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# Sustainable Revitalization of the Fort Washington Office Park

## Upper Dublin/Whitemarsh Township, PA



Draft Final Report

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# 1.0 Background

## 1.1 Introduction

Over the last several years, Upper Dublin Township has been investing substantial resources in addressing the issues of flooding, infrastructure, and tax base maintenance in the Fort Washington Office Park (FWOP). Temple University's 2008 study and various engineering studies have all contributed to that investment. In November 2010, the Township adopted its first Comprehensive Plan and is continuing its work with URS Corp. by conducting a separate engineering analysis evaluating roadway improvements and the construction of two new flood retarding structures to mitigate flooding in the FWOP.

In its desire to build upon these efforts, Upper Dublin Township convened a Steering Committee of representatives from both municipalities, including elected officials, municipal staff, and volunteers to begin taking the next steps. The Committee engaged a team led by Urban Partners to identify specific solutions for mitigating FWOP properties and reinvigorating the Office Park through a sustainable revitalization plan. Upper Dublin Township has been the lead agency for the project, securing the planning grant from the Delaware Valley Regional Planning Commission, administering the contract, and hosting project meetings.

This Sustainable Revitalization of the Fort Washington Office Park study is primarily intended to identify the most cost-effective and innovative ways to prohibit new development in the floodplain and relocate existing development out of the worst flood-prone areas of the FWOP. At the same time, the plan seeks to follow best practices for environmental sustainability, create greater employment opportunities, create desirable and exciting new mixed-use amenities in the FWOP, and increase the tax base for both Upper Dublin and Whitemarsh Townships through net gains in commercial taxes and an entirely new residential tax base.

## 1.2 Project Location

The Fort Washington Office Park is bound by Susquehanna Road to the north, the Pennsylvania Turnpike to the east, residential neighborhoods along Commerce Drive and Camp Hill Road to the west, and Pennsylvania Avenue to the south, which is the municipal boundary with Whitemarsh Township. The Whitemarsh side contains similar commercial land uses as Upper Dublin, as well as numerous parcels that regularly flood. While the FWOP is considered to be technically located in Upper Dublin, because of the shared boundary and flooding issues in this location, the study area has been delineated to include portions of both townships (see Figure 1 on next page).

As the map shows, Upper Dublin contains the vast majority of land in the Fort Washington Office Park study area. Of all the 119 properties in the study area, 106 or 89% are located in Upper Dublin. These parcels contain office, warehouse, light and heavy industrial, institutional, hotel, and retail uses. Several vacant buildings and undeveloped parcels exist throughout the FWOP in Upper Dublin as well. While the majority of the properties are privately-owned by companies or individuals, a few are owned by public entities such as the Township and county. The remaining 13 properties in the FWOP study area lie in Whitemarsh Township on the south side of Pennsylvania Avenue. These parcels, which are all privately-owned except for one, contain office, hotel, and auto/retail uses, or are vacant.

Figure 1. FWOP Study Area in Upper Dublin and Whitemarsh Townships.



### 1.3 Community Engagement

A necessary component of the study was engaging the FWOP-area community, including specific property owners as well as the public at large. As part of this effort, the study team interviewed developers, property managers, tenants, and owners of 23 FWOP properties located in the floodplain. By speaking with these key stakeholders, the team was able to get a sense of the degree of flooding that occurs, and whether the owner, broker, or tenant was potentially interested in moving his or her business out of the floodplain.

The team also engaged the public through a public forum held at Upper Dublin Township on November 11, 2010. That meeting was an opportunity for the community to understand the flooding in the office park, hear about the various tools to mitigate flooding impacts, and ask questions or provide feedback. A flyer was prepared (see Appendix A) and the Township televised the meeting on its cable channel. Follow-up opportunities for public comment were offered through a series of open meetings with the Planning Commission and elected officials in both Upper Dublin and Whitemarsh Townships. The team responded in writing to all questions regarding the study, and adjusted draft work products to reflect applicable feedback.

### 1.4 Floodplains and Flood-Retarding Structures

#### 1.4.1 History

The Fort Washington Office Park has had a history of flooding since the park's inception in the 1950s, ranging from minor to severe. Over the years the flooding has resulted in significant property damage to the structures located in the floodplain of the converging waterways of Pine Run and Rapp Run. Concern has grown over the potential for flooding to drive out existing tenants and owners of the FWOP and prohibit future tenants from signing leases or purchasing properties.

To mitigate the flooding in the FWOP, Upper Dublin Township embarked on an effort to apply for an H2O PA Flood Control grant through the Pennsylvania Department of Community and Economic Development to construct two flood retarding structures – one on each waterway – as well as make improvements to Virginia Drive. The grant program was established by the PA General Assembly in 2008 with an allocation of \$650 million for flood control projects, including channel improvements, compacted earth levees, concrete channels, concrete floodwalls, detention dams, and various non-structural measures, as well as the rehabilitation of existing structures. Funds can be used for a range of project costs from engineering to construction, including bonds and insurance. Projects must range between \$500,000 and \$20,000,000.

To assist with the application, the Township hired URS Corp. to prepare the engineering design for the flood retarding structures and roadway improvements. As part of this effort, URS updated the floodplain maps for the FWOP portion of the Township for a full range of potential flooding events under existing conditions, from 2-year to 500-year. The same was prepared for conditions if the flood retarding structures are constructed. For the purposes of this study, the 50-year floodplain was established as the standard for determining if FWOP buildings should be relocated. Figure 2 shows the 50-year floodplain with no structures (existing conditions), and Figure 3 shows the 50-year floodplain if the structures get built. In both cases, flood elevations are measured at the ground-floor level of each building. No models were prepared to examine the effects if only one of the structures was built.

According to the analysis prepared by URS, a total of 19 properties in the Upper Dublin portion of the FWOP would flood in a 50-year event without the flood retarding structures in place, and six would flood in Whitemarsh. These properties are shown as dots on Figure 2. If the flood retarding structures are built (assuming the H2O grant is secured), the analysis also shows that a total of ten properties will flood in Upper Dublin and the same seven properties would flood in Whitemarsh with or without the structures. These properties are indicated on Figure 3.

#### 1.4.2 Status of the Structures

The Township has faced a variety of challenges regarding the grant application for the flood retarding structures. The application deadline was first extended to the summer of 2010, which the Township met. The Department of Environmental Protection then changed the deadline again to March 2011. This has given the Township more time to refine its application, but is also costing the municipality additional funding to modify the design.

While there is agreement that pursuing the grant money should continue, there is concern over how the change in state administration may affect the outcome. The Commonwealth Financing Authority awards H2O PA grants. The authority requires a unanimous vote for an award, including agreement by the House, Senate, and Governor Corbett. While local legislators may be on board, the Governor's recent release of the draft 2011-2012 budget eliminated provisions for flood control projects, which may include the H2O PA program. Until the budget gets resolved, this plan is assuming that the structures will not get built and that the 50-year floodplain will remain as is, shown on Figure 2.

Figure 2. 50-Year Floodplain with No Flood Retarding Structures in Place.

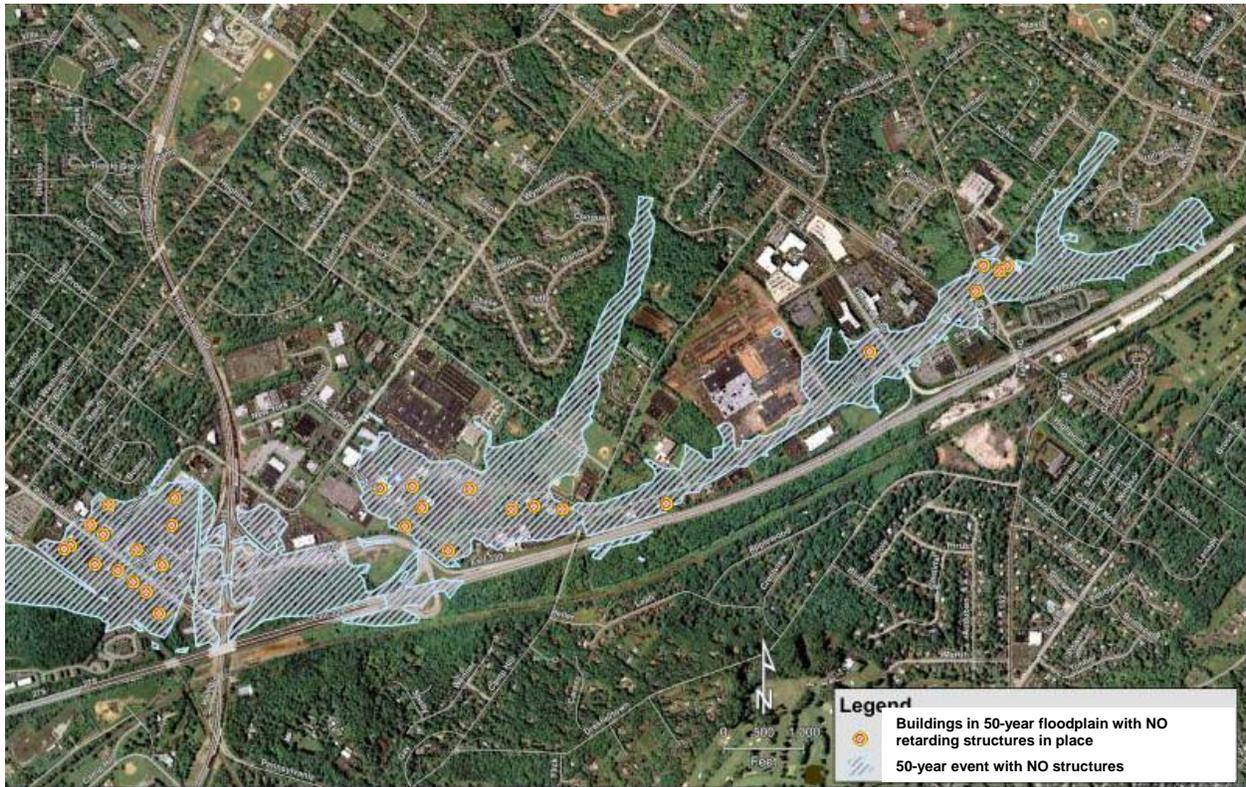
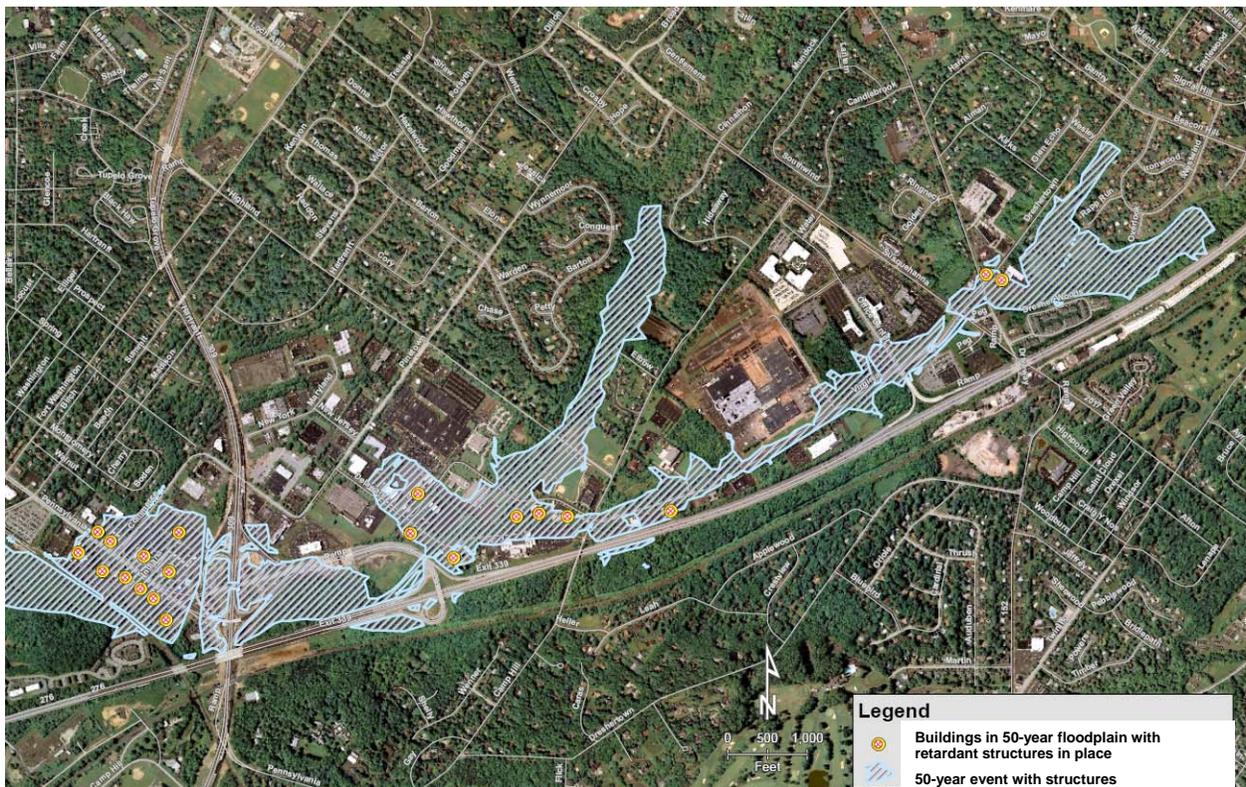


Figure 3. 50-Year Floodplain if Flood Retarding Structures are Constructed.



## 2.0 Tools for Reducing/Eliminating Development in Floodplain

A variety of property-specific tools exist that can achieve the goal of removing properties from the floodplain while creating incentives for redeveloping the Office Park into a reinvigorated and exciting place. The most tangible and practical tools for the FWOP include the purchase of property for open space, restrictions placed by zoning and development standards on additional development in the floodplain, and the transfer of development rights (TDR). As the report will indicate, we will suggest the combined use of all of them.

### 2.1 Open Space Purchase

Several vacant buildings and undeveloped parcels currently exist in the FWOP 50-year floodplain in both Upper Dublin and Whitemarsh. Vacant parcels with no development would not require any building removal or tenant/owner relocation. Vacant buildings would require demolition to return it to undeveloped open space, but no relocation would be required either. As a result, these parcels should be the first candidate properties to be considered for creating permanent open space in the floodplain through purchase by each municipality.

Montgomery County's Green Fields/Green Towns Open Space Program provides grants to municipalities that create and maintain an open space plan on a competitive basis. Funds can be used for floodplain restoration, among many other uses that involve active and passive open space. Both Upper Dublin and Whitemarsh Townships have applied for and received open space grants from the county in the past. Each municipality also has its own individual open space budgets, which it can use for the purchase of open space. Revenue for open space is generated through borrowing and assessments. State, federal, and foundation grants also exist. Regardless of the source, Upper Dublin and Whitemarsh should consider these methods to purchase their respective vacant parcels to become permanent open space as soon as possible. Specific parcels recommended for open space purchase are detailed later in the report.

### 2.2 Zoning Restrictions

The zoning ordinances for both Upper Dublin and Whitemarsh contain language regarding development in their respective floodplains. An important tool for preventing future destruction in a floodplain is strengthening the existing zoning language to include severe restrictions on future development. Using Upper Dublin's current floodplain building restrictions as a base, we are suggesting a recommended revision to the ordinance that will further discourage development in the floodplain and enhance the protection of water resources in the Fort Washington Office Park.

#### 2.2.1 Summary of Building Restrictions in Current Flood Protection Ordinance

Upper Dublin's Flood Damage Prevention Ordinance (Chapter 122 of Township Code) focuses on minimizing damage through flood proofing and raising new construction out of the floodplain, rather than eliminating or significantly restricting development in the floodplain. The current ordinance permits:

- New construction as long as it is elevated to at least 1½ feet above the base flood elevation
- Modification or expansion (less than 50% market value) in floodplain as long as it is elevated or flood proofed to base flood elevation

- Expansion of structures in the *floodway* (the area in which water is actually flowing during a flood event) if expansion/enlargement is fully offset by stream improvements
- Reconstruction of destroyed properties

A review of national, state and local practices reveals that many communities, including Montgomery County, are taking a more proactive approach toward protecting floodplains by restricting the amount of development permitted. The paragraphs below describe emerging practices and discuss potential legal or “taking” issues associated with them. Appendix B provides more resources related to these issues.

### 2.2.2 The Case for Strengthening Minimum Floodplain Standards

A local government’s ability to adopt floodplain regulations which exceed State or Federal (FEMA) minimum standards has been upheld in numerous court cases. FEMA allows for and rewards state and local regulations that exceed Federal standards through the Community Rating System, which provides reduced rates for higher floodplain standards. In addition, the Association of State Floodplain Managers has tracked court cases that have, in specific cases, sustained a variety of regulations that exceed FEMA minimum standards, such as:

- Regulating activities consistent with the 500 year flood rather than the 100 year flood,
- Prohibiting residences in floodplains,
- Establishing more stringent floodway standards such as preventing activities which would cause any substantial increase in flood heights,
- Establishing buffer and set back requirements for development adjacent to riverine floodplains,
- Establishing tight restrictions on the use of septic tank/soil absorption fields in floodplains,
- Establishing open space zoning for some floodplains, and
- Establishing tight restrictions on the rebuilding of nonconforming uses.

A critical component of providing the legal basis for strengthening floodplain ordinances is quantifying the impacts of development on the floodplain. This report has performed an analysis of the development potential with today’s zoning and the impact of that development on flood events. Understanding these impacts will allow for using the “no adverse impact” approach to floodplain management. (See definition in callout box on right.)

#### **No Adverse Impact Floodplain Management**

No adverse impact (NAI) floodplain management is an approach that ensures the action of any community or property owner, public or private, does not adversely impact the property and rights of others. An adverse impact can be measured by an increase in flood stages, flood velocity, flows, the potential for erosion and sedimentation, degradation of water quality, or increased cost of public services. No Adverse Impact floodplain management extends beyond the floodplain to include managing development in the watersheds where floodwaters originate. NAI does not mean no development. It means that any adverse impact caused by a project must be mitigated, preferably as provided for in the community or watershed based plan.

*NAI Toolkit, Association of State Floodplain Managers 2003*

Montgomery County has prepared a floodplain ordinance that is being reviewed by FEMA for compliance with the State's model ordinance. This ordinance exceeds the FEMA minimums. Once this ordinance is approved by FEMA, the County will be working with municipalities to adopt it.

A community must allow for "reasonable" economic uses on properties, especially on properties that were purchased before tighter restrictions were adopted. However, a community can regulate almost all development in the floodplain through a detailed variance process, as is defined in Montgomery County's Draft Model Ordinance. The variance process allows flexibility to the local government to permit use of a parcel, if the lack of the permit would deny a landowner of all economic use of their parcel. A TDR process can provide a "reasonable" economic use for the properties that are wholly in the floodplain. Including TDR in the variance process will allow for flexibility of the local government to facilitate the program. It is important to note that the Pennsylvania Municipalities Planning Code §10619.1 authorizes local governments to enact a TDR ordinance, and does not allow TDR without such an ordinance.

Key regulations in the draft Montgomery County floodplain ordinance include:

- Very few uses that involve structures are permitted in the floodplain
- Placement of fill in the floodplain is prohibited
- Roads, parking lots and stormwater basins are prohibited uses
- Existing Structures/Nonconforming Uses:
  - No expansion or enlargement within a floodway
  - No expansion or enlargement that raises the base flood elevation (BFE) more than 1 foot at any point within the Special Floodplain Area
  - No expansion or enlargement of an existing structure shall be undertaken in the direction of the stream bank
  - Any modification, alteration, reconstruction, or improvement, of any kind to an existing structure, to an extent or amount of fifty (50) percent or more of its market value, shall constitute a substantial improvement and shall be undertaken only in full compliance with the provisions of the ordinance
  - Any modification, alteration, reconstruction, or improvement of any kind that meets the definition of "repetitive loss" shall be undertaken only in full compliance with the provisions of the ordinance
- Variance process

### 2.2.3 Zoning Recommendation for the FWOP

The Township should consider two revisions for the 50-year floodplain that would encourage the use of TDR and provide a higher level of protection for water resources in the area:

- Eliminate a portion of the variance section and add the TDR program as relief for parcels that become unbuildable (either fully unbuildable or partially unbuildable) under the revised ordinance
- Extend floodway restrictions to the floodplain, further limiting development

In addition, Upper Dublin and Whitemarsh should consider adopting the Montgomery County Model Ordinance for the entire Township to provide enhanced floodplain protections community-wide.

## **2.3 Transfer of Development Rights (TDR)**

Open space purchase and zoning restrictions are fairly straight-forward concepts, and could potentially be initiated in the near-term to begin the process of restricting or removing development from the floodplain. However, TDR is a much more complex and long-term solution for mitigation and revitalization. As a result,

the bulk of this report is an analysis of the application and mechanics of TDR in both the Upper Dublin and Whitemarsh portions of the FWOP, and serves as a guide to both municipalities for implementing TDR.

Transfer of Development Rights is a land use tool that involves the creation of rights or credits that can be purchased by a developer (or any entity interested in developing real estate) in a specific location where a municipality wants to restrict development – known as a Sending Area – and directs it to specific locations where development is encouraged – known as the Receiving Area. Bonuses are typically created by permitting increased building densities, heights, and impervious coverage, as well as new land uses typically not allowed through existing zoning, to provide incentives to prospective developers to participate in the TDR program. Normally TDR applies to an arrangement intended to preserve green fields, or undeveloped land. In the case of the FWOP, TDR is intended to be the conduit for permanently removing development from the floodplain and preserving the formerly developed land as open space. As described above, TDR is supported by the Pennsylvania Municipalities Code and is a legal tool for floodplain management in Pennsylvania. Appendix C is a memorandum providing a legal foundation for TDR in Pennsylvania from a land use attorney, which further supports the case for TDR in the FWOP.

The remainder of this report describes the application and mechanics of TDR within the FWOP study area in detail.

## 3.0 TDR in the FWOP

### 3.1 Sending Area

Within the FWOP study area in both Upper Dublin and Whitmarsh, we have assigned the Sending Area as all parcels that lie within the 50-year floodplain assuming the flood-retarding structures will not be built. The location of all FWOP Sending Area properties is indicated on Figure 4.

Figure 4. Sending Area Parcels in the FWOP (Flooded During a 50-Year Event with No Flood Retarding Structures in Place).



### 3.1.1 Upper Dublin

There are a total of 19 properties in the Upper Dublin Township portion of the FWOP Sending Area, or current 50-year floodplain, that would ideally be removed and placed in the Receiving Area. Table 1 lists each of the Upper Dublin Sending Area properties in detail, including address, ownership, square footage, key tenants, and the type of building use.

As the table shows, there are a few different categories of current uses in the Sending Area, including office, industrial, and hotel. Office space in the Sending Area totals approximately 385,000 square feet and industrial space totals approximately 235,000 square feet. The Sending Area also involves a 71,500 square foot hotel/restaurant and a 130,000 square-foot vacant building. In total, approximately 822,000 square feet of development would be removed from the Upper Dublin portion of the FWOP Sending Area. Figures 5 and 6 show the Upper Dublin Sending Area parcels in greater detail, matching them with the table by the yellow numbers indicated on the map.

Figure 5. FWOP Upper Dublin Township Sending Area Parcels - Lower Portion

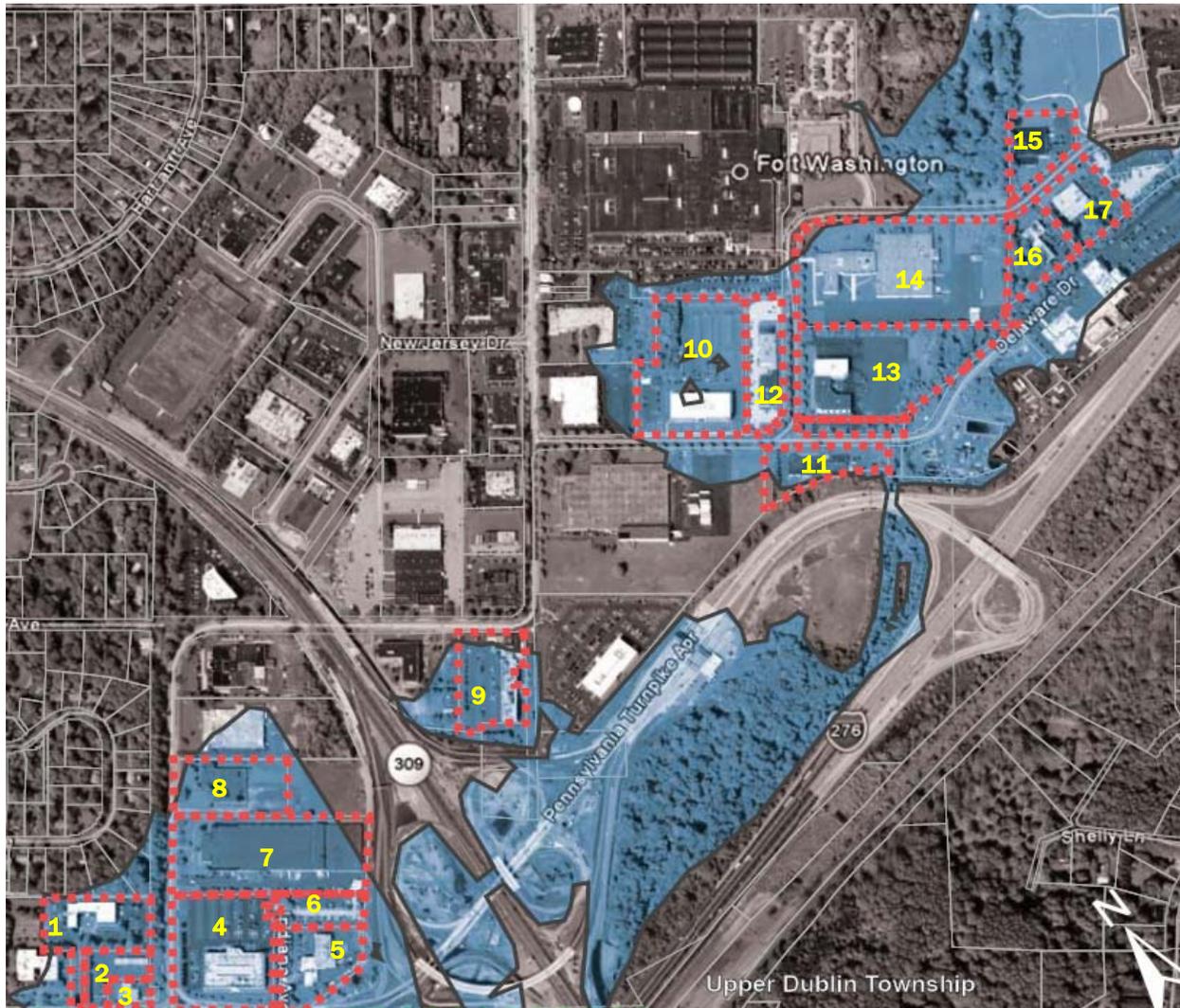
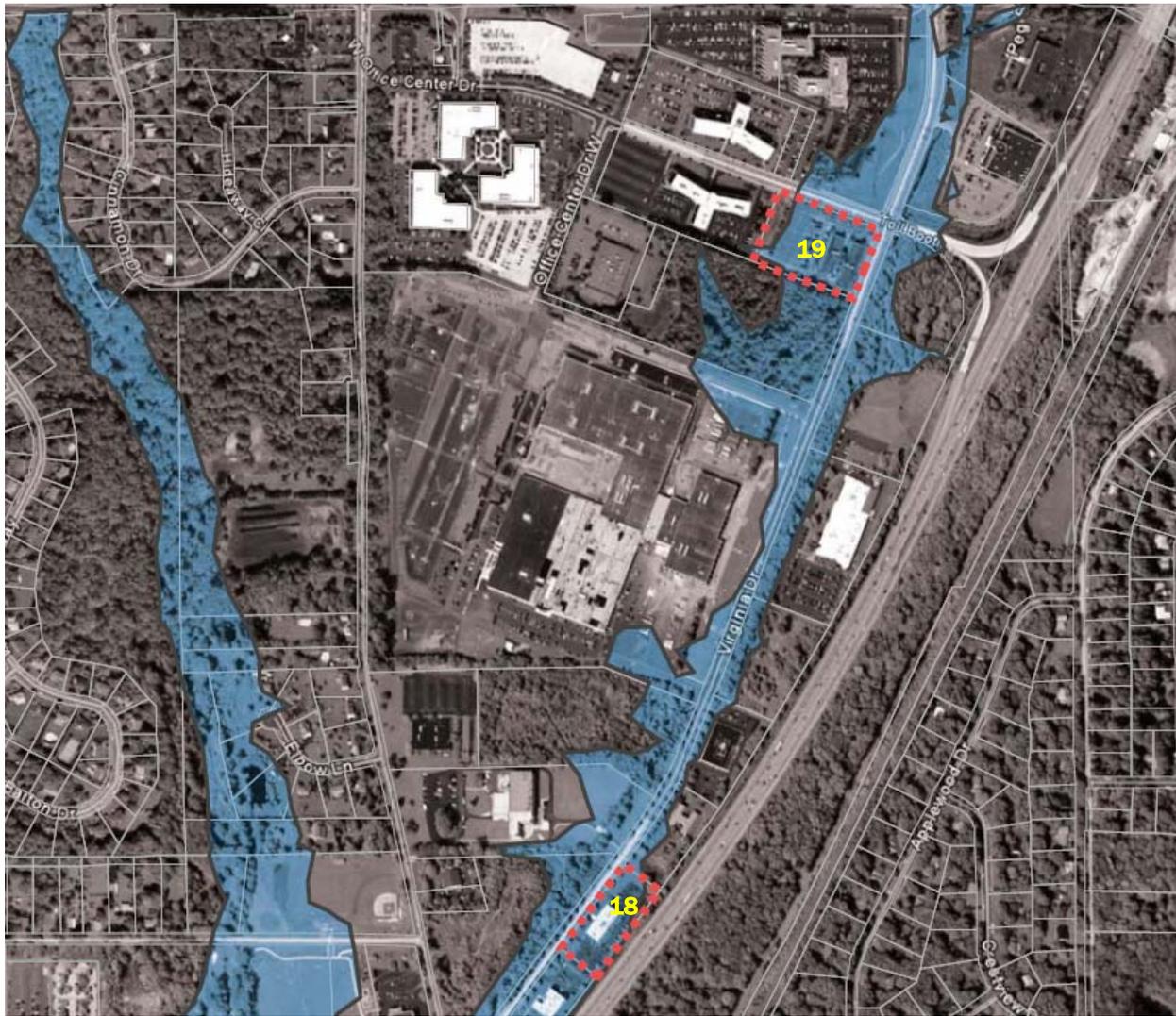


Figure 6. FWOP Upper Dublin Township Sending Area Parcels - Upper Portion



If the flood retarding structures are indeed constructed, eight of the 19 Sending Area parcels in Upper Dublin would no longer flood in a 50-year event, and therefore, would no longer be considered part of the Sending Area. These parcels are as follows:

- 155 Commerce Drive
- 285 Commerce Drive
- 420 Delaware Drive
- 467 Pennsylvania Avenue
- 525 Virginia Drive
- 550 Virginia Drive
- 555 Virginia Drive
- 1240/1250 Virginia Drive

However, as previously discussed, we are assuming that the flood retarding structures will not be constructed, and that all 19 Upper Dublin parcels in the 50-year floodplain will retain their Sending Area status.

Table 1. FWOP Upper Dublin Township Sending Area Properties.

#	Address	Street	Owner	Building Sq. Ft.	Major Tenants	Type
1	467	Pennsylvania Avenue	467 Pennsylvania LLC	32,464	Dental/Medical Offices, Smiles Café	Office
2	471	Pennsylvania Avenue	Elliott & Andrew Goldstein	4,720	Clean Machine Car Wash	Industrial
3	475	Pennsylvania Avenue	475 Pennsylvania Ave LLC	1,392	Vacant Service Station	Vacant
4	515	Pennsylvania Avenue	HUB Properties Trust	83,998	Amtech, Futura	Office
5	535	Pennsylvania Avenue	HUB Properties Trust	30,160	Chestnut Hill Hospital, Remax	Office
6	165	Indiana Avenue	JMJ Properties	10,189	Acteon Networks	Office
7	135	Commerce Drive	135 Commerce Inc. PA Corp.	144,908	B&I Auto	Industrial
8	155	Commerce Drive	Heritage Design Center LP	25,088		Industrial
9	285	Commerce Drive	Vihor F W LP	76,343	Best Western Hotel, Subway	Hotel
10	420	Delaware Drive	Liberty Property LP	79,746	McNeil Pharmaceuticals	Office
11	425	Delaware Drive	Savino Costanzo	21,058	Granite Galleria	Industrial
12	430/440	Virginia Drive	Agnew C N Jr Trustee	17,436	Abria Health Care (430), Tot Time, Fastenal (440)	Office
13	475	Virginia Drive	HUB Properties Trust	76,008	IRI Information Resources, Inc., First Managed Care Option/ Active Care	Office
14	525	Virginia Drive	SNH Medical Office Prop TR	129,704	VACANT	Vacant
15	550	Virginia Drive	550 Virginia Dr LLC	16,944	Rush Gears	Industrial
16	555	Virginia Drive	Nesbitt Graphics Inc.	10,864	Nesbitt Graphics	Industrial
17	565	Virginia Drive	William Weinberg Trustee - Marc G. Weinberg	14,868	Marketing Systems Group	Office
18	1035	Virginia Drive	HUB Properties Trust	30,720	CHI Systems, Primerica Co., Jan-Pro Cleaning Systems, Color Chief Painters, REIT Management & Research	Office
19	1240/1250	Virginia Drive	Liberty Property LP	45,252	Jaguar Printing (1240), Bassman Laserow & Co., Vantage Point Bank (1250)	Office/Ind.

### 3.1.2 Whitemarsh

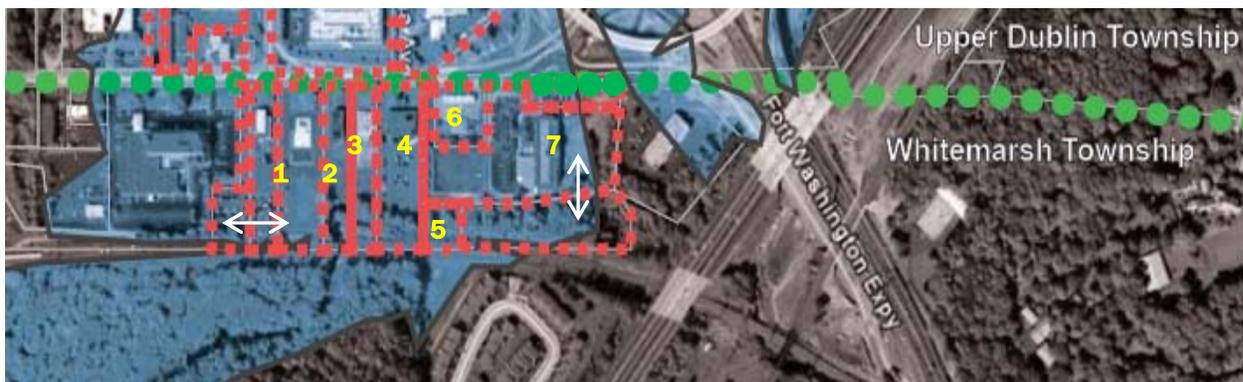
There are a total of seven properties in the Whitemarsh Township portion of the FWOP Sending Area. Table 2 on the next page lists each of the Whitemarsh Sending Area properties in detail, including address, ownership, square footage, key tenants, and the type of building use.

Table 2. FWOP Whitemarsh Township Sending Area Properties.

#	Address	Street	Owner	Building Sq. Ft.	Major Tenants	Type
1	500-510	Pennsylvania Avenue	Cleo-Mar	16,166	West German BMW	Retail
2	512	Pennsylvania Avenue	Thomas McCarron	6,026	Bank of NY, Exit Supreme Realty, Mellon Financial Corp., Moreland Financial Corp.	Office
3	514	Pennsylvania Avenue	RCA Group		Vacant Lot	Vacant
4	520	Pennsylvania Avenue	Robert S & Ellen B Seltzer	16,794	Cohen Seltzer, Inc.	Office
5	522	Pennsylvania Avenue	James & Mari Frances Greipp		Vacant Lot	Parking
6	524	Pennsylvania Avenue	Lukoil North America LLC	2,436	Lukoil Gas/Convenience	Retail
7	530	Pennsylvania Avenue	MG Washington LLC	113,531	Hilton Garden Inn	Hotel

As the table indicates, there are a few different categories of uses in the Whitemarsh Sending Area, including office, retail, and hotel. Unlike in Upper Dublin, these properties will experience approximately the same flooding and property damage regardless if the flood prevention structures are built, and therefore will remain Sending Area properties in either case. The current development pattern of these seven properties includes approximately 23,000 square feet of office space, 19,000 square feet of retail space (including a car dealership and gas station), a 114,000 square foot hotel, and two vacant lots (one of which is used for parking). In total, approximately 156,000 square feet of development would be removed from the Whitemarsh portion of the FWOP Sending Area. Figure 7 shows the Whitemarsh Sending Area parcels in greater detail, matching them with the above table by the yellow numbers indicated on the map. Some of the parcels are outlined as separate properties but are owned by a single owner. Such is the case with parcels 1, 5, and 7. The multiple properties considered a single property are indicated by a white arrow.

Figure 7. FWOP Whitemarsh Township Sending Area Parcels



## 3.2 Sending Area Property Owner Attitudes Regarding TDR Participation

Regardless of the flooding status of individual Sending Area properties in Upper Dublin and Whitemarsh, the decision to move out of the Sending Areas and participate in the TDR process is ultimately up to each property owner. Accordingly, we met with as many as possible to discuss and assess the attitudes toward TDR among owners and potential willingness to participate in the program. Refer to Appendix D for a detailed description of the properties and the discussion with the owners.

### 3.2.1 Upper Dublin

There were two basic responses among the 19 Upper Dublin Sending Area property owners that have influenced the proposed actions for these properties: a desire to stay in the same location, or a willingness to consider moving if a sound enough arrangement were proposed. The remaining properties are vacant, and could be considered for purchase for open space (see Table 3).

#### **Owner Reports Intent to Remain in Place**

Several properties are expected to remain in their location, at least initially, based on feedback. 467 Pennsylvania Avenue is a medical office building that incurs very little flooding in a 50-year event and has indicated that they wish to remain in place. 471 Pennsylvania Avenue is a car wash at the corner of Pennsylvania Avenue and Commerce Drive that incurs flooding regularly, but only in the vicinity of its self-serve washing area toward the back of the property. Like several other Pennsylvania Avenue properties, the owner indicated no interest in moving his business due to its prime location.

515 and 535 Pennsylvania Avenue, are in one of the most severely flooded areas of the FWOP, even when the new flood retarding structures are in place. These properties will incur flooding in a 50-year event. However, the owner of both buildings indicates no interest in moving, and claims that flooding currently is not severe at either property. A similar situation exists with 165 Indiana Avenue, however the building only houses 11,000 square feet.

135 Commerce Drive is a very large warehouse building housing a wholesale internet auto parts dealer. This property at 145,000 square feet is by far the largest structure in the Sending Area. Because of its size, it poses the biggest challenge to find a suitable space for relocation. This owner also indicated an intention to stay in his current location. 285 Commerce Drive is a recently-renovated hotel. Despite severe recurring flooding incidents, the hotel's owner also indicated an intention to stay in his current location.

420 Delaware Drive is a fairly recently upgraded building owned by a developer, and occupied by a pharmaceutical company. Because of the recent reconstruction and raising of the building above flood level, the property will flood in a 50-year event but the building will not. As a result, the owner does not wish to relocate.

475 Virginia Drive is a two-story office building with a ground-floor lobby and office space on the second floor above parking. The owner, who owns several other buildings in the FWOP, has voiced a lack of interest in moving. 550 Virginia Drive is a small industrial building owned by the occupant, who claims that flooding is not severe and likes his location, and therefore does not desire to move.

Table 3. Attitude Regarding Upper Dublin Township Properties in Sending Area.

Address	Street	Type	Owner/ Tenant	Owner Reports Intent to Remain in Place	Building is Vacant	Owner Would Move Under TDR	Depth of Flooding During 50-year Event (ft.)
467	Pennsylvania Avenue	Office	Owner-Occupant	X			0.2
471	Pennsylvania Avenue	Industrial	Owner-Occupant	X			2.6
475	Pennsylvania Avenue	Industrial	Vacant		X		4.0
515	Pennsylvania Avenue	Office	Landlord-Owned	X			5.0
535	Pennsylvania Avenue	Office	Landlord-Owned	X			5.2
165	Indiana Avenue	Industrial	Landlord-Owned	X			5.1
135	Commerce Drive	Industrial	Owner-Occupant	X			2.7
155	Commerce Drive	Industrial	Owner-Occupant	X			0.7
285	Commerce Drive	Hotel	Landlord-Owned	X			1.4
420	Delaware Drive	Office	Landlord-Owned	X			1.9
425	Delaware Drive	Industrial	Owner-Occupant			X	2.7
430/440	Virginia Drive	Office	Landlord-Owned			X	4.1
475	Virginia Drive	Office	Landlord-Owned	X			2.1
525	Virginia Drive	Office-Industrial	Vacant		X		1.1
550	Virginia Drive	Industrial	Owner-Occupant	X			0.1
555	Virginia Drive	Industrial	Owner-Occupant			X	1.6
565	Virginia Drive	Office	Landlord-Owned			X	1.9
1035	Virginia Drive	Office	Landlord-Owned			X	2.5
1240/1250	Virginia Drive	Office	Landlord-Owned	X			1.3

Finally, 1240/1250 Virginia Drive is an office building owned by a developer, who is considering renovating the building and raising it above flood level. Because of the building's ideal location at the Turnpike slip ramp, the owner intends to remain in that location.

### **Owner Would Consider Moving Under TDR Arrangement**

Of the 19 properties in the Upper Dublin portion of the Sending Area, five of the property owners expressed an interest in relocating development out of the Sending Area because of flooding. Two of the five are owner-occupied. One of them – 425 Delaware Drive – is a one-story industrial building that floods regularly.

The other is 555 Virginia Drive, also a small industrial building that incurs flooding. 440 Virginia Drive and 565 Virginia Drive are single-story office buildings. 1035 Virginia Drive is a multi-story occupied entirely by office. Collectively, these five properties include about 63,000 SF of office space and 32,000 SF of industrial space.

### **Building/Property is Vacant**

Two buildings in the Sending Area – a former gas station at 475 Pennsylvania Avenue and the large office/industrial building at 525 Virginia Drive – are vacant and have been for some time. Although the Pennsylvania Avenue site is in an ideal commercial location, the property experiences severe flooding on a regular basis, most likely contributing to its being vacant for several years. While the site may require a certain amount of environmental cleanup, such as underground tank removal, the Township should consider purchasing the property for permanent open space.

The Virginia Drive property occupies a very large tract of land also in a severely flooding area. An arrangement to purchase this for open space would contribute significantly toward the goal of decommissioning square footage in the Sending Area.

### **3.2.2 Whitemarsh**

Similar responses were gathered from property owners for the seven Whitemarsh Sending Area properties, resulting in a desire to stay in the same location or a willingness to consider moving if a sound enough arrangement were proposed. Three of the seven properties in Whitemarsh, however, are vacant or contain a vacant structure (see Table 4).

### **Owner Reports Intent to Remain in Place**

Several properties in Whitemarsh are also expected to remain in their location, at least initially, based on feedback from the owners. 500 Pennsylvania Avenue is a car dealership near the intersection of Pennsylvania Avenue and Commerce Drive that incurs flooding regularly. Due to its prime location, however, the corporate owner is not currently interested in moving.

**Table 4. Attitude Regarding Whitemarsh Township Properties in Sending Area.**

<b>Address</b>	<b>Street</b>	<b>Type</b>	<b>Owner/ Tenant</b>	<b>Owner Reports Intent to Remain in Place</b>	<b>Property/ Building is Vacant</b>	<b>Owner Would Move Under TDR</b>	<b>Depth of Flooding During 50-year Event (ft.)</b>
500-510	Pennsylvania Avenue	Retail	Owner-Occupant	X			4.6
512	Pennsylvania Avenue	Office	Landlord-Owned		X		5.5
514	Pennsylvania Avenue	Vacant	Vacant		X		5.5
520	Pennsylvania Avenue	Office	Owner-Occupant			X	5.5
530	Pennsylvania Avenue	Hotel	Owner-Occupant	X			6.9
522	Pennsylvania Avenue	Parking	Vacant		X		3.5
524	Pennsylvania Avenue	Retail	Owner-Occupant	X			3.5

530 Pennsylvania Avenue is a recently-renovated hotel. Despite severe recurring flooding incidents, the hotel's owner also indicated an intention to stay in his current location. This property is anticipated to receive the worst flooding along Pennsylvania Avenue in a 50-year flood event.

Finally, 524 Pennsylvania Avenue is a gas station/convenience store owned by the corporate office of a national chain. Because of the station's prime location, it is assumed the company has a lack of interest in moving, despite periodic flooding.

**Owner Would Consider Moving Under TDR Arrangement**

Of the seven properties in the Whitemarsh portion of the Sending Area, just one – 520 Pennsylvania Avenue – is the only non-vacant Whitemarsh property whose owner expressed interest in moving out of the floodplain. The 17,000 SF building is occupied by all office uses.

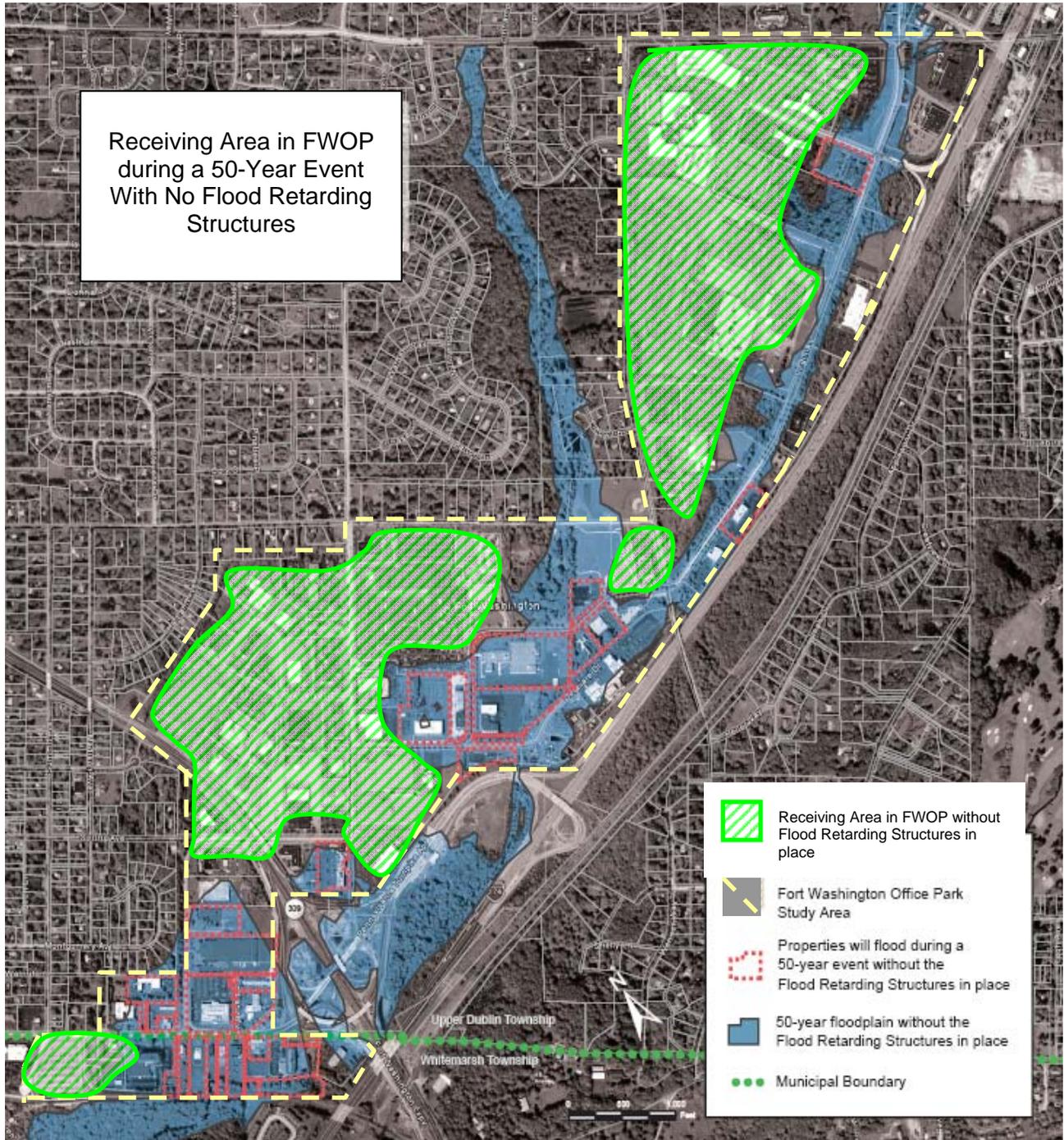
**Building/Property is Vacant**

The Whitemarsh Sending Area contains two vacant parcels at 514 and 522 Pennsylvania Avenue (522 currently used for parking), and a vacant building at 512 Pennsylvania Avenue. The Township should consider purchasing the properties for permanent open space while they remain vacant.

### 3.3 Receiving Area

The Receiving Area consists of all the remaining parcels in the FWOP that are 'dry' or will not experience flooding in a 50-year event without the flood retarding structures. The location of the Receiving Area in both Upper Dublin and Whitemarsh is indicated on Figure 8.

Figure 8. Receiving Area with No Flood Retarding Structures in Place.



The Upper Dublin Receiving Area consists of two general nodes of potential development, as shown on Figure 8 above. One is a large swath of land along Camp Hill Road up to Susquehanna Avenue, and another is the large area bisected by Commerce Drive and Pinetown Road near the PA Turnpike toll plaza. The Whitemarsh Receiving Area consists of a small node of potential development on dry ground along Pennsylvania Avenue near its intersection with Bethlehem Pike.

The future of the FWOP is directly tied to the Receiving Area. The recently-completed Upper Dublin Comprehensive Plan identified the FWOP as an underutilized asset in need of intervention to correct not only the flooding problems, but improve poor pedestrian circulation and street infrastructure as well as upgrade deteriorated properties that have led to several vacancies throughout the office park. As a result, the Comp. Plan makes several policy recommendations to revitalize the FWOP so it becomes a premier address for commerce, achieves maximum occupancy, raises property values, and increases the tax rates for Upper Dublin and Whitemarsh.

The Comp. Plan's recommendations include determining appropriate locations in the FWOP for future development; establishing appropriate densities and design elements; implementing environmentally-friendly building practices; and developing standards for improving infrastructure throughout the park, including the road network. The Plan also recommends allowing for new land uses in the FWOP that better serve employees and residents such as residential and mixed-use development including restaurant, entertainment, and retail with office and/or residential above. As the location where all such improvements to the FWOP will occur through TDR, the Receiving Area is paramount to this revitalization effort.

### **3.3.1 Land Uses and Guidelines under TDR**

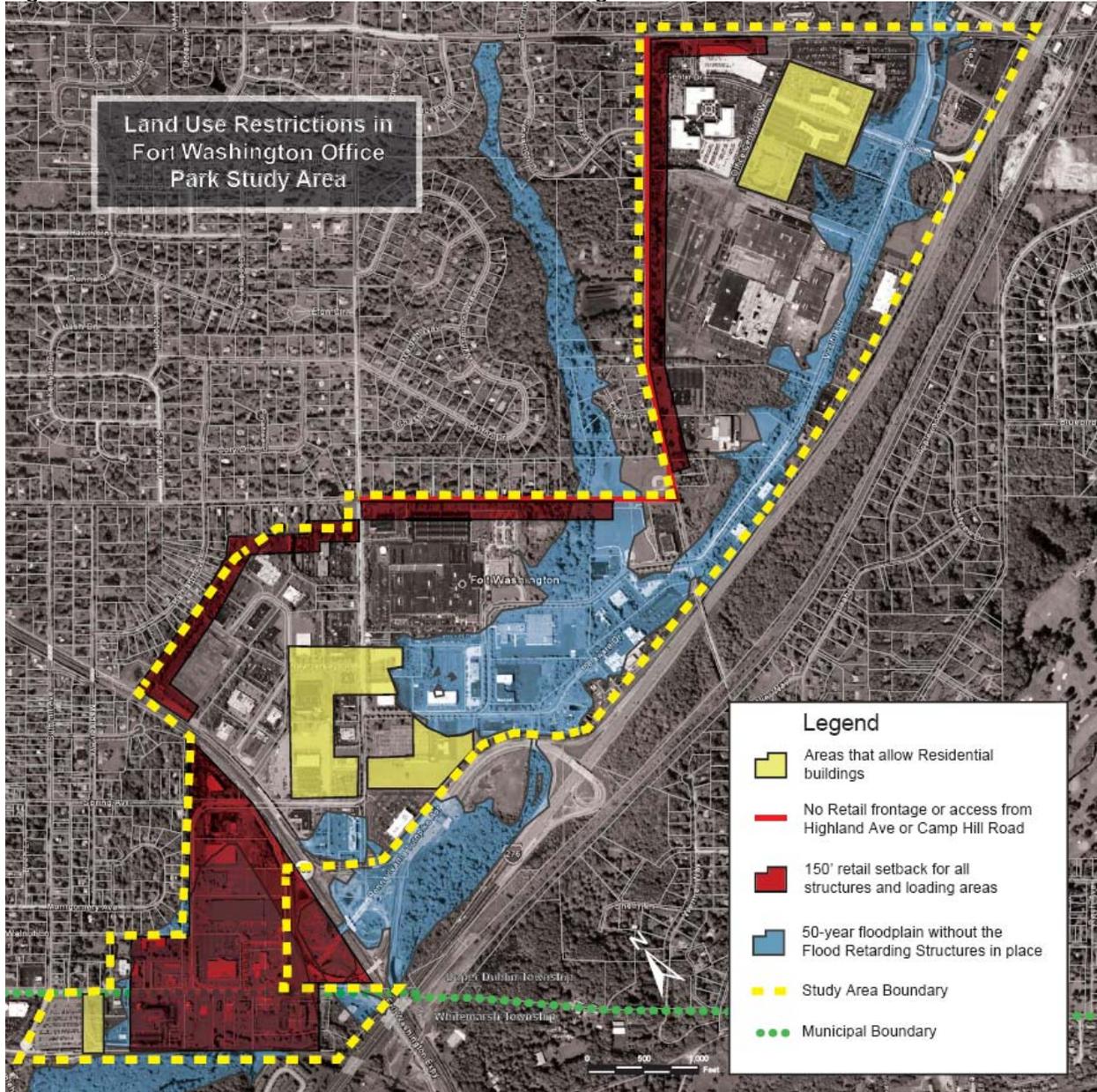
To accommodate the transfer of office space from the Sending Area and provide additional mixed-use space that will maximize land value in the Receiving Area, we are suggesting a variety of future land uses and associated changes from current zoning for the FWOP in both townships. This only applies, however, when new development at an increased density is linked to the reduction of development (transfer of development) from Sending Area properties.

With this intent to transfer development and create additional land value, and based on feedback from both Townships, the potential development scenario for the Receiving Area through TDR involves new land uses for the FWOP that currently do not exist – residential, or exist on a limited basis – retail. In addition, mixed-use development combining residential, retail, and office is suggested. As part of the TDR concept, we are suggesting limits on the location of these uses (see Figure 9 on the next page).

#### **Residential**

As the map shows, we recommend two distinct areas for residential use under TDR: an area centered on the intersection of Commerce Drive and Delaware Drive, and an area between Susquehanna Road and the GMAC complex. This is to limit the total amount of residential development built in the Receiving Area while allowing a concentration to exist in certain areas that will better ensure a more vibrant residential environment. Accordingly, we are suggesting that structures containing a residential use be a minimum of four stories in height, and the maximum height shall be six stories. In addition, retail uses shall be permitted on the ground floor of structures containing a residential use.

Figure 9. Land Use Restrictions in the FWOP Receiving Area under TDR.



## Retail

Restrictions on the location of retail uses under TDR are also suggested for the Receiving Area. When retail is developed with TDR credits, the retail space must be on the first floor on a multi-story building and occupy no more than 50% of the total floor area. The following restrictions would apply to all retail developed with TDR credits:

### Access Restrictions

- No vehicular access to retail uses from:
  - Highland Avenue
  - Camp Hill Road

### Setbacks and Screening

- Structures containing retail uses and the following accessory uses supporting retail shall be set back 150 feet from residentially zoned land or the right-of-way line of a street adjacent to residentially zoned land:
  - Loading and delivery areas
  - Structured parking
- Surface parking shall be set back a minimum of 50 feet from residentially zoned land or the right-of-way line of a street adjacent to residentially zoned land
  - The first 25 feet of the 50 foot setback shall contain a “screen buffer” as regulated in Section 212-32 of the Upper Dublin Township Subdivision and Land Development Ordinance

### Retail Design Requirements:

- All mechanical equipment shall be visually and acoustically screened
- Restaurant ventilation equipment shall be roof mounted (to minimize odors)
- Outdoor lighting shall meet the standards of Section 158-14 of the Upper Dublin Township Nuisance Ordinance
- Noise generated on site shall meet the standards of Section 158-12 of the Upper Dublin Township Nuisance Ordinance
- Freestanding signs shall be limited to monument signs
- Parking ratio should be reduced to 3.8 spaces per 1,000 square feet of development from the existing 5 spaces (applies to office as well)

### Prohibited Areas

- No retail uses shall be permitted west of Route 309

### **Height Restrictions**

For all land uses in the FWOP under TDR, including office, residential, and hotel, we are suggesting height restrictions (see Figure 10). Such limits will protect view sheds across the park from the residential areas, and keep the tallest buildings as close to existing commercial uses and as far from residential neighborhoods as possible. This also ensures a more uniform development pattern. As the map shows, there are several proposed height categories for the FWOP. Total land area in each category is as follows:

- 35' Height Limit – 168.51 acres
- 50' Height Limit – 53.65 acres
- 60' Height Limit – 26.25 acres
- 70' Height Limit – 172.75 acres

### **Impervious Coverage**

We are also recommending that allowable impervious surface coverage be increased to 85% to encourage higher-density development. As the Sending Area continues to be vacated of building structures during the



### 3.4.1 Upper Dublin

The Upper Dublin Sending Area includes 19 parcels with a total of 65.7 acres of land (see Table 5). Current development includes 420,841 SF of office, 348,566 SF of industrial, two auto-oriented retail uses of 6,112 SF, and a 76,343 SF hotel. The total assessed value of these 19 parcels is \$57.5 million.

**Table 5. FWOP Upper Dublin Township Sending Area Properties.**

Address	Current Use	Zoning	Land Acres	Land SF	Use (SF)			
					Office	Industrial	Retail	Hotel
471 PENNSYLVANIA AVE	CARWASH	CR	0.92	39,969			4,720	
285 COMMERCE DR	HOTEL	M	3.08	134,165				76,343
467 PENNSYLVANIA AVE	MEDICAL BUILDING	CR	2.93	127,631	32,464			
420 DELAWARE AVE	OFFICE BUILDING	LIM	6.33	275,735	79,746			
1035 VIRGINIA DR	OFFICE BUILDING	LIM	2.34	101,930	30,720			
535 PENNSYLVANIA AVE	OFFICE BUILDING	LIM	1.73	75,315	30,160			
475 VIRGINIA DR	OFFICE BUILDING	LIM	5.97	260,053	76,008			
1250 VIRGINIA DR	OFFICE BUILDING	LIM	4.20	182,952	45,252			
515 PENNSYLVANIA AVE	OFFICE BUILDING	LIM	4.42	192,535	83,998			
565 VIRGINIA DR	OFFICE BUILDING	LIM	2.10	91,476	14,868			
425 DELAWARE AVE	FLEX	LIM	2.10	91,476		21,058		
165 INDIANA AVE	OFFICE BUILDING	LIM	0.96	41,745	10,189			
440 VIRGINIA DR	OFFICE BUILDING	LIM	2.93	127,631	17,436			
475 PENNSYLVANIA AVE	SERVICE STATION	CR	0.65	28,247			1,392	
555 VIRGINIA DR	WAREHOUSE	LIM	2.14	93,218		10,864		
155 COMMERCE DR	WAREHOUSE	LIM	3.20	139,392		25,088		
525 VIRGINIA DR	WAREHOUSE	LIM	10.33	449,975		129,704		
550 VIRGINIA DR	WAREHOUSE	LIM	2.27	98,881		16,944		
135 COMMERCE DR	WAREHOUSE	LIM	7.10	309,276		144,908		
<b>Total</b>			<b>65.70</b>	<b>2,861,602</b>	<b>420,841</b>	<b>348,566</b>	<b>6,112</b>	<b>76,343</b>

Nine of these parcels appear to have not yet utilized all available development capacity under existing zoning, providing for the potential additional development of 22,500 SF of office, 80,700 SF of industrial, and 4,100 SF of retail (see Table 6).

**Table 6. Additional Development Potential – Upper Dublin Sending Area Properties.**

Address	Potential Incremental Development (SF)		
	Office	Industrial	Retail
471 PENNSYLVANIA AVE			1,300
285 COMMERCE DR			
467 PENNSYLVANIA AVE			
420 DELAWARE AVE			
1035 VIRGINIA DR			
535 PENNSYLVANIA AVE			
475 VIRGINIA DR			
1250 VIRGINIA DR			
515 PENNSYLVANIA AVE			
565 VIRGINIA DR	8,000		
425 DELAWARE AVE		6,400	
165 INDIANA AVE			
440 VIRGINIA DR	14,500		
475 PENNSYLVANIA AVE			2,800
555 VIRGINIA DR		17,100	
155 COMMERCE DR		16,700	
525 VIRGINIA DR		27,800	
550 VIRGINIA DR		12,700	
135 COMMERCE DR			
<b>Total</b>	<b>22,500</b>	<b>80,700</b>	<b>4,100</b>

Based on the development potential and assessed values of the properties discussed above, we have assigned the following development rights to Sending Area parcels:

- 1 Development Right per 5,000 SF of existing office use
- 1 Development Right per 10,000 SF of existing industrial use
- 1 Development Right per 3,500 SF of existing retail use
- 1 Development Right per 10,000 SF of existing hotel use
- 1/5th Development Right per 5,000 SF of potential office use
- 1/3rd Development Right per 10,000 SF of potential industrial use
- 1/2 Development Right per 3,500 SF of potential retail use

Applying these factors to the 19 Sending Area parcels, we arrive at a total of 132.61 Development Rights, including:

- 84.17 Development Rights assigned to existing office use on 10 parcels
- 34.86 Development Rights assigned to existing industrial use on 6 parcels
- 7.63 Development Rights assigned to the one existing hotel
- 1.75 Development Rights assigned to the two auto-oriented retail uses
- 0.93 Development Rights assigned to potential office development on 2 parcels
- 2.69 Development Rights assigned to potential industrial development on 5 parcels
- 0.59 Development Rights assigned to potential retail development on 2 parcels

We roughly estimate the value of a Development Right at current market conditions at \$750,000, with an additional \$100,000 to remove the building. However, as noted below, the proposed use of credits in the Receiving Area is designed to generate a significant premium in value to encourage participation.

### 3.4.2 Whitemarsh

The Whitemarsh Sending Area includes seven parcels with a total of 17.4 acres of land (see Table 7). Current development includes 22,820 SF of office, an auto dealership currently expanding from 16,794 SF, a service station/convenience retail store of 2,436 SF, and a 113,531 SF hotel. There are also two independently owned vacant lots. The total assessed value of these seven parcels is \$11.2 million.

**Table 7. Whitemarsh Township Sending Area Properties.**

Address	Current Use	Zoning	Land Acres	Land SF	Office	Current Hotel	Use (SF) Retail	Auto
500-510 PENNSYLVANIA AVE	AUTO SALES	CR-L	3.99	173,907				16,794
512 PENNSYLVANIA AVE	OFFICE BUILDING	CR-L	1.15	49,963	6,026			
514 PENNSYLVANIA AVE	LOT	CR-L	0.65	28,500				
520 PENNSYLVANIA AVE	OFFICE BUILDING	CR-L	2.33	101,495	16,794			
522 PENNSYLVANIA AVE	LOT	CR-L	0.46	20,000				
524 PENNSYLVANIA AVE	SERVICE STATION	CR-L	0.68	29,750			2,436	
530 PENNSYLVANIA AVE	HOTEL	CR-L	8.15	355,014		113,531		
<b>Total</b>			<b>17.42</b>	<b>758,629</b>	<b>22,820</b>	<b>113,531</b>	<b>2,436</b>	<b>16,794</b>

Almost all these parcels appear to have not yet utilized all available development capacity under existing zoning, providing for the potential additional development of 125,100 SF of office and 3,500 SF of retail (see Table 8).

**Table 8. Additional Development Potential – Whitemarsh Sending Area Properties.**

Address	Potential Incremental Development (SF)		
	Office	Auto	Retail
500-510 PENNSYLVANIA AVE			
512 PENNSYLVANIA AVE	9,900		
514 PENNSYLVANIA AVE	9,300		
520 PENNSYLVANIA AVE	15,300		
522 PENNSYLVANIA AVE	6,600		
524 PENNSYLVANIA AVE			3,500
530 PENNSYLVANIA AVE	84,000		
<b>Total</b>	<b>125,100</b>		<b>3,500</b>

Based on the development potential and assessed values of the properties discussed above, we have assigned the following development rights to Sending Area parcels:

- 1 Development Right per 5,000 SF of existing office use
- 1 Development Right per 3,500 SF of existing retail or automotive use
- 1 Development Right per 10,000 SF of existing hotel use
- 1/5th Development Right per 5,000 SF of potential office use
- 1/2 Development Right per 3,500 SF of potential retail or automotive use

Applying these factors to the seven Sending Area parcels, we arrive at a total of 26.92 Development Rights, including:

- 4.57 Development Rights assigned to existing office use on 2 parcels
- 11.35 Development Rights assigned to the one existing hotel
- 5.50 Development Rights assigned to the two retail and automotive uses
- 5.00 Development Rights assigned to potential office development on 5 parcels
- 0.50 Development Rights assigned to potential retail development on 1 parcel

We roughly estimate the value of a Development Right at current market conditions at \$750,000, with an additional \$100,000 to remove the building. However, as noted below, the proposed use of credits in the Receiving Area is designed to generate a significant premium in value to encourage participation.

### 3.5 Mechanics of TDR in the Sending Area

In determining the utilization of Development Credits in the Receiving Area, we assume that the Transfer of Development Rights mechanism will require that entities securing Development Rights in the Sending Area will be required to do all of the following procedures:

1. Acquire all rights from a specific parcel at one time;
2. Fully vacate all buildings on the parcel;
3. Demolish and otherwise remediate all improvements on the parcel—returning the property to a fully pervious state; and

4. Transfer the parcel to the Township as open space at no cost to the Township.

Once the Township acquires the Sending Area property, it will be required to maintain the land at its cost. The annual estimate for maintenance of open space, provided by Upper Dublin Township, is approximately \$2,500 per acre of open space.

To pay for this annual maintenance cost of the acquired open space through TDR, both Upper Dublin and Whitemarsh should recoup a fee as part of the TDR transaction to be placed in an endowment that is maintained and managed by each respective municipality. Based on the estimated unit cost for maintenance, the Townships should require a sum of \$60,000 per acre, or approximately \$30,000 per development credit, as part of each TDR transaction. This fee, earning an annual return on investment, would provide each Township with a sufficient annual operating budget to maintain the open space.

### **3.6 Mechanics of TDR in the Receiving Area**

Property owners utilizing development credits in the Receiving Area may choose to develop under the optional Transfer of Development Rights development standards that increase allocable impervious surface to .85; reduce parking requirements to 3.8 spaces per 1,000 SF for office and retail uses; permit residential and larger amounts of retail development in certain locations (refer back to Figure 9); and increase allowable height in certain locations (refer back to Figure 10). The following specific TDR mechanics are suggested for the Receiving Area.

#### **3.6.1 Upper Dublin**

##### **Utilization of Development Credits**

In Upper Dublin Township, property owners may utilize development credits in the Receiving Area to:

1. Construct additional office space beyond the .25 FAR effectively available under current zoning to as much as .55 FAR;
2. Construct additional hotel space beyond the .60 FAR effectively available under current zoning to as much as .85 FAR;
3. Incorporate retail uses larger than 750 SF (up to 10,000 SF) on the first floor of multi-story buildings, where retail use is 50% or less of total building space; and
4. Construct multi-family residential buildings of 4 to 7 stories in certain portions of the Receiving Area.

Optional Transfer of Development Rights development may occur subject to property owners or developers securing development rights from the Sending Area. The optional development standards and uses will only be available when developers have secured necessary development credits.

Increments of TDR development will be allowed in the Receiving Area subject to these factors:

1. 40,000 SF of additional office or hotel space will be allowed for each development credit.
2. 35,000 SF of residential development will be allowed for each development credit.
3. Only 50% of purchased development credits may be utilized for residential development; the other 50% must be utilized for office or hotel development.
4. No more than 33 credits can be used for residential development.

5. 2,500 SF of retail use not otherwise allowed in the Receiving Area can be incorporated in the first floor of multi-story buildings for each .25 development credit.

These factors have been scaled to provide a significant financial incentive to property owners and developers to participate in TDR. That is, the value of incremental development allowed in the Receiving Area is intended to exceed the current value of property in the Sending Area.

### **Residential Development Standards**

Based on the above analysis and height restrictions, the following residential development standards are suggested:

- Minimum residential height: 4 floors
- Maximum residential height: 5 to 7 floors
- Minimum residential FAR: 1.0
- Maximum residential FAR: 1.65 at 7 stories; 1.60 at 6 stories; 1.55 at 5 stories
- Minimum density: 30 dus per acre
- Maximum density: 65 dus per acre at 7 stories; 60 dus per acre at 6 stories; 55 dus per acre at 5 stories

As a result, the smallest residential development would be a four-story building with 30 dwelling units per acre and 1,450 SF average unit size. Assuming an average unit size of 1,450 SF, the maximum number of residential units that could be developed in the Receiving Area is 900.

### **Commercial/Industrial Impacts**

The use of some portions of the Receiving Area for residential development will somewhat reduce the total parcels devoted to commercial and industrial use. At an average density of 40 dwelling units per acre, approximately 23 acres of property could be assigned to these residential developments. Under base zoning, these parcels would be expected to generate approximately 250,000 SF of office use. In addition, the full conversion of commercial/industrial development in the Sending Area could result in the loss of another 850,000 SF of existing commercial property and 110,000 SF of potential development in the Sending Area. The maximum reduction of commercial and industrial development—existing and potential—from the Sending Area and from portions of the Receiving Area used for residential development would be 1,210,000 SF.

The terms of the proposed TDR program, however, more than balance this site-specific commercial/industrial reduction. These TDR terms require that nearly 100 credits be utilized to increase the level of commercial development in the Receiving Area at a rate of 40,000 SF per credit. This will result in 3,980,000 SF of additional commercial development, or a net gain of 2.77 million square feet of commercial space.

### **Pace of TDR Utilization**

The 19 Upper Dublin parcels in the Sending Area have very different circumstances with regard to the intensity and frequency of flooding, as well as the value of existing development (see Table 7). Based on a review of these parcels, we estimate that 6 parcels with an estimated allocation of 26.45 credits are highly likely to be early participants in development rights transfer. On the other hand, 7 parcels with an estimated 51.28 credits are not likely to participate for many years, if ever. Three office buildings with

38.03 credits and all in the same ownership are located in areas of frequent and intensive flood risk. However, the property owner has expressed no interest in TDR for these three properties at this time. Finally, three properties with 12.78 potential credits suffer minor flood risk, but may choose to participate if the bonus development allowed in the Receiving Area provides sufficient incentive to transfer development rights.

**Table 7. Likelihood of Credit Sale in Upper Dublin.**

Address	Use	Credits
<b>Highly Likely</b>		26.45
1035 VIRGINIA DR	OFFICE BUILDING	
565 VIRGINIA DR	OFFICE BUILDING	
425 DELAWARE AVE	FLEX	
440 VIRGINIA DR	OFFICE BUILDING	
475 PENNSYLVANIA AVE	SERVICE STATION	
525 VIRGINIA DR	WAREHOUSE	
<b>Serious Flood Risk</b>		38.03
535 PENNSYLVANIA AVE	OFFICE BUILDING	
515 PENNSYLVANIA AVE	OFFICE BUILDING	
475 VIRGINIA DR	OFFICE BUILDING	
<b>Possible</b>		12.78
1250 VIRGINIA DR	OFFICE BUILDING	
165 INDIANA AVE	OFFICE BUILDING	
555 VIRGINIA DR	WAREHOUSE	
<b>Highly Unlikely</b>		51.28
135 COMMERCE DR	WAREHOUSE	
285 COMMERCE DR	HOTEL	
471 PENNSYLVANIA AVE	CARWASH	
550 VIRGINIA DR	WAREHOUSE	
155 COMMERCE DR	WAREHOUSE	
467 PENNSYLVANIA AVE	MEDICAL BUILDING	
420 DELAWARE AVE	OFFICE BUILDING	

We therefore estimate that credit transfer in the next 10 to 15 years is likely to be in the range of 30 to 75 credits. This would likely result in:

- The conversion of 25% to 60% of the Sending Area to open space;
- Elimination of 225,000 SF to 475,000 SF of commercial/industrial space in the Sending Area, including 130,000 SF currently vacant;
- Development of 600,000 SF to 1,700,000 SF of new office or hotel space in the Receiving Area beyond that allowed by current zoning; and
- Development of 400 to 900 units of housing in the Receiving Area.

### 3.6.2 Whitemarsh

#### **Utilization of Development Credits**

In Whitemarsh Township, there are two opportunities to utilize Transfer of Development Credits. The initial opportunity involves encouragement of development of the 65,000 SF of vacant land in two parcels at 424 Pennsylvania Avenue immediately adjacent to the SEPTA parking lot servicing the Ft. Washington rail station. This vacant parcel is in two ownerships, representing undeveloped fragments of the adjacent uses. The two owners are SEPTA and the Holiday Inn ownership group.

For this site, the property owners may utilize development credits in the Receiving Area: (1) to achieve additional density by increasing the impervious service ratio on the site to .85; and (2) constructing multi-

family residential buildings of 4 to 6 stories. Our preliminary analysis suggests that development on this site under current zoning could yield a 21,000 SF three-story office building. Under the proposed TDR program, development could increase to a 96,000 SF six-story multi-family residential building. This alternative development would occur subject to property owners or developers securing development rights from the Sending Area. The optional development standards and uses will only be available when developers have secured necessary development credits. Increments of TDR development will be allowed in the Receiving Area based on 35,000 SF of residential development being designated for each development credit. At 96,000 SF of residential development, this site would encourage the purchase of 2.75 development credits.

A second opportunity would involve developing the 424 Pennsylvania Avenue site as above, but also expanding the Receiving Area to include additional properties that could be developed to accommodate the remaining credits necessary to move the property owners willing to participate in the TRD program.

The third opportunity for utilization of Development Credits would occur through a more complex Transit-Oriented Development of a portion of the current SEPTA parking lot. We have designated this potential Receiving Area site as 7620 Summit Avenue. Determining the allowable development program for this site is beyond the scope of the current study. While we recommend that a detailed TOD analysis of this site be undertaken to provide the basis for organizing this second TDR effort, potential concepts for this site and 424 Pennsylvania Avenue are graphically depicted below in Section 3.7.2.

### **Pace of TDR Utilization**

The seven Whitemarsh parcels in the Sending Area have very different circumstances with regard to levels of investment and desire of owners to have immediate access to the Turnpike exit. Based on a review of these parcels, we estimate that four contiguous parcels with an estimated allocation of 6.21 credits are highly likely to be early participants in development rights transfer. On the other hand, three parcels—auto dealership, hotel, and service station—with an estimated 20.71 credits are not likely to participate for many years, if ever.

The parcels with high likelihood of participation are sufficient to provide the necessary development credits to facilitate the projected development of the 424 Pennsylvania Avenue residential property. Given the objective of reducing development in the areas of major flooding, it would seem reasonable for the Township to coordinate this first site TDR effort with open space acquisition activities to achieve the consolidation into permanent open space of these four contiguous parcels.

## **3.7 Creating 'Places' in the Receiving Area Through TDR**

The TDR concept will play a fundamental role in revitalizing the office park, a key objective of both Upper Dublin and Whitemarsh Townships. To achieve this, we recommend creating new 'places' in the Fort Washington Office Park – a new town center for Upper Dublin and a new transit-oriented development for Whitemarsh. This involves placing the recommended new development, using the above mechanics of TDR, in strategic locations – the Upper Dublin town center at the major intersection of Commerce Drive and Delaware Drive on the site of a large vacant parcel, and the Whitemarsh TOD at the Fort Washington rail station on the site of a large parking lot.

### 3.7.1 Upper Dublin

The town center concept for Upper Dublin involves several components (see Figure 11). These include:

- A town square
- New office, office with ground floor retail, residential, and hotel buildings centered on the square
- New infrastructure including a revised road network and street trees

Figure 11. The Upper Dublin FWOP Town Center Concept.



As the map suggests, the concept involves redeveloping 375 Commerce Drive, a 603,000 square foot parcel, as the centerpiece of the new town center. At this location would be the town square, measuring approximately 150 feet by 150 feet. Delaware Drive would be slightly realigned to meet the square in the center, remaining as two lanes around the square with parking on the outer edge. Commerce Drive would also remain as a 4-lane cross section. The town square would be an open grassy area with trees used for passive recreation and serving office workers and residents alike. Street trees would be added to the entire road network in the town center area.

Surrounding the town square would be several new buildings accommodating transferred development from the Sending Area as well as the additional development allowed as part of the TDR arrangement. We are suggesting new development at 375 Commerce Drive to specifically involve (shown in Figure 11):

- a 4-story office building (Building 1)
- two 4-story office buildings with ground-floor retail occupying a total of 120,000 SF facing the square (Buildings 2 and 3)
- and two 6-story residential building with 100 units each occupying a total of 260,000 SF each fronting Delaware Drive (Buildings 4 and 5)
- 1,130 surface parking spaces on-site

Figure 12 provides a 3-dimensional view of the town center concept to show potential building heights and massing.

Figure 12. The Upper Dublin FWOP Town Center Concept in 3-D.



**Legend**

- |                        |                                 |
|------------------------|---------------------------------|
| Existing Pervious Land | Existing Building               |
| New Open Space         | New Office Building             |
| Existing Road          | New Residential Building        |
| New Road               | New Hotel                       |
| Existing Parking Lot   | Existing Building to be Removed |
| New Parking Lot        |                                 |

**375 Commerce**

- ① 4-Story Office Building  
73,000 SF
- ② 4-Story Office Building With Retail On Square  
73,000 SF
- ③ 4-Story Office Building With Retail On Square  
73,000 SF
- ④ 6-Story Residential Building With 100 Units  
130,000 SF
- ⑤ 6-Story Residential Building With 100 Units  
130,000 SF
- ⑥ .75 acre Town Square with 2 lanes of travel  
and one lane of parking
- ⑦ 1,130 Parking Spaces

### 3.7.2 Whitemarsh

The TOD concept for Whitemarsh involves three potential options for development around the Fort Washington SEPTA station (see Figure 13). This development would facilitate the purchase of some or all of the 6.21 credits required to move all four properties likely to participate in the TDR program out of the floodplain.

### Option 1

Option 1 would have immediate Receiving Area development potential and involves developing just the vacant land at 424 Pennsylvania Avenue, currently part of the Holiday Inn property, for residential use. This option would specifically involve:

- a 6-story 96,000 SF residential building with 16-1,000 SF apartment units per floor (96 units)
- 96 surface parking spaces on-site

This development scenario would create sufficient value to the parcel to potentially initiate a TDR arrangement that would facilitate the purchase of flooded parcels totaling 2.75 credits in the Sending Area.

Figure 13. A Whitemarsh FWOP TOD Concept – Option 1.



#### Option 1

- ① 6-Story Residential Building With 96 Units  
96,000 SF - parked on-site

### Option 2

Option 2 involves the development of 424 Pennsylvania Avenue, plus other nearby future parcels within walking distance of the Fort Washington SEPTA station as part of an expanded Receiving Area, likely along or near Bethlehem Pike. The objective is for these additional parcels to be developed to the extent that they would facilitate the purchase of the remaining 3.46 credits assigned to Sending Area property owners willing to participate in the TDR program, for a total of 6.21 credits.

### Option 3

Option 3 also involves the development of 424 Pennsylvania Avenue while balancing the immediate Sending/Receiving Area capacity. It moves parking for the residential development to the existing adjacent parking lot, allowing a larger residential structure on the site, while requiring a parking structure on the SEPTA lot to accommodate the residential parking displacement. In addition, Option 3 involves mixed-use development in front of the parking structure with commercial/retail frontage on Pennsylvania Avenue and office space on the second floor.

### 7260 Summit Avenue

- A mixed-use 5-story structure TOD facing Pennsylvania Avenue (Building 1 on Figure 12) containing the following:
  - 15,000 SF of ground-floor retail
  - 15,000 SF of office
  - 460-car parking structure

### 424 Pennsylvania Avenue

- Two 6-story residential buildings totaling 200,000 SF with 20-1,000 SF apartment units per floor (Buildings 2 and 3)
- 138 surface parking spaces on the existing SEPTA lot adjacent to the residential structures. The net loss of parking would be accommodated in the new parking structure in the mixed-use complex.

Figure 14. A Whitemarsh FWOP TOD Concept – Option 3.



#### Option 3

- 5-Story Mixed Use Parking Garage
- ① 15,000 SF retail on ground floor  
15,000 SF office on second floor  
460 parking spaces
- ② 6-Story Residential Building With 100 Units  
100,000 SF - parked in neighboring structure
- ③ 6-Story Residential Building With 100 Units  
100,000 SF - parked in neighboring structure

Option 3 takes the proposed residential development at 424 Pennsylvania Avenue to the next level, incorporating parking and mixed-use commercial development to create transit-oriented development at the SEPTA station. There are potential challenges, however. Because the parcels in question are both publicly and privately owned, cooperation among owners would be required to make the TDR arrangement possible. Furthermore, the cost of constructing the parking structure would be substantial. While the development would create more value than Option 1, Option 3 may not result in more actual TDR potential because of the development cost. However, located at a major regional transit stop, Option 3 could be a beneficial community asset and a model for transit-oriented development. Subsequent work for this site

should involve a more detailed design in cooperation with SEPTA to create a 'place' for the Township while accomplishing TOD objectives.

### **3.8 Traffic Implications of TDR in the FWOP**

The potential impacts on traffic in the FWOP by the proposed development scenarios were evaluated for both Upper Dublin and Whitemarsh Townships (see full memorandum in Appendix E). The analysis first identified a baseline of existing traffic conditions in the FWOP; using prior traffic studies by the Upper Dublin Township traffic engineer, the analysis assumed that the FWOP currently generates approximately 5,000 inbound trips during the weekday morning peak hour, and approximately 5,000 outbound trips during the weekday afternoon peak hour. Key access points to the park include Virginia Drive at Susquehanna Road, the PA Turnpike slip ramp, Pinetown Road and Highland Avenue, and Commerce Drive at Pennsylvania Avenue.

#### **3.8.1 Future Traffic Volumes**

##### **Upper Dublin**

Evaluating the proposed TDR commercial development program for Upper Dublin – an approximate net gain of 2.77 million square feet of commercial space – and considering the existing development, the estimated increase in overall traffic generation in the FWOP is approximately 50%. The residential component would have a much smaller impact than commercial, generating an additional 5,580 daily trips. Impacts would be lessened since the directional flow is opposite of most FWOP traffic during peak hours. Furthermore, people living in the residential units could potentially work in the FWOP, keeping traffic off the Township's roadway system outside the park.

##### **Whitemarsh**

In Whitemarsh, traffic impacts would be much less than in Upper Dublin due to the smaller development potential. Daily trip generation for Option 1 (just the 96-unit residential component) would amount to only about 700, while for Option 2 (TOD at the station), daily trip generation would total approximately 2,145. It is likely that these developments would have only a minor traffic impact on the immediate area of access.

#### **3.8.2 Impact within the FWOP**

As expected with a development potential of over 2 million feet, there will be some impact on traffic operations in and around the FWOP. Given the commercial use, this impact will primarily be during the weekday morning and weekday afternoon commuter peak periods. Within the office park itself, it is expected that the existing roadway geometry, with the four-lane spine road of Commerce Drive/Delaware Drive/Virginia Drive traversing the park, should generally be adequate to accommodate the demand. Some improvements that may ultimately be required within the park include the following:

- Specific turn lane improvements at certain access locations similar to the area at the GMC facility
- New traffic signals at existing or future intersections with turning movements
- Continued limited access to Camp Hill Road, and keeping FWOP traffic on main roadways of the park through signage
- Geometric improvements and the intersection of Camp Hill Road and Highland Avenue
- Signalization at Camp Hill Road and Virginia Drive

- Various traffic control additions at the new town center to make pedestrian movements safer, including a stop sign and the potential for a new traffic signal at Commerce Drive as well as multi-stop sign control on the east side of the square where Delaware Drive reunites

### 3.8.3 Dresher Triangle

The impact of additional development inside the FWOP will be most significant at the main access points, particularly the intersection of Virginia Drive and Susquehanna Road at the Dresher Triangle. Under current conditions there is already significant delay. Long-term improvements should therefore be considered – mainly widening Susquehanna Road between Virginia Drive and Limekiln Pike. However, given the current geometric constraints of the Triangle area, including underpasses and culverts, these improvements are likely to be costly.

### 3.8.4 Pennsylvania Avenue

The other major access location is Commerce Drive at Pennsylvania Avenue. Recent improvements at the interchange of PA 309 and the PA Turnpike have significantly reduced delay in the area. Traffic delays in the area generally only occur when backups on these major roadways occur, with traffic cascading back down Pennsylvania Avenue and Commerce Drive. However, the delay is not a subject of the amount of development in the FWOP, although the increased development will increase the cascading. As a result, additional long-term improvements to this area are not recommended or envisioned.

## **3.9 Recommendations/Next Steps**

Based on the above TDR analysis for the sustainable revitalization of the Fort Washington Office Park, both Upper Dublin and Whitmarsh Townships should undertake the following series of recommendations as next steps toward mitigating flooding and reinventing the office park as a viable location for commercial and residential development.

### 3.9.1 Upper Dublin

- Zoning Ordinance: The Township should consider strengthening its zoning ordinance to further restrict development in the 50-year floodplain. Revisions that would encourage the use of TDR and provide a higher level of protection for water resources in the area include:
  - Eliminate a portion of the variance section and add the TDR program as relief for parcels that become unbuildable (either fully unbuildable or partially unbuildable) under the revised ordinance
  - Extend floodway restrictions to the floodplain, further limiting development
  - Consider adopting the Montgomery County Model Ordinance for the entire Township to provide enhanced floodplain protections community-wide
- Official Map: The Township should revise its official map to include the future street network of the proposed town square. This revision will require developers of the town square to finance construction of new streets and other required public improvements as part of the development program. It should also be clear that there would be bonus development opportunities in turn for that investment.
- New TDR Ordinance: As part of the TDR process, the Township will need to draft, vet, and adopt a new ordinance as an overlay to the existing zoning in the FWOP. Using this study as a guide, the ordinance will need to spell out the specific assignment of rights and use of credits, as well as detailed development regulations associated with the TDR that must be followed in order to participate in the Township's FWOP TDR program.

- Town Center Concept: 375 Commerce Drive – a large, vacant parcel at the center of the town square concept – provides a major opportunity to jump-start revitalization of the FWOP through the TDR process. The Township should focus on developing this parcel, as detailed above, as a first step.

### 3.9.2 Whitemarsh

- Zoning Ordinance: As in Upper Dublin, Whitemarsh should consider strengthening its zoning ordinance to further restrict development in the 50-year floodplain. Revisions that would encourage the use of TDR and provide a higher level of protection for water resources in the area include:
  - Eliminate a portion of the variance section and add the TDR program as relief for parcels that become unbuildable (either fully unbuildable or partially unbuildable) under the revised ordinance
  - Extend floodway restrictions to the floodplain, further limiting development
  - Consider adopting the Montgomery County Model Ordinance for the entire Township to provide enhanced floodplain protections community-wide
- New TDR Ordinance: As part of the TDR process, the Township will need to draft, vet, and adopt a new ordinance as an overlay to the existing zoning along Pennsylvania Avenue. Using this study as a guide, the ordinance will need to spell out the specific assignment of rights and use of credits, as well as detailed development regulations associated with the TDR that must be followed in order to participate in the Township's TDR program.
- TOD Concept at Train Station: The area around the Fort Washington SEPTA station provides a major opportunity to jump-start the TDR process for Whitemarsh in the FWOP vicinity. Options 1, 2, and 3 outline potential actions for the Township to take to begin removing development from the floodplain while creating a new 'place'. The Township should pursue Option 1, as detailed above, as a first step, with its fairly immediate development potential. Option 2 would require seeking out additional development sites in the vicinity of the train station to remove the remaining development (that's likely to move) from the floodplain through TDR. Option 3 has the potential to become an exciting mixed-use development located directly at the train station – a true TOD. However, the likely need to construct a parking structure makes this option more costly and logistically difficult.

## Appendix A



## The Fort Washington Office Park Steering Committee

Invites you to participate in a

# PUBLIC FORUM

For the

## Sustainable Revitalization Plan for the Fort Washington Office Park

Thursday, November 11, 2010 @ 7 pm

At the

Upper Dublin Township Building  
801 Loch Alsh Avenue

Topics for discussion will include:

- Flooding in the Office Park
- Transfer of Development Rights (TDR) as a Mitigation Tool
- Preliminary TDR Concepts for the Office Park
- Your Feedback and Questions

Please join us!

## Appendix B

# Summary of Research on Floodplain Ordinances Exceeding FEMA Minimum Standards

## Legal Basis for Exceeding FEMA Floodplain Regulations

Source: Common Legal Questions about Floodplain Regulations in the Courts: 2003 Update. Jon A. Kusler, Esq. Association of State Floodplain Managers, 2003.

1. May a local government adopt floodplain regulations which exceed state or federal (FEMA) minimum standards?

Yes. Local government's regulations may exceed both state and federal regulations. There is no preemption issue. The FEMA program encourages state and local regulations exceeding federal standards through the Community Rating System. Courts have, in specific cases, sustained a variety of regulations exceeding FEMA standards such as:

- Regulating activities consistent with the 500 year flood rather than the 100 year flood,
- Prohibiting residences in floodplains,
- Establishing more stringent floodway standards such as preventing activities which would cause any substantial increase in flood heights,
- Establishing buffer and set back requirements for coastal development and development adjacent to riverine floodplains,
- Establishing tight restrictions on the use of septic tank/soil absorption fields in floodplains,
- Establishing open space zoning for some floodplains, and
- Establishing tight restrictions on the rebuilding of nonconforming uses.

2. Under what circumstances is a court most likely to hold that floodplain regulations "take" private property?

Courts are likely to find a taking only where regulations deny all "reasonable" economic uses of entire properties and where proposed activities will not have offsite "nuisance" impacts. Landowners are also more likely to succeed in challenging regulations where the property owner purchased the land prior to adoption of the regulations.

3. Are highly restrictive floodplain regulations including buffers and large lot sizes valid?

Courts have upheld highly restrictive floodplain regulations in many contexts, particularly where a proposed activity may have nuisance impacts on other properties. However, courts have also held floodplain regulations to be a "taking" without payment of compensation in a few cases (mostly older) where the regulations denied all economic use of entire parcels of land and there was no showing of adverse impact on other properties.

4. Would a no adverse impact performance standard incorporated in local or state regulations be sustained by courts?

Yes. Courts are very likely to support this standard if it is fairly applied and if government agencies permit some economic, conditional use for entire parcels of lands where regulations may otherwise prevent all economic use of land. For example, courts are likely to support a requirement that

landowners purchase floodeasements from other property owners if their proposed activities will damage other property owners.

5. How can a local government help avoid successful “taking” challenges?

Local governments can help avoid successful taking challenges in a variety of ways:

- Adopt a no adverse impact floodplain overall performance standard which applies fairly and uniformly to all properties.
- Include special exception and variance provisions in regulations which allow the regulatory agency to issue a permit where denial will deny a landowner all economic use of his or her entire parcel and the proposed activity will not have nuisance impacts.
- Adopt large lot zoning for floodplain areas which permits some economic use (e.g. residential use) on the upland portion of each lot.
- Allow for the transfer of development rights from floodplain to non floodplain parcels.
- Reduce property taxes and sewer and water levies on regulated floodplains.

### FEMA Community Rating System for Communities that Adopt Standards Exceeding FEMA Minimums

Source: [www.fema.gov/library](http://www.fema.gov/library). National Flood Insurance Program (NFIP) Community Rating System (CRS): A Local Official's Guide to Saving Lives, Preventing Property Damage, Reducing the Cost of Flood Insurance, 2006.

#### How the Community Rating System Works

Every year, floods cause hundreds of millions of dollars' worth of damage to homes and businesses around the country. Standard homeowners and commercial property policies do not cover flood losses. So, to meet the need for this vital coverage, the Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP).

The NFIP offers reasonably priced flood insurance in communities that comply with minimum standards for floodplain management.

The NFIP's Community Rating System (CRS) recognizes community efforts beyond those minimum standards by reducing flood insurance premiums for the community's property owners. The CRS is similar to — but separate from — the private insurance industry's programs that grade communities on the effectiveness of their fire suppression and building code enforcement.

CRS discounts on flood insurance premiums range from 5% up to 45%. Those discounts provide an incentive for new flood protection activities that can help save lives and property in the event of a flood.

To participate in the CRS, your community can choose to undertake some or all of the 18 public information and floodplain management activities described in the CRS Coordinator's Manual.

You're probably already doing many of these activities. To get credit, community officials will need to prepare an application documenting the efforts.

### Case Studies for Relocating Communities in the Floodplain

Two examples of community relocation projects in Wisconsin are the Town of Gay Mills and Soldiers Grove. These communities used various grants to vacate significant developments in the floodplain and relocate them nearby.

Source: Come Rain, Come Shine: A Case Study of a Floodplain Relocation Project in Soldiers Grove, Wisconsin. William Becker.

Source: Heading for the hills: Gays Mills businesses moving to higher ground. Barry Adams. Wisconsin State Journal, September 27, 2010.

## Appendix C

**THE LAW OFFICE OF  
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April 11, 2011

**TO:** Upper Dublin Township  
801 Loch Ash Avenue  
Fort Washington PA 19034-1697

**RE:** Attorney Letter of Opinion  
Review of Sustainable Revitalization Plan for the Fort Washington Office Park  
and Proposed Concepts for a revised Flood Protection Ordinance and Utilization of  
Transferable Development Rights

I have been asked to review the Sustainable Revitalization Plan for the Fort Washington Office Park, paying specific attention to the proposed changes to the current Flood Protection Ordinance, the use of transferable development rights, and the legality of the proposed changes. In forming my opinion I have relied on the technical statements and advices set forth in Technical Memorandum #4: Mechanism for the Transfer of Development Rights, February 2011 and the summary of ordinances, review of current legislation and recommendations set forth in the Sustainable Revitalization Plan, February 2011. While summarized in the Sustainable Revitalization Plan Review, I shall set forth in greater detail the courts' reviews and holding on the constitutionality of such ordinances, what aspects of prior ordinances rendered them invalid or unconstitutional, the current enabling legislation in Pennsylvania, and my recommendations of the steps necessary to ensure the validity of any proposed ordinances.

**1. Constitutionality of Flood Plain and Transferable Development Rights Ordinances**

The transfer of development rights (TDRs) as a land use mechanism to cluster development in certain areas at increased density, while leaving other areas undeveloped yet able to receive compensation for its non-development, has a long history. The concept has its roots in the 1916 New York City zoning ordinance (the nation's first zoning code), which allowed owners to sell unused air rights on one parcel to an adjacent parcel that could then exceed the zoning height limitations. During the 1970s, Maryland, Florida and New York started using TDRs as an approach for growth control and open space preservation. The constitutionality of TDRs in general was first tested and upheld in the 1978 decision of the United States Supreme Court in a case titled *Penn Central Transportation Co. v New York City*. The Supreme Court revisited the issue in 1997, again supporting their use, in *Suitum v. Tahoe Regional Planning Agency*. While the Pennsylvania Courts have not directly addressed the issue, the New Jersey Supreme Court upheld TDRs in 1991 in the case of *Gardner v. New Jersey Pinelands Commission*; the Maryland Courts in *West Montgomery County v. Maryland National*; and, the California Courts in *Baranick v. Marin County*. But not all ordinances have been found valid.

In the landmark case of *Lucas vs. South Carolina Coastal Council*, the United States Supreme Court in the 1992 held that a South Carolina land use regulation illegally deprived a coastal landowner of any possible economic benefit from his land. The landowner wanted to build homes on his land, but was not allowed to under the terms of the land use regulations, which were designed to protect endangered wetlands. Relying on the Fifth Amendment's Taking Clause: "...nor shall private property be taken for public use, without just compensation..." the Court held that the regulations prevented Mr. Lucas from gaining any economic benefit from his land and had the same effect as "taking" his land; therefore, for the regulations to be constitutionally valid, he must be eligible for compensation.

In 1994 the United States Supreme Court specifically considered flood plain zoning and greenway drainage easements. In order to ensure the constitutionality of a particular zoning requirement not only must the municipality be able to show that the regulations bear a "reasonable" relationship to legitimate public concerns (flood plains, wetlands and other environmentally sensitive areas being recognized public concerns), they must also show that the extent of the restrictions or requirements are sufficient and reasonable to achieve those goals when considering the development of a particular parcel of land. *Dolan v. City of Tigard*.

In 2005 the United States Supreme Court, in *Kelo v. City of New London*, addressed that portion of the Fifth Amendment involving "taken for public use" when the public taking is being transferred to a private redevelopment project. The Court was reviewing a regulation, which specifically stated that the taking of the property was for a specific public purpose, was a constitutionally valid taking of property for "a public use of property." The case arose from the state condemnation of privately owned real property taken as part of a comprehensive redevelopment plan which promised 3,169 new jobs and \$1.2 million a year in tax revenues. The Court held that the general benefits a community enjoyed from economic growth qualified such redevelopment plans as a permissible "public use" under the Takings Clause of the Fifth Amendment. Although the transfer was mandatory and although the property was taken from one private property owner and transferred to another private property owner, because the property owners were to be compensated for their loss, it met the constitutional requirements of the Fifth Amendment.

Therefore, the TDR concept of directing development away from ecologically or environmentally sensitive lands and to better equipped areas is constitutional unless: 1) when TDR's are mandatory, the private property owner is uncompensated or substantially undercompensated; or, 2) when private property is reclassified or rezoned, a legitimate public purpose is not expressed and proven in the body of the ordinance. The failure to meet these two standards may amount to an unconstitutional exercise of eminent domain and a 5<sup>th</sup> Amendment "taking" of private property by the government.

The Pennsylvania Courts have applied the above criteria when considering matters before them. They have declared flood plain ordinances invalid if they are "a taking" (so stringent that they affect all or most of the owner's property – *Hofkin v. Whitmarsh Twp.*), if they "over regulate" (they are so broad they attempt to catch everything – *Appeal of George Baker*) or if they are "inaccurate" (alleging there is the existence of a risk of flooding when in fact that particular property does not flood- *ZHB of Willistown Twp. v. Lenox Homes*). The Pennsylvania Courts have paid close attention to the underlying data, engineer opinions and particulars of all properties being re-zoned or affected by overlays.

## 2. Pennsylvania Enabling Legislation

The Pennsylvania Municipalities Planning Code (MPC) enables and authorizes local governments to enact zoning and land development ordinances. In order to be legally binding, any enacted ordinances must fully comply with the terms, requirements and restrictions set forth in the MPC. Having found no evidence to the contrary, it is to be presumed that all applicable ordinances and plans currently in place are fully compliant with the MPC requirements. The current and future zoning, regulation and development of land in the Fort Washington Office Park is regulated by the MPC, applicable comprehensive plans, and the zoning ordinances of Upper Dublin Township.

The Township Zoning Ordinance, and their accompanying regulations, establish the “by right” terms under which an owner can develop, build and use that land for residential, commercial, industrial, or other purposes. As the Upper Dublin Township Zoning Ordinance recognizes and defines the requirements and conditions for “by right” development, by definition in the zoning ordinance these rights could be “transferred” to another owner or another place. These “rights” could then be bought, sold and transferred like other “physical” aspects of real estate.

The MPC, through § 10619.1, defines and classifies these rights as “Transferable Development Rights” (TDRs) and specifically authorizes local municipalities to include the creation, terms and regulations of TDRs in local zoning ordinances. The MPC does not allow for “private” or “informal” TDRs between property owners or developers and TDRs cannot be transferred across municipal lines, except when a joint zoning ordinance authorizes it.

The MPC strongly supports the enactment of TDRs as evidence by Section 105. Purpose of Act: It is the intent, purpose and scope of this act to .... to encourage the preservation of prime agricultural land and natural and historic resources through easements, transfer of development rights and rezoning ... The MPC does set forth some preliminary limitations for the use of TDRs. Section 603(3) (c)(2.2) states that any zoning provisions for regulating transferable development rights must be on a voluntary basis, must include provisions for the protection of those acquiring TDRs, and must meet the express standards and criteria set forth in the local zoning ordinance and section 619.1 of the MPC.

Further, Sections 604, 605 and 609 of the MPC encourages the use of zoning to promote and protect the preservation of flood plains. The zoning and classifying flood plains as a separate zoning district is also encouraged as this assists in the regulation, restriction or prohibition of uses within a flood plain. While reviewing proposed projects, the MPC encourages municipalities to consider a site’s unique environmental components while making its determination. And the MPC considers TDRs to be a valuable tool to accomplish these goals.

In recognition of this favored land development mechanism, the MPC specifically sets forth the criteria a municipality must follow to implement a valid and enforceable TDR ordinance in Section 619.1. Transferable Development Rights. The MPC requires that the enacted ordinance create, as a separate property right, development rights that are severable and can be separately conveyed (619.1(a)); that the ordinance require the TDR be conveyed by a recorded deed bearing the approval of the municipality (619.1(b) & (c)); and, that TDRs may not involve property in two municipalities in the absence of a joint municipal zoning ordinance or written agreement between both municipalities. (619.1(d)). In complying with these requirements, Upper Dublin Township can enact a valid and enforceable zoning ordinance creating TDRs and regulating their use in a specified area.

### **3. Pennsylvania Preemption Rights**

Under FEMA, the Federal government is taking a more proactive approach to protecting floodplains and restricting the amount of development permitted. When there exists federal acts, laws or regulations there is the concern that the federal law may “trump” state and local laws. The federal and state courts refer to this as “preemption.” While federal laws can preempt state and local laws when dealing with air navigation, sale of cigarettes and alcohol, interstate commerce or cable, radio and television transmission rights, they do not preempt state laws regulating the natural use of land in that state or municipality. This non-preemption is based on two principals: the right of self-determination over assets solely located within a locality (ie. land, which cannot enter interstate commerce); or, the stated purpose of the federal law (ie. delegating power to a locality.)

FEMA encourages state and local agencies to draft their own regulations suited to their individual needs. The Pennsylvania legislature encourages local agencies to draft their own regulation through PA Code, Chapter 106, Floodplain Management. It lists as its purposes: to encourage planning and development in floodplains which are consistent with sound land use practices; to protect people and property in floodplains from the dangers and damage of floodwaters and from materials carried by such floodwaters; to prevent and eliminate urban and rural blight which results from the damages of flooding;....to provide for and encourage local administration and management of floodplains. Both the federal and state governments clearly permit and encourage local planning

The Pennsylvania courts recognized this and have allowed both state and local agencies to exceed FEMA standards: setting a 500-year flood rather than the 100-year flood requirement; total prohibition of residences, high risk uses or special need facilities in floodplains; stricter buffer and set back requirements for coastal development and development adjacent to riverine floodplains; stricter requirements for rebuilding or expanding existing buildings, etc. *Reimer v. Bd. of Super. of Upper Mount Bethel Twp.*, *Kraiser v. Horseham Twp*, *Penneco Oil Co., Inc. v. County of Fayette*, *Huntley & Huntley v. Borough Council*, *Taylor v. Harmony Twp*.

Therefore, Upper Dublin Township’s right to create its own flood zone and development criteria is protected and is not preempted by state or federal acts, laws or regulations.

### **4. Planning and Drafting Recommendations**

While TDRs are a favored land management technique because 1) they allow for the creation and protection of open space without spending public funds; 2) the price demanded to create open space keeps pace with the value of land for development; 3) open space is created and protected without unfairly “taking” value away from properties through overbroad or harsh regulation; and, 4) the preservation of open space is permanent, operating like a conservation easement when the sale of the development rights retires the parcel from potential development in perpetuity, there are numerous considerations, conditions and requirements to be met before a valid and enforceable ordinance can be enacted.

1. The TDR ordinance must recognize and define real property as a bundle of rights that includes the right to possess, use, develop and dispose of the property. A TDR must be a recognized and unique strand in that bundle of rights that may be severed from the parcel of land and assigned to other parcels of land, upon receipt of some type of payment or compensation.

2. The ordinance must ensure that landowners in sending zones benefit from compensation for the environmental value of their land, and landowners in receiving zones gain the development value of the TDRs.
3. In the absence of compensation, the ordinance cannot prevent the continued use of property in the area to be affected, although it can affect its expansion or change in use; ie. it can't eliminate the economic value of the property.
4. It must be clear from an independent review of the regulations that they are fair and uniformly applied. The ordinance must contain sufficient scientifically recognized data, from credible sources, supported by federal FEMA data wherever possible, to support this higher level of protection for each tax parcel subject to its restrictions.
5. When the public purpose is to protect environmentally sensitive areas and to prevent the risk of flood, there must be:
  - a. sufficient underlying scientific and empirical evidence to justify the zoning classification, use restriction or development requirement at this higher level of protection;
  - b. site specific data for each parcel sought to be regulated; and,
  - c. if there is an absence of an overwhelming public purpose, voluntary compliance or the provision of economic compensation to those being adversely affected.
6. The supporting data and evidence must show that the proposed TDR Ordinance improves the land management process in the following ways:
  - a. limiting total impervious surface in remaining open lands to justifiable limits;
  - b. encouraging the redevelopment of urbanized areas by exempting redevelopment of already existing impervious surface from the new restriction;
  - c. allowing market mechanisms to pay for open space preservation and thus keeping pace with increasing land values;
  - d. rewarding development and redevelopment proposals that demonstrate substantive compliance with the goals of the ordinance;
  - e. allowing flexibility and market changes to occur while still maintaining thresholds of environmental standards and objectives; and,
  - f. allowing a reasonable amount of local control to remain in the process to permit variances and special exceptions when it cannot be shown that a development of particular property advances those goals and objectives.

7. The overwhelming view of the ordinance must show it is not anti-development; but, rather significantly protects the property rights of everyone in the community by providing a fair and reasonable foundation for safe and proper development, which addresses the legitimate public aim of creating sustainable communities, ensuring safe housing and commercial facilities by preventing flooding, protecting needed watersheds, and protecting existing infrastructure such as established roadways, public water supply system, the centralized sewer collection system, public transit and other utilities.

## **Conclusion**

While specific ordinance details will be the responsibility of the Township, the legality of the ordinance will depend on its consistency with federal, state and county flood management laws, regional, county and local comprehensive plans, and then current Upper Dublin Zoning and Sub-Division ordinances. While a determination of the consistency of the technical details will rely on the expertise of engineers, there will be a need to ensure the consistency of language and definitions by the applicable Solicitors. The county and affected local municipalities will need to review the proposal to ensure that it does not interfere with the Regional Comprehensive Plan's goals, objectives, and policies and that it is in agreement with the Regional Comprehensive Plan's and the Township's vision for future land uses, densities and intensities.

Compliance with the provisions of the MPC and inclusion of sufficient credible underlying data to support the goals of the TDR ordinance should ensure both the viability and the validity of the Revitalization Project and any supporting TDR Ordinance.

Sincerely,



Catherine Anne Porter  
CAP/ems

## Appendix D

The following is a detailed description of key Sending Area properties.

## Owner Intends to Stay in Same Location

Several property owners report that, despite the flooding that occurs in the FWOP, they have no interest in moving and intend to stay in the same location. Some even report that they rarely have flooding issues, or they have not witnessed floodwaters in their buildings in several years, even though many newsworthy flooding events have brought recent attention to the FWOP.

### 471 Pennsylvania Avenue

Property Description:

- Ownership: Elliott and Andrew Goldstein
- Contact: Same
- Parcel Size: 0.92 acres
- Building Size: 4,720 square feet
- Current Use: Car Wash
- Current Tenants: Clean Machine Car Wash
- Assessed Value: \$450,740

471 Pennsylvania Avenue is the Clean Machine Car Wash, located near the intersection of Pennsylvania Avenue and Commerce Drive. It is located in the existing 100-year floodplain, however, the property will be in the 50-year floodplain after the dams are built. The owner has owned and operated the business for 30 years and has endured several storm events. Just in the past year he reports that the property received minor flooding on three separate occasions. As of late, the flooding has only been a few inches of water toward the back of the property near the self-serve wash bays, leaving only mud on the pavement. The office is on the second floor over the wash tunnel, which hasn't received water in ten years. He did mention that the nearby intersection gets flooded to the degree of the road being closed, but this level of flooding never reaches his property. Several upgrades have been made to the business over the years. Because of these improvements and the favorable location of the business, the owner intends to remain at the current location.

### 500-510 Pennsylvania Avenue

Property Description:

- Ownership: Cleo-Mar
- Contact:
- Parcel Size: 4.99 acres
- Building Size: 16,166 square feet
- Current Use: Car Dealership
- Current Tenants: West German BMW
- Assessed Value: \$2,273,000

500 Pennsylvania Avenue is the West German BMW car dealership, and 506 and 510 Pennsylvania Avenue are both vacant lots owned by the dealership. Although it's located in the existing 100-year floodplain, the property is expected to be in the 25-year floodplain and still considered highly flood-prone upon completion of the dams. The property received extensive damage from Hurricane Floyd, which literally washed cars off the lot, as well as more recent storms. Notwithstanding, the owner has made significant investments in the property after moving there in 1999 because of its key location at the

entrance to the PA Turnpike. Numerous unsuccessful attempts were made to contact a representative at the dealership. However, because of the move and investment in the property, we are assuming the owner intends to remain at the current location.

### 515 Pennsylvania Avenue

#### Property Description:

- Ownership: HRPT/HUB Properties Trust
- Contact: Patrick Brady (broker)
- Parcel Size: 4.42 acres
- Building Size: 83,998 square feet
- Current Use: Office
- Current Tenants: Amtech, Futura, Chariot Solutions, Focus Forward
- Assessed Value: \$10,538,700

515 Pennsylvania Avenue is a large multi-tenant building located at the corner of Commerce Drive and Pennsylvania Avenue, at the gateway to the FWOP. Although it's located in the existing 100-year floodplain, the property will be in the 25-year floodplain after the dams are built. Despite this status, both the owner, HUB Properties Trust, and the broker, Binswanger, believe that the property is highly valuable and desirable because of its key location at the entrance to the PA Turnpike. The assessed value reflects this notion. The broker reports that the building has not flooded significantly since 2001. He said the first floor of the building has been raised several feet to prevent future flooding. The broker said that it is a commendable effort to move occupants that experience recurring flooding out of the floodplain, and that more detention basins should be constructed throughout the FWOP to handle the flood waters. But in the case of 515 Pennsylvania Avenue, he said the tenants are very happy with the building and location, and each has a long-term lease. As a result, neither the owner nor broker intends to move the tenants.

### 524 Pennsylvania Avenue

#### Property Description:

- Ownership: Lukoil of North America LLC
- Contact:
- Parcel Size: 0.68 acres
- Building Size: 2,436 square feet
- Current Use: Service Station/Convenience Store
- Current Tenants: Lukoil
- Assessed Value: \$513,230

524 Pennsylvania Avenue is the Lukoil service station and convenience store, located right at the entrance to the PA Turnpike. Like its neighbors, the property will be in the 50-year floodplain and considered highly flood-prone after the dams are built. The current owner purchased the property in 2009. We were unable to contact a manager at the station. However, because of the recent purchase and investments in the property, we are assuming the company intends to keep the station at the current location.

### 530 Pennsylvania Avenue

#### Property Description:

- Ownership: MG Washington LLC
- Contact:
- Parcel Size: 8.15 acres
- Building Size: 113,531 square feet
- Current Use: Hotel
- Current Tenants: Hilton Garden Inn
- Assessed Value: \$6,481,090

530 Pennsylvania Avenue is the multi-story Hilton Garden Inn hotel. Like its neighbors, the property will be in the 25-year floodplain and considered highly flood-prone after the dams are built. Still, the owner has made significant investments in the property after purchasing it in 1999 because of its key location at the entrance to the PA Turnpike. Since then, several major storms have caused significant flooding at the hotel, particularly the first floor, and guests have had to be evacuated. We were unable to contact a manager at the hotel. However, because of the investments in the property, we are assuming the owner intends to remain at the current location.

### 535 Pennsylvania Avenue

#### Property Description:

- Ownership: HRPT/HUB Properties Trust
- Contact: Patrick Brady (broker)
- Parcel Size: 1.73 acres
- Building Size: 30,160 square feet
- Current Use: Office
- Current Tenants: Chestnut Hill Hospital, Remax
- Assessed Value: \$3,496,000

Located next door to 515 Pennsylvania Avenue, 535 Pennsylvania Avenue will be in the 25-year floodplain and also considered highly flood-prone upon completion of the dams. Notwithstanding, both the owner, HUB Properties Trust, and the broker, Binswanger, believe that the property is highly desirable because of its key location at the entrance to the PA Turnpike and gateway to the FWOP. As with 515, the broker reports that the building has not flooded significantly since 2001. Similarly, the tenants are very happy with the building and location, and each has long-term leases. As a result, neither the owner nor broker intends to move.

### 135 Commerce Drive

#### Property Description:

- Ownership: 135 Commerce Inc.
- Contact: Mike Bixler, Manager
- Parcel Size: 7.10 acres
- Building Size: 144,908 square feet
- Current Use: Auto Parts Distribution Center/Warehouse
- Current Tenants: B&I Auto Supply
- Assessed Value: \$2,952,750

135 Commerce Drive is a large single-story warehouse building located behind 515 Pennsylvania Avenue. While the property is just outside the existing 100-year floodplain, the property will be in the 50-year floodplain after the dams are built. We attempted to contact the manager of B&I Auto to discuss future plans, but were unable to make contact. As a result, we will assume that the owner intends to remain at the current location until we can further inquire.

### 455 Delaware Drive

#### Property Description:

- Ownership: Bucks County Water & Sewer Authority
- Contact:
- Parcel Size: 3.35 acres
- Building Size: 1,590 square feet
- Current Use: Wastewater Treatment Facility
- Current Tenants:
- Assessed Value: \$387,810

455 Delaware Drive, owned by the Bucks County Water & Sewer Authority, is located in the severely flood-prone central portion of the FWOP. Because the property is a wastewater treatment plant owned by a public entity, we are assuming that it will remain in the current location.

### 475 Virginia Drive

#### Property Description:

- Ownership: HRPT/HUB Properties Trust
- Contact: David Campoli (manager)
- Parcel Size: 5.97 acres
- Building Size: 76,008 square feet
- Current Use: Office
- Current Tenants: IRI Information Resources, First Managed Care Option/Active Care
- Assessed Value: \$8,775,000

475 Virginia Drive, owned by HUB Properties Trust, is located at the corner of Delaware Drive and Virginia Drive in the severely flood-prone central portion of the FWOP and will be in the 25-year floodplain once the dams are complete. The manager agrees that flooding is a nuisance in the FWOP in general, but that no water has reached the building at 475 Virginia during any recent events. He reports that nothing major has happened to his buildings since 2001. Because of the excellent location, no major incidents, and no complaints from tenants, HUB Properties Trust wishes to keep its building at 475 Virginia Drive.

### 550 Virginia Drive

#### Property Description:

- Ownership: Rush Gears, Inc.
- Contact: Robert McGann, Sr. (owner)
- Parcel Size: 2.27 acres
- Building Size: 16,944 square feet
- Current Use: Light Industrial, Office
- Current Tenants: Rush Gears, with small subtenant
- Assessed Value: \$645,170

550 Virginia Drive was also thought to be located in the severely flood-prone central portion of the FWOP, but engineering analysis shows that it will have very little threat of flooding upon construction of the dams. Rush Gears has been in the FWOP for 36 years and moved to 550 Virginia Drive in 1994. They first leased the building then purchased it. They have since taken on a small subtenant. The owner says that the location is perfect for both company employees and the couriers who deliver their products. He reports that flooding did occur in 2001, when a state of emergency was declared in the FWOP. But since then, he says no flooding has occurred in his building. The playing field on the adjacent parcel floods first and quite often, but not his property. The owner believes that development upstream in the 1980s and '90s without proper flood control has caused the flooding in the FWOP. He thinks the Township should pursue incremental solutions, such as dredging and detention basins, before they take on such extreme pursuits as relocation and transfer of development rights. Because of this belief, the good location, and a concern that any cost and/or disruption caused by moving could outweigh any risk, Rush Gears wishes to keep the building and its subtenant at 550 Virginia Drive.

### 555 Virginia Drive

#### Property Description:

- Ownership: Nesbitt Graphics
- Contact: Harry Nesbitt III (owner)
- Parcel Size: 2.14 acres
- Building Size: 21,048 square feet
- Current Use: Light Industrial
- Current Tenants: Nesbitt Graphics
- Assessed Value: \$900,000

555 Virginia Drive was thought to be severely flood-prone, but will be in the 100-year floodplain upon completion of the dams and less of a flood threat than many other nearby properties. Nesbitt Graphics purchased the building 11 years ago. Although they once had subtenants, currently just Nesbitt occupies the building. The owner says that the location is ideal for his employees, but he was concerned about retaining a tenant because of the threat of flooding. He reports that flooding certainly does occur and can be a problem for his business. He says he equipped the building with a system of boarding up the windows in the event of a flood and uses sand bags at the doors to mitigate seepage. He recalls that the worst events were in 1999 (shortly after he moved in) and 2006. He believes the problem is a lack of detention basins in the FWOP and that new development doesn't require them. The owner says that vacant parcels should be used to create detention basins, including the vacant lot at 375 Commerce Drive. He's willing to consider moving because of the threat of future flooding, but he's concerned about the potential restrictions that TDR would place on his business. He needs a single-story building with a loading dock, features that would be unlikely in a new multi-tenant or mixed-use building. He would prefer to be bought out by the Township through eminent domain so he could more freely find another building that suits the specific needs of his business. He also suggests that major landowners in the FWOP like Liberty Property Trust buy out the smaller businesses to increase their holdings in the FWOP. Then they could negotiate TDR with the Township as a single entity to streamline the redevelopment process. In any event, the owner says that moving his business is a consideration if the deal is fair. In fact, he says he's received offers in the past to sell or swap his property with another owner in the FWOP.

### 1005 Virginia Drive

#### Property Description:

- Ownership: First Evergreen Properties LLC
- Contact: Richard Smith, AVIR Realty (manager/broker)
- Parcel Size: 8.8 acres
- Building Size: 87,000 square feet
- Current Use: Office
- Current Tenants: Kulicke & Soffa
- Assessed Value: \$6,083,640

1005 Virginia Drive is a large single-tenant building located along the PA Turnpike. The property was thought to be located in the severely flood-prone central portion of the FWOP, but engineering analysis shows that it will have very little threat of flooding upon construction of the dams. The building is managed by AVIR Realty, which manages and owns other properties in the FWOP. The manager reports that the biggest advantages of the FWOP are location, existing infrastructure, and access to two exits of the Turnpike, as well as competitive rents. He would consider acquiring more properties if there's an opportunity. Aside from the flooding incidents, the manager said the FWOP needs better leadership to successfully carry it from industrial park to corporate center. There also needs to be more amenities for employees. He has little concern over flooding, as his tenant has not expressed particular concern. He said 1005 Virginia Drive has always been leased despite the flooding since he acquired the property as manager/broker. He thinks there should be an effort to remove all of the signs falsely advertising space availability. Often the space is not available, according to the manager, and it just adds to the perception that the FWOP is mostly vacant and undesirable. Since the tenant at 1005 Virginia Drive appears content, he has no interest in relocating.

### 1240/1250 Virginia Drive

#### Property Description:

- Ownership: Liberty Property Trust
- Contact: Tony Nichols (manager)
- Parcel Size: 4.2 acres
- Building Size: 45,252 square feet
- Current Use: Office, light industrial
- Current Tenants: Jaguar Printing, Bassman Laserow & Co., Vantage Point Bank
- Assessed Value: \$2,616,600

1240/1250 Virginia Drive is a multi-tenant building located at the intersection of Virginia Drive and Office Center Drive, opposite the PA Turnpike slip ramp. The property was thought to be severely flood-prone, but will be in the 100-year floodplain upon completion of the dams and less of a major flood threat. The building is owned and managed by Liberty Property Trust. Liberty Property Trust owns several other properties in the FWOP, which they have completely rebuilt or are in the process of rebuilding (usually involving raising the level of the property with fill out of the floodplain). Therefore, they have a keen interest in (and confidence in) the success of the FWOP. The manager said location is the biggest advantage of the FWOP. Like some of the other major landowners in the Office Park, he feels that the flooding issue is a little overblown and feels the Temple study is somewhat subjective. He says some of his tenants want specific floors out of the way of any potential flooding, but mostly because of the press and perception. None of his tenants has not renewed their leases because of flooding. The property manager says that

Liberty Property Trust is interested in the concept of higher density mixed-use development in the FWOP and they believe there needs to be a balance between development and amenities. He says the Township is making a good effort to improve the Office Park, but perception still hurts the FWOP as a premier office location. Because of Liberty's commitment to the FWOP and the favorable location of 1240/1250 Virginia Drive, they plan to tear down the building and completely redevelop it at its existing location. The building is being vacated slowly as leases expire; they are not renewing any long-term leases for the property. Liberty incorporates green building practices into their development projects, and says this property will be LEED-Certified once the redevelopment is complete because discriminating tenants are increasingly demanding green office space.

## Owner Would Consider Relocating

The second category of flood-prone properties is that whose owners would consider relocating for a variety of reasons under a variety of circumstances. Next to being vacant, this group of properties is perhaps the most important because it contains the owners and managers most willing to consider vacating the floodplain.

### 425 Delaware Drive

Property Description:

- Ownership: Granite Galleria
- Contact: Savino Costanzo (owner)
- Parcel Size: 2.27 acres
- Building Size: 21,048 square feet
- Current Use: Light Industrial
- Current Tenants: Granite Galleria, School of Rock, Competitive Edge, Forever Green
- Assessed Value: \$688,010

425 Delaware Drive is located at the corner of Virginia Drive and Delaware Drive and in the 50-year floodplain upon completion of the dams. Granite Galleria has been in the FWOP for 5 years, purchasing the building outright. They have three small subtenants that share the building. The owner says that the location is ideal for his employees and customers. He says that he would consider changing his tenants to all office, to command higher rents, but there is not enough parking on his site to meet the office parking requirement. Two of his tenants just renewed their leases (5-year) and the third has two years remaining. He reports that flooding did occur as recently as 2009, which required a complete renovation. He's willing to consider moving because of the threat of future flooding, but he's hesitant because of the disruption and investment he's made in the building. He feels that if major tenants like Liberty Property Trust are investing in their properties, the long-term outlook for the FWOP must be OK. The owner would like to see the Township pursue flood-control measures before taking on a more drastic approach of moving businesses. He thinks if the Township makes a greater investment, larger companies will become more interested in the FWOP. He thinks dredging is one potential solution for the flooding and that perhaps businesses in the Office Park may be willing to help pay for it. He also wonders if any mitigation efforts (such as damming) could be used to harness energy. In any event, the owner says that moving his business is not completely out of the question.

### 430/440 Virginia Drive

#### Property Description:

- Ownership: Agnew C N Jr. Trustee
- Contact: Jim Gorecki, Fidelity Commercial (broker/manager)
- Parcel Size: 2.93 acres
- Building Size: 17,436 square feet
- Current Use: Light Industrial
- Current Tenants: Abria Health Care, Tot Time, Fastenal
- Assessed Value: \$1,079,620

430/440 Virginia Drive is located at the corner of Virginia Drive and Delaware Drive. The building is managed by Fidelity Commercial and will be in the 25-year floodplain and also considered highly flood-prone upon completion of the dams. The manager contacted the building owner (who also owns 575 Virginia Drive), who says the biggest advantage of the FWOP is location. He says the biggest challenge, however, is flooding and the loss of tenants because of it. Prospective tenants are questioning the reputation of the FWOP due to flooding. He thinks the yellow flood signs exacerbate the problem by scaring away potential tenants. The owner reports that there are no options to renew for any of his tenants, so they are looking to leave his building. While he believes actions must be taken by the Township to mitigate the flooding problem in general, he is interested in relocating his property out of the floodplain.

### 525 Virginia Drive

#### Property Description:

- Ownership: HRPT/HUB Properties Trust
- Contact: David Campoli (manager)
- Parcel Size: 10.33 acres
- Building Size: 129,704 square feet
- Current Use: Vacant
- Current Tenants: N/A
- Assessed Value: \$6,647,000

525 Virginia Drive, owned by HUB Properties Trust, is a large vacant building of over 100,000 square feet. The property was thought to be severely flood-prone, but will be in the 100-year floodplain upon completion of the dams and less of a major flood threat. The broker/manager is HUB Properties Trust. Because of a current lawsuit, HUB indicated they are not permitted to speak specifically about any of their properties in the Office Park. It has been reported, however, that the former tenant has a lease through 2015, but has vacated the building because of recurring flooding. The former tenant tried to break the lease and cease rent payments, was sued by HUB Properties Trust, and lost the case. While the situation is in litigation, the former tenant must continue to pay rent to HUB. The fact that the building is currently vacant presents a redevelopment opportunity that doesn't exist with any of the other especially flood-prone properties in the FWOP.

### 565 Virginia Drive

#### Property Description:

- Ownership: William Weinberg Trustee/Marc Weinberg
- Contact: Maureen O'Neill, Marketing Systems Group (tenant)
- Parcel Size: 2.1 acres
- Building Size: 14,868 square feet
- Current Use: Office
- Current Tenants: Marketing Systems Group
- Assessed Value: \$1,101,950

565 Virginia Drive is located in the severely flood-prone central portion of the FWOP, and in the 50-year floodplain upon completion of the dams. While we were unable to contact the building owner, we did meet with the Vice President of Marketing Systems Group, the building's tenant for the last 15 years. MSG has been a long-term tenant mainly because of the location, which is central for its employees. The tenant reports that flooding occurred in 2001, requiring a complete gut of the building. She says two serious flooding incidents occurred prior to that event while MSG was a tenant of the building and the most recent event was in August 2009, though less severe than the others. The lease is up in 2013, and the tenant plans to move because of the flooding. The company would like to remain in the FWOP because of the location. The same owner (Weinberg) owns 375 Commerce Drive, a now-vacant lot that is being marketed for development. An application has been submitted to the Township as well. The parcel is mostly out of the 100-year floodplain, and would most likely be elevated entirely out of the floodplain as part of the construction of a new building. This could potentially create an opportunity for a TDR arrangement with the single landowner in which development rights from 565 Virginia Drive are transferred to 375 Commerce Drive and a new mixed-use building is constructed at a higher density than the rest of the FWOP. The lot's location on a prominent corner could contribute to its value.

### 1035 Virginia Drive

#### Property Description:

- Ownership: HRPT/HUB Properties Trust
- Contact: David Campoli (manager)
- Parcel Size: 2.34 acres
- Building Size: 30,720 square feet
- Current Use: Office
- Current Tenants: CHI Systems, Primerica Co., Jan-Pro Cleaning Systems, Color Chief Painters, REIT Management & Research
- Assessed Value: \$3,820,000

1035 Virginia Drive is a mid-size multi-tenant building located along the PA Turnpike. The property will be in the 25-year floodplain and considered highly flood-prone after the dams are built. The building is owned and managed by HUB Properties Trust. Unlike the building at 475 Virginia Drive, the manager says flooding has been a problem at the 1035 Virginia Drive location in the past. Therefore, he believes that this property could be a potential candidate for relocation and is willing to consider the possibilities.

### 520 Pennsylvania Avenue

#### Property Description:

- Ownership: Robert and Ellen Seltzer
- Contact: Michael Schwartz, Director of Finance
- Parcel Size: 2.33 acres
- Building Size: 16,794 square feet
- Current Use: Office
- Current Tenants: Cohen Seltzer
- Assessed Value: \$1,085,000

520 Pennsylvania Avenue is a two-story office building on the south side of the street, technically located outside the FWOP. It is located in the existing 100-year floodplain, but the property will be in the 25-year floodplain after the dams are built. The property owner and President of Cohen Seltzer is Robert Seltzer, who purchased the property in 1970 and had the building built. The Director of Finance reports that the most recent flooding events occurred in 2001 and around 2006, when the nearby rail bridge was blocked up because of debris, which cause severe flooding along Pennsylvania Avenue. Since then, he reports that no major flooding to the property has occurred. Cohen Seltzer's office is on the second floor of the building and the first floor is currently vacant and for lease. The first floor was occupied by the contractor for the Route 309 interchange construction project, but upon completing of the work, the contractor vacated the premises. The Finance Director said that finding a tenant has been difficult and rents they can command have been decreasing from a high of \$18 to \$20 per square foot. He mentioned that the building owner has attempted to sell it on several occasions, and continues to be interested in selling, but has not received a high enough offer. While he realizes that flooding, both real and perceived, will always bring the price down, he needs to at least recover a set number he has in mind to reconsider selling the building.

### **Building/Parcel is Vacant**

A third category of property types in the FWOP is a vacant building or parcel. Two such properties exist in one of the most flood-prone areas of the Office Park.

### 475 Pennsylvania Avenue

#### Property Description:

- Ownership: 475 Pennsylvania Avenue LLC
- Contact:
- Parcel Size: 0.65 acres
- Building Size: 1,392 square feet
- Current Use: Vacant
- Current Tenants: N/A
- Assessed Value: \$332,940

475 Pennsylvania Avenue is a vacant service station located at the corner of Commerce Drive and Pennsylvania Avenue. The property will be in the 50-year floodplain upon completion of the dams. The fact that the building is currently vacant presents a unique acquisition opportunity that doesn't exist with many of the other especially flood-prone properties in the FWOP. However, because it is a former service station, there may be environmental remediation necessary to fully decommission the property.

### 512 Pennsylvania Avenue

#### Property Description:

- Ownership: Thomas McCarron
- Contact: Same
- Parcel Size: 1.16 acres
- Building Size: 6,026 square feet
- Current Use: Vacant
- Current Tenants: N/A
- Assessed Value: \$625,000

512 Pennsylvania Avenue is a small two-story office building near the corner of Commerce Drive and Pennsylvania Avenue that once housed a Commerce Bank office. The property will be in the 25-year floodplain upon completion of the dams. The phone number for the owner is disconnected, as is the case for the bank. Therefore, we are assuming that the building is vacant.

### 514 Pennsylvania Avenue

#### Property Description:

- Ownership: RCA Group
- Contact:
- Parcel Size: 0.65 acres
- Building Size: N/A
- Current Use: Vacant
- Current Tenants: N/A
- Assessed Value: \$219,450

514 Virginia Drive is a small vacant parcel located in the existing 100-year floodplain, but in the 25-year floodplain after the dams are built. A building once existed on the property but was recently demolished.

### 522 Pennsylvania Avenue

#### Property Description:

- Ownership: James Greipp
- Contact: Same
- Parcel Size: 0.49 acres
- Building Size: N/A
- Current Use: Vacant
- Current Tenants: N/A
- Assessed Value: \$20,000

522 Virginia Drive is a very small vacant parcel located next to the Lukoil station in the existing 100-year floodplain, and in the 25-year floodplain after the dams are built. Like 514 Pennsylvania Avenue, since the lot is currently vacant, it presents a potential acquisition opportunity.

## Appendix E

## MEMORANDUM

**TO:** Christopher A. Lankenau, AICP  
Senior Associate  
Urban Partners

**FROM:** Kenneth D. O'Brien, P.E. *KDO*  
McMahon Associates, Inc.

**RE:** Fort Washington Office Park  
McMahon Project No. 811217.11

**DATE:** May 23, 2011

PRINCIPALS  
Joseph W. McMahon, P.E.  
Joseph J. DeSantis, P.E., PTOE  
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ASSOCIATES  
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John F. Yacapsin, P.E.

As requested, we have reviewed the proposed use of Transfer of Development of Rights (TDR) for the Fort Washington Office Park (FWOP), located in both Upper Dublin and Whitmarsh Townships, Montgomery County, PA. This memo summarizes the expected traffic impact of the potential use of TDR on the office park based on our understanding of existing conditions in the park and projected traffic generation of the proposed development potential. Detailed traffic analysis was not completed for this effort.

The FWOP is current comprised of approximately 5.5 million square feet of development of varying land uses with the primary uses being office space and industrial space. Based on information provided from prior traffic studies by the Upper Dublin Township traffic engineer, we understand that the FWOP currently generates approximately 5,000 inbound trips during the weekday morning peak hour and approximately 5,000 outbound trips during the weekday afternoon peak hour. These vehicles access the park via multiple access locations, primarily Virginia Drive at Susquehanna Road, the PA Turnpike slip ramp, Pinetown Road at Highland Avenue, and Commerce Drive at Pennsylvania Avenue. Limited movement connections are also provided to Susquehanna Road and Camp Hill Road near their intersection. While vehicles also use Camp Hill Drive, turning restrictions at the intersection of Camp Hill Drive and Virginia Drive require vehicles to actually access the park via another location.

### Future Traffic Volumes

Based on information provided from the development team, it is our understanding that the TDR program could result in a net gain of 2.77 million square feet of commercial space within the Upper Dublin Township portion of the FWOP along with 900 residential units. The receiving area for this additional development is expected in two large pockets within Upper Dublin Township, the area between Camp Hill Drive and the flood zone along Virginia Drive, as well as the area along both sides of Commerce Drive/Pinetown Road from Highland Avenue south to the Commerce Drive bend.

The projected traffic generation of this potential additional development within Upper Dublin Township is shown below.

**Table 1 - Vehicular Trip Generation  
Upper Dublin Township**

Description	Size	Daily	Peak Hours					
			Weekday Morning			Weekday Afternoon		
		In	Out	Total	In	Out	Total	
Apartments	900 units	5,580	89	356	445	333	180	513
Office Park	2,440,000 s.f.	25,830	3,086	381	3,467	430	2,642	3,072
<b>Total</b>	<b>158</b>	<b>31,410</b>	<b>3,175</b>	<b>737</b>	<b>3,912</b>	<b>763</b>	<b>2,822</b>	<b>3,585</b>

As shown, the office park portion of the development, which will likely be developed as a mix of office space, industrial space, retail, and hotel space has the potential to generate a sizeable amount of traffic during the peak hours. Considering the existing and potential development sizes in the office park, this would potentially increase overall traffic generation of the FWOP by approximately 50 percent. The residential component will have a much smaller impact, particularly since the directional flow is opposite of that of most FWOP traffic during the peak hours. In the morning peak hour, most FWOP traffic is entering the park, while most of the residential traffic would be leaving the park. During the afternoon peak hour, the reverse is true, while most traffic is exiting the park, most of the residential traffic will be entering. An added benefit to the residential component is that people living in the residential units could also potentially work in the park, resulting in trips between the two not adding any traffic volumes to the Township's roadway system outside of the office park.

Within Whitemarsh Township's portion, the development potential is much smaller than in Upper Dublin, with two potential options. The receiving area for both options would be on the south side of Pennsylvania Avenue, near Summit Avenue.

- Option 1 - 96 residential units and maintaining much of the existing SEPTA parking lot.
- Option 2 - 15,000 square feet of retail space, 15,000 square feet of office space, 200 residential units and parking structure. This would impact the existing SEPTA parking lot but replace lost parking in the parking structure.

The following table summarizes the projected traffic generation of the potential additional development in Whitemarsh Township.

**Table 2 - Vehicular Trip Generation  
Whitemarsh Township**

Description	Size	Daily	Peak Hours					
			Weekday Morning			Weekday Afternoon		
		In	Out	Total	In	Out	Total	
Option 1 Apartments	96 units	706	10	41	51	46	24	70
Option 2 Apartments	200 units	1,336	20	82	102	83	45	128
Retail	15,000 s.f.	644	9	6	15	27	29	56
Office	15,000 s.f.	165	20	3	23	4	18	22
<b>Total</b>		<b>2,145</b>	<b>49</b>	<b>91</b>	<b>140</b>	<b>114</b>	<b>92</b>	<b>206</b>

As shown, the traffic generation potential of either option within Whitemarsh Township is relatively minimal, especially compared to both the existing traffic volumes in the park and the the traffic generation potential within the Upper Dublin Township portion. This will likely only have a noticeable impact on the immediate area of the access of this receiving area.

**Impact within the Fort Washington Office Park**

As expected with a development potential of over two million square feet, there will certainly be some impact on traffic operations in and around the office park. Given the use, this will primarily impact the weekday morning and weekday afternoon commuter peak periods. Within the office park itself, it is expected that the existing roadway geometry, with the four lane spine road of Commerce Drive/Delaware Drive/Virginia Drive corridor traversing the park, should generally be adequate to accommodate the demand. Some improvements that may ultimately be required within the park include the following:

- Specific turn lane improvements may be required at access locations to accommodate separate turn lanes where development is to be concentrated, similar to the recent improvements completed in conjunction with the GMC development at the northern end of the park.
- New traffic signals may also be necessary at existing or future intersections with high turning movements. One potential location is the intersection of Commerce Drive and New Jersey Drive depending on the amount of development that locates to the New Jersey Drive/New York Drive/Maryland Drive area. Another potential location is the intersection of Pinetown Road and Highland Avenue. While installing a traffic light at this location may attract more office park traffic to utilize this intersection as an access to the park, the relatively high volumes

make it clear that it is already heavily utilized. Additional development along the Pinetown Road/Commerce Drive corridor will only increase traffic traveling through this intersection and future signalization of the intersection is likely to be needed to accommodate the traffic volumes.

- Efforts should be made to restrict traffic on Camp Hill Road. Camp Hill Road is a relatively narrow roadway without sidewalks in many locations and grade issues at some locations, including its intersection with Highland Avenue. It is recommended that access to development parcels be limited on Camp Hill Road to encourage traffic to remain on the main roadways in the area. Appropriate signage directing vehicles away from Camp Hill Road to ingress or egress the park should be considered.
- It is recommended that geometric improvements be completed at the intersection of Camp Hill Road and Highland Avenue. The existing grading on the Highland Avenue approach, including the limited sight distance to the right, makes the movement from Highland Avenue to Camp Hill Road a difficult movement. While the use of TDR does not cause the difficulties at this intersection, the additional traffic caused by the increased development will only exacerbate the existing issue. We are aware of previous plans in the Township to realign the existing intersection and install a traffic signal at the intersection to improve the operation. The location of the Township park adjacent to this intersection may make the realignment difficult. Minimally, it is suggested that signalization be considered, along with widening of the Highland Avenue approach to provide separate turn lanes.
- The intersection of Camp Hill Road and Virginia Drive is currently controlled by a four-way stop with through movement allowed only. All turns are restricted. However, turns at the intersection are common, even though there is often a police presence near the intersection to assist in the enforcement. While prior Township plans have included a bridge carrying Camp Hill Road traffic over Virginia Drive, this is a costly improvement. A less costly improvement would include signalization of the intersection. However, visibility of the traffic signal indicators and the traffic queues from oncoming traffic would need to be evaluated for appropriate advance warning signs. Some or all of the turning restrictions could be maintained. Any improvements to this intersection however, will result in a change to traffic patterns in the area, resulting in more traffic utilizing Camp Hill Road to/from the south to enter the park since signalization of the intersection would significantly reduce the delay at this intersection.
- We are aware of the potential concept for creating a town center at the intersection of Commerce Drive and Delaware Drive. This concept would involve modifying Delaware Drive at Commerce Drive, separating the eastbound and westbound lanes for approximately 150 feet, resulting in one-way traffic flow around a town square. Two-way traffic flow would be maintained on the Commerce Drive. Delaware Drive would maintain two travel lanes with an additional lane of parking. Additional development would be expected to occur around the square. While we find this overall concept generally satisfactory, the exact traffic control of this square would need to be determined based on the actual development that would occur. It is expected that traffic signal control would be needed to be maintained at the northern

intersection of Delaware Drive and Commerce Drive, to allow vehicles exiting Delaware Drive to turn with traffic control. At the southern intersection of both streets, where traffic would turn from Commerce Drive to Delaware Drive, it is expected that only stop sign control would be needed, but signalization may ultimately be needed. At the other end of the square at the location where both directions of travel lanes on Delaware Drive would again merge together, the provision of a stop sign control would be needed. In order to assist in calming traffic as it travels through this town square, multi-way stop is recommended at this location, forcing all vehicles to stop as they travel through this intersection. This would make pedestrian movements safer, potentially encouraging pedestrian activity at this town center area. Detailed analysis of the operations of this square should be completed when development plans are more detailed.

### **Dresher Triangle**

This impact of additional development inside the FWOP will be most significant at the main access points, especially at Virginia Drive and Susquehanna Road and the Dresher triangle, and along Pennsylvania Avenue between Commerce Drive and the Turnpike Interchange. Under current conditions, there is already delay at several movements at the intersections within the Dresher triangle, partly due to the close spacing of the signalized intersections in this area. Long term improvements should be considered. Given the current geometric constraints within and near the Dresher triangle, including the development adjacent to the intersection, the skewed alignment of several of the intersections, the culvert carrying Susquehanna Road over the stream adjacent to Virginia Drive, as well as the PA Turnpike overpass and the railroad overpass over Susquehanna Road, these long term improvements are likely to be costly. Potential improvements include widening Susquehanna Road to provide an additional travel lane westbound between Virginia Drive and the western leg of Limekiln Pike, potentially also including a center-turn lane. While the length of this area is not long, the multiple structures make this a very expensive improvement.

### **Pennsylvania Avenue**

The other major access location is Commerce Drive at Pennsylvania Avenue. Recent improvements at the interchange of Pennsylvania Avenue, the Pennsylvania Turnpike, and PA Route 309 have significantly reduced delay in the area. As long as traffic flows freely on both the Pennsylvania Turnpike and PA Route 309, this area generally operates with adequate capacity. Traffic delays generally only occur in the area when backups on these major roadways occur. The delay accessing these highways, particularly the Pennsylvania Turnpike, then can cascade back down Pennsylvania Avenue and Commerce Drive. However, this delay is not a subject of the amount of development in the FWOP, although the increased development will increase the cascading of that delay. As a result, additional long term improvements to this area are not recommended or envisioned.

## **Conclusions**

In summary, the use of the TDR program has potential to increase development within the park, which would then increase traffic volumes in and around the park, particularly during the work week, especially in the morning and afternoon peak hours, as well as lunchtime activity depending on uses provided. It is anticipated that within the park, this additional traffic can generally be accommodated with some additional turn lane and traffic control improvements over time depending on the exact location, use and size of developments. This most significant impact is expected to occur on the main accesses to the FWOP, particularly near the intersection of Virginia Drive and Susquehanna Road and the Dresher triangle. Due to the many geometric constraints in that area, needed roadway improvements will be costly. As a result, any improvement will be a long-term consideration. However, this is consistent with the TDR concept, which is not expected to bring significant development to the FWOP immediately. The development will occur over time giving the Township time to plan for and acquire funding for the long term improvement to this area.

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