Appendix I: Case Study Executive Summaries

Summary of Case Study

Site Name: Arsynco Site
Location: Carlstadt, NJ

1.0 General Site Description

The Arsynco site is located in the New Jersey Meadowlands Commission (NJMC) District in the Borough of Carlstadt. The street address is 511 13th Street. The property is identified as block 91-Lot 1 on the Borough of Carlstadt tax records and is approximately 12 ac in size. The site is a mid-block lot and is mostly rectangular in shape with the exception of the southwest corner. The Northern Eagle Beverage Co., Inc and the Henkel Corp site border the property on the north. The Pascack Valley Railroad line borders the property to the west and on the east are several large warehouse distribution faculties. On the south and southwest are various industrial and manufacturing facilities (Figure1). Additionally, the Arsynco site surrounded by a number of other Brownfield sites and it part of the Patterson Plank Road Brownfield Pilot Study Area, an EPA funded pilot program administered by the NJMC. Figure 2 shows the site in relation to other Brownfield sites in area.

The Zoning Ordinance of the Borough of Carlstadt and the NJ Meadowlands Commission indicate that the site is located within the Light Industrial and Distribution B Zone, which allows for warehouse and distribution activities. Wetlands are present in the eastern portion of the site and the site is within a flood hazard zone (100 year flood). Currently surface elevations average between 4 and 6 ft above MSL. Various utilities are available in sufficient capacity to support redevelopment include sanitary sewer, public water, electric service and natural gas. Storm water sewer lines are available along 16th Street.

The property has been owned and operated by a number of chemical companies since the early 1900's. Arsynco has owned and operated the site since 1969. Arsynco is a subsidiary of Aceto Corporation, Lake Success, New York. Operations on the site ceased in 1993. The Arsynco site was involved in the manufacture of specialty organic chemicals and pharmaceutical intermediates, propylene imines and derivatives, hair dyes, silicone intermediates, a quaternary ammonium salt, propiophenone and isobutyrophenone.

2.0 Transportation Access

Arysnco is served through a network of local streets, NJ Route 17 and Paterson Plank Road. Additionally, there is an existing rail freight siding that runs adjacent to the property. Several bus lines operate near the site, providing access for a potential transit user workforce. In addition, the Pascack Valley commuter rail line would serve as an additional means for workers to access the site. Although the site is accessible via NJ Route 17, use of the network of local streets is recommended as a principal means of highway access. Freight rail access is possible, but is problematic due to increasing competition with anticipated increased passenger service on the Pascack Valley line.

3.0 Environmental Assessment

Several phases of soil and groundwater investigations have been performed at the site since 1993. These investigations have determined that the site is underlain by 4 to 6 feet of historic fill,

a meadow mat layer, a clay layer then a silt formation. Shallow groundwater is encountered in the fill overburden at depths between 0.5 to 3 feet below grade. Deeper groundwater is encounter on site between depths of between 12 and 21 feet in the confined aquifer beneath the meadow mat and the first subsurface clay. Water level measurements at the site indicate that the groundwater flow direction is to the east and southeast towards Berry's Creek. The site groundwater is subject to tidal influences and is characterized by salt water intrusion and as a result is not potable

Numerous Areas of Concern (AOCs) were identified at the site and investigated. Contaminants of Concern (COCs) include VOCs, PCBs and metals. For the purposes of environmental investigations, the site has been divided into several areas. These areas have been investigated extensively. Based upon these investigations, possible remedial actions have been identified. These include:

a. Excavation and off-site disposal of soil containing PCBs over 500 mg/kg
b. Excavation and on site disposal in an engineered containment cell of soil containing PCBs between 50 and 500 mg/kg
c. Installation and operation of a air sparging/soil vapor extraction system (AS/SVE) to remove VOCs in soil and shallow groundwater
d. Covering the site with an approved cap
e. Deed restriction institutional controls
f. Monitored natural attenuation for groundwater with low concentrations of VOCs

Several important components of the clean up proposal are still in discussion and the outcome will greatly impact the remediation cost. Principally is the approval for on site containment of PCB impacted soil. Arsynco is currency in discussion with Region 2 EPA regarding the design of an on site containment cell. Another issue is contaminated sediments in a former pond. Indications are that a low permeable clay layer underlay this pond and the contaminants in the sediment are not migrating. Finally, the extent of the AS/SVE system has not been finalized. Thus, there are still significant issues that remain to be resolved with regard to the final remediation program.

4.0 Market Assessment

The site is located within the Meadowlands industrial sub market in Northern NJ. This is one of the strongest industrial real estate markets in the NY/NJ Metropolitan region, with asking rents for industrial space averaging over $7.00/sq.ft in the third quarter of 2001 in Bergen County. Additionally, due to minimal land for construction, Bergen County has lagged behind other northern NJ counties in terms of industrial space growth, with only a 0.84% increase in 2001. Along with this is the fact that much of the growth in warehouse and distribution space in Bergen County has been redevelopment of old functionally obsoletes buildings. These conditions fuel the demand for modern distribution centers in this area and this site offers the opportunity to build, at a minimum, a 200,000 sq ft building that would be an important step in satisfying this demand (Figure 3 provides a conceptual design for a warehouse and distribution center on this site). This would be done with a building that would greatly exceed the average building size in the area, which is only 61,000 sq ft. Not only would redevelopment of this property have important effects on the market demand, but it would also provide approximately 200 jobs and up to $150,000 in tax revenue to the local municipality.

Additional market factors effecting redevelopment of this property is the fact that it is within the Patterson Plank Road Redevelopment District and the future of the Meadowlands Sports Complex. This site is within a group of properties that the NJ Meadowlands Commission has designated for redevelopment in conjunction with the development activities that are planned for the Sports Complex. Thus, while there is strong demand for warehouse and distribution space in the area, there is the potential that these other factors could effect reuse options for the site.

Summary of Case Study

Site Name: Albert Steel Drum Site
Location: Newark, NJ

1.0 General Site Description

The 13.7-acre Albert Steel Drum (ASD) Site is located in the "Ironbound" section of Newark on the southeast corner of Wilson Avenue and Avenue L intersection. The ASD site consists of three parcels of land defined as Block 5038, Lots 70, 108 and 109 of the City of Newark Tax Assessor's map. Two of the lots, Lots 70 and 108 were sold by the Newark Housing Authority (NHA) to Tony Pallet, Inc in May 2000 while the third lot, Lot 109 is still owned by the NHA (Figure 1). The site is bordered on the north by Wilson Ave. to the east by an active railroad owned by Conrail, to the south by the Welch, Holme and Clark Company and to the west by Ave. L. Abutting the property to the southwest is an active chemical manufacturing facility (Troy Chemical Company). Trucking, chemical manufacturing, meat processing, and various other industrial activities surround the site. The nearest residential/commercial area is located approximately one-quarter mile to the west across a major limited access highway (Rtes 1&9) (Figures 2 and 3)

Currently, the site is vacant. However, the site has been industrialized since the early 1900's. Aerial photography shows that by 1951 the site was occupied by numerous industrial buildings, perhaps associated with an American Cyanamid facility. The Prentiss Drug and Chemical Company (PDC) and Albert Steel Drum (ASD) eventually used these buildings. The PDC operated on the site from 1956 to 1982 and manufactured pesticides. Albert Steel Drum leased their facility in 1974 and operated a drum recycling and reconditioning business until 1977. The site was purchased by the NHA in 1980 with the intention of rehabilitating the property for future industrial activities.

The site is in an area zoned Industrial (H-3) by the City of Newark. This zoning classification allows for a variety of industrial uses including warehouse and distribution. Additionally, all major utilities are available in sufficient capacity to support redevelopment. These include sanitary sewer, public water, natural gas and electrical service. However, storm water management is an issue because the area floods. The City of Nearly has prepared designs for a storm water drainage system to be installed, with a major interceptor pipe to be located along Ave. L. There are no wetlands on the property.

2.0 Transportation Access

Close proximity to several key regional highways, including Doremus Avenue, Route 1 & 9, the New Jersey Turnpike and the future Portway, make the Albert Steel Drum site desirable for access to Newark International Airport and the surrounding marine ports. Although Wilson Avenue provides the vital link to these facilities, direct site access to Wilson Avenue is not feasible due to physical constraints in the immediate vicinity. Instead, it is recommended that driveway access be provided on Avenue L. The City of Newark has initiated efforts to reconstruct the intersection of Wilson Avenue and Avenue L as part of its overall plans to reconstruct Wilson Avenue. It is recommended that the city consider several improvements in the design and construction of this project.

The site is particularly important because of its accessibility to Portway. Currently, the first section of Portway is being built from the Port area to the intersection of Doremus Ave. and Wilson Ave. Included in this construction project is a rebuild of the Doremus Ave. Bridge over the Oak

Island Rail Yards. This bridge is designed to handle heavy weight trucks, which when complete will allow overweight containers to be trucked off the port directly into warehouse and distribution facilities. The ASD site is ideally located to enable trucks to move quickly from the port area to a modern building with out impacting major regional roadways. (Figure 4)

Although the Albert Steel Drum is relatively small in terms of being a viable rail service customer, there is a strong potential to serve this site from both the north and south with rail. Conrail maintains an active track along the east side of the ASD site, which connects to Brills Yard to the North and the Oak Island Yard to the south. Additionally, NJ Transit operates bus service along Wilson Avenue with designated stops where Wilson Avenue intersects Avenue L.

3.0 Environmental Assessment

This site has a long history of environmental investigation and remediation. Initial site investigations began in 1980 when the NJDEP Division of Water Resources installed 20 soil borings and collected 80 soil samples. From 1987 to 1993, a major RI/FS was conducted at the site by TRC Environmental Corporation. This effort included two phases of investigation and a feasibility study that identified clean up options. Investigations included collection of surface soil samples, excavation of test pits, collection of soil samples from test borings, installation of monitoring wells, groundwater sampling and sediment sampling. Volatile organic compounds (VOCs), PAHs, pesticides, PCBs and metals were found to exist in site soil and to a limited extent in shallow groundwater. PCBs were also found in the sediment in the drainage ditch located in the southwest portion of the site. Based upon the results of the sampling, several subsurface and surface “hot spots” were identified to contain site contaminates above site clean up levels (1000 ppm VOCs soil & 50 ppm PCBs soil). In 1994, NJDEP issued a Draft Decision Document which recommended clean up activities consisting of: excavation, stabilization and off site disposal of contaminated sediments; excavation of VOC contaminated subsurface soil “hot spots” with treatment and disposal; construction of a 1.5 ft thick cap over the entire site, demolition of the PDC building and groundwater monitoring. The building subsequently was demolished in the mid 1990’s.

In 1999 Kimball & Assoc. was contracted by NJDEP to perform additional investigations at the site to further define the “hot spot areas” and develop a 65% design document for the remediation. During this effort an additional PCB “hot spot” was identified and include in the final design. This effort estimated the volumes of soil needing removal, identified disposal options and provided more detail for the cap design. In May 2000, the NHA sold the site to Tony Pallet, Inc, which entered into an Administrative Consent Order (ACO) with NJDEP regarding the ASD Site in June 2000. The ACO specified the responsibilities of Tony Pallet, Inc for implementing the Remedial Action. A Remedial Action Work Plan (RAWP) was prepared and approved by NJDEP in August 2001. In the spring of 2002, the specified remedial actions were implemented. In October 2002, a revised RAWP was submitted to NJDEP that reflected changes to the cap design in order to accommodate the construction of a W&DC building.

Geologic strata at the site consist of an initial layer of historic fill that ranges in thickness from 6 to 12 feet. This layer is composed of a wide variety of materials including concrete, brick, plastic, metal and wood. Beneath the fill is the meadow mat, which is fairly thin (six inches to 1 foot). The geologic layer beneath the meadow mat is a silt layer. Permeability analysis of soil samples from this layer indicates a low hydraulic conductivity. Beneath the silt is red fine sand that is fairly thick. Bedrock beneath the site is shale and is encountered at 65 to 75 feet below the site. Groundwater consists of a shallow perched zone above the clay and a deeper zone in the fine sand. Also, the shale bedrock is a regional aquifer. Groundwater flow in the shallow perched zone is from south to north and the quality of the shallow groundwater is generally poor, containing low levels of VOCs. Groundwater in the area is not used for potable supplies.

4.0 Market Assessment

The site is within the Newark/Airport/Sea Port sub market of the Northern and Central NJ industrial real estate market. This sub market contains approximately 72 million sq. ft of industrial space as of 1st quarter 2002, consisting of 456 building over 50,000 sq ft. The availability rate was 6% and the average asking rent was $5.15 per sq. ft. However, the key market aspect of this site is it's proximity to the Newark/Elizabeth Port complex and the ease of access once the Portway construction on Doremus Ave. is complete. Overweight containers can be directly trucked from the port area to this site along an upgraded transportation infrastructure. Thus, this site holds tremendous potential for constructing a modern value added distribution center that can service the region's air and seaports.

Conceptual plans have been developed for a building that can range in size from 250,000 sq. ft to 350,000 sq. ft (Figure 6). The size of the building will be controlled by various factors including storm water management, building coverage allowed by zoning, truck access and geotechnical considerations. The market study indicates potential users could be spirits & wine distribution, clothing or dry goods repacking and distribution. Estimated land values when remediated to non-residential standards are $3000,000 to 350,000 per acre. Based upon possible building sizes, there is the potential to generate up to 300 jobs for the local urban workforce and between $ 500,000 to $ 600,000/yr in tax revenue to the City of Newark.

Of all the Case Study sites, this one has the most potential as an example of the concepts behind the study. It is within close proximity to the ports; it will be connected to modern transportation infrastructure designed specifically for truck traffic (thus trucks will not travel regional highways to access the site); it is within a heavily industrialized section of Newark (thus freight related redevelopment will not impact residential areas); it can provided much needed jobs for the urban workforce; the workforce can use existing mass transit; a large modern W&DC can be built on the site which will be designed to support modern logistics requirements and the site will redeveloped with an environmentally friendly use.

Summary of Case Study

Site Name: Reichhold Chemical
Location: Elizabeth, NJ

1.0 General Site Description

The Reichhold Chemical Site is an assemblage of three (3) tax lots located in southern Elizabeth, with a small portion in Linden. The property is identified as Block 4, Lots 63 and 67 (comprising 12.3 ac) on the City of Elizabeth tax map and Block 586, Lot 1 (comprising 7.2 ac) on the City of Linden tax map. Based upon the tax record the property contains approximately 19.5 ac. Reichhold Chemicals, Inc owns the property. The property is currently vacant with the exception of a warehouse building on the northern side of the property. A majority of the site is covered by impervious surface. Figure 1 provides a map of the site and surrounding land uses and Figure 2 is a tax map of the property.

Bayway Ave. borders the northern edge of the property and Conrail's Chemical Coast Line (a major north/south freight line) borders the western edge of the site. To the south the site is bordered by Morses Creek and east of the property is the Phelps Dodge facility and furniture warehouses. The site is in an industrial area of southern Elizabeth that contains the Joint Meeting wastewater treatment plant and other manufacturing and bulk fuel storage facilities. A small residential area lies to the north. The site is traversed by a Class Two short line railroad (Sound Shore Line) and the southern portion, which falls within Linden, is only accessible through the Elizabeth component.

The Elizabeth portion falls within the M-2 Medium Industrial Zone and the Linden portion is in the HI Heavy Industry Zone. There appears to be no wetlands on the property and the topography is generally level. Public sewer is available and provide by the City of Elizabeth Sewerage Authority and public water is supplied by the Liberty Water Company. An 8" main runs along Bayway Ave. Adequate electrical service is available and provided by PS&G and natural gas is available from Elizabethtown Gas Company. The site does not appear to be within a flood hazard area and is not restricted by either the 100-year or 500 year flood boundary.

2.0 Transportation Assessment

The Reichhold Chemical site presents both many challenges and opportunities for transportation access. Bayway Avenue borders the site to the north and First Avenue to the east. To the west, the Chemical Coast rail line, a major north-south freight rail line owned and operated by Conrail on behalf of CSX and Norfolk Southern, borders the site. The Reichhold site is bifurcated by a short line railroad called the Sound Shore Line.

While the site is within close proximity to several key highway links, including the New Jersey Turnpike and the Gothels Bridge, highway access is limited due to a number of undesirable highway geometric and traffic control features along likely trip paths. And other alternative trip routes require use of narrow residential streets and substandard bridges.

Several initiatives are planned in the area that will enhance roadway access to the site. These include realignment of Relocated Bayway, widening and reconstruction of First Ave. and replacement of the First Ave. Bridge over the Elizabeth River. These improvements could enhance roadway access to the site. Rail access can be obtained from the Chemical Coast Line through the Class Two short line that exists on the site. The Chemical Coast Line extents north to the Trumbull Yards and the Oak Island Yards and intersects with the North Jersey Coast Line near Perth Amboy. Limited existing bus transit is available.

3.0 Environmental Assessment

Industrial operation began on the site in the early 1900's. Initially the site was used for metals manufacturing operations or was left undeveloped. Reichhold began operations on apportion of the site in 1936. During Reinhold's operation, several types of resins and chemicals were manufactured at the site. Reichhold ceased operations in 1991 and a decommissioning program was initiated. All on-site structures have been demolished with the exception of a warehouse, which is used to store drummed and bagged raw material and finished products.

Initial environmental site investigations began in 1987. In 1998, a report was prepared that presented the results of investigations at the site, documented remediated hot spots and propose a comprehensive remedial action for the site based on the results of the work to date. This report divided the site into ten areas. It described the sampling performed at the various areas of environmental concern and the remedial actions proposed. Contaminants of concern for the Reichhold site include VOCs, SVOCs, TPHC, PCBs and metals. In most cases the impacted soil was either excavated or capped with a deed notice. For groundwater, natural attenuation with a CEA is proposed. This is largely based upon the fact that a regional groundwater problem exists with respect to organics.

In November 2001, a Phase VI RIR/RAWP was submitted that addressed final issues with regard to the soil contamination and completed on-site groundwater delineation. Based upon this submittal, on site remediation of soils has been complete through a combination of excavation, capping and deed restrictions. Impacts to groundwater will be managed though a combination of enhance bioremediation using oxygen release compounds (ORP) establishment of a CEA and monitored natural remediation (MNR). However, at this point, a No Further Action (NFA) letter has not been issued for site soils nor has NJDEP approved the proposed groundwater program.

4.0 Market Assessment

The property is located in the City of Elizabeth Urban Enterprise Zone (UEZ). As such it is eligible for government support in terms of below market financing, tax incentives, tax abatements and employment credits and subsidies. Additionally, the property has other attributes that affect its marketability. These include its proximity to NJ Turnpike Exit 13, access to the Chemical Coast Line through the rail short line that bifurcates the site and the possibility to access the nearby Tosco-Phillips refinery plastic pellet manufacturing facility. On the other hand, discussions with Elizabeth officials indicate a strong concern on their part to minimize the impacts of trucking activities on residential areas that are north of the site.

Union County has the fourth largest amount of indusial space in the North and Central NJ market with 87 mm sq. ft., but has a fairly low vacancy rate. Asking lease rates are $5.00 per sq. ft. average building size is 84,000 sq. ft and many of the existing building are old style warehouse space. The proposed design for this site would allow for approximately 400,000 sq. ft of W&DC spread over two buildings (Figure 3). This would provide significant additional space to an industrial market that has a low vacancy rate. Also, this would provide a modern W&DC building in an area where the primary available space is not compatible with the changing trends in logistics. Another aspect that would enhance the market value of W&DC built on this site is planned transportation improvements in the area. In general a 400,000 sq. ft W&DC could provide 200 to 250 jobs and provide approximately $600,000/yr to Elizabeth in property tax.

A unique reuse opportunity for this site that was uncovered by the project team is plastic products manufacture. As mentioned earlier the site is near to the Tosco-Philips refinery plastics pellet manufacturing facility. Preliminary analysis indicates it is possible to move rail cars of plastic pellets from the refinery to the site through rail connections under the NJ Turnpike. Information

provided by the Society of Plastics Industry (SPI) indicates that transportation is one of the major cost components of producing plastic products. As such, plastic processing is usually located near the pellet manufacturing site or end user. The rail access to the Tosco-Philips facility would provide an inexpensive source of raw material and also allow easy shipment of finished goods.

Summary of Case Study

Site Name: Carteret Redevelopment Properties
Location: Carteret, NJ

1.0 General Site Description

The property that is the subject of this case study is an assemblage of fifty tax lots that collectively comprise approximately 137 ac. It is Phase I of a two-phase redevelopment project. The property is located north of Industrial Road, near NJ Turnpike Exit 12 in Carteret, NJ. The site is irregularly shaped with road frontage along the southern perimeter and its boundaries include the New Jersey Turnpike/Chemical Coast Line Railroad to the west, the Rahway River to the north and Industrial Avenue/Tank Farms to the south (Figure 1). Of the 137 acres only approximately 50 to 70 acres are developable and these consist of former landfills. Topographically, elevations range from 4 to 48 ft msl, with the highest elevations corresponding to the location of the landfill material.

The property is located within the HI-A (Heavy Industrial) Zone. Permitted principal uses include industrial or manufacturing as well as a permitted conditional use as a regional mall. The original intent of the mall development was that it would be consistent with the Borough's comprehensive development plan, which was developed to minimize traffic impacts on local rods. Development by freight related use may require modification to the existing development plan and zoned permitted use.

With the exception of the landfill area the site is with the 100 yr and 500 yr floodplains. The Carteret Borough Sewage Authority would provide public sewer. Sewer lines are available at the Harrison Avenue pumping sub station. The Middlesex County Water Company would provide public water. Currently water is provided to both the Dauman and GATX lots. A 12-inch main services the site via Industrial Avenue. The site is serviced by electricity and GPU indicates that adequate facilities are available to service the proposed development. Elizabethtown Gas Company provides natural gas. The closest main is located on Roosevelt Avenue. Carteret Land Development regulations require that adequate storm water management capacity be incorporated in the reuse design. Storm water controls will be integrated with the landfill cap design.

As mentioned previously, the redevelopment site is composed of numerous lots. The Borough of Carteret does not own all of these lots. A portion of the landfill is occupied by an active recycling business called Dauman Recycling, Inc., which stores mulches and distributes various wood landscaping products. In addition to the mulch, scrap metal and other debris are stored on the landfill site. CDI Industries, GATX, Industrial Reclamation Inc. and Middlesex Landfill Corp own other lots within the redevelopment area. Thus redevelopment will require purchasing and assemblage of lots owned by various entities.

2.0 Transportation Access

Carteret Redevelopment Properties is located within close proximity to the New Jersey Turnpike, Interchange 12. Portions of the site are currently active and are served principally through the existing network of streets, including Industrial Avenue and Roosevelt Boulevard, which connect to the interchange. The New Jersey Turnpike Authority is pursuing extensive improvements to Exit 12 including reconfiguration of the ramps and construction of a new roadway that would provide direct access from Exit 12 to a large complex of industrial sites north of the Carteret and across the Rahway River, more commonly referred to as Tremley Point (Figure 2). Several alignments and interchange reconfiguration scenarios are being considered but all include substantial increases to vehicle storage areas, intersection improvements and elimination of problem-

atic intersections. The required Environmental Impact Study (EIS) is underway and should be completed in the beginning of Year 2003. Following completion of the EIS, the project will move to final design, which is expected to take 1-2 years, and then construction, which is expected to take 3-5 years.

The proposed improvements to Exit 12 will also include designs to access any redevelopment that will occur on the former Carteret landfill through the use of the new roadway that will serve Tremley Point. However, the remediation of the landfill will include capping which will possibly place building floor elevations at 45 ft msl. Any roadway design to access the redevelopment on top of the landfill must consider the elevation difference between the site and the surrounding land area. This is particularly important with regard to providing adequate truck grades.

The site is also located within close proximity of a major regional rail freight line, the Chemical Coast Rail Line. However, the substantial amount of fill needed for a likely environmental remediation scenario would make a direct rail connection impractical. Due to the significant and likely elevation difference, rail access to the Carteret site could only be achieved through innovative loading and offloading operations, or made viable by a remediation scenario that minimizes the elevation difference between the existing track and off-load facilities.

The Carteret site is bordered to the north by the Rahway River, which enters the Arthur Kill approximately 1 mile east of the site. The Arthur Kill provides marine access for several key industrial ports along the western coast of Staten Island and New Jersey.

The Rahway River, which borders the site to the north, accommodates limited barge traffic, but transport via deep draft hull vessels is not feasible due to the shallow controlling depths and river geometry. Dredging of the Rahway River is also unlikely due to probable toxic dredge contaminants.

Several nearby bus routes with stops along Roosevelt Avenue could provide transit service for the Carteret site. Service is provided on weekdays with limited weekend service. Bus service should be coordinated with work schedules to ensure that efficient worker transit access is provided.

3.0 Environmental Assessment

Approximately 70 of the 137 acres are former landfill. These comprise three solid waste landfills, the Carteret Landfill, the Cranbrook Landfill and the Middlesex Landfill. These landfills officially terminated active disposal operations in 1985, 1966 and 1979. According to 1997 Remedial Investigation Report, the Cranbrook Landfill was closed in accordance with NJDEP requirements, but the other two have never been properly closed.

In 1997 a remedial investigation was conducted of the three landfills. Soil borings were advanced into the landfills and they were found to consist of a heterogeneous mix of wood, soils, house hold refuse a d construction and demolition debris. A leachate mound exists within the landfill material with discharge along the east, north and west sides of the landfill mound. Groundwater monitoring wells were installed in the landfill to sample the leachate. It was found to contain VOCs, SVOCs, metals and PCBs. Sediment and surface water samples were collected from nearby creeks. The sediment was found to contain low levels of metals and pesticides. Arsenic was found at significant levels in two surface water samples.

Two engineering firms have developed conceptual designs for landfill closure by capping. Both consider the closure to include preparation of the landfill such that building foundations and other site improvements can be constructed. Methods suggested for landfill material consolidation include Deep Dynamic Compaction or surcharging (preloading). It is estimated that 2 mm cubic yards of compacted fill will be required to cap the landfill. The material proposed for the capping

fill would be dredged sediment. This material would have to be properly conditioned before being used as placement fill. Additional closure items include landfill gas collection and treatment system, asphalt cap on top of the landfill, groundwater monitoring, leachate collection and treatment, relocation of two creeks, creation of new wetlands and enhancement of existing wetlands. A deed notice will also be required with regard to the landfill material and the site soils. Costs for impending this program range from a low of $19 mm to a high of $36 mm. This program would result in the creation of approximately 50 acres of land on top of the landfill (in the form of a plateau) that would be available for redevelopment.

4.0 Market Assessment

The success of the redevelopment of this parcel is closely tied to the proposed reconfiguration of the NJ Turnpike Exit 12 interchange. Transportation access to the site is dependent upon integrating into the design a roadway to the north that will match the proposed grade of the final landfill capping. One possible access option is shown on Figure 3. This figure also provides a reuse design that consists of a 670,000 sq. ft and a truck service travel center.

Market research indicates the need for a full service travel center proximate to the ports and the New York City area. According to the American Trucking Association, the number of trucks on the road has doubled since 1970. This is reflected in northern NJ where there is a significant dependence on trucks to service the port complex. A travel center at this location would allow truckers to stage up before access the ports as well as obtaining needed services. The concept proposed in Figure 3 includes hotels, restaurants, fueling area, truck service area, internet access, laundry and other amenities. Based on the concept provided it is estimated that the proposed travel center would yield approximately $2mm in annual taxes and provide employment for low to moderate-income workers in Union and Middlesex Counties.

The other component of the proposed redevelopment is a 670,000 sq. ft modern warehouse and distribution center. In the last two years Middlesex County has experienced the largest increase in industrial space in the North and Central NJ market. The majority of this increase has been in the Exit 8A sub market, which has seen the construction of several large (over 500,000 sq. ft) buildings recently. In the northern Middlesex sub market, where this building would be located, there is an abundance of smaller buildings (between 5,000 and 20,000 sq. ft) but only three buildings over 250,000 sq. ft. Thus there are only a few buildings with the ability to accommodate a large end user who requires space in excess of 250,000 sq. ft. Developers and realtors indicate that the demand for large state of the art buildings with 36 foot high ceilings and cross dock capabilities is very strong.

As part of this study a limited appraisal was performed on the property. The appraisal was performed under two conditions, “as is” (defined as remediated to industrial clean conditions but not developed) and “as if” (defined as developed in accordance with the concept design). Considering approximately 50 buildable acres, the “as is” estimated value is $15.4mm and the “as if” estimated value is $64mm. Estimate total annual tax revenue to Carteret from the development concept would be approximately $2.9mm.