 - Survey development
 - Distribution lists
- July – September – distribute community survey
- September - Reuse Committee meeting
 - Discussion of reuse options
- September – December – compile survey results
- Early December - Reuse Committee meeting
 - Discussion of reuse options
 - Final recommendations
 - Resources for further development
- January 2006 – 2nd Public Meeting

[March 17, 2005]

In attendance: Robyn Gilden, Jeanne Minner, Matt Carter, Harry Hepbron, Eric Sennstrom, Bill Kilby, Stephanie Garrity, Carrie Deitzel, Katie Huffling, Bill Stephens, Dick Biddle, Bill Lucas, Laura Hartwell, Dave Gosen, George Hocker, Bryan Waters, Jim Waters, Fred Kelso, Dwight Hair, Mary Jo Jablonski, Dave Gipson, Mark Mazanec, Michael Pugh, Chris Mraz, Louis Casale, Peter Niculescu, Matthew Morgan, David Meiskin, Phyllis Kilby, Scott Goss, Alfred Kessi, Robert Hodge

Welcome: Robyn Gilden

Introduction of Committee Members

Cleanup Program Overview: Carrie Deitzel, EPA

- RCRA and Superfund content not presented as Donna Santiago unable to attend meeting. If committee members would like this information presented, please let us know and it will be added onto the agenda at a later meeting.
- Why did the EPA begin the One Cleanup Pilot? To reduce redundancy among regulatory agencies.
- Provided examples of successful land revitalization projects.
- Described trickle-down effect: cleanup of contaminated site may have positive economic impact on surrounding area. Local tracking of trickle-down effect may be advantageous for the community.
- Collaborative Cleanup Meeting: May 23-24 in Colorado. EPA has allocated funds for one committee member to attend. Committee will need to decide who attends.

LEC Site Overview: Art O'Connell, MDE

- Reviewed properties included in the LEC One Cleanup Reuse Project.
- Gave a history of use for each property, how the properties came to be contaminated, and what contaminants are found at the different sites.
- Discussed a brief regulatory history and regulatory actions at the sites.

Basics of Perchlorate: Dave Gosen, ATK

- What perchlorate is
- Uses of perchlorate
- Health effects of perchlorate exposure
- History of regulatory actions
- Where exposure comes from
- Current reference dose for perchlorate and how it was determined

Reuse Categories, Zoning, and Local Examples

- Eric Sennstrom, Cecil County Planning
 - Provided a list of the sites including acreage and zoning.
 - Provided a list of permissible uses for the various zoning categories.
 - Water and Waste Water Task Force has been looking at water and sewer supply to these properties.
- One recommendation by task force is to put a water treatment facility at the

Maryland Sand and Gravel site.

- Committee members raised concerns about how this may affect solvents that currently contaminate the site and Carrie Deitzel offered to bring information on solvents to next meeting.
- Jeanne Minner, Elkton Planning
 - Provided copy of Town of Elkton Zoning Ordinance.
 - Discussed uses for zoning categories.

Public Meeting: Robyn Gilden

- Possible sites: Elkton Middle School, Health Department, Elkton Station (Cecil County Community College), Elkton Town Hall
- To be included at the meeting: introduction and opening remarks by committee members, One Cleanup Project and site background overview, and reuse committee overview.
- Advertising the meeting: Cecil Whig, flyers – Elkton Alliance will distribute, county website, Cecil Soil Magazine

Open Discussion

- Robert Hodge asked that since so many of the property owners were in attendance, that they each discuss the current or planned uses of the properties.
- Mark Mazanec – Representing Ionics.
 - Ionics recently bought by GE.
 - Ionics purchased the property approximately 10 years ago.
 - Converted building on property to warehouse.
 - Participated in the Voluntary Cleanup Program and received No Further Requirements letter.
 - GE currently plans to sell the property.
 - Dwight Hair expressed concern that the building has been allowed to deteriorate and has not been in use. He does not want it to sit unused for a further extended period of time.
- Matt Morgan – Windsor Companies
 - Would like to build residential development at the Elkton Farm.
 - Concerned about how information about the sites is presented to the community.
- Dave Gosen – ATK.
 - ATK plans to continue their current use of the property.
- Lou Casale – Rte 7 Chemical Dump
 - He is currently working with MDE to see how to proceed.
 - Envisions the site being redeveloped.
- John Waters – Triumph Industrial Park
 - Went through the Brownfields Initiative and some of the sites on the property have been remediated.

Closing Remarks: Robyn Gilden

- It is apparent that those in attendance and members of the committee are in agreement that underused sites should be redeveloped.
- The tone of public meeting should reflect the positive nature of the Reuse Committee's participation in the One Cleanup Project.

For Consideration Before the Next Meeting

- Volunteer or nomination for attending the Collaborative Cleanup Meeting in Colorado.
- Are committee members still interested in a site tour during the May meeting?
- For the July meeting, is there a preference on which date the meeting is held – July 7 or July 21?

Next Meetings:

- Community Meeting, April 21 at the Cecil County Health Department Auditorium, 401 Bow St., 6:30 – 8:00 pm
- Reuse Committee Meeting: May 12, Cecil County Administration Building, 1:30 – 3:30 pm

[April 12, 2005]

In attendance: Katie Huffling, Robyn Gilden, Jim Carroll, Dwight Hair, Stephanie Garrity, Joe Millward, Dick Biddle, Laura Hartwell, Lou Casale, Caroline Young, Dick Stoll, Jeanne Minner, Matt Carter, Eric Sennstrom, Robert Hodge, George Hocker, Roy Clough, Art O'Connell

1:00 – 2:15: Tour of sites. Thank you to Art O'Connell for the historical information about the sites and Joe Millward for use of the bus.

Meeting at Administration Building (2:15 – 3:00)

Welcome: Robyn Gilden

Introduction of Committee Members

Community Meeting Debriefing

- Robyn Gilden – Comments from committee members? Acknowledged committee members concerns over wording of Cecil Whig article.
 - Will follow-up sooner with Cecil Whig for next community meeting
 - Jim Waters wrote letter to the editor expressing concerns about the article. His letter was published
- Nice turnout but not enough new faces.
- How can advertise more effectively for the next community meeting?
 - Cecil Whig – follow-up sooner
 - Cecil County web site
 - Targeted mailing – Elkton Chamber of Commerce has mailing list we can use
- Dwight Hair - To increase community interest in Reuse Committee activities, recommended news release to Cecil Whig describing progress that has already been made at sites, include information on survey and contact information. Dwight will coordinate with MDE regarding reporter's contact information.
- Concern was raised that the general community seems to be apathetic.

- Joe Millward – may gain more interest by highlighting community health aspect of clean-up and redevelopment. Continued publicity will increase public interest over time.

Other concerns

- George Hocker – In his experience in dealing with various agencies related to cleaning up contaminated sites – can take too long and be frustrating
- Robyn Gilden – Reviewed the goals of the LEC project and how it is trying to address some of the concerns of property owners and communities, such as those expressed by George.
- George Hocker – Expressed concern about property owners not being able to obtain bank loans due to contamination at sites.
- Jim Carroll – Property owners can join the Voluntary Clean-up Program in order to get a no further action letter or certificate of completion. These address the concerns of contamination at sites so that property owners can get bank loans or sell the property.
 - This program has been successful.
 - Banks have become more sophisticated and understand there are ways to address contamination at historic properties
- Art O’Connell – For example, the work that GE has done allowed Central Chemical to sell to Aquafin. Sign-offs on clean sites at the Triumph Industrial Park has allowed them to sell the clean sites and obtain financing.
- Joe Millward – Are all of the LEC Project properties useable right now?
- Art O’Connell – No, Not all of them are in useable in their current condition but as work is done they will be useable.
- Dwight Hair – What about the RMR site? It is in the Voluntary Clean-Up Program.
- Robyn Gilden – To clarify:
 - Some sites are currently in use and no changes to reuse will be needed, but underutilized portions of sites could be enhanced.
 - Some sites are not in use but are ready for reuse.
 - Some sites need to be cleaned-up but then they can be reused.

Herron Farm

- Robyn Gilden – It has been brought to our attention that a rezoning application has been submitted for the Herron Farm. Any questions or comments?
- Laura Hartwell – ATK met with developers as the farm property abuts the ATK property
 - Discussed concerns about what should be close to ATK
 - They will be meeting again in approximately 2 weeks
 - The rezoning request has been delayed as they continue their discussions. Will probably go before the planning board at the June meeting.
- Phyllis Kilby – Can redevelopment occur while clean-up is in progress? Also, doesn’t residential use of contaminated sites require extensive clean-up?
- Jim Carroll – The developer would enter the Voluntary Clean-Up Program. After an assessment of the site, may need a response action plan. The current plans do not look at developing the firehole site.

- Phyllis Kilby – Expressed concern about building a development next to an EPA Emergency Removal site and that down the road public concerns may lay blame on the commissioners.
- Jim Carroll – Property owners that participate in the Voluntary Clean-Up Program must hold public meetings concerning the clean-up process.

Property Reuse

- Which properties are good to be redeveloped? For the next meeting, Art O’Connell will bring handouts of a map that highlights the properties the committee could look at for redevelopment.
- Joe Millward – It might also be helpful to have a map that highlights the nature areas as well.

Community Survey

- Robyn Gilden – Gave explanation of survey. The committee reviewed and provided initial edits. Will send revised draft out with the minutes for members to continue editing and have follow-up discussions at the next meeting. Idea is to broadly distribute the survey to the surrounding community and other stakeholders. Will discuss routes to distribute at the next meeting.

For Next Meeting

- Dwight will contact MDE with Cecil Whig reporter’s contact information
- The committee will try to come up with more ideas for distributing the survey and other edits to the survey.
- Art O’Connell will bring handouts of a map highlighting the areas ready for redevelopment.
- The landscape architecture students will not be coming to a meeting until September or October.
- The next meeting will be on July 21 1:30-3:30 pm at the Administration Building.

[July 12, 2005]

In attendance: Robyn Gilden, Jim Carroll, Dwight Hair, Joe Millward, Dick Biddle, Laura Hartwell, Jeanne Minner, Matt Carter, Robert Hodge, Roy Clough, Art O’Connell, Fred Kelso, Tammi Ledley, Bill Stephens, Chuck Smyser, John Pudlinski, Ginny Fornillo, Steve Pannill, Matthew Morgan, Eric Schwab, Carrie Deitzel, Kristeen Gaffney, Wayne Sher, Bill Lucas, Simeon Hahn, Bill Kilby, Phyllis Kilby.

Meeting at County Administration Building (1:30-3:30)

Welcome and Introductions: Robyn Gilden

Introduction of Committee Members

Report on EPA’s May Collaborative Conference: Dwight Hair and Kristeen Gaffney

- Mr. Hair provided feedback from the Collaborative Conference he attended of all

the communities across the country involved in One Cleanup and Urban Rivers' Projects. He felt it was a rewarding conference and allowed him to see the big picture of the very challenging job facing EPA and MDE.

- Mr. Hair also commented on progress of some sites in the Elkton area:
 - Philadelphia Electric Co. Site: has been cleaned up and will be available on the market soon.
 - Ionics/GE Site: sale has fallen through and will be back on the market. Attempts are being made to get the site donated to the town. There may be money available from EPA for cleanup if the town does gain ownership.
- Ms. Gaffney, from EPA Region 3 Brownfield's Office, provided an overview of the Collaborative Conference and Resources available to local governments and community groups for Brownfield Redevelopment.
 - Collaborative Conference: EPA brought together the 18 communities involved in One Clean Up and Urban Rivers Pilots. The purpose was for the attendees to share amongst themselves and with EPA lessons learned. A report of the conference summary will be available soon and can be distributed to the Reuse Committee.
 - Brownfield Grants: There are four types of grants available with different goals and requirements. Brownfield Assessment, Brownfield Cleanup, Revolving Loan Fund, and Brownfield Job Training. The call for proposals is usually open in September with a deadline sometime in November. The grants are highly competitive with about 50% of applications being funded. More information on the grants can be found at <http://www.epa.gov/brownfields/pilot.htm>. Ms. Gaffney will add the Reuse Committee to the mailing list for notice when funding is announced. Ms. Gaffney is also willing to come back for another committee meeting to discuss grants further if requested.

History of Fireworks in Elkton: Fred Kelso (please see attached pdf file if receiving minutes electronically. If you do not have electronic access, please request a hard copy of the presentation from Robyn Gilden, 410-706-4803).

National Oceanic and Atmospheric Administration: Simeon Hahn and Rich Takacs

- Mr. Hahn described the purpose of NOAA related to hazardous waste sites as helping restore natural resources injured by contamination.
- EPA contracted with NOAA for the One Cleanup Pilot to assess streams in the area to see if the contaminated groundwater was impacting streams and to assess the overall stream health. If issues were identified, they were asked to provide recommendations to the community on projects to improve conditions in the streams. Based on current data, the contaminated groundwater does not appear to be impacting the stream, but there are other issues identified impairing stream health.
- Mr. Hahn demonstrated a website dedicated to the Little Elk Creek area and described some of the surveillance being done on characteristics, fish movement, and overall stream health. <http://mapping.orr.noaa.gov/website/portal/LittleElkCreek>. A last section of the site includes recommendations from NOAA on restoring and preserving the streams, including removing fish blockages,

proper storm water management techniques, and maintaining the stable banks and buffers in place during future redevelopment.

- Historically, schools have participated in some of the restoration efforts and NOAA is looking for ideas for similar potential projects. NOAA would like input from the committee, and the community in general, on the website, missing information, ideas, and suggestions.
- NOAA Restoration Center
 - Mr. Takacs described the purpose of the Restoration Center as helping to identify and quantify historical impacts, assist with considerations for comprehensive planning and prioritization, and can provide technical assistance on design of projects.
 - The Center has money from several partners to conduct habitat restoration projects like riparian buffers, stream restoration, fish passage, and tidal and non-tidal wetlands. Services include assessing feasibility of projects and assistance with design, permitting, monitoring, and construction.

Revitalize Newsletter: Carrie Deitzel

- Ms. Deitzel handed out a newsletter she receives from Vita Nuova containing several articles that might be useful for the committee. The newsletter can be downloaded at http://www.vitanuova.net/pdf/revitalize_7_5.pdf

Community Survey: Robyn Gilden

- A last request for edits to the survey was made.
- Discussion of distribution resulted in the following suggestions:
 - Committee members will receive an electronic and/or hardcopy version. In addition to submitting one for themselves, members will be encouraged to distribute it through their various groups, agencies, and organizations.
 - Post survey on MDE and EPA's websites for the Little Elk Creek Project
 - Post survey or link to MDE and EPA's website on the following sites:
 - Cecil Whig
 - Cecil County
 - Cecil County Office of Economic Development
 - Cecil Community College
 - Town of Elkton
 - Cecil County Public Library.
 - Cecil County Alliance and the Elkton Chamber of Commerce will help distribute in their monthly newsletters. Dwight Hair and Mary Jo Jablinski will be sent an electronic and hardcopy.
 - Contact Cecil Whig to see how much it would cost to insert the survey in the paper.
 - Identify and distribute among sportsman's clubs and watershed groups
 - Cecil County School Staff will be given a copy on their return to school in late August.
 - Additional suggestions of individuals or groups to send the survey to can be given to Robyn Gilden, rgilden@son.umaryland.edu.

Site Related Discussions

- Dwyer, Vicon, and RMR are all close to moving forward with redevelopment and reuse
- MD Sand, Gravel, and Stone: A proposal is being discussed by Days Cove Reclamation Company to reuse the superfund site as a rubble landfill for 5-10 years and then create a passive recreational area. The idea is in the very beginning stages and has not officially been proposed to the County. The Reuse Committee decided they would like to hear a presentation from Days Cove and also the County on the project and have tasked Ms. Gilden with trying to arrange a meeting for 8/18/05 or, as a second choice, 8/11/05. Details will follow as soon as they are solidified. If committee members would like more information directly – there is a contact person listed for Days Cove of Ken Binnix, Executive VP, 410-269-1654. (A hardcopy of a letter and fact sheet from Days Cove to the neighboring community dated 7/5/05 is being mailed to the committee).

Next Meetings

- August 18th or 11th – depending on arrangements with Days Cove and Cecil County
- September 15th – Landscape Architect Student Inventory
- October 20th - Survey results, Landscape Architect student projects, discussion of reuse options.

[September 15th, 2005]

In attendance: Katie Huffling, Steve Pannill, Robert Hodge, Marie Gleason, Ken Binnix, Steve Fulton, Richard Biddle, William Lucas, Joe Millward, Stephanie Garrity, John Pudlinski Jr, Bill Stephens, Dave Gipson, Theresa Thomas, Alex Cox, David Meiskin, Roy Clough

Welcome and Introduction: Katie Huffling

- Change in agenda – Dave Myers unable to attend meeting today

Presentation by Days Cove Reclamation Company: Ken Binnix (Executive Vice-President), Steve Fulton

- Days Cove is proposing construction of a construction and demolition (C&D) landfill at the Maryland Sand, Gravel and Stone site
- Work on the proposal began about 1 year ago when Days Cove met with the County Commissioners.
- The proposal has not been officially submitted to the County.
- Has since held three meetings with neighbors of the sites to discuss proposal.
- Days Cove designs new landfills and caps, repairs and closes landfills. They also contract work for towns that need expansions, such as Dorchester County.
- The proposal calls for two cells that would accept waste with a total of 3.5 million cubic yards of air space in the two cells.
- There are two homes on the access road to the proposed site on Alfreida (sp?) Drive.
- There will be 160 truck trips per day (80 in, 80 out) on average. The number of

trips may increase up to 200 per day (100 in, 100 out). The landfill is expected to be in operation for 7-10 years.

- The landfill will divert C&D debris currently going to the town's municipal solid waste landfill, extending the life of the municipal landfill. The tipping fees at the municipal landfill are \$52/ton and tipping fees at the Days Cove C&D Debris landfill will be approximately \$45/ton.
- The proposed landfill would accept gypsum drywall board, which causes release of hydrogen sulfide gas when it gets wet and decomposes. Days Cove said they would manage the landfill so that the gypsum couldn't get wet. They would prevent ponding of water and provide cover at least twice per week.
- Days Cove mentioned they would recycle on site but specific plans were not included in the presentation.
- The EPA clean up plan of the superfund site would return the water at the site to drinking water standards and the soil to residential standards.
- Days Cove will establish a sinking fund to support post-closure development of the site, such as an athletic field complex. While Days Cove may lease the site to the county for public use after the site is closed, Days Cove would continue to maintain the closed landfill.
- Days Cove plans to establish a community liaison committee that meets every other month in the evening. They want community leaders to serve on this committee. This committee will address community concerns as the landfill becomes operational. After the landfill is in operation, the committee will begin meeting during business hours so the committee members are able to observe the landfill in use.
- Days Cove is planning a community meeting at the end of September. They will send information about the meeting to Katie Huffling and she will distribute it to the Committee members.
- Days Cove plans to apply to the county's zoning board for a conditional use permit in October 2005.
- Days Cove operates a landfill in White Marsh that is similar to what is being proposed in Elkton. They invited the Committee to take a tour of that landfill.

Discussion of Survey

- There have only been 14 surveys returned so far.
- Committee members reported difficulty in filling out survey on-line/in Word.
- Jim Carroll will create a new version of the survey that is easier to use. Katie Huffling will distribute to Committee members.
- Committee members stated that there were community events coming up in the next few weeks where surveys could be distributed, such as Fall Fest and Unity in the Community. Stephanie Garrity and Stephen Pannill both volunteered to help distribute surveys.
- Survey deadline has been extended. Please try to have surveys back by October 15 to give us time to tabulate the results.

Next Meeting: October 20, 2005 - Survey results, landscape architect project, discussion of reuse options, preparation for community meeting on November 17.

[October 20th, 2005]

In attendance: Robyn Gilden, David Myers, Jim Carroll, Dwight Hair, Katie Huffling, Rick Leipold, Eric Sennstrom, Art O'Connell, Dave Gipson, Jeanne Minner, Roy Clough, Vernon Duckett, Kristina Duckett, Bill Lucas, Matt Carter, Robert Hodge

Welcome: Robyn Gilden

Introduction of Committee Members

Presentation on a Site Reuse Proposal: Vernon Duckett

- The area is changing and the county needs to start thinking about the change now – plan for the growth of the area
- Currently, there is no way to get around in Cecil County without using a car
- Mr. Duckett's proposal includes a trolley throughout the county and an Amtrak/commuter station to commute to Baltimore or New York
- Central mall with all shopping needs in one place and a parking garage
- Proposes using renewable power sources if possible such as wind turbines, solar, and geothermal.
- Housing would consist of row houses made of cement. This would allow the builders to use local materials from the Cecil County sand and gravel pits
- The design of the project would allow for green space for each homeowner.
- There would also be housing for retirees so they would be part of the community, not in a separate housing development
- Would need to be affordable – for people with modest incomes.

Presentation of Survey Results: Katie Huffling and Jim Carroll

- There were a total of 41 surveys returned
- Katie Huffling and Johanna Neumann had positive responses to their door-to-door survey collection
- Responses to Question 1, "What do you view as strengths of the area?"
 - *Over 50% of respondents said that natural habit and rural setting were the strengths*
 - *21% thought access to travel routes was a strength*
- Responses to Question 2, "What do you view as the needs for the area?"
 - *31% responded that the area need nature/open space*
 - *24% responded with recreational fields*
 - *The rest of the response choices were pretty evenly divided with each receiving between 5-9% of the responses*
- Responses to Question 3, "Concerns about the project area"
 - *Respondents were most concerned with contamination and reuse after cleanup*
- Responses to Question 4, "Challenges to redevelopment"
 - *38% of respondents said that water and sewer were challenges for redevelopment and 36% said environmental concerns*
- Responses to Question 5, "Types of redevelopment wanted"
 - *Close to 50% of respondents wanted Parks or Recreational Fields.*
 - *Very few wanted more housing (2-5%)*

- *The other responses were fairly evenly divided with 8-14% of the responses*

- When all of the responses were grouped together by reuse preference, public use was selected by the majority of respondents (103 responses). In second, was commercial use with 27 responses.

Presentation by University of Maryland Landscape Architecture Professor: David Myers

- Focus is on ecology, large scale planning, and scenario planning
- Use a rational design process
 - Use GIS data
 - Create an inventory of the characteristics of the site
 - Determine the benefits of the site using factual, objective information. Will describe the selling and marketing benefits
- Analysis
 - Motives of the project
 - Values
- Framework
 - How do these properties fit in: biology, characteristics of the site, social issues
- Look at economy, ecology, livability
- Scenario planning
 - Alternative uses for the sites
 - Look at how the sites vary – in density, land use, etc.
- Final product – envisioning, creative ideas
- The students will use the Charet method
 - Will generate ideas in teams
 - Will have two weeks to “clean-up” their ideas
- Will present their ideas at the November 17 community meeting
- Will have drawing and images that will convey land use
- The community will have an opportunity to provide feedback
- Will provide property owners with ideas on land use. These design techniques may make the sites more marketable

Decision-Making Process: The group discussed how they will come to a decision on reuse ideas that will go in the final report. The outcome of the debate was:

- Overriding principle is to focus on the best use of each property and then discuss how to make it happen. Need to think out of the box as to what is possible before limiting options.
- Think of what we can do not what we can't.
- Voting will be by simple majority with note of a significant minority opinion, if needed, in the report.

Site Report Card:

- Please see attached updated report card.
- Please contact Katie Huffling with additional comments, information, or corrections.
- First site discussed was the Maryland Sand, Gravel, and Stone site.
- Committee members' comments are listed on the report card.
- The second site discussed was the Elkton Firehole Site. See report card for comments.

Upcoming Meetings:

- Community Meeting, November 17 at Cecil Community College Elkton Station, 107 Railroad Ave. Room #221, 6:30 – 8:00 pm
- Reuse Committee Meeting: December 8, Cecil County Administration Building, 1:30 – 3:30 pm

[December 12th, 2005]

In attendance: Robyn Gilden, David Myers, Jim Carroll, Katie Huffling, Dick Biddle, Charles Smyser, John Pudlinski, Terri Thomas, Eric Sennstrom, Roy Clough, Matt Carter, Robert Hodge, Owen Thorne, Steve Pannill, Eugene Paik

Welcome: Robyn Gilden

Introduction of Committee Members

Presentation of Landscape Architecture Students' Projects: David Myers

- For this project the students focused on the big picture, not individual sites.
- Concepts centered on the Triumph Industrial Park
- Looked at how the land use patterns would change over time
- Envisioned a town center with industrial/commercial uses surrounded by residential areas.
 - Integrate greenways
 - Create a sense of community by highlighting the rich history of the area
 - This would change the trajectory of where residents are going to work
 - If residential areas are concentrated may be able to save farmland
- Ideas for Triumph Industrial Park
 - Increase the density – change it from suburban/rural to urban. This would use the valuable land in the park in the most economical way.
 - Utilize green roofs and LEED principles
 - Central area of green space surrounded by buildings and businesses
- Can add trees now (an inexpensive option) that will give the area more choices for use down the road
- There is a lot of resources available for instituting LEED and green building
 - For example, green roofs, grey water systems
 - Technology is getting better and the cost will decrease
 - There are long term economic advantages
- “Adopting” Little Elk Creek and having a small visitor center describing the industrial history and the clean up of the sites.
- Elkton is in a good position for growth and impact from transportation costs may be minimized as it is on a rail system.

Discussion of Site Reuse: Robyn Gilden

- Guiding principles/overall vision for the area as committee reviews the sites:
 - Protection of health and the environment
 - Increasing the tax base
 - Mixed use

- Best cleanup for more reuse option vs. targeted for specific reuse goal?
- Affordable housing
- Tie into tax incentives (Triumph Industrial Park is in the State Enterprise Zone)
- Compatibility of surrounding land uses and buffers around the sites
- Accessibility/transportation/roads
- Infrastructure lacking at some of the sites (water, sewer)
- Incorporate recreation space
- Consideration of flooding along LEC – green space next to the creek
- Would fireworks sites be appropriate for recreation use? As no reuse type has been set upon, they will be cleaned up to residential standards

Site Reuse Recommendations: See attached recommendation document

January 12 Community Meeting:

- Presentation of landscape architecture students' proposal
- Draft recommendations
- Opportunity for discussion and feedback
- Final steps in the process

Next steps:

- Recommendation that more meetings are needed to complete the committee's objectives.
- Committee decided to have two more meetings after the community meeting:
 - February 16
 - March 16

Next Meetings:

- Community Meeting: January 12, 2005
Cecil County Health Department
401 Bow St.
6:30-8:00
- Reuse Committee Meeting: February 16, 2005
Cecil County Government Administration Building
107 North St.
1:30-3:30

[February 16, 2006]

In attendance: Ed Carroll, Dwight Hair, Dale Johnson, Laura Hartwell, Bill Lucas, Steve Maloney, Matt Carter, Jon Bode, Dick Biddle, Bob Oler, Jim Henderson, Roy Clough, Robert Hodge, Bryan Waters, Steve Pannill, Jeanne Minner, Stephanie Garrity, Robyn Gilden, Katie Huffling, Jim Carroll, Art O'Connell, Carrie Dietzel

Introduction: Robyn Gilden

Finalize site reuse recommendations

- MD Sand, Gravel, and Stone
 - Tim Henderson – reviewed his edit of reuse recommendation.
 - Committee agreed with edits
 - Committee would like potential reuse of site as irrigation site for wastewater treatment plant effluent added to report as another possible option
- Herron Farm/Firehole
 - Some committee members felt that the line “only if absolutely certain of cleanup” was ambiguous and needed to be clarified
 - Art O’Connell – The Firehole portion of the site will never be able to be used for residential purposes. They are uncertain of contamination in other areas of the property but this is currently being studied
 - Will add to report:
 - Recommendation - Reuse in accordance with institutional controls
 - Discussion:
 - Differentiate between Firehole and rest of Herron Farm site
 - Rest of site – Use site to full potential. High density residential with water and sewer would help meet the residential needs of the community.
 - Would help county to start water and sewer service and economic development.
 - Concerns regarding proximity to ATK has been addressed during rezoning – industrial zone placed near ATK (no residential near ATK)

Review of Report: Katie Huffling

- **MD Cork**
 - Bryan Waters - Clarification of water and sewer availability at the site. Water and sewer is present at the site, but limited. Service is purchased from Elkton. There is the potential to increase capacity within the Industrial Park.
 - Other issues related to redevelopment include groundwater contamination and liability issues.
- **Fireworks Sites**
 - In addition to water and sewer, there are also issues of contamination and liability
- **Site Reuse Examples**
 - Will include defense uses, research and development facilities
 - Office space
- **Ground Rules**
 - Make into paragraph form
 - Will only include those that are important for indicating open process
- **To be added to report:**
 - Action plan in body of report
 - Committee members in appendix – include name and affiliation/ position
 - Add year to committee and community meeting schedule
 - EPA website for live link to updated information

- NOAA project - add to appendix
- Dave Gosen's perchlorate presentation - add to appendix
- Newspaper articles - add to appendix
- Meeting minutes – add to appendix
- Resources: Maryland Department of Planning, Brownfield Development, Cecil County Website, Maryland State Department of Assessments and Taxation

▪ **Action Plan**

- Send hard copy of report to: EPA, MDE, Cecil County and Elkton government administrators, property owners, Chamber of Commerce, county library, city administration building, city halls of all the towns in the county
- Ask permission to put on Cecil County website, Chamber of Commerce website
- Links to report on MDE and EPA websites
- Present report to County and Town commissioners – potentially mid-April
 - Joint meeting if possible
 - Will ask for volunteers from committee to present at the meeting(s)
- Press release for public meeting with commissioners
- Present report to Economic Development Committee and Elkton Alliance
- Recommendations to be included in report:
 - Recommendations to commissioners:
 - Expedite water and sewer addition in growth corridor
 - Recommendations to MDE and EPA:
 - Expedite site clean-up
 - Educate: local government, public, developers, etc. through website and success stories
 - Continue communication with committee members and commissioners about the sites
 - Press releases when goals are accomplished at the sites
 - Recommendations to state government, governor, and Board of Public Works:
 - Increase funding for similar projects
 - Recommendations to federal government:
 - Increase funding for similar projects
 - Other recommendations:
 - Recognize/celebrate properties that are cleaned-up and redeveloped (awards)
 - MDE and Cecil County Office of Economic Development should monitor success at sites and economic benefits of site clean-up and redevelopment

Next Steps

- Katie Huffling will make changes/additions to report and send out to the

- committee for comments.
- Please email Katie with any additional resources
- Volunteers from committee to speak at public meetings and to help with meeting arrangements
- Evaluation form
- Final draft will be sent to UMCP Landscape program for formatting.

Community Meetings

LEC Community Meeting Minutes

[April 21, 2005]

In attendance: Joe Millward, Steve Maloney, Robert Hodge, Charles Smyser, Diane Hair, Keith Phillips, David Gosen, William Lucas, Phyllis Kilby, Bill Kilby, Jim Waters, Brian Waters, Bill Denbrock, Michael Pugh, Louis Casale, Irvingman Hu, Dick Biddle, Jenni Sparks, Wanda Sparks, Robert Oler, Matt Carter, Stephanie Garrity, Charles Barnett, David Meiskin, Mathew Morgan, Jeanne Minner, Harry Hepbron, Art O'Connell, Jim Carroll, Carrie Deitzel, Robyn Gilden, Katie Huffling

Welcome: Robyn Gilden, University of Maryland School of Nursing Environmental Health Education Center

Phyllis Kilby: Committee member, County Commissioner

- Introduction
- The project is exciting because government officials from various agencies are talking with each other and working together
- Through the LEC project the agencies are reaching out to the community and garnering feedback from the community

Robert Hodge: Committee Member

- He is a property owner next to one of the contaminated sites and has monitoring wells on his property
- Provided a brief background on the project
- There are a variety of stakeholders on the LEC Reuse Committee
- It is a win-win situation for the community, environment, and property owners
- Committee members are:
 - Learning about the sites included in the Reuse Project
 - Gathering input from the community
 - Identifying resources for the community to use in the redevelopment process

Robyn Gilden: Reviewed agenda and handouts

Art O'Connell: MDE

- Gave brief history of how LEC was chosen as a pilot project in EPA's One Clean-Up Project
 - LEC chosen because it has several sites under different cleanup programs

in a relatively small geographic area with achievable goals

- There have been investigations going on at some of the sites for up to 20 years and many are nearing completion
- Gave a brief history of all of the sites included in the project

Jim Carroll: MDE

- Recognized committee members for participating in the project
- Reuse committee was created to provide an opportunity for citizens to get information and get involved
- Goals of the project include: providing information in a timely manner, opportunity for public input, giving consideration to community input, providing information on the factors that are considered when making remediation decisions.
- Described how the Reuse Committee members were selected
- Described the use of University of Maryland College Park landscape architecture students in the project and gave an example of how their services had been used by another community
- Reviewed the schedule of meetings
- Provided background on the survey that will be distributed to the community

Carrie Deitzel, EPA

- EPA interested in redevelopment because it helps to revitalize communities and protects pristine sites from development
- Redevelopment of blighted properties has a positive economic impact on the surrounding sites and the community
- The Clean Up Project provides a way to clean up sites with no new legislation needed and no less responsibility for responsible parties
- Provides the community with an opportunity to evaluate where they are at and where they would like to go

Robyn Gilden:

- Apologized for the delay in notice about the community meeting not appearing in the Cecil Whig until the day of the meeting
- Opened up the floor for questions

How long will the clean up take?

- Art O'Connell: The time frame varies for the different sites. Clean up should be beginning at several of the sites very soon.

You said that there was contamination of home wells near the N.J. Fireworks site. Is there contamination of home wells at other sites?

- Art O'Connell: There is no home well contamination related to the other sites

How clean is the Little Elk Creek?

- Art O'Connell: It is very clean. Many of the chemicals that are of concern at the sites readily breakdown in sunlight. They are of concern in the soil and in the groundwater because they are not exposed to sunlight so they do not breakdown.

LEC Community Meeting Minutes

[November 17, 2005]

In attendance: Kathie Jarmon, Jim Jarmon, Charles Smyser, Dick Biddle, Brian Waters, Matt Carter, Jeanne Minner, Rou Clough, Bill Stephens, Art O'Connell, Jim Carroll, Carrie Deitzel, Robyn Gilden, Katie Huffling, David Myers

Welcome and review of agenda: Robyn Gilden, University of Maryland School of Nursing Environmental Health Education Center (UMSON)

Introductions and opening remarks: Bill Stephens, a member of the Reuse Committee and environmental consultant for one of the properties in the study area, offered an introduction to the work of the committee and the purpose of the meeting. He was followed by welcomes by Carrie Deitzel, US Environmental Protection Agency (EPA), and Art O'Connell, Maryland Department of Environment (MDE).

Reuse Committee and One Cleanup Project Update: Art O'Connell and Jim Carroll of MDE provided updates on the investigations ongoing in the study area and also the process and progress of the Reuse Committee. There are 13 sites in the "One Cleanup Pilot."

Vicon and RMR's environmental work is nearing completion and will be available for redevelopment soon. MDE received the feasibility study for the Dwyer property and has allotted \$260,000 for a consultant to develop the remedial design. EPA's removal action will begin shortly at the Heron Farm Firehole. EPA is also progressing on the GE property. The work plan for NJ Fireworks is pending.

Community Survey Results: Katie Huffling, UMSON, presented information gathered from the community preference survey distributed over the summer. Surveys were sent out via several methods including email, posting on various websites, announcements in the Cecil Whig and at the Elkton Library, and via door-to-door efforts. Forty-one surveys were returned. The community identified strengths for the area as its rural nature and access to travel routes. Needs included recreational/outdoor activity areas. The largest challenges perceived were infrastructure issues like water and sewer and environmental concerns. Primary desire for redevelopment included recreational/outdoor uses and public use. The Reuse Committee will take results from the survey into consideration as they continue discussion of site reuse in the study area.

University of Maryland Landscape Architect (LA) Student Projects: David Myers, Professor, presented a description of the LA projects focusing on envisioned reuse for the study area. Preparatory work has been done compiling GIS data and reviewing the NOAA website and collected data. Twenty-five students participated in a tour of the sites on Friday 11/11/05 and met with several committee members. The students will now begin working in five teams to develop various visions for how the area may be used in 25 and 50 years addressing issues of working close to home and preservation of green space. Projects will most likely be streetscapes and build outs from a landscape approach combining visual and narrative components. One theme that will hopefully be celebrated is the Triumph Industrial Park area's contribution to the WWII effort. The teams will

present in front of a panel of judges for a cash prize. Projects will also be shown to the Reuse Committee at the 12/8/05 meeting and again at the Community-wide meeting on 1/12/06. Although some of the renderings may be “out of the box” and not necessarily applicable on whole; bits and pieces could be used on various sites in the study area or for other sites in the county.

Question and Comments: There was an opportunity for comments and questions from the group on all the information presented.

- What are the cleanup options for the Dwyer Property?
The feasibility study includes a variety of potential clean up options and their associated costs, ranging up to \$4-8 million if a 30-year operation and maintenance is required. MDE does not feel this length of time will be necessary but that cleanup may be accomplished in 1-2 years. There are several small plumes on site and possible clean up techniques being considered include chemical oxidation of the groundwater and soil vapor extraction. Other remedies might also include deed restrictions and vapor barriers. Since the property has access to public water, drinking groundwater on-site is not a route of possible exposure for future tenants. MDE's contractor will be fleshing out the specifics required in the Remedial Design.
- Why is MDE paying for the cleanup?
The current owners inherited the property and under Maryland Law are not considered responsible parties.
- What is the condition of the site and have any oil tanks been discovered?
The 71-acre site is mostly vegetated although there are roads crisscrossing the property. A fill pipe believed to be from an underground tank was found at the Dwyer site during MDE's investigation. However, no volatiles were found while screening with a PID detector and the tank is believed to be empty. Due to the number of buildings that existed at the site and the number of pipes observed, MDE feels there is a strong possibility that additional tanks may exist.

Next Steps: The next meeting of the Reuse Committee will be Thursday 12/8/05, 1:30-3:30 at the County Office Building, 107 North St., Elkton. All are welcome to attend. The agenda will focus on the Landscape Architect Student projects and discussion of reuse possibilities in the study area. The next Community-wide Meeting will be Thursday 1/12/06, 6:30-8:00 at the Cecil County Health Department, 401 Booth St. That meeting will have final versions of the LA projects and a presentation of the draft recommendation document.

LEC Community Meeting Minutes

[January 12, 2005]

In attendance: Steve Ash, Charles Smyser, Tom McWilliam, Roy Clough, Robert Oler, Becky Demmler, Roy Demmler, Matt Carter, Eugene Paik, Kathy Fox, Jeanne Minner, David Myers, Art O'Connell, Jeanne Parry, Robert Hodge, Virginia R. Bailey, Robyn Gilden, Katie Huffling

Welcome and Overview of LEC One Cleanup Project and the Reuse Committee: Robyn Gilden

University of Maryland College Park Landscape Architecture Student Projects: David Myers

- Issues the students addressed in the project include: the need to create opportunity for work, preservation of agriculture, use of environmentally sustainable technologies
- The project will be posted on EPA, MDE, and county websites

Site Updates: Art O'Connell

- Site updates will be included in final recommendation

Participants read over the draft recommendations

Questions/comments on recommendations: Robyn Gilden

Questions, comments, and suggestions were requested from the audience on the Reuse Committee's tentative recommendations for reuse for each of the properties. The following questions/comments were raised:

- What liability protection is there for future owners and how does the community know that restrictions on use of the property will be remembered and enforced?
If future property owners show due diligence before buying a property, including conducting Phase I and Phase II studies prior to purchasing, they should be protected against liability for contamination discovered after purchase.

The newly enacted Uniform Environmental Covenant Act (UECA) allows for better tracking of institutional controls on the property (such as deed restrictions) and anyone can be a party on the covenant, including nearby residents.

- What is allowed to be put in a rubble landfill?
Building debris, clean cement and brick, wood
- How would the environment and/or residents of the area be protected against contamination of the fill with asbestos and/or lead?
A rubble landfill must be lined to prevent leakage of substances in the fill. To prevent asbestos from being placed in with regular fill, a building has to be inspected before it is taken down and asbestos removed.
- Whatever is done with the MD Sand and Gravel site, it should be prevented from becoming another superfund site.

Closing: Robyn Gilden

Appendix I: Press Coverage

[April 21, 2005]

Cecil Whig

EPA takes on local blight Meeting set tonight for public input

By Scott Goss

What should be done with the dozen or so environmentally-contaminated properties on or near a former munitions plant just outside Elkton?

An Environmental Protection Agency (EPA) pilot program is targeting polluted lands around the Triumph Industrial Park and along the Little Elk Creek.

Agency officials want to hear suggestions from Cecil County residents about what they would like to see in place of the blighted property.

July 15, 2005

Cecil Whig

Farm declared Superfund site Buried ammo creates sparks between farmer, EPA

By Scott Goss

William Spry has been pulling small hunks of rusted metal out of the Herron farm since he started renting the property to grow wheat there 30 years ago.

So it came as a bit of a shock when the U.S. Environmental Protection Agency abruptly cordoned off a section of the farm and declared it as a toxic Superfund site earlier this year.

“I’ve known that stuff has been there for almost 60 years, but no one ever said anything about it until now,” said Spry, Cecil County’s largest grain farmer and at 84 years of age, one of its oldest.

“Now I’ve got a field full of wheat that they let me plant last fall, but they won’t let me harvest this summer,” he said. “And if I try to get to it, the EPA will haul me away to a federal penitentiary.”

Charles Fitzsimmons, the EPA’s on-site coordinator and the man who ordered the 50-acre section of the 400-acre farm closed to the public, said he feels for octogenarian the farmer. But he said there is little he can do at this point.

“For better or worse, the EPA’s role here is to clean up the site and I had to make a difficult decision from a public safety standpoint,” Fitzsimmons said. “The materials may not have caused any casualties or injury for 60 years, but now that we know that it’s here, Mr. Spry or someone else could sue us if they were to trespass and somehow get hurt.”

Fitzsimmons said for that reason the federal agency hired security guards to keep people like Spry from putting themselves in harm’s way n regardless of how remote the danger may appear.

“I wouldn’t send him to jail,” Fitzsimmons added. “All we would do is call the local police and ask them to help convince him to leave.”

Elusive munitions

The EPA’s decision may have seemed sudden to Spry, but Arthur O’Connell, chief of the Maryland Department of the Environment’s Superfund Program, said his agency has known for decades that a large pit of military-grade munitions was buried near the Zeitler Road farm north of Elkton.

Yet, it wasn’t until the U.S. Department of Defense found historical documents from the former Triumph Industries in a wartime munitions factory in that state environmentalists had an even approximate location for the former disposal pit, commonly referred in the industry as a “firehole.”

According to O’Connell, initial attempts to nail down the firehole’s exact location stalled in 1992 when officials in the U.S. Army Corps of Engineers, which usually oversees the clean-up of sites contaminated by military ordnance, realized that the federal government could be found liable for the munitions being there in the first place.

“After that, the search effort kind of fell apart,” O’Connell said. “Although we knew the firehole was in the area, it just became one of the 452 sites on the state’s master list of potentially contaminated sites.”

As a result, Spry kept doing what he’d always done on the property. He tilled the soil, planted his seeds and reaped his harvest. And without any knowledge of what he was doing, Spry also spread the munitions over a larger and larger area.

“I don’t imagine there is one inch of that soil that hasn’t been run over by plows, rototillers and trucks,” said Dick Herron, a cousin of the Herron family that owns the property. “There even used to be a cow pasture out there.”

David Herron, from whom Spry rents the land, could not be reached for comment.

But Dick Herron said the family has always known about the shells that litter the property.

“I remember when we were kids, we used to watch them burn the stuff during the day and then at night we’d go pick up what didn’t burn and have a little fireworks show of our own,” he said. “Back in the 1960s we tried to clean it all up but I guess we didn’t get it all.”

New search

With the exception of the aborted search in the 1990s, the decaying munitions were essentially left to the whims of Spry’s farming equipment for three decades.

Then late last year, an EPA pilot project called the Little Elk Creek One Reuse Project began to refocus the attention of various government agencies on potential contamination left over from the former munitions plant.

Using the Triumph documents discovered by the Department of Defense, officials from MDE once again began canvassing the Herron farm in search of the old firehole.

This time, state officials quickly discovered what appeared to be old 40 mm shells scattered throughout the field.

Fitzsimmons said MDE notified the EPA, which completed more extensive tests in May.

“We conducted a survey with a sophisticated metal detector and confirmed what the state thought it found,” Fitzsimmons said.

And while the property owners gave permission for the search to be conducted and were informed of the findings, they apparently failed to inform the man who’s been farming the land for the past 30 years.

“There have always been three spots in the field where nothing grows,” Spry said. “It comes up green but then turns white and dies. I could have told them that, but they never asked me.”

Cleaning up

Fitzsimmons said now that the firehole has been found, a contractor will be hired to begin a long overdue clean-up of the Herron farm.

“We’ll lay a grid over a map of the site and begin sifting through each 200-square-foot grid,” he said. “Except for the firehole, which is about eight to 10 feet below ground, we believe most of the discarded munitions are just below the surface.”

Smaller ordnance will be shredded, while larger items like the 40 mm shells will be blasted with explosives, essentially finishing what Triumph started when it created the firehole 60 years ago.

Fitzsimmons said he believes the entire project could be finished by the end of the year.

“The real danger here is the potential for small explosions, not so much groundwater contamination or the potential contamination of Mr. Spry’s crops,” Fitzsimmons said. “We’ve only found one spot that could potentially be contaminated by TNT, and a branch of the (U.S. Centers for Disease Control) is examining the potential for uptake by the crops in that area.”

Fitzsimmons said any health risk found in the wheat would be forwarded to Oxford, Pa.-based Hostetter Grain, the mill that processes Spry’s wheat and sells the flour for human consumption.

“We’ll also continue testing the surrounding area for contamination, although we believe there is very little danger anywhere except for that hot spot,” he added.

Development plan

Although Spry says he’s never seen any munitions explode on the Herron Farm, their existence could create plenty of fireworks at the Cecil County Planning Commission meeting Monday night.

That’s when lawyers for David Herron, the Texas-based owner of the 400-acre farm, will ask the commission to divide the property into three sections and rezone all three to allow high-density residential development and a variety of industrial and commercial uses.

Phone calls placed to the contact number on the rezoning application were answered by Windsor Properties, a New Jersey-based real estate development company owned by David Meiskin.

Meiskin has proposed several development projects in Cecil County recently, including the 750-home Villages at Cherry Hill and the 590-home Charlestown Crossing. To date, none of his projects has received final approval from the county.

To win rezoning, applicants must show that a mistake was made during the county’s last comprehensive rezoning in 1993 or the existence of significant change in the character of the surrounding area since then.

The planning commission on Monday will make a recommendation to the Cecil County Commissioners, who will be called upon to make a final decision at a later date.

Spry says he doesn’t blame Herron for wanting to sell the property to a developer, even though that would likely mean that he could never farm there again.

Instead, Spry is reserving all of his outward frustration for the EPA, which he says has robbed him of a portion of this year’s harvest.

“I don’t want to say how much money I’ve lost, because it’s not about the money,” he said. “It’s about the principle, and I think they went off the handle too fast after waiting too long to do something.”

[August 17, 2005]

Cecil Whig

Environmental survey seeks land use ideas Little Elk Creek project mulls development options

By Carl Hamilton

How will properties in and around Triumph Industrial Park in Elkton be used once they've been cleared for redevelopment?

Residents and business owners in Cecil County have an opportunity to help answer that question by filling out a Reuse Planning Initiative Community Questionnaire, one facet of the pilot Little Elk Creek One Cleanup Project.

The collaborative cleanup project involves the U.S. Environmental Protection Agency (EPA) and the Maryland Department of Environment, as well as the Town of Elkton and Cecil County government.

It also includes the University of Maryland School of Nursing, which, with health interests in mind, helped draft the 12-question survey aimed at gathering input from the community.

The questionnaire already can be accessed on some Web sites, including one for Cecil Community College. And it's likely other methods will be used to distribute it.

"At the last (July 21) meeting, we discussed ways to distribute the questionnaire. We were up in the air about sending it through direct mail," said Chuck Smyser, director of environmental health at the Cecil County Health Department.

Smyser is one of 25 members on the Little Elk Creek Reuse Committee, which is considering future redevelopment options in the cleanup areas and is seeking input.

The cleanup project area borders the western edge of Elkton and includes the former Triumph Explosives, Inc., plant as well as sites to the south and west of the property.

Triumph Industrial Park, which encompasses the former explosives plant, has operating and closed facilities.

The area was first used as a fireworks and munitions production facility that supplied military ordnance during World War II. Since the closing of the munitions plant following the war, other manufacturing and industrial operations have moved into the area.

Dump sites and ordnance-related materials have been found in portions of the project area and, as a result, several agencies are performing investigations and cleanups under state and federal environmental programs.

The Maryland Department of the Environment is concerned about widespread groundwater contamination coming from active and inactive facilities.

And that groundwater contamination may be impacting surface water and sediment quality in the Little Elk Creek, which flows through the core of the project area, according to environmental officials.

The project area also includes two former fireworks manufacturing facilities (Keystone Fireworks and New Jersey Fireworks) and associated dump site and the Maryland Sand, Gravel and Stone Superfund site.

Other sites in the project area include ATK (formerly Thiokol) and GE Railcar.

In many cases, contamination dates back to former occupants of the properties, according to Art O'Connell, chief director of the state Superfund with the Maryland Department of Environment.

"We're not singling out Triumph Industrial Park," O'Connell emphasized. "In the industrial park, there are isolated properties here and there ... We've been working on some (sites) for 20 years now."

Assessments and cleanups at the sites in the overall project area will be completed within a few years, with some properties being ready for redevelopment sooner than others, O'Connell said.

The overall project area easily exceeds 1,000 acres, he estimated.

While completion of some cleanups will take longer than others, people in Cecil County can weigh in now on how they would like to see the land redeveloped, O'Connell noted.

According to state and federal environmental officials, the industrial park is underutilized because of the contamination issues. Once the cleanups are completed, however, redevelopment would improve job opportunities in the community, they say.

It also would open the door to residential growth in surrounding areas.

"Once the cleanups are completed, those properties will become available (for redevelopment). These decisions will definitely affect the community, and it needs to be involved," O'Connell said.

[January 12, 2006]

Cecil Whig

Little Elk Creek panel to present suggestions for polluted land

By Eugene Paik

County residents will be able to offer suggestions tonight in cleaning up contaminated areas around the Little Elk Creek near Elkton.

Members from the Little Elk Creek Reuse Committee will present their tentative recommendations for the polluted land to the public at 6:30 tonight at the Cecil County Health Department on 401 Bow Street in Elkton.

“We want to show the draft recommendations to the community and see what they think,” said Robyn Gilden of the University of Maryland’s Environmental Health Education Center, which is assisting the committee. “We want to have a dialogue to bring up issues that the committee may have missed.”

Comprised of local business and government officials, the Little Elk Creek Reuse Committee is a part of the Little Elk Creek One Clean-up Reuse Project, a pilot land-rehabilitation program run by the U.S. Environmental Protection Agency and the Maryland Department of the Environment.

Community feedback from tonight’s meeting, the project’s final public hearing, will be considered by the committee when it finalizes the reuse recommendations at a Feb. 16 meeting at the County Administration building in Elkton, Gilden said.

In December, the committee proposed redevelopment recommendations for 13 contaminated sites west of Elkton, including the former Triumph Explosives plant and polluted areas along the Little Elk Creek.

According to their list of tentative recommendations, committee members suggested that most of the sites remain as commercial and industrial developments.

The contaminated sites targeted for the project include a former munitions firehole in the Triumph Industrial Park and the 150-acre Maryland Sand, Gravel and Stone state Superfund site off Route 40 near Elkton.

Now home to both active and vacant facilities, the Triumph Industrial Park was once used as a munitions production facility during World War II. When the plant closed after the war, other industrial businesses moved into the industrial park.

Last year, a proposed 1,465-unit development on the former firehole won concept approval from the Cecil County planning board. However, the project’s developers said that construction of the project is dependent on the site’s cleanup being certified by the EPA.

The Maryland Sand, Gravel and Stone property, scheduled to complete cleanup efforts next year, has drawn interest from the Cecil County Commissioners and a White Marsh-based reclamation company, Days Cove, which proposed to build a rubble landfill on the site.

In November, the county commissioners expressed an interest in acquiring the site and leaving it as open space.

No recommendations have been made yet for either site, Gilden said, but both will be discussed at tonight’s meeting.

Other contaminated sites include the ATK Elkton (formerly Thiokol Propulsion) property and the 57-acre New Jersey Fireworks site.

Also at the meeting, representatives from the University of Maryland's Landscape Architecture and Environmental Science and Policy programs will present planning ideas and a possible development management design for the area.

However, the purpose of the design is to give the community and committee members ideas in shaping redevelopment in the area, Gilden said, and is not guaranteed to be recommended by the committee.

"The design gave the committee some things to think about as the recommendations were drafted," she said. "It's there to show what could be possible with the area."

[January 14, 2006]

U. of Md. Teacher presents ideas for Cecil land use

Cecil Whig

By Eugene Paik

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Ideas for a possible redevelopment layout for a contaminated area west of Elkton were presented to the public Thursday night.

The presentation was made at a meeting held by the Little Elk Creek One Cleanup Reuse Project at the Cecil County Health Department.

David Myers, an assistant professor with the University of Maryland's Landscape Architecture Program, presented a plan designed by his students that he said would best manage industrial, residential, and environmental growth in the polluted region.

"We want to protect the work zone," Myers said. "Cecil County's population is growing at double the rate of other counties in the state. As the community increases, we want to prevent the county from turning into a bedroom community by having more industry in place."

The university's landscape architecture school is one of several programs from the University of Maryland that have partnered with the Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE) to participate in the Little Elk Creek One Cleanup Reuse Project, a pilot program that is targeting 13 contaminated sites in the Little Elk Creek area for cleanup and redevelopment.

Working in coordination with the project, a reuse committee, made up of local business and political officials, has held several meetings over the past year to determine the best uses for the rehabilitated land.

According to the plan presented by Myers, the contaminated area would be transformed

into an industrial and commercial core surrounded by residential developments. Trails and open space would buffer the different zones.

“The approach is conceptual,” Myers said. “The project was a big-picture idea that promotes discussion. But there are also little-picture ideas included that allow us to see part of the future.”

Some of the “little-picture ideas” shown by Myers included the restoration of stream paths and “greenroofs.”

A relatively new tool in managing stormwater runoff, a greenroof contains vegetation that is placed on top of a membrane lining the top of the roof. Such roofs slow down the stream of stormwater, allowing more control over flooding and soil erosion.

“There’s been a lot of visionary work put into this design,” said Mathieu Carter, Cecil County’s capital facilities administrator and a member of the project’s reuse committee. “There’s a lot of interest in the ideas that have been thrown around.”

While it is not guaranteed to be used for the site’s redevelopment, the plan, designed by the University of Maryland’s Landscape Architecture and Environmental Science and Policy programs, could be factor into the final recommendations drafted by the committee.

In addition to the reuse proposal, the committee’s preliminary recommendations for the redevelopment of the area’s 13 polluted sites were introduced at the meeting. According to the draft recommendations, the committee suggested that the sites not being redeveloped by their owners should be zoned as commercial or industrial. However, the committee refrained from offering a firm recommendation for one of the sites – a former firehole on the 400-acre Herron Farm.

A proposed 1,465-unit development on the site won concept approval in November from the Cecil County planning board.

The project’s developers said that construction of the project would not start until the site’s clean-up earned EPA’s approval.

Committee members will not offer a redevelopment recommendation until clean-up of the site is complete, according to committee members.

While no solid answers could be provided for the Herron Farm project for those attending the meeting, several residents said that the forum did provide some helpful information.

“The Herron property rezoning brought me out to the meeting,” said county resident Tom McWilliams. “But everything gave me a better idea of what’s happening in general.”