

POPULOUS®

—E— Appendices

E.1 - INFRASTRUCTURE ASSESSMENT / 75
RK&K

E.2 - COST ESTIMATE / 105
TURNER CONSTRUCTION + RK&K

E.3- NON-RACING LAND USE ANALYSIS / 164
ENTREKEN ASSOCIATES, INC.

INFRASTRUCTURE UTILITY SYSTEMS AND TRAFFIC ASSESSMENT

Contents

I.	Introduction.....	2
II.	Existing Systems.....	4
	Roadways.....	4
	Water Systems.....	4
	Sanitary Systems.....	5
	Storm Drainage Systems.....	5
	Gas System (Baltimore Gas and Electric).....	6
	Conduit (Baltimore City)	6
	Electrical Systems (Baltimore Gas and Electric)	6
	Telecom Systems	7
	Stormwater Management	7
	Traffic.....	7
III.	Proposed Systems.....	7
	Roadways.....	7
	Water Systems.....	8
	Sanitary Systems.....	9
	Storm Drainage Systems.....	10
	Gas System (Baltimore Gas and Electric).....	10
	Conduit (Baltimore City)	10
	Electrical Systems (Baltimore Gas and Electric)	11
	Telecom Systems (Verizon)	11
	Stormwater Management	12
	Traffic.....	13
IV.	Infrastructure Costs	15
V.	Recommendations.....	16

VI.	Appendices (Exhibits).....	17
	00 – Existing Conditions Plan	17
	00.1 - Development Plan	17
	01 - Pimlico Water Regional Existing	17
	02 - Pimlico Water Existing	17
	02.1 - Water & Wastewater Flows.....	17
	03 - Pimlico Water Proposed	17
	04 - Pimlico Sanitary Sewer Regional Existing	17
	05 - Pimlico Sanitary Sewer Existing	17
	06 - Pimlico Sanitary Sewer Proposed	17
	07 - Pimlico Storm Drain Regional Existing	17
	08 - Pimlico Storm Drain Existing	17
	09 - Pimlico Storm Drain Proposed	17
	10 - Pimlico Conduit & Electric Regional Existing	17
	11 - Pimlico Conduit & Electric Existing	17
	12 - Pimlico Conduit & Electric Proposed	17
	13 - Pimlico Gas Existing	17
	14 - Pimlico Gas Proposed	17
	15 - Existing Impervious Areas	17
	16 - Proposed Impervious Areas.....	17
	17 - Stormwater Management Plan	17
	18 - Stormwater Management Details	17

I. Introduction

RK&K has prepared this Phase Two Feasibility Study for Pimlico Race Course to develop a comprehensive study of the feasibility of demolition and reconstruction of the Race Course to a new modernized facility with mixed-use components. The assessment extends from Northern Parkway and West Rogers Avenue on the north side of the race course; Pimlico Road on the east side of the course; West Belvedere Avenue on the south side of the course; and Winner Avenue, Hayward Avenue, and Park Heights Avenue on the west side of the course.

In 2017, RK&K prepared a Phase One Feasibility Study where we performed a concept level assessment of existing site utility systems within and in the vicinity of the same property. Overall existing conditions were documented based on available records. Meetings were held with the Baltimore City Department of Public Works Utility Maintenance Division to discuss water, sanitary, and storm drain systems in vicinity of the course. The City provided data on the maintenance history of their infrastructure. GIS data was acquired from the City and utility owners and used to depict utility systems in the vicinity of the Pimlico Race Course. Recommendations for additional studies or improvements to the infrastructure utility elements were provided.

This Phase Two Study updates and builds upon the Phase One report; accomplished by way of the following scope of civil engineering study:

1. Proposed improvement designs prepared by Populous were reviewed, including the site plans and building plans.
2. Previously developed utility base maps were updated with new information that became available.
3. An evaluation of required utility improvements and upgrades for the final Race Course concept for the following utility systems was developed as described in a series of diagrammatic plans and the technical narrative:
 - a. Water, Domestic and Fire - Peak water demands for the proposed development were estimated to determine if existing water main capacity is adequate. Coordination with Baltimore City Department of Public Works to determine the extent of recommended improvements was performed.
 - b. Sanitary Sewer - The average and peak flows for the proposed development were estimated. A sanitary sewer analysis request letter was submitted to Baltimore City Department of Public Works for assessment of the existing sewer capacity downstream. Based on feedback from Baltimore City Department of Public Works, the extent of recommended improvements to the sewer network was determined.
 - c. Storm Drainage - Potential site drainage connection points to the storm drain system were reviewed to determine if an increase in runoff is projected which may affect on-site stormwater management requirements.
 - d. Electric - Baltimore Gas and Electric was contacted to discuss proposed conceptual plan and program requirements. We obtained feedback on potential feeder capacity issues and associated improvements required. Based on feedback from Baltimore Gas and Electric, potential improvements to the City conduit and manhole system were identified.
 - e. Natural Gas - Baltimore Gas and Electric was contacted to discuss proposed conceptual plan and program requirements to obtain feedback on potential gas main capacity issues and associated improvements required.

- f. Telecom - Verizon was contacted to confirm available capacity for telecom services to the site. Based on feedback from Verizon, we identified potential improvements to the Verizon conduit and manhole system.
 - g. Stormwater Management – A stormwater management concept plan was prepared that estimates stormwater requirements for the project improvements.
4. Preliminary Traffic Assessment
 - a. Baltimore City Department of Transportation was contacted and provided available traffic count data within the Pimlico Race Course study area, and recently completed traffic studies. This data was reviewed.
 - b. Readily-available information was obtained from the Maryland Jockey Club regarding their event attendees and how they travel to Pimlico events.
 - c. Procedures and traffic modifications for special events (including the Preakness Stakes, other equestrian events, and concerts) were discussed with the agencies. Feedback was obtained from Baltimore City Department of Transportation, Baltimore City Police, and the Maryland Transit Administration to understand the current challenges and potential concerns and preliminary thoughts on strategies to address traffic demands for Pimlico Race Course renovation or rebuilding scenarios.
 - d. Estimates were prepared for the trips generated by both the equestrian and mixed-use land uses, based on proposed square footage of improvements
 - e. Feedback provided by stakeholders was incorporated into this narrative and conceptual design.
5. Cost Estimate – An estimate of the cost of infrastructure construction was prepared for the roadway, utility, and stormwater infrastructure improvements listed above.

II. Existing Systems

Roadways

The study of the condition of the existing roadway systems is not part of this study.

Water Systems

The water mains surrounding the site are located in the City's Western Third Pressure Zone with overflow elevation of EL 567.4, causing existing typical water pressures to be near 49 psi. The major transmission mains around the site are a 12" water main in Northern Parkway, a 24" water main in Belvedere Avenue, and a 12" water main in Park Heights Avenue, not including distribution mains that also surround the site. Within the project limits, the infrastructure includes a 10" water main in West Rogers Avenue, 6"-8" water mains at the intersecting roads between West Rogers Avenue and Northern Parkway, an 8" water main in Winner Avenue and Hayward Avenue, and a 6" water main loop (serving a City fire hydrant) in the southern parking lot along Maple Avenue and former Washington Avenue.

On the northwest side of the course, there are two (2) 6” water service lines with 6” FM water meters. The first meter is located at the southwest corner of Northern Parkway and Pimlico Road and the second meter is located west of Hayward Avenue and Winner Avenue. The two (2) 6” FM meters are connected by a 8” water line that provides both fire and domestic water services to the course facilities. The first water meter extends off a 12” water main in Northern Parkway and the second meter extends off an 8” water main in Winner Avenue.

On the southeast side of the course, there are two (2) 6” water service lines in Belvedere Avenue. The first water service extends off a 12” main in the vicinity of Woolverton Avenue with a 4” domestic meter. The second water service extends off a 10” main west of Preakness Way with a 6” FM meter / 4” domestic meter.

See Exhibits 01 and 02 in the appendix.

Sanitary Systems

The Pimlico Race Course is at a modest high point such that collector sewer mains (SM) on and north of West Rogers Avenue transport sewage north toward Cross Country Blvd, while SMs south of West Rogers Avenue transport sewage south. The largest diameter SM bordering the project site is a 12”-15” SM originating at the intersection of Hayward Avenue and Maple Avenue, extending west along Hayward Avenue, and then extending south along Park Heights Avenue. There are 8”-10” SMs in West Rogers Avenue and its intersecting streets, and in West Belvedere Avenue, Park Heights Avenue, Winner Avenue, Hayward Avenue, and in the southern parking lot along Maple Avenue and former Washington Avenue.

At Queensberry Avenue and Belvedere Avenue, an 8” sanitary service line connects and then extends northeast (upstream) along the east side of the course and then crosses Pimlico Road to a serve lot owned by the Binah Institute.

In Belvedere Avenue, a 6” sanitary service line connects to the 8” SM approximately 400’ east of Park Heights Avenue and extends north (upstream) to the site.

At the intersection of Winner Avenue and Hayward Avenue, an 8” sanitary service line extends northeast and a 6” sanitary line extends southeast, both upstream to the site. Both sanitary service lines connect to the City’s sanitary Manhole 90.

At the intersection of Winner Avenue and Ingleside Avenue, an 8” sanitary service line connects to City Sanitary Manhole 82 and extends northeast (upstream) to the stables.

See Exhibits 04 and 05 in the appendix.

Storm Drainage Systems

From the intersection of Winner Avenue and Hayward Avenue, a 20” service drain extends northeast from the City 27” storm drain and then north in vicinity of the clubhouse.

In Belvedere Avenue, a 12” service drain extends into the race course property from a city 24” storm drain. From the intersection of Park Heights and Paton Avenue, a 24” service drain extends northeast to the site from the City’s 54” storm drain.

In Belvedere Avenue, a 12” service drain extends north to the site from the City’s 24” storm drain. This 12” service drain is about 200’ west of Palmer Avenue.

At Queensberry Avenue and Belvedere Avenue, a 36” service drain extends northeast to the site and then runs along the east side of the course.

See Exhibits 07 and 08 in the appendix.

Gas System (Baltimore Gas and Electric)

From the intersection of Winner Avenue and Hayward Avenue, a 6” low pressure gas service line extends northeast and then north to the north side of the clubhouse.

From West Rogers Avenue, south of Key Avenue, a 6” medium pressure gas service line extends southeast to a service building west of the grandstands.

North of the Pimlico Road and Belvedere Avenue intersection, a 4” low pressure gas service line extends west to the stable facility.

The point of gas service is terminated with a meter/regulator operating at standard delivery pressure by Baltimore Gas and Electric.

See Exhibit 13 in the appendix.

Conduit (Baltimore City)

In West Rogers Avenue, the City has a 12-way concrete encased ductbank with conduit manholes. The ductbank is composed of clay tile and fiber conduits that provides a pathway for Baltimore Gas and Electric’s feeders and various cable systems.

See Exhibits 10 and 11 in the appendix.

Electrical Systems (Baltimore Gas and Electric)

From the intersection of Maple Avenue and Hayward Avenue, overhead single phase 13 KV conductors extend into the southern parking lot. The overhead conductors serve a pole mounted 10 KVA transformer that provides 120 V secondary service to pole mounted fixtures.

West of the grandstands, Baltimore Gas and Electric has two (2) pad mounted switchgears. Two (2) sets of three phase 13-KV conductors extend from the switchgears northwest overhead to West Rogers Avenue and southwest underground to Winner Avenue. Baltimore Gas and Electric’s conductors are overhead in West Rogers Avenue and Winner Avenue. Baltimore Gas and Electric has three (3) transformers spaced along the west side of the grandstands and

clubhouse that are fed by an underground 13 KV loop system from the switchgears. A 1000 KVA, 277/480V transformer is located at the south end of clubhouse. The second 2500 KVA, 277/480V transformer is located near the two switchgears. The third 500 KVA, 240V transformer is located about 200' north of the two switchgears.

The overhead 13 KV conductors between the switchgears and West Rogers Avenue have a pole mounted 100 KVA transformer for the service buildings.

From the intersection of West Rogers Avenue and Woodcrest Avenue, overhead three phase 13 KV conductors extend into the northern parking lot. The overhead conductors serve a pole mounted 75 KVA transformer that provides 120 V secondary service.

North of the Pimlico Road and Belvedere Avenue intersection, overhead single phase 13 KV conductors extend west to the stable facility. The overhead conductors' serve a pole mounted 300 KVA, 13.8/4.4 V transformer for the stable facility.

See Exhibits 10 and 11 in the appendix.

Telecom Systems

From field observation, the Verizon and Comcast telecom cable systems are attached to the Baltimore Gas and Electric's overhead pole system within the Pimlico Race Course site.

See Exhibits 10 and 11 in the appendix.

Stormwater Management

There were no findings of any existing stormwater management measures on-site. The existing site consists of existing Pimlico Race Course, surrounding buildings, parking lots, and associated utility infrastructure. See Exhibit 15 – Pimlico Existing Impervious for existing impervious area on the site. Existing soils are an urban complex; Hydrological Soil Group D.

Traffic

See Proposed Systems, Traffic.

III. Proposed Systems

Roadways

The study of proposed roadway systems was limited to that included in the Architectural narrative and as needed to capture costs of new roadways and restoration of existing roadways disturbed for utility improvements. See paragraph IV, Infrastructure Costs, further information.

See Exhibits 00.1 in the appendix.

Water Systems

RK&K estimated water demands under proposed conditions within the project limits, excluding the future LifeBridge Health campus. See Exhibit 02.1 Water & Wastewater Flow Estimates for the assumptions and calculations. The maximum day conditions are assumed to occur on the day of the Preakness Stakes with 75,000 spectators within the official event limits and with open public access for all facilities outside the event limits. The unit quantities (square footage of buildings, etc) used to derive estimated demands were provided by Populous.

Under proposed conditions, maximum day demand will be 800 gpm, the needed fire flow will be 2,500 gpm, and the total peak hour flow will be 3,300 gpm, or, more conservatively, say 3,500 gpm.

This project is a large development with new buildings and streets. Multiple new water mains are proposed to connect to existing water mains around the perimeter of the project limits. This "looping" of the system is designed to provide improved hydraulic performance. RK&K conducted a preliminary analysis simulating a fire flow test using the City's water hydraulic model in WaterCad, where the peak demand of 3,500 gpm was applied to one point on the 24" water main while the rest of the system was on maximum day conditions. According to this analysis, the residual pressure on the 24" water main during peak flow was 41 psi, which is greater than the lower limit of 20 psi. Moreover, other areas within the pressure zone, but farther away from the project site, still had residual pressures above 20 psi. This indicates that the surrounding infrastructure outside of the project site should be able to handle the proposed flows. However, this is only a preliminary check that must be confirmed with an actual fire flow test. Note, at the time of this study, fire flow testing was not possible as the City was performing a comprehensive cleaning and lining of area water mains.

Since all existing facilities within the project limits will be removed and replaced with a completely different site layout, the following existing water mains will be removed or abandoned within the project limits: the 10" water main in West Rogers Avenue, the 6"- 8" water mains at the intersecting roads between West Rogers Avenue and Northern Parkway, and the 6" water main loop in the southern parking lot along Maple Avenue and former Washington Avenue.

See Exhibit 03 for the Proposed Water Infrastructure Improvements consisting of 8" – 12" water mains. The proposed water mains would connect to the existing 12" water main along Belvedere Avenue in the south and to the existing 12" water main in Northern Parkway in the north. However, it is possible that a more detailed hydraulic model analysis conducted in a future study will indicate that the southern connections be tied to the existing 24" water main in Belvedere Avenue instead of the 12" water main. All proposed work outside of the project limits only include tie-in connections at adjacent street intersections. Therefore, no significant improvements are noted beyond the project limits, pending confirmation by fire flow tests recommended for a future phase of study.

See Exhibit 03 in the appendix.

Sanitary Systems

RK&K estimated sewage flow generation under proposed conditions within the project, excluding the future LifeBridge Health campus. See Exhibit 02.1 Water & Wastewater Flow Estimates for the assumptions and calculations. The maximum day conditions are assumed to occur on the day of the Preakness Stakes with 75,000 spectators within the official event limits and with open public access for all facilities outside the event limits. The unit quantities (square footage of buildings, etc) used to derive estimated demands were provided by Populous. Under proposed conditions, the total peak hour flow rate is 1,500 gpm.

RK&K sent a request to the City on 08/27/2018 to evaluate the sanitary sewer system capacity downstream from the project site to determine if and where the sewage flows could be discharged. The City used their hydraulic model to evaluate system capacity. Although RK&K did not estimate existing sewage flows, RK&K requested that the City zero-out any existing flows in the model because existing facilities will be removed. The City’s model currently assumed that the existing peak flow was 0.25 MGD (174 gpm), which was removed during analysis per RK&K’s request. There are several candidate sewer systems located north, south, east, and west which were considered for accepting the proposed sewage flows.

Based on the City’s hydraulic model analysis, the City responded that all of the existing sewer systems were unavailable due to limited capacity and cannot be used to accept the proposed flows. However, there is a proposed sewer improvements project, SC 940: Hydraulic Improvements to the High Level Sewershed Collection System, which will have sufficient capacity once completed to accept all proposed flows. SC 940 is expected to be completed by January 2021. The Pimlico development tie-in connection point to this project would be at the intersection of Queensberry Avenue and West Garrison Avenue. This would require a sewer main be constructed outside of the development limits. The SC 940 sewer will have a total capacity of 3.5 MGD (2,431 gpm). The City stated that they will allow the Pimlico developer to discharge up to 2.66 MGD (1,847 gpm) to this future sewer. Given that the proposed development peak flow is 2.16 MGD (1,500 gpm), the current estimated peak flow is 81% of the maximum allowed to be sent to the SC 940 system. As the development plan is refined, this sewage generation limit should not be exceeded.

Since all existing facilities within the project limits will be removed and replaced with a completely different site layout, the 8” – 10” existing sewer mains will be removed or abandoned in the following roads within the project limits: West Rogers Avenue, the intersecting streets between West Rogers Avenue and Northern Parkway, and in Maple Avenue and former Washington Avenue in the existing southern parking lot area.

See Exhibit 06 for the Proposed Sewer Infrastructure Improvements. This study assumes that all proposed flows (1,500 gpm) will discharge to the SC 940 connection south of the site, but more

detailed future studies may indicate that a small portion of this flow from a few individual buildings may be able to discharge to other sewer systems, including those which flow north. The proposed gravity sewers are 8” – 15” in diameter. The only proposed sewer infrastructure improvement required outside of the development limits is an 885’ long, 15” gravity sewer which connects the development site to the future SC 940 tie-in connection at the intersection of Queensberry Avenue and West Garrison Avenue. This will likely be a dedicated main such that the existing 8” sewer main in Queensberry Avenue would remain to serve the other existing residents along that road.

There are two areas in the project limits, as shown in Exhibit 06, where existing grades indicate that gravity alone likely will not suffice in transporting sewage to the final discharge location. For these two areas, the buildings will use gravity collectors in a sub-sewershed which discharges to a pump station and is subsequently pumped through a force main into a nearby gravity manhole.

See Exhibit 06 in the appendix.

Storm Drainage Systems

For this study, the storm water flow would be collected and diverted to Northern Parkway then directed east to the north side of Greenspring Avenue. The collected storm water flow would then be deposited into an existing drainage ditch on the north side northern Parkway which continues easterly to the Jones Falls. The added storm water run-off from the Pimlico site will require further study for possible impacts to the existing City’s drainage system.

See Exhibit 09 in the appendix.

Gas System (Baltimore Gas and Electric)

Baltimore Gas and Electric (BGE) will design and install their gas distribution system to accommodate service requirements. They have a medium pressure system in West Rogers Avenue that would accommodate the project’s demand. However, as the proposed development eliminates West Rogers Avenue, it is recommended the main be moved to Northern Parkway. Alternatively, it could be placed in an easement free of proposed structures and designed around.

BGE also have a low pressure main to the south of the site that may be able to assist with meeting the project demand, but not cover it.

See Exhibit 12 in the appendix.

Conduit (Baltimore City)

The new conduit system will consist of PVC concrete encased ductbanks with 4.5’ nominal depth of cover. These ductbanks will provide a pathway for Baltimore Gas and Electric’s feeders and third-party telecom cable systems. The lighting conduit system are PVC concrete encased with

18” to 30” of cover. Lighting handboxes are placed at each light pole location and where the conduit runs require directional change and roadway crossings.

See Exhibit 12 in the appendix.

Electrical Systems (Baltimore Gas and Electric)

Baltimore Gas and Electric would be responsible for the installation of its electrical feeders that supply primary circuit runs to the customers. Secondary rated cables would be installed for 120 V lighting circuits. BGE has an existing electric main traversing the site within the existing West Rogers Avenue road right-of-way. The main provides service to properties east and west of the property and must remain in service. BGE suggests the main be moved to Northern Parkway and placed underground. Alternatively, an easement could be set up over its current location with the service remaining above ground or relocated underground.

See Exhibit 12 in the appendix.

Telecom Systems (Verizon)

Verizon telecommunication has a conduit system within Pimlico Road between Northern Parkway and Belvedere Avenue. Verizon also has their overhead cable system attached to the utility poles north and west of the Race Course. The conduit system and the overhead cable system will be impacted by the Race Course improvements. To maintain Verizon's cable distribution system running through the Race Course site, a new conduit system constructed to Verizon's standards will be required. The new conduit system will consist of PVC, sand encased, ductbanks with 3' nominal depth of cover.

Verizon's existing service to the project area is limited to voice and enterprise level ethernet service transmitted with copper wire. They do not have a video service sister company in the area. Their top services, fiber optic FIOS and Optical Wave, do not currently extend to the project area. Verizon is uncertain of the feasibility of bringing it in. Verizon mentioned they have brought FIOS to areas at their cost in cases where it strategically made sense. Otherwise, the cost would need to be footed by the user. Commercial needs likely can be addressed with their existing infrastructure. Residential users would not. Historically for the Preakness Stakes event day they were able to boost their copper services at the request of the Broadcasting Network(s) covering the event. Verizon provides temporary at-grade cable to provide a feed to the existing grandstand.

The City ductbanks can provide a pathway to accommodate new third-party telecommunication systems within the Race Course site.

See Exhibit 12 in the appendix.

Stormwater Management

The site area, limit of disturbance, is approximately 115 acres. The proposed improvements consist of the demolition and reconstruction of the Race Course to a new modernized facility, and demolition of the surrounding buildings and construction of mixed-use developments. See Exhibit 16 – Pimlico Proposed Impervious for more information. Part of the proposed improvements are the associated utilities including water, sanitary, storm drain, electric and gas improvements, and three underground sandfilters for stormwater management.

Stormwater Management Approach: The stormwater management approach proposes three underground facilities, each containing six underground sandfilters, to treat and manage the stormwater for the proposed site. Baltimore City Department of Public Works was given the opportunity to review the concept approach and was supportive of providing stormwater management in centralized facilities. From a cost perspective, this is a more conservative approach than using multiple smaller, more localized, stormwater management facilities at this phase of study. This approach also provides some flexibility with how each individual parcel will be developed. Traditional low impact development devices could be incorporated in the future, thereby providing surplus treatment as minimizing the extent of centralized facilities repaired.

Environmental Site Design Analysis: The proposed stormwater management design has been developed in accordance with the current MDE Stormwater Design Manual. The existing impervious area within the project limit of disturbance is greater than 40%; therefore, the project is considered part re-development and part new development. The stormwater management approach utilizes techniques from the new Chapter 3: Performance Criteria for Urban BMP Design of the MDE Stormwater Design Manual. The limit of disturbance primarily includes the proposed Race Course, mixed use building developments, new and restored sidewalks and roads, utilities and water management structures.

Stormwater Management Quality Control: This project is considered redevelopment from a stormwater management perspective. As proposed impervious exceeds existing impervious, quality control requirements are generated for both redevelopment and net new development. Calculations show the project must treat over 39 ac of impervious and 157,000 cf of runoff volume. As mentioned above, Baltimore City Department of Public Works supports the idea of treating this development using centralized stormwater management facilities. The community has expressed the desire to have an active year-round park in the course infield. To maximize active greenspace in a relatively small area, the use of non-structural environmental site design practices is infeasible. Underground sandfilters offer a possible solution to meet stormwater management needs; free up the site for active uses; and accommodate possible operations for race day events.

Water quality control requirements can be met via treatment by the proposed underground sandfilters. At this level of study, just a single point of study was assumed to simplify the

stormwater estimate. The concept provided shows stormwater from the proposed impervious areas of the Race Course and mixed-use developments, 41.31 ac., as piped to and treated by 18 underground sandfilters, exceeding the 39.11 ac requirement by 2.2 ac of impervious area treatment. Calculations show the facility will provide approximately 159,000 cf of water quality volume, exceeding the 157,000 cf water quality volume estimate. Groundwater recharge is not typically required for redevelopment projects and is not provided.

Stormwater Management Quantity Control: Basic hydrologic modeling (TR-55) performed for the overall site as one drainage area suggests that the post-development Q10 and Q100 are greater than the pre-development peak flow rates, see Table 1 below. However, even though TR-55 shows a slight increase in quantity control, it may be possible to demonstrate a runoff decrease using more detailed TR20 modeling methods, which routes the runoff through the stormwater management facilities. The peak flow rates are summarized as follows:

Table 1: Peak Flow TR-55 Rates

Storm	Design	
	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
EXISTING CONDITIONS	586.88	1045.21
PROPOSED CONDITIONS	596.31	1053.24
NET CHANGE	9.43	8.03

Stormwater Management System: Proposed impervious areas were calculated for the development parcels, the roads, the courses, and walks. The runoff from the proposed impervious areas will be piped to and treated by the three underground facilities, each containing 6 sandfilters, located under the proposed Race Course infield. Each underground sandfilter consists of three parts: Pretreatment Chamber (length 82 ft, width 12 ft, and depth 3 ft), Filter Bed (length 60 ft, width 12 ft, and depth 1 ft), and Clearwell Chamber (length 3 ft and width 12 ft). Once treated, the system will collect the runoff from smaller 18” pipes to a new 48” pipe running on the east side of the proposed development under West Northern Parkway. This pipe will outfall east of West Northern Parkway discharging to the closest existing drainage ditch, and eventually outfalling to the Jones Falls stream.

See Exhibits 15-18 in the appendix.

Traffic

A preliminary traffic assessment was completed for the proposed Pimlico site. The traffic assessment included a preliminary review of traffic and transit operations for daily and Preakness Stakes event day scenarios, an evaluation of the proposed site road network and preliminary recommendations and cost estimates for intersection improvements (traffic signals and minor geometric improvements), coordination with Baltimore City Department of Transportation and

the Maryland Department of Transportation Maryland Transit Administration, and a preliminary estimate of trips generated by the site based on the latest proposed land uses.

The proposed site includes a horse racing course with equestrian, civic, residential and commercial mixed-use development as well as a hotel along Northern Parkway, and residential and neighborhood commercial land uses to the south along Belvedere Avenue. Preliminary trip generation estimates were developed for the proposed development to estimate the total number of vehicles that would be added to the surrounding roads. The estimates, summarized in the table below, are based on the latest available land use assumptions, and are based on the ITE Trip Generation Manual, 10th Edition. No trips were estimated for the equestrian/racing land uses based on their expected low levels of activity on a daily basis. All site generated trips were reduced by 15%, as a planning-level estimate, to account for internal capture (trips occurring entirely within the site and, therefore, not adding new trips to the surrounding roads), pass-by trips (trips to/from the proposed sites by vehicles that were already on the surrounding roads), transit, and non-motorized travel (walk, bike, scooter):

Proposed Pimlico Development
Weekday AM & PM Peak Hour Site Generated Trips

	AM Peak Hour of Adjacent Street Traffic	PM Peak Hour of Adjacent Street Traffic	Daily
Civic/Entertainment	209	603	6,611
Commercial Mixed Use/ Hotel	305	853	9,550
Neighborhood Commercial	413	1,163	12,315
Residential	146	174	2,457
Residential/Mixed Use	68	81	774
Equestrian/Racing	N/A	N/A	N/A
Subtotal	1,141	2,874	31,707
-15% Trip Reduction	-171	-431	-4,756
TOTAL	970	2,443	26,951

Coordination meetings were conducted with Baltimore City Department of Transportation and Maryland Department of Transportation Transit Authority. Both agencies indicated there were no major traffic or transit issues with the proposed preliminary design and would be willing to review the site as additional details are finalized. Maryland Department of Transportation Maryland Transit Administration operates a local transit “center” at the nearby Sinai Hospital with bus stops and layover spaces. The agency indicated that they routinely make minor transit service changes approximately three to four times per year. Maryland Department of Transportation Maryland Transit Administration indicated that if the Pimlico site development were to occur, they would likely make minor transit service adjustments to provide service to the site via one or more of their routes that already pass near the site. Neither Baltimore City Department of Transportation nor Maryland Department of Transportation Maryland Transit Administration expressed concerns regarding the Preakness Stakes event day. Maryland Department of Transportation Maryland Transit Administration said they would be willing to work with event organizers to modify and/or augment transit service for future events at the Race Course.

A parking study was not performed for this preliminary study. It is assumed that the development project will provide sufficient parking to accommodate the daily parking needs of the proposed development, either with on-site facilities (garages and parking lots), or on-street parking. For Preakness Stakes event day, parking will continue to be provided via on-street parking and off-site parking lots connected by multi-modal transportation.

Based on the proposed internal road network, the volume of vehicles generated by the site, both on a recurring daily basis and during large events at the Race Course, it is anticipated that minor geometric improvements and possibly new traffic signals would be required at one or more of the following intersections:

- Northern Parkway at Winner Avenue.
- Northern Parkway at Key Avenue.
- Northern Parkway at Merville Avenue.
- Northern Parkway at Rusk Avenue.
- Park Heights Avenue at Paton Avenue.

See Exhibit 00.1 in the appendix.

IV. Infrastructure Costs

A conceptual infrastructure construction cost estimate has been prepared for incorporation into the overall estimate. Costs were estimated for the proposed infrastructure in the road rights-of-way, including roadways, utility mains, traffic signals. Costs were estimate for stormwater

management on a project wide basis, covering both road rights-of-way and the development parcels.

Three typical road sections were developed to cover that proposed in the concept plan. These included: Standard Corridor with two travel and two parking lanes, Narrow Corridor with two travel lanes and no parking lanes, and Wide Corridor with two travel and two parking lanes separated by a landscape median. Each section was assigned typical streetscape elements as appropriate for their size, such as sidewalk, street trees, curbs, medians, lighting, parking kiosks, and street furniture. A per linear foot cost was calculated for each roadway section and applied to the length of that type of road. For additional information and diagrams depicting the road sections, see the RK&K cost estimate.

Stormwater management costs were based on the City’s fee-in-lieu rate of \$100,000 per acre of impervious treatment required. The rate is a figure developed by the City to cover the capital construction costs of a stormwater management facility should they have to construct it.

V. Recommendations

1. As the development plans progress, RK&K recommends a more detailed analysis of proposed utility demands.
2. The utility infrastructure layout should be refined through the next stage of conceptual design to incorporate the latest development concepts with appropriate public/private infrastructure design standards.
3. This study did not account for the future LifeBridge Health infrastructure needs. The Pimlico development team should continue coordination with LifeBridge Health to establish appropriate infrastructure connections between the two developments if both projects proceed.

VI. Appendices (Exhibits)

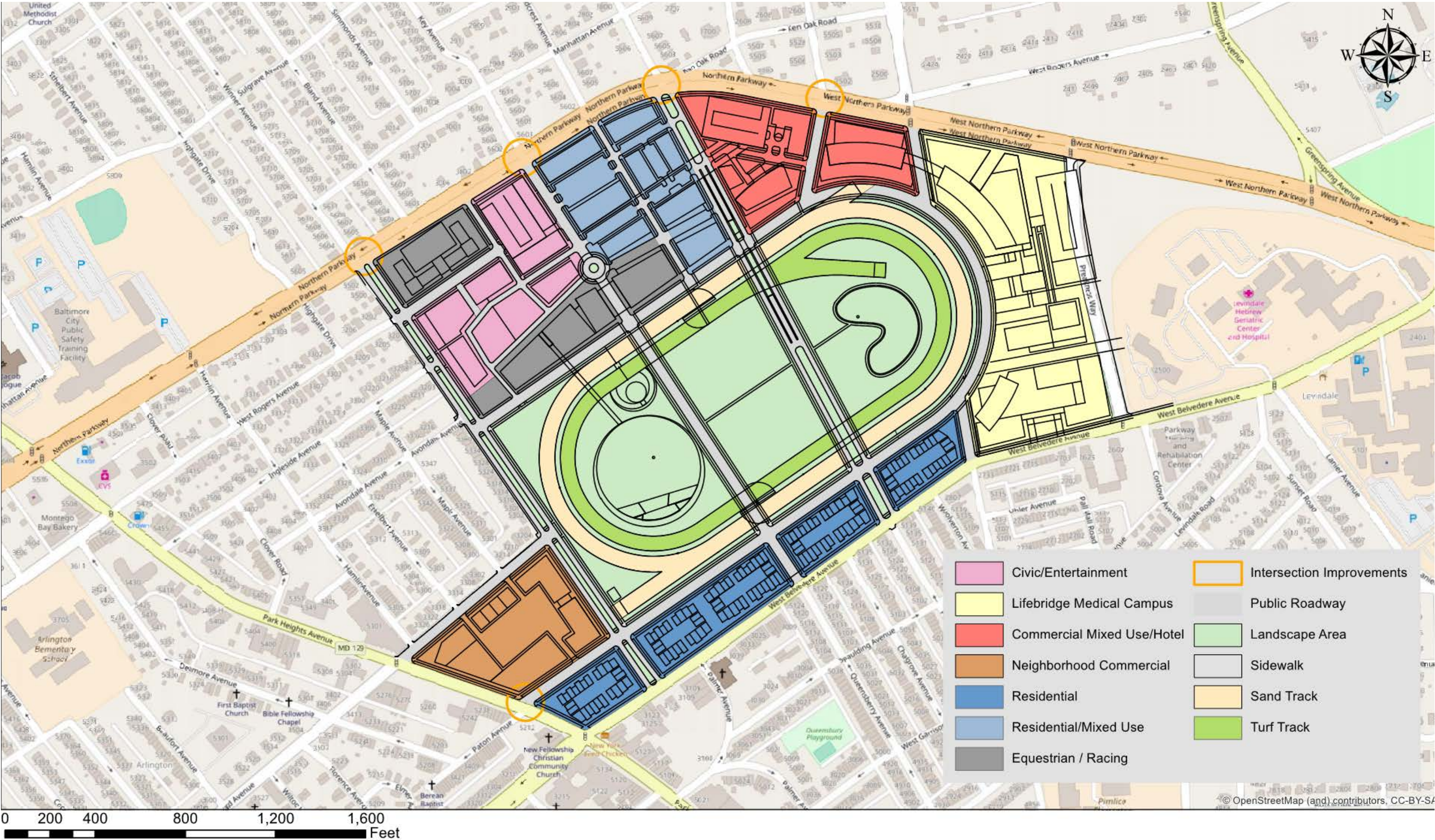
The following plans and exhibits have been prepared in support of this study and are included in the report appendix.

- 00 – Existing Conditions Plan
- 00.1 - Development Plan
- 01 - Pimlico Water Regional Existing
- 02 - Pimlico Water Existing
- 02.1 - Water & Wastewater Flows
- 03 - Pimlico Water Proposed
- 04 - Pimlico Sanitary Sewer Regional Existing
- 05 - Pimlico Sanitary Sewer Existing
- 06 - Pimlico Sanitary Sewer Proposed
- 07 - Pimlico Storm Drain Regional Existing
- 08 - Pimlico Storm Drain Existing
- 09 - Pimlico Storm Drain Proposed
- 10 - Pimlico Conduit & Electric Regional Existing
- 11 - Pimlico Conduit & Electric Existing
- 12 - Pimlico Conduit & Electric Proposed
- 13 - Pimlico Gas Existing
- 14 - Pimlico Gas Proposed
- 15 - Existing Impervious Areas
- 16 - Proposed Impervious Areas
- 17 - Stormwater Management Plan
- 18 - Stormwater Management Details

E.1 – Engineering Exhibit 00- Existing Conditions



E.1 – Engineering Exhibit 00.1 - Development Plan



Pimlico — RACE COURSE STUDY PHASE TWO

E.1 – Engineering Exhibit 01 - Pimlico Water Rgional (Existing)



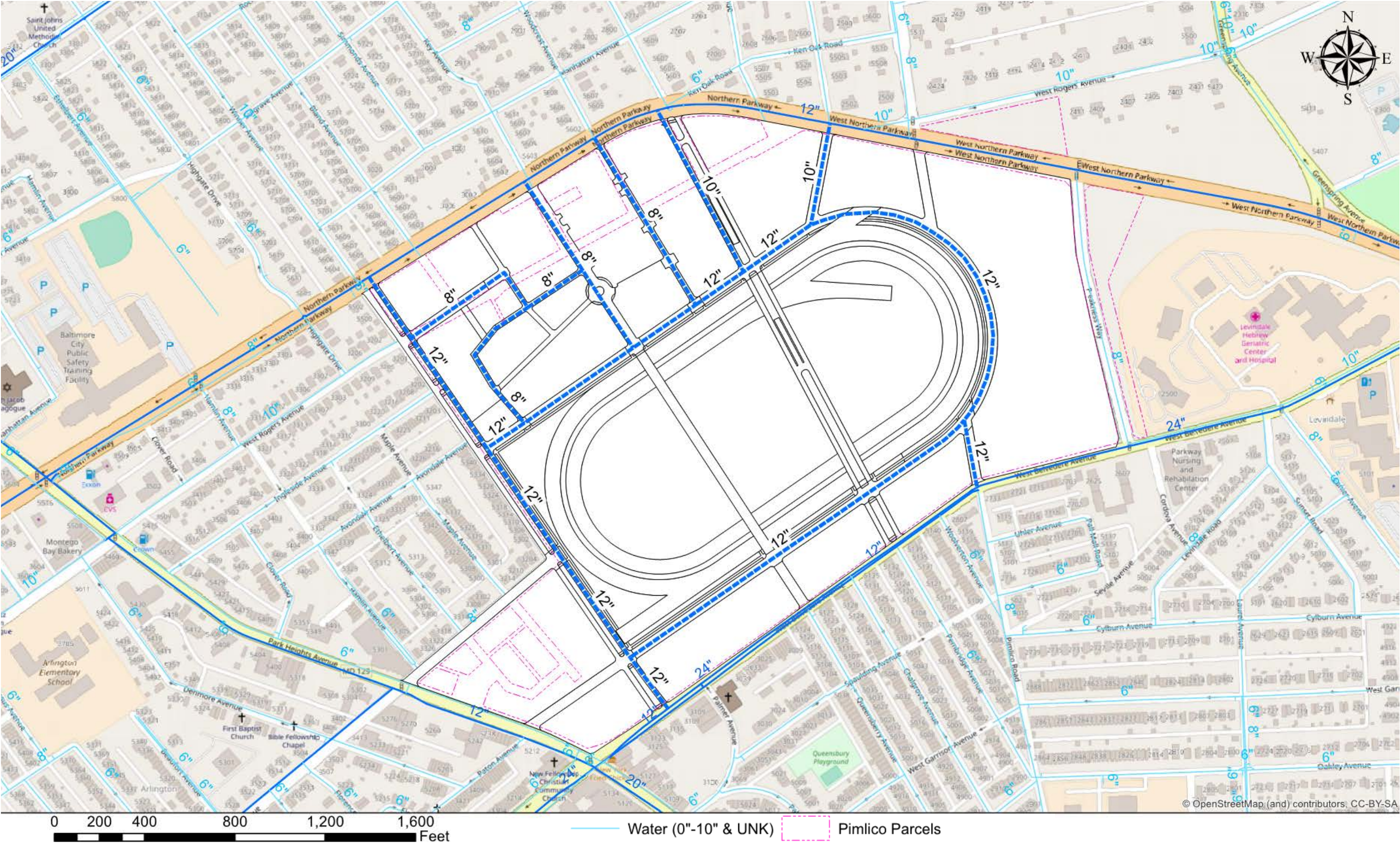
E.1 – Engineering Exhibit 02 - Pimlico Water (Existing)



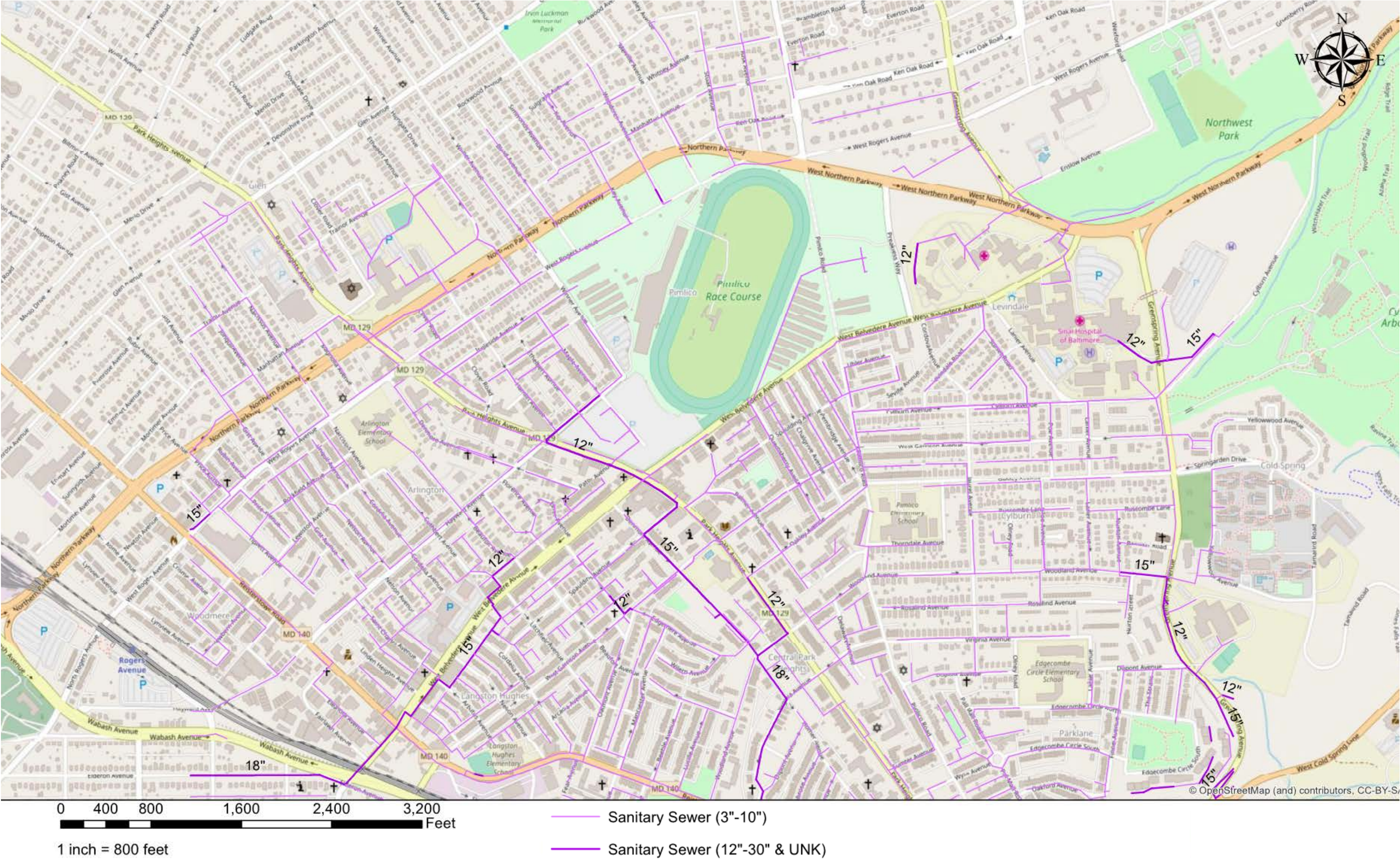
E.1 – Engineering Exhibit 02.1 - Water & Wastewater Flows

Water & Wastewater Flow Estimates																			
Pimlico Racetrack Feasibility Study Phase 2																			
RK&K																			
Notes:																			
This evaluation only applies to Option 1 Proposed Conditions, and does not include Option 1's Phase 2 or the LifeBridge Medical Center.																			
The Max Day scenario is a day within the 10-day horse race event. The race event will have 75,000 people within the event limits. All facilities outside the event limits are open to the public for general use. The peak water demand is determined by adding the fire flow to the non-fire max day demand of the facilities.																			
The wastewater flows are derived from the water demand table.																			
The Avg Day Demand / unit [gpd/unit] data was taken from MDE Design Guidelines for WW Facilities, 2016 (cell colored orange) if this guide contained the relevant detailed information, otherwise Anne Arundel County's standard guidelines were used (cell colored purple) if they provided more detailed information.																			
The unit quantities listed below (square footage, etc) were provided by Populous.																			
	WATER												WASTEWATER (SEWAGE)						
	Demand Source / Development Type	Source Classification	Unit Quantity	Units	Avg Day Demand/unit [gpd/unit]	Avg Day Demand [gpd]	Max Day Peaking Factor	Max Day Demand [gpd]	Max Day Demand [gpm]		Avg Day Flow [gpd]	Peak Hour Peaking Factor [‡]	Peak Hour Flow w/o I/I [gpd]	Peak Hour Flow w/o I/I [gpm]					
	Neighborhood Commercial	Comm. Convenience Store	95,000	area, sf	0.18	17,100	2	34,200	24		17,100	3.35	57,226	40					
	Neighborhood Commercial Grocery Store	Shopping Center	40,700	area, sf	0.18	7,326	2	14,652	10		7,326	3.35	24,517	17					
	Commercial Mixed Use (181,600 sf)	Assume half of area is night clubs, half is restaurants*	3,632	seats	15.00	54,480	2	108,960	76		54,480	3.35	182,322	127					
	Commercial Mixed Use (137,160 sf)		2,743	seats	15.00	41,148	2	82,296	57		41,148	3.35	137,705	96					
	Residential Mixed Use (Ground Commercial)	Retail Stores	162,000	area, sf	0.05	8,100	2	16,200	11		8,100	3.35	27,107	19					
	Residential Mixed Use (Upper Level)	General Commercial Mixed, or Shopping Centers	162,000	area, sf	0.18	29,160	2	58,320	41		29,160	3.35	97,586	68					
	Residential Mixed Use (Comm. GF Townhomes)	Single Family Dwelling	162	Townhomes	250.00	40,500	2	81,000	56		40,500	3.35	135,536	94					
	Residential (Townhomes)	Single Family Dwelling	53	Townhomes	250.00	13,250	2	26,500	18		13,250	3.35	44,342	31					
	Hotel (277,000 sf)	Hotels w/ private baths	354	rooms	60.00	21,240	2	42,480	30		21,240	3.35	71,081	49					
	Civic outside of Event limit (280k sf)	General Commercial Mixed, but slightly more to be conservative	280,000	area, sf	0.20	56,000	2	112,000	78		56,000	3.35	187,408	130					
	Park Irrigation [‡]							0	0		0		0	0					
	Medical Campus (not included in this study)																		
	Inside Event Limits on Event Day:																		
	General Spectators (already max day)	Sports Arena, not including food service	75,000	person	5.00	375,000	1	375,000	260		375,000	1.67	627,483	436					
	Civic Building w/ Grandstand: entertainment, restaurants	Restaurant**	3,600	seats	25.00	90,000	2	180,000	125		90,000	3.35	301,192	209					
	Track Associated Program (Maintenance)	Office Building	5,000	area, sf	0.09	450	2	900	1		450	3.35	1,506	1					
	Horse Drinking Water*** (already max day)	N/A	212	horses	15.00	3,180	1	3,180	2		0		0	0					
	Horse Washwater [†] (already max day)	N/A	212	horses	50.00	10,600	1	10,600	7		10,600	1.67	17,737	12					
	Subtotal					767,534		1,146,288	796		764,354		1,912,750	1,328					
	Needed Fire Flow (NFF) [gpm] [‡]								2,500		Inflow & Infiltration (I/I) [§] [gpd]		13,300	9.2					
	TOTAL PEAK FLOW RATE [GPM]								3,296		TOTAL PEAK FLOW RATE [GPM]			1,338					
	CONSERVATIVELY, SAY:								3,500		CONSERVATIVELY, SAY:			1,500					
	*Assume 1 seat/50sf for both restaurants and night clubs. Night Club: 5 gpd/seat. Restaurant: 25 gpd/seat																		
	**Assume building area is 360k sf, half of which is restaurants, and 1 seat per 50 sf of restaurant space. Other half of building is used for general event spectators and is accounted for in item "General Spectators".																		
	***Assume each horse drinks 30 gpd, but since the horses don't stay overnight, only half of that water is drunk in the project site, and therefore 15 gpd.																		
	†Assume each horse gets washed twice per day with a hose that runs at 5 gpm for 5 minutes/wash, which works out to 50 gpd/horse. For wastewater estimates, it is conservatively assumed that this washwater is drained to a sanitary sewer.																		
	‡Even if the fields were irrigated on event days, it is assumed it would be irrigated in the early morning, which does not coincide with the times of day where other peak flows would occur in the proposed commercial/restaurant areas or the peak flows from the spectators within the event itself. Therefore, the irrigation flow can be ignored for determining peak flow rates for hydraulic purposes.																		
	§It is assumed that the large Grandstand structure has the highest NFF. NFF is based on International Fire Code calculation methods for sprinklered buildings, producing 2,000 gpm; an extra 500 gpm hose stream allowance was added to make NFF = 2,500 gpm.																		
	¶The wastewater hourly peaking factor is determined from a formula in MDE's Design Guidelines for Wastewater Facilities. Some of the hourly peaking factors are smaller than the rest because they apply to flows which are already max day flows, instead of the usual average day flows, in which case the usual hourly peaking factor is divided by the max day peaking factor.																		
	¶I/I approximated as 100 gpd/acre, with a site area of approximately 133 acres.																		

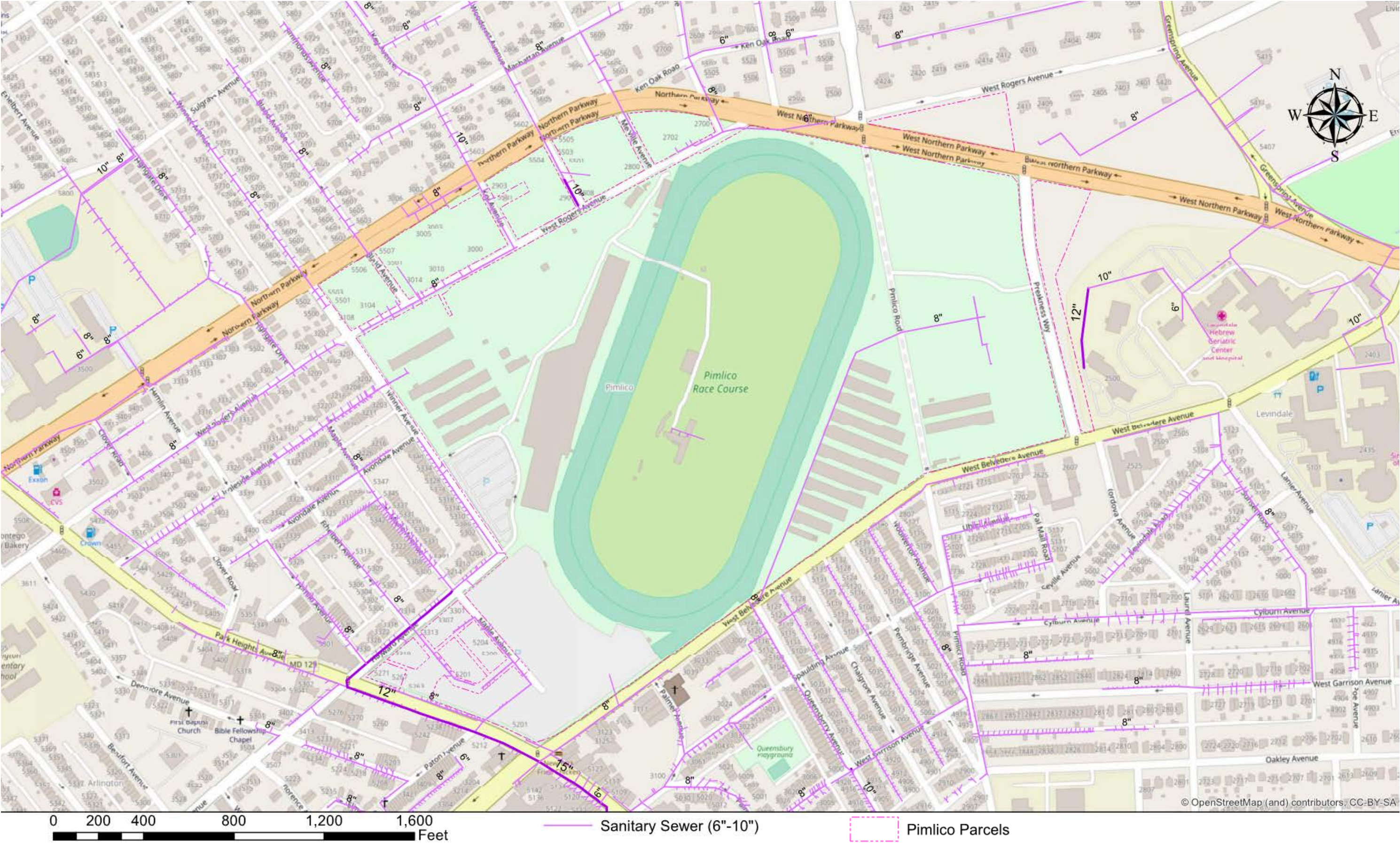
E.1 – Engineering Exhibits 03 - Pimlico Water Proposed



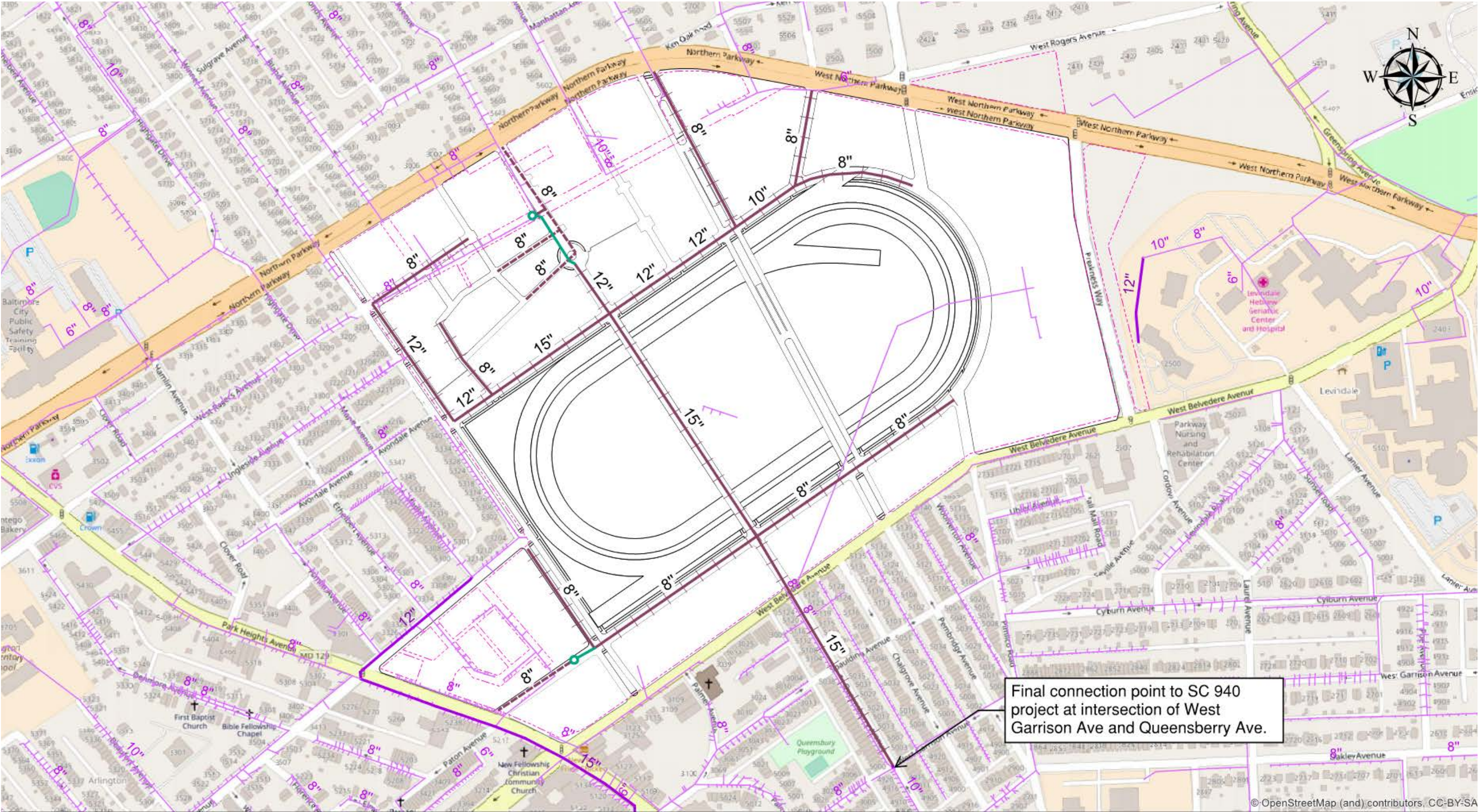
E.1 – Engineering Exhibits 04 - Pimlico Sanitary Regional (Existing)



E.1 – Engineering Exhibit 05 - Pimlico Sanitary Sewer (Existing)



E.1 – Engineering Exhibit 06 - Pimlico Sanitary Sewer Proposed



0 200 400 800 1,200 1,600 Feet

1 inch = 400 feet

Pimlico Sanitary Sewer Proposed

- Gravity sewer directly connected to final discharge location
- Gravity sewer preceding a PS
- Pump Station and Force Main
- Existing Sanitary Sewer (2"-10" & UNK)
- Existing Sanitary Sewer (12"-60")
- Pimlico Parcels

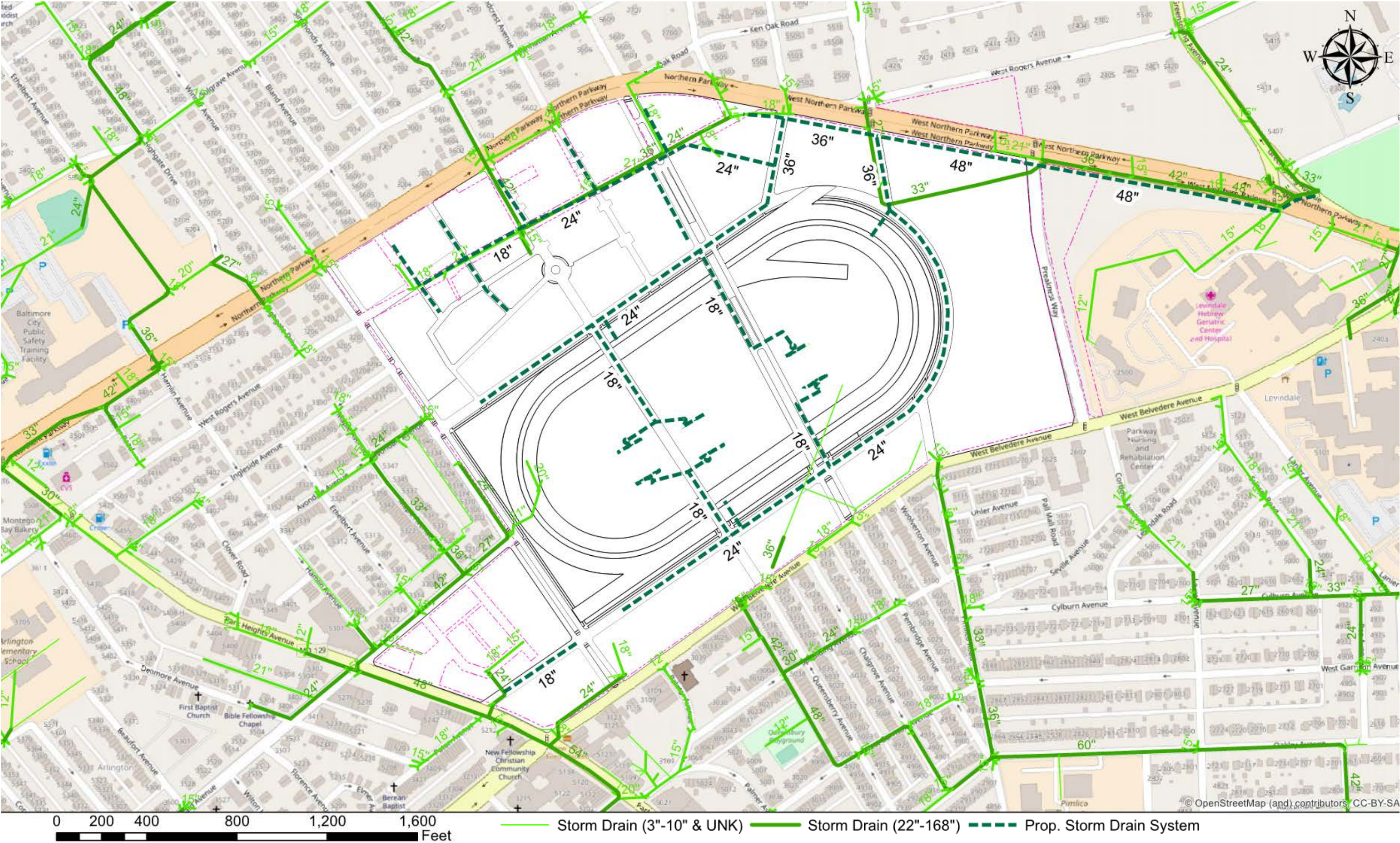
E.1 – Engineering Exhibit 07 - Pimlico Storm Drain Regional (Existing)



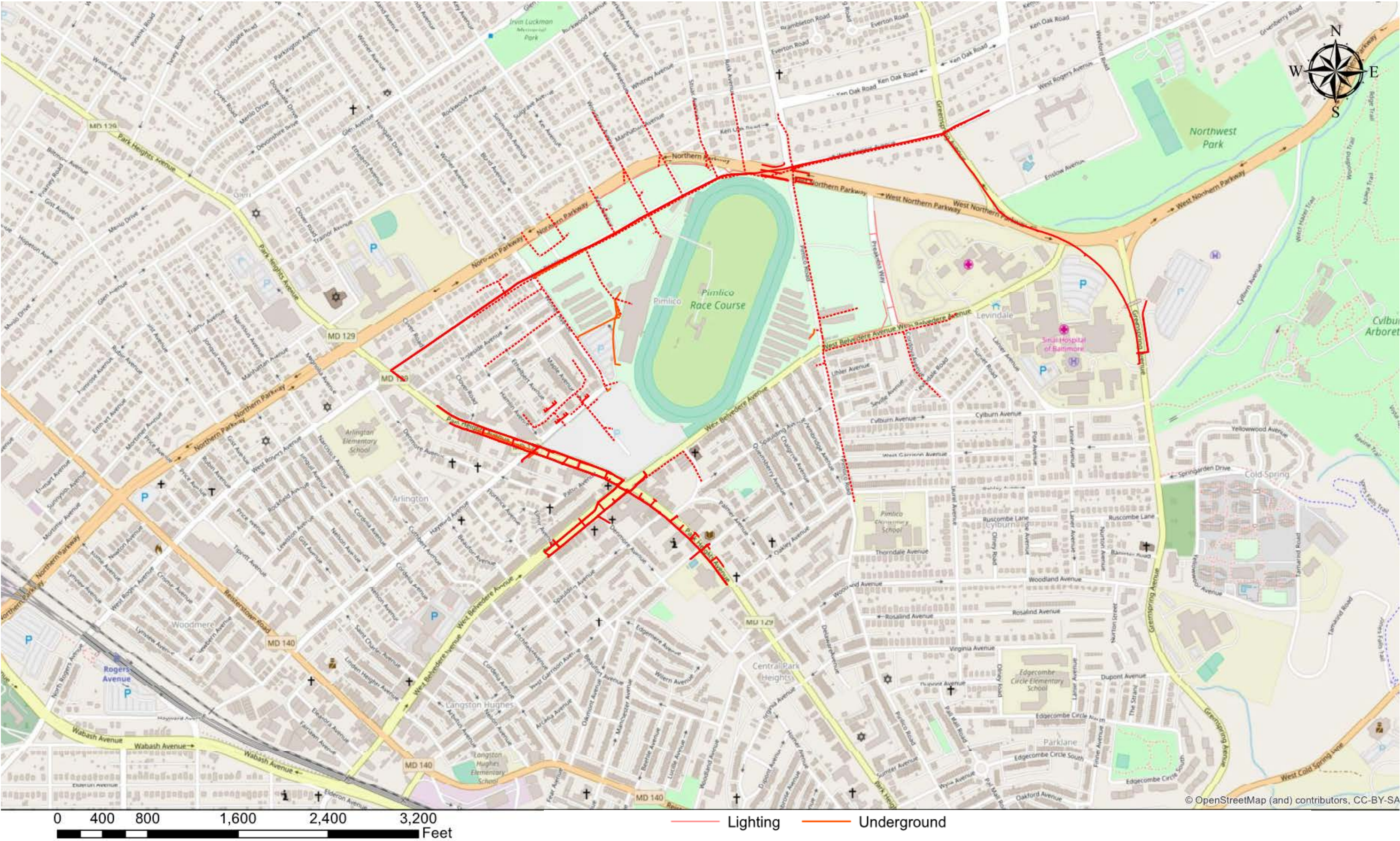
E.1 – Engineering Exhibit 08 - Pimlico Storm Drain (Existing)



E.1 – Engineering Exhibit 09 - Pimlico Storm Drain Proposed



E.1 – Engineering Exhibit 10 - Pimlico Conduit & Electric Regional (Existing)

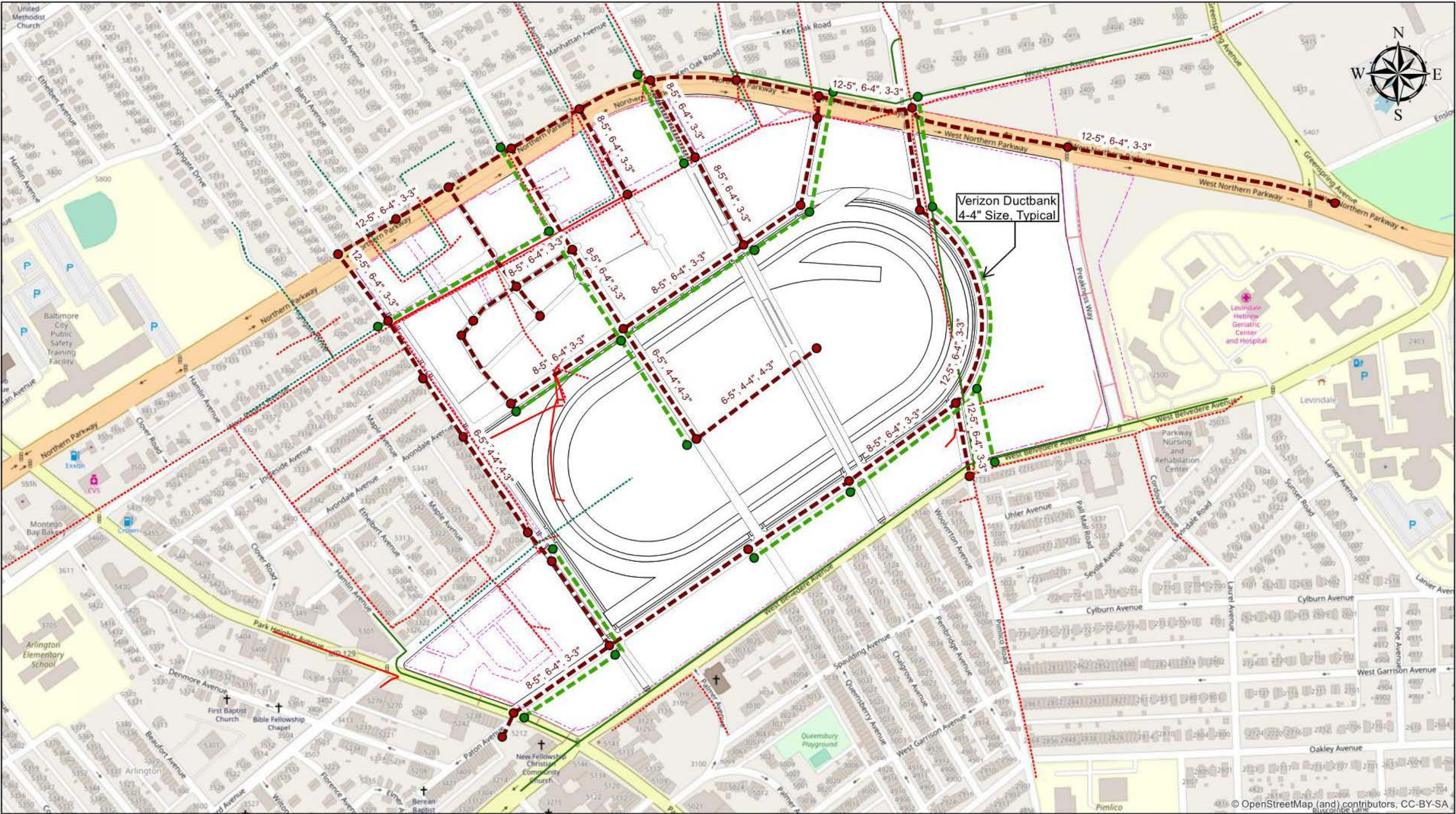


0 200 400 800 1,200 1,600 Feet

Pimlico Parcels Overhead Lighting

© OpenStreetMap (and) contributors, CC-BY-SA

E.1 – Engineering Exhibit 12 - Pimlico Conduit & Electrical Proposed

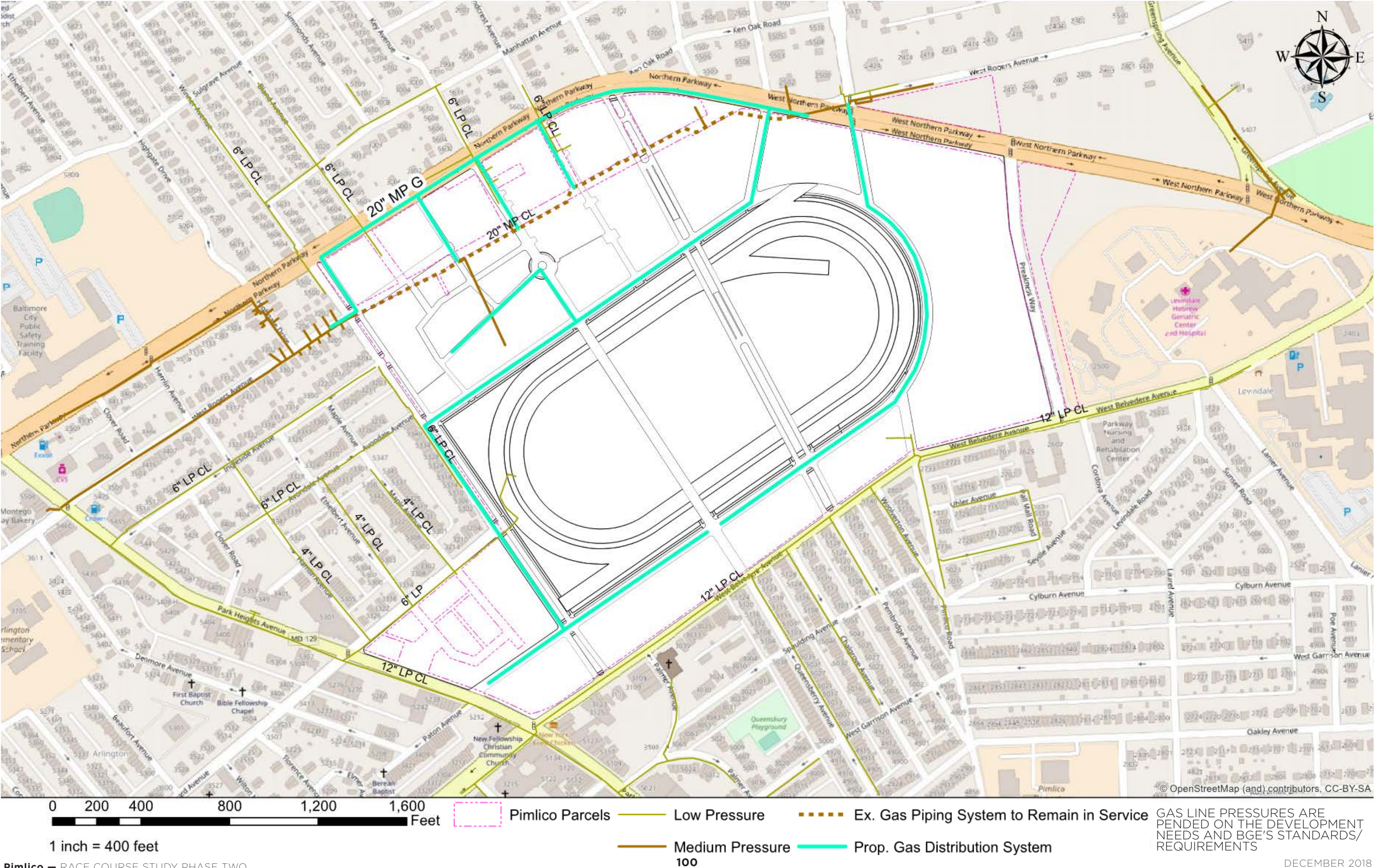


THE LOCATION AND SIZING OF THE DUCTBANKS ARE PENDING ON BGE, CITY, AND THIRD PARTY TELECOM REQUIREMENTS

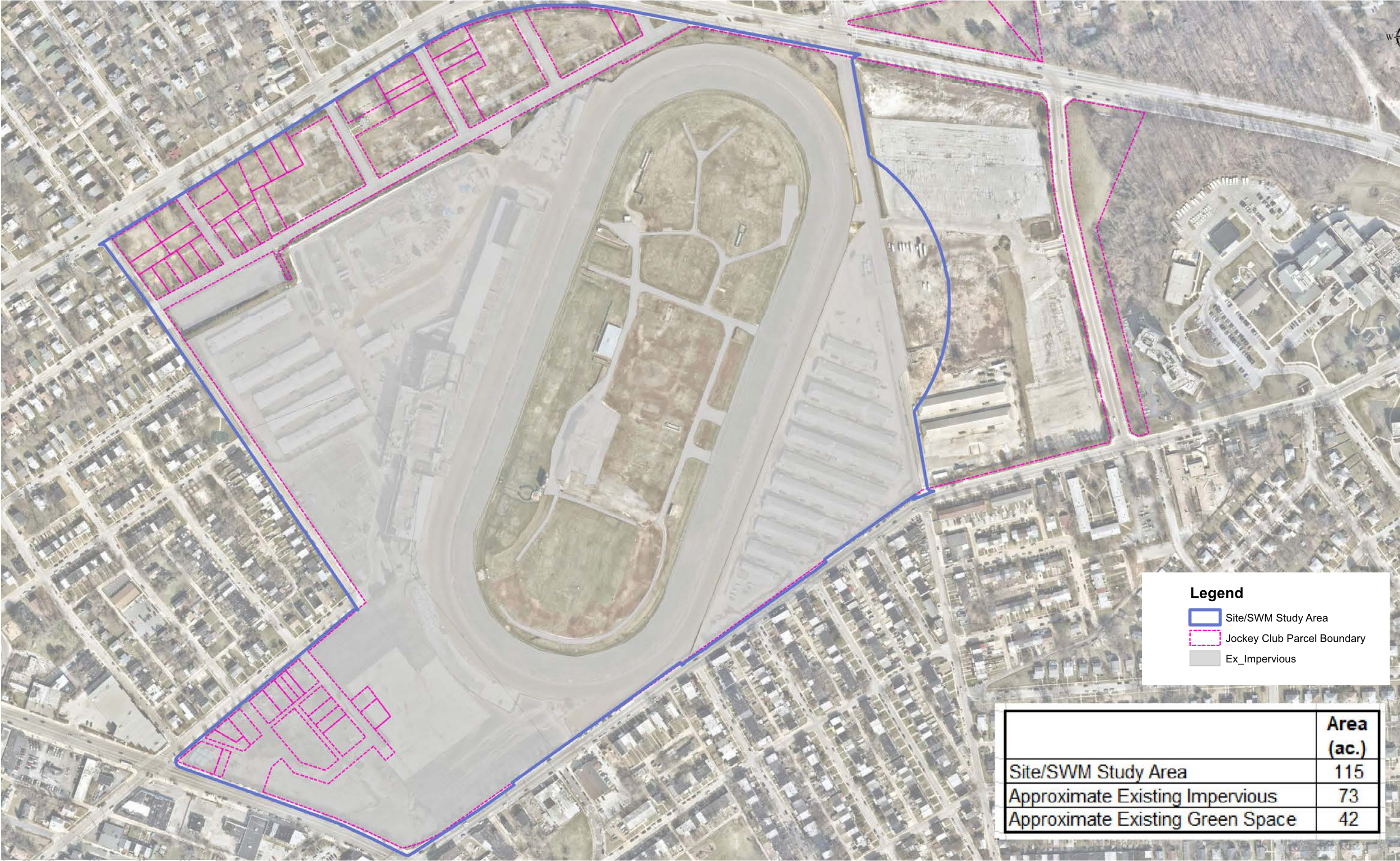
E.1 – Engineering Exhibit 13 - Pimlico Gas (Existing)



E.1 – Engineering Exhibit 14 - Pimlico Gas Proposed



E.1 – Engineering Exhibit 15 - Existing Impervious Areas

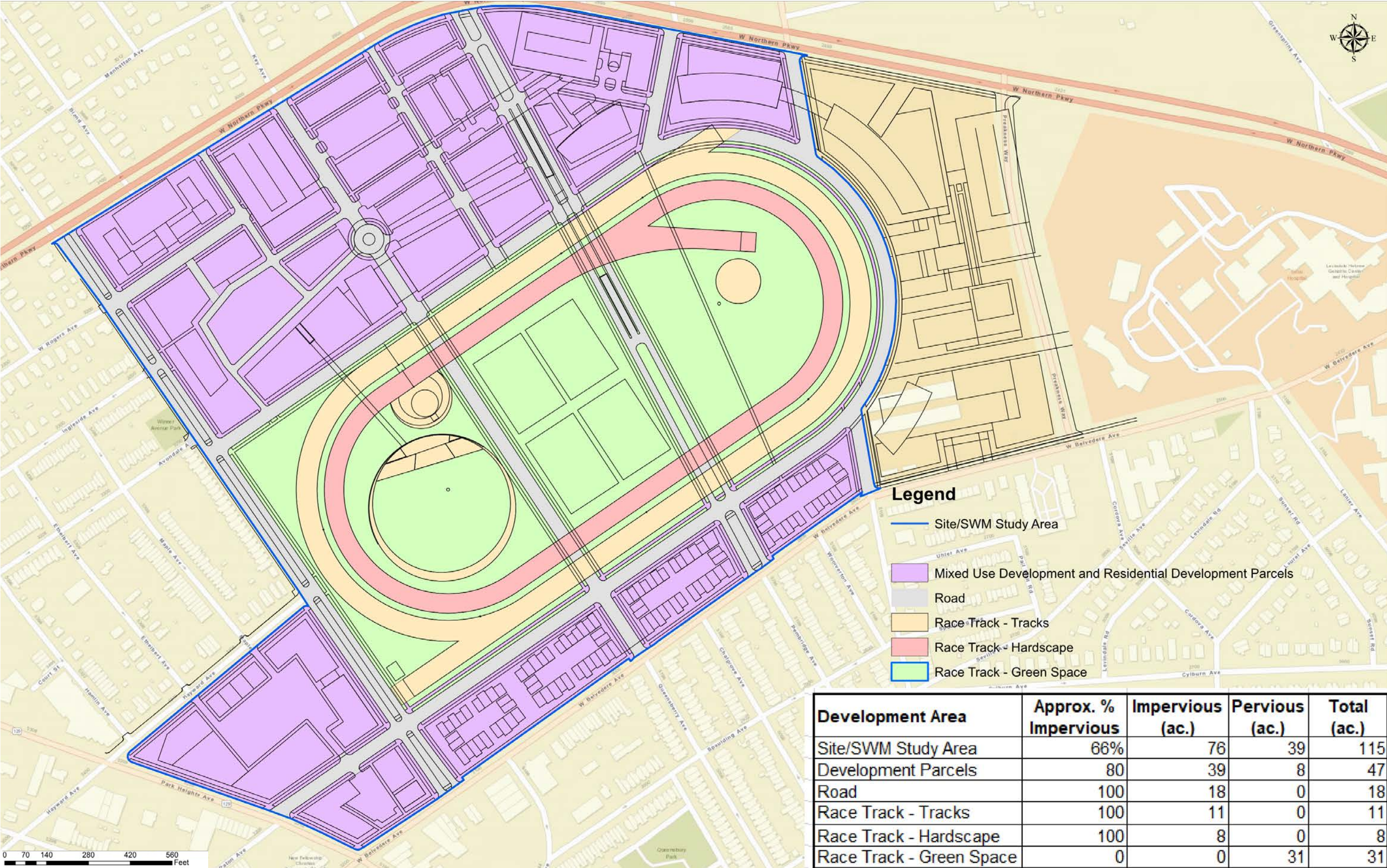


Legend

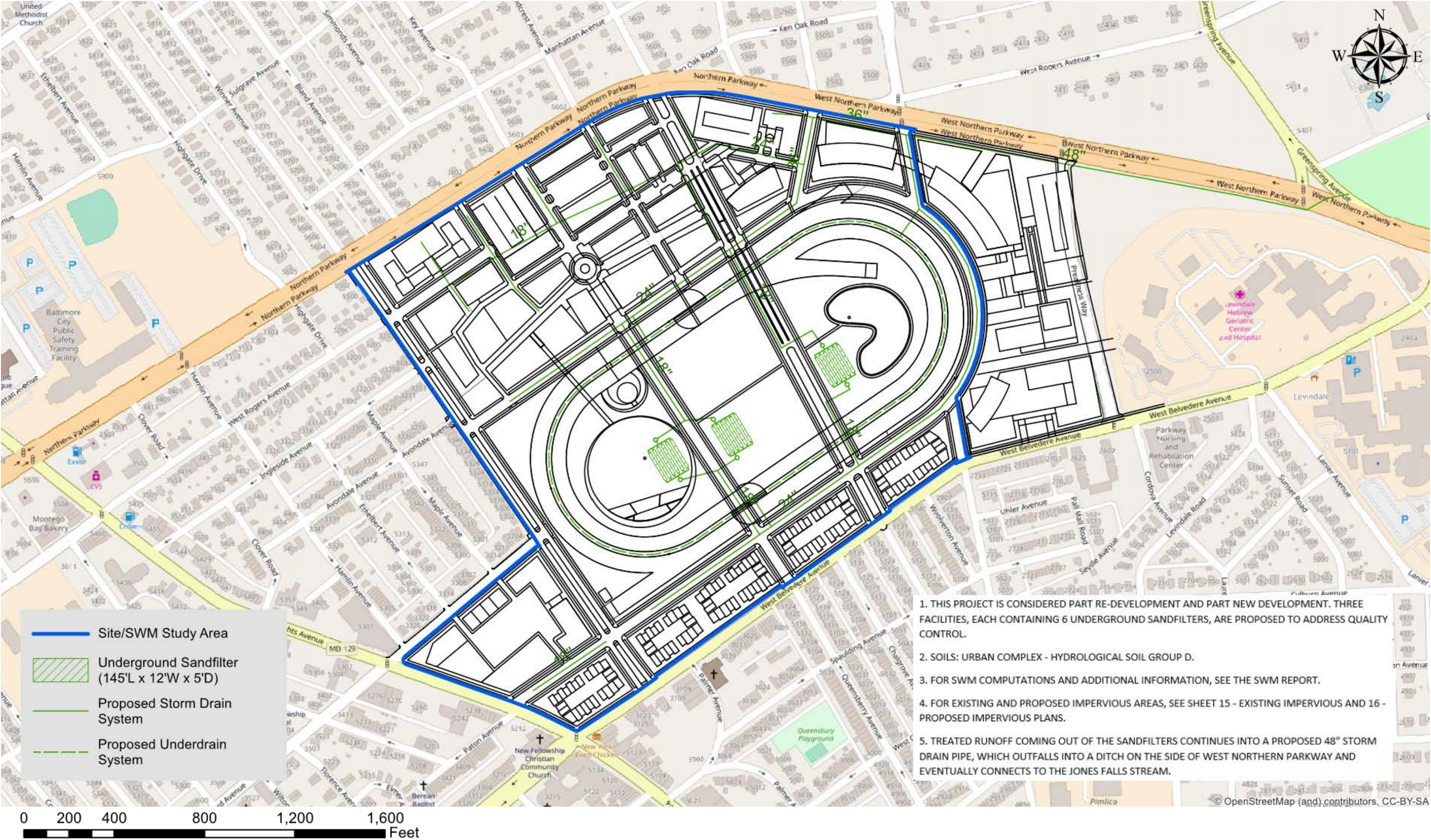
- Site/SWM Study Area
- Jockey Club Parcel Boundary
- Ex_Impervious

	Area (ac.)
Site/SWM Study Area	115
Approximate Existing Impervious	73
Approximate Existing Green Space	42

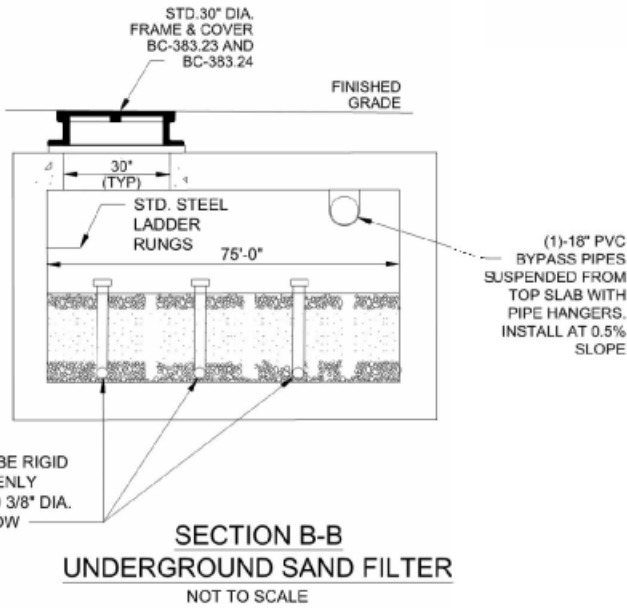
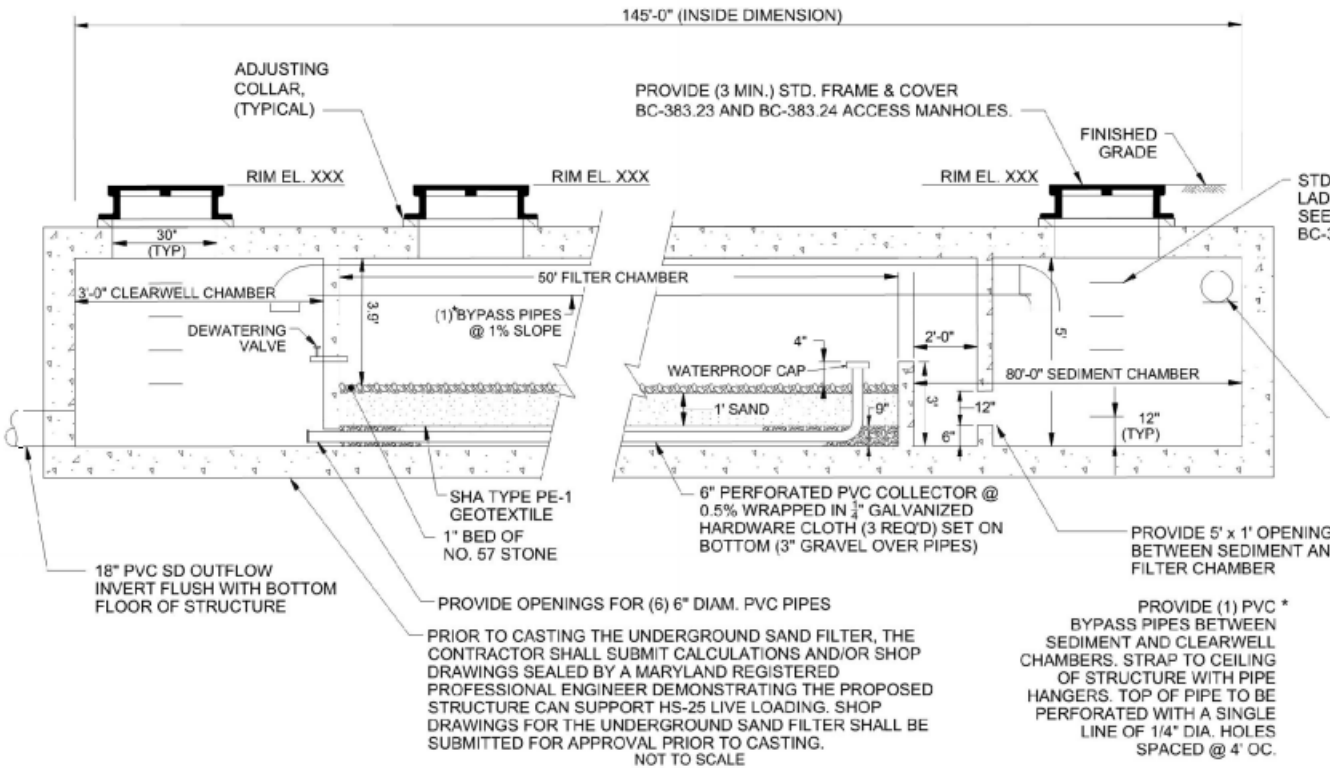
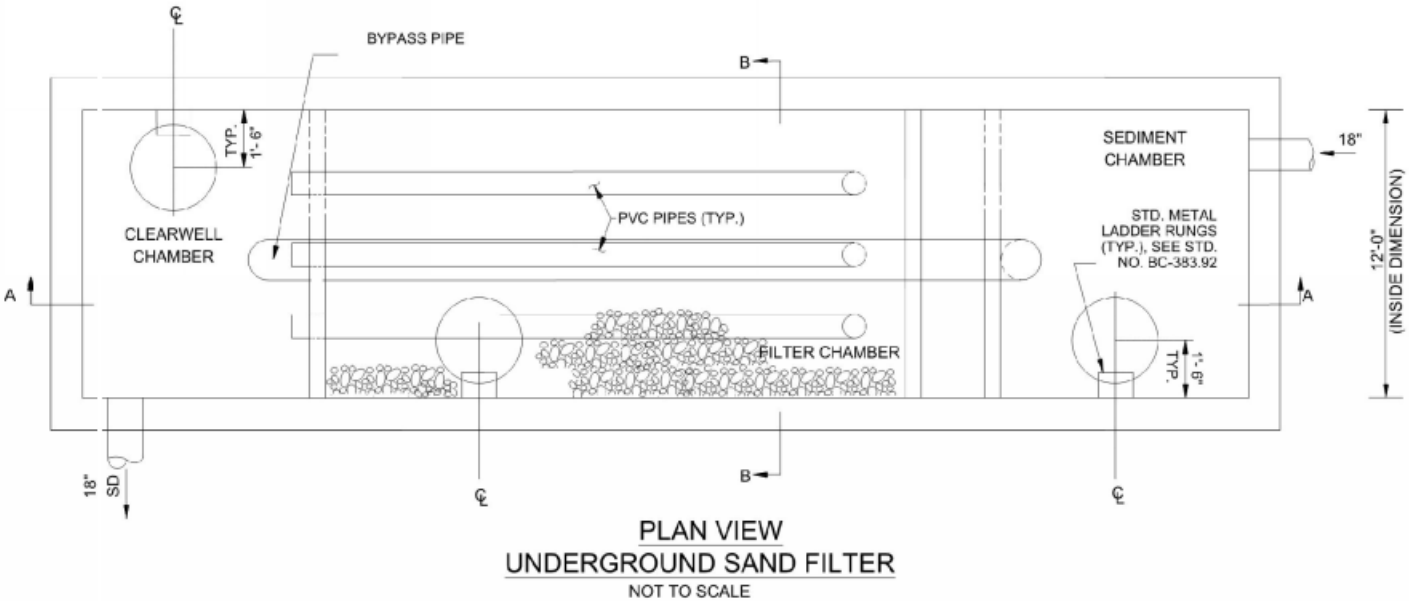
E.1 – Engineering Exhibit 16 - Proposed Impervious Area



E.1 – Engineering Exhibit 17 - Stormwater Management Plan



E.1 – Engineering Exhibit 18 - Stormwater Management Details



Order of Magnitude Cost Estimate Summary

December 2018

PIMLICO RACE COURSE STUDY PHASE TWO
ORDER OF MAGNITUDE COST ESTIMATE SUMMARY
MINIMUM RACING COMPONENTS

ITEM OF WORK	QUANTITY	UNIT	Cost / Unit	TOTAL COST
HARD COST <i>(Per the Cost Estimate from Turner dated December 2018 in Appendix E.2)</i>				
Demolition & Site Clearing	1	Estimate	\$ 12,464,000	
Track & Infields	1	Estimate	\$ 17,231,000	
Multi-Use Clubhouse	1	Estimate	\$ 134,492,000	
Palio	1	Estimate	\$ 3,782,000	
Hardscape Areas	1	Estimate	\$ 2,073,000	
Multi-Use Clubhouse Roadway	1	Estimate	\$ 278,000	
Vehicle Tunnel (Tunnel #2)	1	Estimate	\$ 3,700,000	
Infrastructure (Roads, Utilities, Signals)	1	Estimate	\$ 54,759,000	
Permanent Power & Data for Preakness Overlay	1	Estimate	\$ 1,336,000	
Stormwater Management	1	Estimate	\$ 4,152,000	
Technology Systems	1	Estimate	\$ 12,144,000	
Subtotal - Hard Cost of Construction				\$ 246,411,000
Design Contingency	10.0%	of \$ 246,411,000	\$ 24,641,100	\$ 271,052,100
Construction Contingency	5.0%	of \$ 271,052,100	\$ 13,552,605	\$ 284,604,705
Project Allowances (FF&E; Theming; Signage and Graphics)	3.0%	of \$ 284,604,705	\$ 8,538,141	\$ 293,142,846
Escalate Project Cost to Q4 of 2019	5.0%	of \$ 293,142,846	\$ 14,657,142	\$ 307,799,988
Escalate Project Cost to Q4 of 2020	5.0%	of \$ 307,799,988	\$ 15,389,999	\$ 323,189,988
Escalate Project Cost to Q2 of 2021	2.5%	of \$ 323,189,988	\$ 8,079,750	\$ 331,269,738
TOTAL ESTIMATED COST OF CONSTRUCTION				\$ 331,269,738
SOFT COST				
<i>Construction Manager / General Contractor Fees</i>				
<i>Construction Manager Staff & General Conditions</i>				
<i>Construction Manager Fee</i>				
<i>Bonds & Insurance</i>				
<i>Construction Manager Preconstruction</i>				
<i>Architectural & Engineering Fees</i>				
<i>A/E Design Fees</i>				
<i>A/E Construction Administration</i>				
<i>Owner & Overall Project Fees/Allowances</i>				
<i>Permitting / Environmental</i>				
<i>Testing & Inspection</i>				
<i>Construction Administration/Owner's Representative Cost</i>				
<i>Project Contingency</i>				
TOTAL ESTIMATED SOFT COST				\$ 92,499,353
TOTAL ESTIMATED PROJECT COST				\$ 423,769,091

Order of Magnitude Add Alternate Cost Summaries

December 2018

PIMLICO RACE COURSE STUDY PHASE TWO
ORDER OF MAGNITUDE COST ESTIMATE SUMMARY
ADD ALTERNATE #1 - SUITE TOWER

ITEM OF WORK	QUANTITY	UNIT	Cost / Unit	TOTAL COST
HARD COST (Per the Cost Estimate from Turner dated December 2018)				
Suite Tower	1	Estimate	\$ 22,247,000	
Subtotal - Hard Cost of Construction				\$ 22,247,000
Design Contingency	10.0%	of \$	22,247,000	\$ 2,224,700
Construction Contingency	5.0%	of \$	24,471,700	\$ 1,223,585
Project Allowances (FF&E; Theming; Signage and Graphics)	3.0%	of \$	25,695,285	\$ 770,859
Escalate Project Cost to Q4 of 2019	5.0%	of \$	26,466,144	\$ 1,323,307
Escalate Project Cost to Q4 of 2020	5.0%	of \$	27,789,451	\$ 1,389,473
Escalate Project Cost to Q2 of 2021	2.5%	of \$	29,178,923	\$ 729,473
TOTAL ESTIMATED COST OF CONSTRUCTION				\$ 29,908,396
SOFT COST				
Construction Manager / General Contractor Fees				
Construction Manager Staff & General Conditions				
Construction Manager Fee				
Bonds & Insurance				
Construction Manager Preconstruction				
Architectural & Engineering Fees				
A/E Design Fees				
A/E Construction Administration				
Owner & Overall Project Fees/Allowances				
Permitting / Environmental				
Testing & Inspection				
Construction Administration/Owner's Representative Cost				
Project Contingency				
TOTAL ESTIMATED SOFT COST				\$ 8,351,223
TOTAL ESTIMATED PROJECT COST				\$ 38,259,619

December 2018

PIMLICO RACE COURSE STUDY PHASE TWO
ORDER OF MAGNITUDE COST ESTIMATE SUMMARY
ADD ALTERNATE #2 - EQUESTRIAN COMPONENT

ITEM OF WORK	QUANTITY	UNIT	Cost / Unit	TOTAL COST
HARD COST (Per the Cost Estimate from Turner dated December 2018)				
Equestrian Component	1	Estimate	\$ 17,627,000	
Subtotal - Hard Cost of Construction				\$ 17,627,000
Design Contingency	10.0%	of \$	17,627,000	\$ 1,762,700
Construction Contingency	5.0%	of \$	19,389,700	\$ 969,485
Project Allowances (FF&E; Theming; Signage and Graphics)	3.0%	of \$	20,359,185	\$ 610,776
Escalate Project Cost to Q4 of 2019	5.0%	of \$	20,969,961	\$ 1,048,498
Escalate Project Cost to Q4 of 2020	5.0%	of \$	22,018,459	\$ 1,100,923
Escalate Project Cost to Q2 of 2021	2.5%	of \$	23,119,382	\$ 577,985
TOTAL ESTIMATED COST OF CONSTRUCTION				\$ 23,697,366
SOFT COST				
Construction Manager / General Contractor Fees				
Construction Manager Staff & General Conditions				
Construction Manager Fee				
Bonds & Insurance				
Construction Manager Preconstruction				
Architectural & Engineering Fees				
A/E Design Fees				
A/E Construction Administration				
Owner & Overall Project Fees/Allowances				
Permitting / Environmental				
Testing & Inspection				
Construction Administration/Owner's Representative Cost				
Project Contingency				
TOTAL ESTIMATED SOFT COST				\$ 6,616,937
TOTAL ESTIMATED PROJECT COST				\$ 30,314,303

Order of Magnitude Add Alternate Cost Summaries

December 2018

PIMLICO RACE COURSE STUDY PHASE TWO
ORDER OF MAGNITUDE COST ESTIMATE SUMMARY
ADD ALTERNATE #3 - ALTERNATIVE CONSTRUCTION SCHEDULE

ITEM OF WORK	QUANTITY	UNIT	Cost / Unit	TOTAL COST
HARD COST (Per the Cost Estimate from Turner dated December 2018)				
Alternative Schedule Approach	1	Estimate	\$ 13,331,000	
Subtotal - Hard Cost of Construction				\$ 13,331,000
Design Contingency	0.0%	of \$	13,331,000 \$	- \$ 13,331,000
Construction Contingency	0.0%	of \$	13,331,000 \$	- \$ 13,331,000
Project Allowance (Temporary Overlay During Construction Periods)	1	Allow	\$ 9,000,000	\$ 22,331,000
Escalate Project Cost to Q4 of 2019	0.0%	of \$	22,331,000 \$	- \$ 22,331,000
Escalate Project Cost to Q4 of 2020	0.0%	of \$	22,331,000 \$	- \$ 22,331,000
Escalate Project Cost to Q2 of 2021	0.0%	of \$	22,331,000 \$	- \$ 22,331,000
TOTAL ESTIMATED COST OF CONSTRUCTION				\$ 22,331,000
SOFT COST				
Construction Manager / General Contractor Fees				
Construction Manager Staff & General Conditions				
Construction Manager Fee				
Bonds & Insurance				
Construction Manager Preconstruction				
Architectural & Engineering Fees				
A/E Design Fees				
A/E Construction Administration				
Owner & Overall Project Fees/Allowances				
Permitting / Environmental				
Testing & Inspection				
Construction Administration/Owner's Representative Cost				
Project Contingency				
TOTAL ESTIMATED SOFT COST				\$ 1,304,130
TOTAL ESTIMATED PROJECT COST				\$ 23,635,130

December 2018

PIMLICO RACE COURSE STUDY PHASE TWO
ORDER OF MAGNITUDE COST ESTIMATE SUMMARY
ADD ALTERNATE #4 - DISTRICT ONE PARKING STRUCTURE

ITEM OF WORK	QUANTITY	UNIT	Cost / Unit	TOTAL COST
HARD COST (Per the Cost Estimate from Turner dated December 2018)				
District One Parking Structure	1	Estimate	\$ 12,895,000	
Subtotal - Hard Cost of Construction				\$ 12,895,000
Design Contingency	10.0%	of \$	12,895,000 \$	1,289,500 \$ 14,184,500
Construction Contingency	5.0%	of \$	14,184,500 \$	709,225 \$ 14,893,725
Project Allowances (FF&E; Theming; Signage and Graphics)	0.0%	of \$	14,893,725 \$	- \$ 14,893,725
Escalate Project Cost to Q4 of 2019	5.0%	of \$	14,893,725 \$	744,686 \$ 15,638,411
Escalate Project Cost to Q4 of 2020	5.0%	of \$	15,638,411 \$	781,921 \$ 16,420,332
Escalate Project Cost to Q2 of 2021	2.5%	of \$	16,420,332 \$	410,508 \$ 16,830,840
TOTAL ESTIMATED COST OF CONSTRUCTION				\$ 16,830,840
SOFT COST				
Construction Manager / General Contractor Fees				
Construction Manager Staff & General Conditions				
Construction Manager Fee				
Bonds & Insurance				
Construction Manager Preconstruction				
Architectural & Engineering Fees				
A/E Design Fees				
A/E Construction Administration				
Owner & Overall Project Fees/Allowances				
Permitting / Environmental				
Testing & Inspection				
Construction Administration/Owner's Representative Cost				
Project Contingency				
TOTAL ESTIMATED SOFT COST				\$ 4,699,620
TOTAL ESTIMATED PROJECT COST				\$ 21,530,460

MARYLAND STADIUM AUTHORITY
CROSSROADS CONSULTING SERVICES, LLC

Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
COST of CONSTRUCTION ESTIMATE

DECEMBER 2018



Table of Contents

Cost Estimate

- a. Estimate Summary
- b. Estimate Detail
- c. Area Summary
- d. Takeoff Attachments

Assumptions & Clarifications

Preliminary Construction Schedule

Document List

Turner Construction Company
3700 Koppers Street, Suite 345
Baltimore, Maryland 21227

Cost Estimate Summary

Turner
Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

Summary						
	Subject	Area	Unit	\$/SF	Total	Source
1.	Demolition & Site Clearing	5,126,848	SF	\$2.43	\$12,464,000	Turner
2.	Track & Infields	1,875,978	SF	\$9.19	\$17,231,000	Turner
3.	Multi-Use Clubhouse	409,090	GSF	\$328.76	\$134,492,000	Turner
6.	Palio	52,005	SF	\$72.72	\$3,782,000	Turner
7.	Hardscape Areas	75,519	SF	\$27.45	\$2,073,000	Turner
9.	Multi-Use Clubhouse Road	10,642	SF	\$26.12	\$278,000	Turner
10.	Temporary Overlay					Operations
11.	Infield Roads	206,230	SF		Included w/ #13	RK&K
12.	Tunnel #2	31,156	SF		\$3,700,000	RK&K
13.	Infrastructure					
13.a.	Infrastructure Roads, Signals, and Main Utility Lines				\$54,759,000	RK&K
13.b.	Power & Data Required for Preakness Event				\$1,336,000	Turner
14.	Stormwater Management				\$4,152,000	RK&K
15.	Civic Areas					
15.a.	Civic #1	20,323	SF		Future. Not Included	
15.b.	Civic #2	30,199	SF		Future. Not Included	
15.c.	Civic #3	18,750	SF		Future. Not Included	
16.	Commercial Mixed Use, Hotel					
16.a.	Commercial Mixed Use, Hotel (Parking Structure) #1	197,673	SF		Future. Not Included	
16.b.	Commercial Mixed Use #2	98,816	SF		Future. Not Included	
16.c.	Commercial Mixed Use #3	86,532	SF		Future. Not Included	
17.	Neighborhood Commercial					
17.a.	Neighborhood Commercial #1	259,625	SF		Future. Not Included	
18.	Residential					
18.a.	Residential #1 (Apartments)	132,759	SF		Future. Not Included	
18.b.	Residential #2 (Townhouses)	70,782	SF		Future. Not Included	
18.c.	Residential #3 (Age Restricted)	65,350	SF		Future. Not Included	
18.d.	Residential #4	69,163	SF		Future. Not Included	
19.	Residential, Mixed Use					
19.a.	Residential, Mixed Use #1	36,999	SF		Future. Not Included	
19.b.	Residential, Mixed Use #2	197,674	SF		Future. Not Included	
20.	Medical Development					
20.a.	Medical Development	754,199	SF		Future. Not Included	
21.	Technology Systems	1	Allow	\$12,144,000	\$12,144,000	Turner
Total Construction Direct Costs					\$246,411,000	

Turner
Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

		Add Alternates	Area	Unit	\$/SF	Total	Source
Add 1.	4.	Suite Tower	59,964	GSF	\$371.01	\$ 22,247,000	Turner
Add 2.	5.	Equestrian Component	77,191	GSF	\$228.36	\$ 17,627,000	Turner
Add 3.		Alternative Construction Schedule				\$ 13,331,000	Turner
Add 4.	8.	District One Parking Structure	207,000	GSF	\$62.29	\$ 12,895,000	Turner

E.2– Project Cost Estimate

1. Demolition & Site Clearing						
	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS					\$182,015
2	General Requirements					\$182,015
3	General Requirements	1	LS	182,015	\$182,015	
4						
5	EXCAVATION & FOUNDATIONS					No Work
6						
7	STRUCTURE					No Work
8						
9	EXTERIOR WALL					No Work
10						
11	ROOFING & WATERPROOFING					No Work
12						
13	INTERIOR CONSTRUCTION & FINISHES					No Work
14						
15	SPECIALTIES, EQUIPMENT, FURNISHINGS					No Work
16						
17	ELEVATORS					No Work
18						
19	FIRE PROTECTION					No Work
20						
21	HVAC					No Work
22						
23	PLUMBING					No Work
24						
25	ELECTRICAL & FIRE ALARM					No Work
26						
27	LOW VOLTAGE					No Work
28						
29	DEMOLITION					\$7,957,407
30	Hazardous Material Abatement					\$2,200,000
31	Clubhouse	1	Allow	600,000	\$600,000	
32	Grandstand	1	Allow	1,100,000	\$1,100,000	
33	Concourse	1	Allow	300,000	\$300,000	
34	Stables & site items	1	Allow	200,000	\$200,000	
35						
36	Structure Demolition					\$3,065,027
37	Clubhouse	1	LS	600,000	\$600,000	
38	Grandstand	1	LS	1,100,000	\$1,100,000	
39	Concourse	1	LS	300,000	\$300,000	
40	Clubhouse Turn structure	1	LS	100,000	\$100,000	
41	Infield Structures, support structures, single family home	1	LS	150,000	\$150,000	
42	Northwest stables	25,705	SF	10.82	\$278,128	
43	Southeast stables	41,406	SF	10.82	\$448,013	
44	LifeBridge area stables	8,215	SF	10.82	\$88,886	
45						
46	Tunnel Demolition					\$214,300
47	Excavation	3,760	CY	10.00	\$37,600	
48	Demolition	426	CY	150.00	\$63,900	
49	Backfill	7,520	CY	15.00	\$112,800	
50						
51	Site Demolition					\$1,278,080
52	Clearing and grubbing onsite trees and vegetation	1	LS	250,000	\$250,000	
53	Mill and remove hot mix asphalt at non-City roads and parking lots	949,496	SF	0.28	\$265,859	
54	Mill and remove hot mix asphalt at city roads	286,016	SF	0.28	\$80,084	
55	Remove concrete pavement base at city roads	286,016	SF	0.89	\$254,554	
56	Remove concrete sidewalks (assume 5' wide)	33,865	SF	0.80	\$27,092	

1. Demolition & Site Clearing						
	Description	Quantity	Unit	Unit Cost	Extension	Total
57	Remove concrete curb and gutters	6,774	LF	5.00	\$33,870	
58	Remove existing fences (picket, chain link, ornamental, and race rails); quantification pending, ROM 35,000 lf	1	Allow	200,000	\$200,000	
59	Retaining wall	831	LF	20.00	\$16,620	
60	Additional removal of concrete / asphalt	1	Allow	150,000	\$150,000	
61						
62	Utility Demolition					\$1,200,000
63	Remove abandoned storm drain system	1	Allow	500,000	\$500,000	
64	Remove abandoned sanitary system	1	Allow	250,000	\$250,000	
65	Remove abandoned water main system	1	Allow	350,000	\$350,000	
66	Remove abandoned electrical lines	1	Allow	100,000	\$100,000	
67						
68	SITE WORK					\$4,176,962
69	Sitework mobilization					\$714,000
70	Mobilization	1	LS	275,000	\$275,000	
71	Construction layout	1	LS	230,000	\$230,000	
72	Maintenance of traffic	1	LS	185,000	\$185,000	
73	Test pits	1	LS	24,000	\$24,000	
74						
75	Sediment Control					\$529,263
76	Perimeter super silt fence	20,000	LF	12.00	\$240,000	
77	Stabilized construction entrances	10	EA	12,000	\$120,000	
78	Sediment trap	10	EA	5,000	\$50,000	
79	Inlet protections	30	EA	1,000	\$30,000	
80	Temporary seeding	31.41	Acres	1,250	\$39,263	
81	Additional sediment controls	1	Allow	50,000	\$50,000	
82						
83	Earthwork					\$2,933,699
84	Site grading, cut/fill balance (24" earth moving per SF)	379,767	CY	5.70	\$2,164,672	
85	Fine grading	5,126,848	SF	0.15	\$769,027	
86						
87	SUBCONTRACTOR BONDING					\$147,797
88	Sub Bond / Subguard					\$147,797
89	Sub Bond / Subguard	12,316,384		1.20%	\$147,797	
90						
91	TOTAL TRADE DIRECT COST					\$12,464,000

E.2– Project Cost Estimate

Turner

Pimlico Race Course Phase 2 Study

Rough Order of Magnitude

Cost of Construction Estimate

December 2018

2. Track & Infields						
	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS					\$258,465
2	General Requirements					\$258,465
3	General Requirements	1	LS	\$258,465	\$258,465	
4	EXCAVATION & FOUNDATIONS					No Work
5	STRUCTURE					No Work
6	EXTERIOR WALL					No Work
7	ROOFING & WATERPROOFING					No Work
8	INTERIOR CONSTRUCTION & FINISHES					No Work
9	SPECIALTIES, EQUIPMENT, FURNISHINGS					No Work
10	ELEVATORS					No Work
11	FIRE PROTECTION					No Work
12	HVAC					No Work
13	PLUMBING					No Work
14	ELECTRICAL & FIRE ALARM					No Work
15	LOW VOLTAGE					No Work
16	DEMOLITION					\$0
17	SITE WORK					\$16,767,734
18	Dirt Track					\$4,401,150
19	Excavation (28")	30,816	CY	\$6.50	\$200,303	
20	Fine Grading	356,583	SF	\$0.08	\$28,527	
21	6" Perforated Underdrain Pipe	13,614	LF	\$14.00	\$190,596	
22	Compacted Aggregate Base (6")	356,583	SF	\$1.20	\$427,900	
23	Loosely Compacted Aggregate Base (8")	356,583	SF	\$1.53	\$545,572	
24	4" Porous Asphalt (4")	356,583	SF	\$3.59	\$1,280,133	
25	Class I Sand 2% Slope to Outside Rail (2")	356,583	SF	\$0.73	\$260,306	
26	Dirt Surface (6-8")	356,583	SF	\$4.00	\$1,426,332	
27	1" Perforated Poly Head Board	9,830	LF	\$4.22	\$41,483	
28	Turf Track					\$3,182,279
29	Excavation (20")	20,201	CY	\$6.50	\$131,306	
30	Fine Grading	327,255	SF	\$0.08	\$26,180	
31	6" Perforated Underdrain Pipe	4,384	LF	\$14.00	\$61,376	
32	Compacted Aggregate Base (6")	327,255	SF	\$1.20	\$392,706	
33	Pea Gravel (6")	327,255	SF	\$1.39	\$454,884	
34	Geotextile fabric	327,255	SF	\$0.16	\$52,361	
35	Sandy Loam (6")	327,255	SF	\$1.35	\$441,794	
36	Topsoil with Sandy Loam Mixed (4")	327,255	SF	\$0.77	\$251,986	
37	Pre turf installation amendmets	327,255	SF	\$0.09	\$30,000	
38	Sod. Kentucky Bluegrass variety	327,255	SF	\$0.75	\$245,441	
39	Grass grow-in maintenance	6	Weeks	\$32,382	\$194,292	
40	Irrigation system - branch line & sprinkler	327,255	SF	\$2.75	\$899,951	
41						
42						

Turner

Pimlico Race Course Phase 2 Study

Rough Order of Magnitude

Cost of Construction Estimate

December 2018

2. Track & Infields						
	Description	Quantity	Unit	Unit Cost	Extension	Total
43	Dirt track railing and distance marker poles					\$148,694
44	Outer track: Oval race rail, heavyweight PVCu with swan neck posts. Permanent. (5,293 LF)	8	Furlongs	\$4,330	\$34,640	
45	Outer track: Angle iron ground fixing. (5,293 LF)	8	Furlongs	\$468.33	\$3,747	
46	Inner track: Oval race rail, heavyweight PVCu with swan neck posts. Permanent. (4,538 LF)	7	Furlongs	\$4,330	\$30,310	
47	Inner track: Angle iron ground fixing. (4,538 LF)	7	Furlongs	\$468.33	\$3,278	
48	Dirt track at roadways: Oval race rail, heavyweight PVCu with swan neck posts. Temporary. (1,198 LF)	2	Furlongs	\$4,330	\$8,660	
49	Dirt track at roadways: Angle iron ground fixing. (1,198 LF)	2	Furlongs	\$468.33	\$937	
50	Delivery	1	LS	\$12,529	\$12,529	
51	Installation	11,029	LF	\$4.95	\$54,594	
52	Turf track railing					\$151,001
53	Permanent. (4,385 LF)	7	Furlongs	\$4,949	\$34,640	
54	Outer track: Angle iron ground fixing. (4,385 LF)	7	Furlongs	\$535.14	\$3,746	
55	Permanent. (4,720 LF)	7	Furlongs	\$4,330	\$30,310	
56	Inner track: Angle iron ground fixing. (4,720 LF)	7	Furlongs	\$468.29	\$3,278	
57	posts. Temporary. (822 LF)	2	Furlongs	\$6,495	\$12,990	
58	Dirt track at roadways: Angle iron ground fixing. (822 LF)	2	Furlongs	\$702.50	\$1,405	
59	Delivery	1	LS	\$13,266	\$13,266	
60	Installation	10,377	LF	\$4.95	\$51,366	
61	Distance marker poles					\$32,100
62	Finished line marker	1	EA	\$4,155	\$4,155	
63	1/4 mile markers	3	EA	\$3,435	\$10,305	
64	1/8 mile markers	4	EA	\$3,435	\$13,740	
65	Mile marker installation	1	LS	\$3,900	\$3,900	
66	Temporary track crossing					\$1,640,896
67	Cast in place concrete slab			w/ RK&K		
68	StrathAyr modular turf tray system	29,049	SF	\$51.64	\$1,500,000	
69	Dirt Track Crossing					
70	Class I Sand 2% Slope to Outside Rail (2")	28,719	SF	\$0.73	\$20,965	
71	Dirt Surface (6-8")	28,719	SF	\$4.00	\$114,876	
72	1" Perforated Poly Head Board	1,198	LF	\$4.22	\$5,056	
73	Pedestrian Bridge					\$4,500,000
74	Pedestrian Bridge	2	Allow	\$ 2,250,000	\$4,500,000	
75	Swale Between tracks	81,766	SF			\$54,470
76	Import topsoil (4")	1,009	CY	\$28.00	\$28,265	
77	Spread topsoil	1,009	CY	\$13.00	\$13,123	
78	Grass seeding	81,766	SF	\$0.16	\$13,083	
79	Infield area	964,000	SF			\$520,203
80	Import topsoil (4")	8,926	CY	\$28.00	\$249,926	
81	Spread topsoil (4")	8,926	CY	\$13.00	\$116,037	
82	Grass seeding	964,000	SF	\$0.16	\$154,240	
83	Outfield areas	88,606	SF			\$47,814
84	Import topsoil (4")	820	CY	\$28.00	\$22,972	
85	Spread topsoil (4")	820	CY	\$13.00	\$10,666	
86	Grass seeding	88,606	SF	\$0.16	\$14,177	
87						
88						

2. Track & Infields						
	Description	Quantity	Unit	Unit Cost	Extension	Total
109	Tunnel #1					\$2,089,126
110	Tunnel earthwork					
111	Excavation and stockpile	4,876	CY	\$10.00	\$48,760	
112	Excavation, spoils	2,880	CY	\$10.00	\$28,800	
113	Transport spoils to onsite location	2,880	CY	\$2.00	\$5,760	
114	Backfill around tunnel	4,876	CY	\$20.00	\$97,520	
115	Install 12" of crushed stone (recycled materials)	7,360	CY	\$7.20	\$52,992	
117	Tunnel and retaining walls					
118	Furnish and install precast tunnel	460	LF	\$2,500	\$1,150,000	
119	Modular retaining walls at infield	1,800	SF	\$28.00	\$50,400	
120	Modular retaining walls at building ramp	1,560	SF	\$28.00	\$43,680	
121	Slab on grade at infield open air ramp	1,440	SF	\$10.00	\$14,400	
122	Slab on grade at building ramp	1,440	SF	\$10.00	\$14,400	
	Tunnel stormwater management					
123	Sump Pit and grating	2	EA	\$20,000	\$40,000	
124	Trench drain at each entrance	36	EA	\$150	\$5,400	
125	Storm water piping	500	LF	\$60	\$30,000	
126	Tunnel waterproofing	22,080	SF	\$5.00	\$110,400	
	Tunnel electrical					
127	Electrical feed	460	LF	\$150	\$69,000	
128	Lighting in tunnel (every 5')	92	LS	\$300	\$27,600	
	Tunnel fire protection	4,548	SF	\$5.50	\$25,014	
129	Ventilation	1	LS	\$75,000	\$75,000	
130	Allowance for additional building load	1	Allow,	\$200,000	\$200,000	
131						
132	SUBCONTRACTOR BONDING					\$204,314
133	Sub Bond / Subguard					\$204,314
134	Sub Bond / Subguard	17,026,199		1.20%	\$204,314	
135						
136	TOTAL TRADE DIRECT COST					\$17,231,000

E.2– Project Cost Estimate

3. Multi-Use Clubhouse

Description						Quantity	Unit	Unit Cost	Extension	Total
GENERAL REQUIREMENTS								6.58		\$2,689,840
General Requirements										\$2,689,840
General Requirements						1	LS	2,689,840	\$2,689,840	
EXCAVATION & FOUNDATIONS								12.00		\$4,909,080
Excavation and Foundations										\$4,909,080
Shallow spread footing foundation system & slab on grade						409,090	GSF	12.00	\$4,909,080	
STRUCTURE								56.40		\$23,070,681
Structural Frame - steel frame, metal deck, concrete fill										\$18,161,601
Structure Level 2						117,623	SF	48.50	\$5,704,716	
Structure Level 3						95,728	SF	48.50	\$4,642,808	
Structure Level 4						90,123	SF	48.50	\$4,370,966	
Structure Roof Level						70,992	SF	48.50	\$3,443,112	
Clubhouse rooftop canopy Allowance									Alternate	
Structural Frame, Additional Items										\$4,909,080
Misc Metals						409,090	GSF	8.00	\$3,272,720	
Spray applied fireproofing						409,090	GSF	4.00	\$1,636,360	
EXTERIOR WALL								47.15		\$19,290,363
Roofing and Waterproofing										\$19,290,363
Exterior Wall, square foot of contact area						138,001	SF	125.00	\$17,250,063	
Balcony / Terrace railings						2,627	LF	450.00	\$1,182,150	
Level 2 Rooftop Garden railings						407	LF	450.00	\$183,150	
Rooftop terrace railings						1,500	LF	450.00	\$675,000	
Rooftop canopy cladding									w/ canopy Allowance	
ROOFING & WATERPROOFING								13.98		\$5,718,910
Roofing and Waterproofing										\$5,718,910
Roofing						117,478	SF	20.00	\$2,349,560	
Roof Top Garden premium - Level 2						22,175	SF	35.00	\$776,125	
Balcony / Terrace premium - Level 2,3,4						32,737	SF	25.00	\$818,425	
Balcony / Terrace premium - Roof Level						70,992	SF	25.00	\$1,774,800	
Copings, Flashing, Roof Acc., Etc.									Included	
Rooftop canopy roofing / skylights									Alternate	
INTERIOR CONSTRUCTION & FINISHES								58.88		\$24,088,160
Level 1										\$6,512,625
OTB						20,140	SF	85.00	\$1,711,900	
Entry Ticketing						7,993	SF	65.00	\$519,545	
Retail						904	SF	35.00	\$31,640	
Toilets						3,480	SF	55.00	\$191,400	
Kitchen						5,182	SF	75.00	\$388,650	
Museum / Café (Core and shell only)						1,692	SF	45.00	\$76,140	
History Center (Core and shell only)						7,200	SF	45.00	\$324,000	
Circulation						15,887	SF	50.00	\$794,350	
MEP/Maint./Storage/Misc.						55,000	SF	45.00	\$2,475,000	
Level 2										\$6,122,040
Toilets						5,329	SF	55.00	\$293,095	
Kitchen						4,724	SF	75.00	\$354,300	
Dining						44,981	SF	85.00	\$3,823,385	
Office						2,773	SF	50.00	\$138,650	
Club Lounge						7,436	SF	85.00	\$632,060	
Circulation						17,611	SF	50.00	\$880,550	

3. Multi-Use Clubhouse

Description						Quantity	Unit	Unit Cost	Extension	Total
Level 3										\$6,122,040
Toilets						5,329	SF	55.00	\$293,095	
Kitchen						4,724	SF	75.00	\$354,300	
Dining						44,981	SF	85.00	\$3,823,385	
Office						2,773	SF	50.00	\$138,650	
Club Lounge						7,436	SF	85.00	\$632,060	
Circulation						17,611	SF	50.00	\$880,550	
Level 4										\$5,331,455
Toilets						3,842	SF	55.00	\$211,310	
Kitchen						3,065	SF	75.00	\$229,875	
Club Lounge						7,438	SF	85.00	\$632,230	
Jockey Club						8,687	SF	85.00	\$738,395	
Suites						32,047	SF	85.00	\$2,723,995	
Circulation						15,913	SF	50.00	\$795,650	
SPECIALTIES, EQUIPMENT, FURNISHINGS								12.55		\$5,132,403
Equipment and Building Specialties										\$1,431,815
Equipment and Building Specialties						409,090	SF	3.50	\$1,431,815	
Food Service Equipment										\$3,300,000
Food service equipment						1	Allow	3,300,000	\$3,300,000	
Seating										\$400,588
Fan seating in suites						1,001	EA	400	\$400,588	
ELEVATORS								12.91		\$5,280,000
Elevating Equipment										\$5,280,000
Elevators						32	Stops	40,000	\$1,280,000	
Escalators						16	EA	250,000	\$4,000,000	
FIRE PROTECTION								5.50		\$2,249,995
Fire Protection										\$2,249,995
Fire Sprinkler system						409,090	SF	5.50	\$2,249,995	
HVAC								40.91		\$16,734,285
Level 1										\$5,519,700
OTB						20,140	SF	45.00	\$906,300	
Entry Ticketing						7,993	SF	45.00	\$359,685	
Retail						904	SF	45.00	\$40,680	
Toilets						3,480	SF	45.00	\$156,600	
Kitchen						5,182	SF	90.00	\$466,380	
Museum / Café (Core and shell only)						1,692	SF	45.00	\$76,140	
History Center (Core and shell only)						7,200	SF	45.00	\$324,000	
Circulation						15,887	SF	45.00	\$714,915	
MEP/Maint./Storage/Misc.						55,000	SF	45.00	\$2,475,000	
Level 2										\$3,941,010
Toilets						5,329	SF	45.00	\$239,805	
Kitchen						4,724	SF	90.00	\$425,160	
Dining						44,981	SF	45.00	\$2,024,145	
Office						2,773	SF	45.00	\$124,785	
Club Lounge						7,436	SF	45.00	\$334,620	
Circulation						17,611	SF	45.00	\$792,495	

E.2– Project Cost Estimate

3. Multi-Use Clubhouse

Description						Quantity	Unit	Unit Cost	Extension	Total
112	Level 3									\$3,941,010
113	Toilets						5,329	SF	45.00	\$239,805
114	Kitchen						4,724	SF	90.00	\$425,160
115	Dining						44,981	SF	45.00	\$2,024,145
116	Office						2,773	SF	45.00	\$124,785
117	Club Lounge						7,436	SF	45.00	\$334,620
118	Circulation						17,611	SF	45.00	\$792,495
119	Level 4									\$3,332,565
121	Toilets						3,842	SF	45.00	\$172,890
122	Kitchen						3,065	SF	90.00	\$275,850
123	Club Lounge						7,438	SF	45.00	\$334,710
124	Jockey Club						8,687	SF	45.00	\$390,915
125	Suites						32,047	SF	45.00	\$1,442,115
126	Circulation						15,913	SF	45.00	\$716,085
127	PLUMBING									8.63 \$3,531,852
128	Level 1									\$1,136,336
130	OTB						20,140	SF	8.00	\$161,120
131	Entry Ticketing						7,993	SF	8.00	\$63,944
132	Retail						904	SF	15.00	\$13,560
133	Toilets						3,480	SF	15.00	\$52,200
134	Kitchen						5,182	SF	40.00	\$207,280
135	Museum / Café (Core and shell only)						1,692	SF	8.00	\$13,536
136	History Center (Core and shell only)						7,200	SF	8.00	\$57,600
137	Circulation						15,887	SF	8.00	\$127,096
138	MEP/Maint./Storage/Misc.						55,000	SF	8.00	\$440,000
139	Level 2									\$851,303
141	Toilets						5,329	SF	15.00	\$79,935
142	Kitchen						4,724	SF	40.00	\$188,960
143	Dining						44,981	SF	8.00	\$359,848
144	Office						2,773	SF	8.00	\$22,184
145	Club Lounge						7,436	SF	8.00	\$59,488
146	Circulation						17,611	SF	8.00	\$140,888
147	Level 3									\$851,303
149	Toilets						5,329	SF	15.00	\$79,935
150	Kitchen						4,724	SF	40.00	\$188,960
151	Dining						44,981	SF	8.00	\$359,848
152	Office						2,773	SF	8.00	\$22,184
153	Club Lounge						7,436	SF	8.00	\$59,488
154	Circulation						17,611	SF	8.00	\$140,888
155	Level 4									\$692,910
157	Toilets						3,842	SF	15.00	\$57,630
158	Kitchen						3,065	SF	40.00	\$122,600
159	Club Lounge						7,438	SF	8.00	\$59,504
160	Jockey Club						8,687	SF	8.00	\$69,496
161	Suites						32,047	SF	8.00	\$256,376
162	Circulation						15,913	SF	8.00	\$127,304
163										

3. Multi-Use Clubhouse

Description						Quantity	Unit	Unit Cost	Extension	Total
164	ELECTRICAL & FIRE ALARM									46.58 \$19,055,755
165	Level 1									\$6,003,450
166	OTB						20,140	SF	50.00	\$1,007,000
167	Entry Ticketing						7,993	SF	50.00	\$399,650
168	Retail						904	SF	50.00	\$45,200
169	Toilets						3,480	SF	50.00	\$174,000
170	Kitchen						5,182	SF	75.00	\$388,650
171	Museum / Café (Core and shell only)						1,692	SF	50.00	\$84,600
172	History Center (Core and shell only)						7,200	SF	50.00	\$360,000
173	Circulation						15,887	SF	50.00	\$794,350
174	MEP/Maint./Storage/Misc.						55,000	SF	50.00	\$2,750,000
175	Level 2									\$4,782,335
177	Toilets						5,329	SF	50.00	\$266,450
178	Kitchen						4,724	SF	75.00	\$354,300
179	Dining						44,981	SF	50.00	\$2,249,050
180	Office						2,773	SF	50.00	\$138,650
181	Club Lounge						7,436	SF	50.00	\$371,800
182	Circulation						17,611	SF	50.00	\$880,550
183	Rooftop Garden						22,175	SF	15.00	\$332,625
184	Balcony Terrace						12,594	SF	15.00	\$188,910
185	Level 3									\$4,453,910
187	Toilets						5,329	SF	50.00	\$266,450
188	Kitchen						4,724	SF	75.00	\$354,300
189	Dining						44,981	SF	50.00	\$2,249,050
190	Office						2,773	SF	50.00	\$138,650
191	Club Lounge						7,436	SF	50.00	\$371,800
192	Circulation						17,611	SF	50.00	\$880,550
193	Balcony Terrace						12,874	SF	15.00	\$193,110
194	Level 4									\$3,816,060
196	Toilets						3,842	SF	50.00	\$192,100
197	Kitchen						3,065	SF	75.00	\$229,875
198	Club Lounge						7,438	SF	50.00	\$371,900
199	Jockey Club						8,687	SF	50.00	\$434,350
200	Suites						32,047	SF	50.00	\$1,602,350
201	Circulation						15,913	SF	50.00	\$795,650
202	Vertical Circulation						1,616	SF	50.00	\$80,800
203	Balcony Terrace						7,269	SF	15.00	\$109,035
204	Roof									\$1,064,880
205	Balcony Terrace						70,992	SF	15.00	\$1,064,880
206										
207	LOW VOLTAGE									w/ 21, Technology
208										
209	DEMOLITION									w/ 1, Demolition & Site Clearing
210										
211	SITE WORK									\$613,635
212	Site Work									\$613,635
213	Hardscape, landscape at perimeter withing 5' of building						409,090	GSF	1.50	\$613,635
214										
215	SUBCONTRACTOR BONDING									3.90 \$1,594,769
216	Sub Bond / Subguard									\$1,594,769
217	Sub Bond / Subguard						132,897,398		1.20%	\$1,594,769
218										
219	TOTAL TRADE DIRECT COST									328.76 \$134,492,000
220										

E.2– Project Cost Estimate

Turner

Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

6. Palio

	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS					\$56,730
2	General Requirements					\$56,730
3	General Requirements	1	LS	56,730	\$56,730	
4						
5	EXCAVATION & FOUNDATIONS					No Work
6						
7	STRUCTURE					No Work
8					Temporary, w/ operations	
9						
10	EXTERIOR WALL					No Work
11						
12	ROOFING & WATERPROOFING					No Work
13						
14	INTERIOR CONSTRUCTION & FINISHES					No Work
15						
16	SPECIALTIES, EQUIPMENT, FURNISHINGS					No Work
17						
18	ELEVATORS					No Work
19						
20	FIRE PROTECTION					No Work
21						
22	HVAC					No Work
23						
24	PLUMBING					No Work
25						
26	ELECTRICAL & FIRE ALARM					\$125,000
27	Utility Vault					\$125,000
28	Utility vault allowance	1	LS	125,000	\$125,000	
29						
30	LOW VOLTAGE					No Work
31						
32	DEMOLITION					No Work
33						
34	SITE WORK					\$3,555,281
35	Site Work					\$3,555,281
36	Excavation - Depressed Area	4,142	CY	30,00	\$124,253	
37	Paver System (Precast)	52,005	SF	30,00	\$1,560,150	
38	Retaining Walls (forming stadia at depressed inner area)	3,725	SF	70,00	\$260,750	
39	Retaining Walls (forming ramps into depressed inner area)	1,200	SF	70,00	\$84,000	
40	Landscaping - Trees, bushes, etc.	52,005	SF	5,00	\$260,025	
41	Site Concrete Paving, Sidewalk & Curbs	52,005	SF	8,00	\$416,040	
42	Misc Buildings - Maintenance, Manure, Testing, Warming, etc.				Temporary, w/ operations	
43	Fencing				Temporary, w/ operations	
44	Site Misc Metals / Railing / Specialties	1	Allow	200,000	\$200,000	
45	Site Drainage	52,005	SF	5,00	\$260,025	
46	Site Lighting	52,005	SF	7,50	\$390,038	
47	Storm Water Retention and Ponds				storm water with RK&K	
48						
49	SUBCONTRACTOR BONDING					\$44,844
50	Sub Bond / Subguard					\$44,844
51	Sub Bond / Subguard	3,737,011		1,20%	\$44,844	
52						
53	TOTAL TRADE DIRECT COST					\$3,782,000

Turner

Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

7. Hardscape Areas

	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS					\$31,095
2	General Requirements					\$31,095
3	General Requirements	1	LS	31,095	\$31,095	
4						
5	EXCAVATION & FOUNDATIONS					No Work
6						
7	STRUCTURE					No Work
8						
9	EXTERIOR WALL					No Work
10						
11	ROOFING & WATERPROOFING					No Work
12						
13	INTERIOR CONSTRUCTION & FINISHES					No Work
14						
15	SPECIALTIES, EQUIPMENT, FURNISHINGS					No Work
16						
17	ELEVATORS					No Work
18						
19	FIRE PROTECTION					No Work
20						
21	HVAC					No Work
22						
23	PLUMBING					No Work
24						
25	ELECTRICAL & FIRE ALARM					No Work
26						
27	LOW VOLTAGE					No Work
28						
29	DEMOLITION					No Work
30						
31	SITE WORK					\$2,017,553
32	Hardscape area #1					\$358,118
33	Excavation to Pavement Subgrade	270	CY	30,00	\$8,102	
34	Pavement	10,938	SF	20,00	\$218,760	
35	Site Lighting	10,938	SF	5,00	\$54,690	
36	Landscaping, Drainage, Specialties	10,938	SF	7,00	\$76,566	
37						
38	Hardscape area #2					\$528,995
39	Excavation to Pavement Subgrade	186	CY	30,00	\$5,566	
40	Pavement allowance (25% of total area)	7,514	SF	20,00	\$150,270	
41	Import & spread topsoil (4")	278	CY	32,00	\$8,905	
42	Grass seeding	22,541	SF	0,16	\$3,606	
43	Site Lighting	30,054	SF	5,00	\$150,270	
44	Landscaping, Drainage, Specialties	30,054	SF	7,00	\$210,378	
45						
46	Hardscape area #3					\$1,130,440
47	Excavation to Pavement Subgrade	853	CY	30,00	\$25,576	
48	Pavement	34,527	SF	20,00	\$690,540	
49	Site Lighting	34,527	SF	5,00	\$172,635	
50	Landscaping, Drainage, Specialties	34,527	SF	7,00	\$241,689	
51						
52	SUBCONTRACTOR BONDING					\$24,584
53	Sub Bond / Subguard					\$24,584
54	Sub Bond / Subguard	2,048,648		1,20%	\$24,584	
55						
56	TOTAL TRADE DIRECT COST					\$2,073,000

E.2– Project Cost Estimate

9. Multi-Use Clubhouse Road

Description						Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS									\$6,950
2	General Requirements									\$6,950
3	General Requirements									
4										
5	EXCAVATION & FOUNDATIONS									No Work
6										
7	STRUCTURE									No Work
8										
9	EXTERIOR WALL									No Work
10										
11	ROOFING & WATERPROOFING									No Work
12										
13	INTERIOR CONSTRUCTION & FINISHES									No Work
14										
15	SPECIALTIES, EQUIPMENT, FURNISHINGS									No Work
16										
17	ELEVATORS									No Work
18										
19	FIRE PROTECTION									No Work
20										
21	HVAC									No Work
22										
23	PLUMBING									No Work
24										
25	ELECTRICAL & FIRE ALARM									No Work
26										
27	LOW VOLTAGE									No Work
28										
29	DEMOLITION									No Work
30										
31	SITE WORK									\$267,684
32	Site Work									\$267,684
33	Excavation to Pavement Subgrade									
34	Pavement									
35	Curb and gutter									
36	Sidewalk									
39	Site Lighting									
40	Landscaping, Drainage, Specialties									
41										
42	SUBCONTRACTOR BONDING									\$3,296
43	Sub Bond / Subguard									\$3,296
44	Sub Bond / Subguard									
45										
46	TOTAL TRADE DIRECT COST									\$278,000

13.b. Power & Data Required for Preakness Event

Description						Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS									\$20,040
2	General Requirements									\$20,040
3	General Requirements									
4										
5	EXCAVATION & FOUNDATIONS									No Work
6										
7	STRUCTURE									No Work
8										
9	EXTERIOR WALL									No Work
10										
11	ROOFING & WATERPROOFING									No Work
12										
13	INTERIOR CONSTRUCTION & FINISHES									No Work
14										
15	SPECIALTIES, EQUIPMENT, FURNISHINGS									No Work
16										
17	ELEVATORS									No Work
18										
19	FIRE PROTECTION									No Work
20										
21	HVAC									No Work
22										
23	PLUMBING									No Work
24										
25	ELECTRICAL & FIRE ALARM									No Work
26										
27	LOW VOLTAGE									No Work
28										
29	DEMOLITION									No Work
30										
31	SITE WORK									\$1,300,000
32	Shore Power and Data for Temporary Overlay									\$1,300,000
33	Power & Data points									
34	Security / Access: Allow two outlets @ 8A each									
35	Security / Access: Allow two outlets @ 10A each									
36	Security / Access: Allow two outlets @ 10A each									
37	Security / Access: Allow two outlets @ 10A each									
38	Amphitheater: 100A service @ 480V									
39	Stage Area 1: 150A service @ 480V each, at two locations									
40	Stage Area 2: 150A service @ 480V each, at two locations									
41	Equestrian Area: 100A service @ 480V									
42	Lounge: Small lounge area (2 outlets)									
43	Lounge: Large (3 outlets) lounge area									
44	Suites: Two outlets @ 10A each									
45	Track View Dining: Three outlets @10A each									
46	Track View Dining / Suite: Four outlets @10A each									
47	Track View Dining / Suite: Three outlets @10A each									
48	Reserved Box / Suite: Two outlets @ 10A each									
49	Misc. Excavation & Backfill / Soil Stabilization Allowance									
50	Underground Concrete Encasement Allowance									
51	BGE Coordination Scope Allowance									
52	Survey and Layout Allowance									
53										
54	SUBCONTRACTOR BONDING									\$15,840
55	Sub Bond / Subguard									\$15,840
56	Sub Bond / Subguard									
57										
58	TOTAL TRADE DIRECT COST									\$1,336,000

21. Technology						
	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS					No Work
2						
3	EXCAVATION & FOUNDATIONS					No Work
4						
5	STRUCTURE					No Work
6						
7	EXTERIOR WALL					No Work
8						
9	ROOFING & WATERPROOFING					No Work
10						
11	INTERIOR CONSTRUCTION & FINISHES					No Work
12						
13	SPECIALTIES, EQUIPMENT, FURNISHINGS					No Work
26						
27	ELEVATORS					No Work
28						
29	FIRE PROTECTION					No Work
30						
31	HVAC					No Work
32						
33	PLUMBING					No Work
34						
35	ELECTRICAL & FIRE ALARM					No Work
36						
37	LOW VOLTAGE					\$12,000,000
14	Technology					\$12,000,000
15	Off Track Betting (OTB)			With Operations		
16	Broadcast Cabling System - Network	1	Allow	1,000,000	\$1,000,000	
17	Broadcast Cabling System - OTB	1	Allow	500,000	\$500,000	
18	Security	1	Allow	4,000,000	\$4,000,000	
19	WiFi	1	Allow	1,000,000	\$1,000,000	
20	Telecom / Data	1	Allow	1,000,000	\$1,000,000	
21	Sound system	1	Allow	1,500,000	\$1,500,000	
22	Scoreboard			Not Required		
23	Timers			With Operations		
24	DAS	1	Allow	1,000,000	\$1,000,000	
25	Large Television/Video Screen	1	Allow	2,000,000	\$2,000,000	
39	DEMOLITION					No Work
40						
41	SITE WORK					No Work
42						
43	SUBCONTRACTOR BONDING					\$144,000
44	Sub Bond / Subguard					\$144,000
45	Sub Bond / Subguard	12,000,000		1.20%	\$144,000	
46						
47	TOTAL TRADE DIRECT COST					\$12,144,000

E.2– Project Cost Estimate

Add Alternate 1, Suite Tower						
	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS			7.42		\$444,940
2	General Requirements					\$444,940
3	General Requirements	1	LS	444,940	\$444,940	
4						
5	EXCAVATION & FOUNDATIONS			12.00		\$719,568
6	Excavation and Foundations					\$719,568
7	Shallow spread footing foundation system & slab on grade	59,964	GSF	12.00	\$719,568	
8						
9	STRUCTURE			58.99		\$3,536,994
10	Structural Frame - steel frame, metal deck, concrete fill					\$2,937,354
11	Structure Level 2	20,188	GSF	48.50	\$979,118	
12	Structure Level 3	20,188	GSF	48.50	\$979,118	
13	Structure Roof Level	20,188	GSF	48.50	\$979,118	
14	Suite tower rooftop canopy				Not Required	
15						
16	Structural Frame - Additional Items					\$599,640
17	Misc Metals	59,964	GSF	6.00	\$359,784	
18	Spray applied fireproofing	59,964	GSF	4.00	\$239,856	
19						
20	EXTERIOR WALL			72.43		\$4,343,125
21	Exterior Wall					\$4,343,125
22	Exterior Wall	33,341	SFCA	125.00	\$4,167,625	
23	Balcony / Terrace railings	390	LF	450.00	\$175,500	
24						
25	ROOFING & WATERPROOFING			8.44		\$505,960
26	Roofing and Waterproofing					\$505,960
27	Roofing	20,188	SF	20.00	\$403,760	
28	Balcony / Terrace premium	4,088	SF	25.00	\$102,200	
29	Copings, Flashing, Roof Acc., Etc.				Included	
30						
31	INTERIOR CONSTRUCTION & FINISHES			71.19		\$4,268,805
32	Level 1					\$1,498,025
33	Entry Ticketing	1,933	SF	65.00	\$125,645	
34	Toilets	800	SF	55.00	\$44,000	
35	Kitchen	1,564	SF	75.00	\$117,300	
36	Club Lounge	1,108	SF	85.00	\$94,180	
37	Dining	1,657	SF	85.00	\$140,845	
38	Suites	9,993	SF	85.00	\$849,405	
39	Circulation	2,533	SF	50.00	\$126,650	
40						
41	Level 2					\$1,385,390
42	Toilets	800	SF	55.00	\$44,000	
43	Kitchen	818	SF	75.00	\$61,350	
44	Dining	1,863	SF	85.00	\$158,355	
45	Club Lounge	1,108	SF	85.00	\$94,180	
46	Suites	9,993	SF	85.00	\$849,405	
47	Circulation	3,562	SF	50.00	\$178,100	
48						
49	Level 3					\$1,385,390
50	Toilets	800	SF	55.00	\$44,000	
51	Kitchen	818	SF	75.00	\$61,350	
52	Dining	1,863	SF	85.00	\$158,355	
53	Club Lounge	1,108	SF	85.00	\$94,180	
54	Suites	9,993	SF	85.00	\$849,405	
55	Circulation	3,562	SF	50.00	\$178,100	
56						

Add Alternate 1, Suite Tower						
	Description	Quantity	Unit	Unit Cost	Extension	Total
57	SPECIALTIES, EQUIPMENT, FURNISHINGS			20.92		\$1,254,630
58	Equipment and Building Specialties					\$179,892
59	Equipment and Building Specialties	59,964	GSF	3.00	\$179,892	
60						
61	Food Service Equipment					\$700,000
62	Food service equipment	1	Allow	700,000	\$700,000	
63						
64	Seating					\$374,738
65	Fan seating in suites	937	EA	400	\$374,738	
66						
67	ELEVATORS			5.25		\$315,000
68	Elevating Equipment					\$315,000
69	Elevators	9	Stops	35,000	\$315,000	
70	Escalators				Not Required	
71						
72	FIRE PROTECTION			5.50		\$329,802
73	Fire Protection					\$329,802
74	Fire Sprinkler system	59,964	GSF	5.50	\$329,802	
75						
76	HVAC			44.33		\$2,658,420
77	Level 1					\$951,840
78	Entry Ticketing	1,933	SF	45.00	\$86,985	
79	Toilets	800	SF	45.00	\$36,000	
80	Kitchen	1,564	SF	90.00	\$140,760	
81	Club Lounge	1,108	SF	45.00	\$49,860	
82	Dining	1,657	SF	45.00	\$74,565	
83	Suites	9,993	SF	45.00	\$449,685	
84	Circulation	2,533	SF	45.00	\$113,985	
85						
86	Level 2					\$853,290
87	Toilets	800	SF	45.00	\$36,000	
88	Kitchen	818	SF	90.00	\$73,620	
89	Dining	1,863	SF	45.00	\$83,835	
90	Club Lounge	1,108	SF	45.00	\$49,860	
91	Suites	9,993	SF	45.00	\$449,685	
92	Circulation	3,562	SF	45.00	\$160,290	
93						
94	Level 3					\$853,290
95	Toilets	800	SF	45.00	\$36,000	
96	Kitchen	818	SF	90.00	\$73,620	
97	Dining	1,863	SF	45.00	\$83,835	
98	Club Lounge	1,108	SF	45.00	\$49,860	
99	Suites	9,993	SF	45.00	\$449,685	
100	Circulation	3,562	SF	45.00	\$160,290	
101						
102	PLUMBING			9.44		\$566,208
103	Level 1					\$212,352
104	Entry Ticketing	1,933	SF	8.00	\$15,464	
105	Toilets	800	SF	15.00	\$12,000	
106	Kitchen	1,564	SF	40.00	\$62,560	
107	Club Lounge	1,108	SF	8.00	\$8,864	
108	Dining	1,657	SF	8.00	\$13,256	
109	Suites	9,993	SF	8.00	\$79,944	
110	Circulation	2,533	SF	8.00	\$20,264	
111						



Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

E.2– Project Cost Estimate

Add Alternate 2. Equestrian Component						
	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS			4.57		\$352,540
2	General Requirements					\$352,540
3	General Requirements	1	LS	352,540	\$352,540	
4						
5	EXCAVATION & FOUNDATIONS			12.00		\$926,292
6	Excavation and Foundations					\$926,292
7	Shallow spread footing foundation system and slab on grade	77,191	GSF	12.00	\$926,292	
8						
9	STRUCTURE			61.76		\$4,767,337
10	Structural Frame					\$4,265,595
11	Indoor Arena - high roof structure	26,400	SF	75.00	\$1,980,000	
12	Covered Connector - Trailer Loading	3,559	SF	45.00	\$160,155	
13	Mounted Police / Therapy - Level 2	32,832	SF	45.00	\$1,477,440	
14	Mounted Police / Therapy - Roof Level	14,400	SF	45.00	\$648,000	
15						
16	Structural Frame, Additional Items					\$501,742
17	Misc Metals	77,191	GSF	2.50	\$192,978	
18	Spray applied fireproofing	77,191	SF	4.00	\$308,764	
19						
20	EXTERIOR WALL			32.89		\$2,539,185
21	Exterior Wall					\$2,539,185
22	Exterior wall systems at Equine Facilities	46,167	SF	55.00	\$2,539,185	
23						
24	ROOFING & WATERPROOFING			30.26		\$2,335,820
25	Roofing and Waterproofing					\$2,335,820
26	Roofing of buildings	50,791	SF	20.00	\$1,015,820	
27	Roofing of arena	26,400	SF	50.00	\$1,320,000	
28	Copings, Flashing, Roof Acc., Etc.				Included	
29						
30	INTERIOR CONSTRUCTION & FINISHES			32.99		\$2,546,915
31	Interior Construction					\$2,546,915
32	Indoor Arena	26,400	SF	25.00	\$660,000	
33	Covered Connector - Trailer Loading	3,559	SF	5.00	\$17,795	
34	Mounted Police - Offices/Support	7,200	SF	50.00	\$360,000	
35	Mounted Police12 - stall barn wing	16,416	SF	35.00	\$574,560	
36	Therapy Center - Offices/Support	7,200	SF	50.00	\$360,000	
37	Therapy Center - 12 stall barn wing	16,416	SF	35.00	\$574,560	
38						
39	SPECIALTIES, EQUIPMENT, FURNISHINGS			6.00		\$463,146
40	Equipment and Building Specialties					\$463,146
41	Equipment and Building Specialties	77,191	SF	6.00	\$463,146	
42						
43	ELEVATORS			2.59		\$200,000
44	Elevating Equipment					\$200,000
45	Elevators (2 ea, 2 stops)	4	Stops	50,000	\$200,000	
46						
47	FIRE PROTECTION			4.00		\$308,764
48	Fire Protection					\$308,764
49	Fire Sprinkler system	77,191	SF	4.00	\$308,764	
50						
51	HVAC			17.34		\$1,338,275
52	HVAC					\$1,338,275
53	Indoor Arena	26,400	SF	15.00	\$396,000	
54	Covered Connector - Trailer Loading	3,559	SF	5.00	\$17,795	
55	Mounted Police - Offices/Support	7,200	SF	30.00	\$216,000	
56	Mounted Police12 - stall barn wing	16,416	SF	15.00	\$246,240	
57	Therapy Center - Offices/Support	7,200	SF	30.00	\$216,000	
58	Therapy Center - 12 stall barn wing	16,416	SF	15.00	\$246,240	

E.2– Project Cost Estimate

Turner

December 2018

Pimlico Race Course Phase 2 Study

Rough Order of Magnitude

Cost of Construction Estimate

Add Alternate 2. Equestrian Component

	Description	Quantity	Unit	Unit Cost	Extension	Total
59						
60	PLUMBING			5.33		\$411,360
61	Plumbing					\$411,360
62	Indoor Arena	26,400	SF	5.00	\$132,000	
63	Covered Connector - Trailer Loading				N/A	
64	Mounted Police - Offices/Support	7,200	SF	8.00	\$57,600	
65	Mounted Police12 - stall barn wing	16,416	SF	5.00	\$82,080	
66	Therapy Center - Offices/Support	7,200	SF	8.00	\$57,600	
67	Therapy Center - 12 stall barn wing	16,416	SF	5.00	\$82,080	
68						
69	ELECTRICAL & FIRE ALARM			12.41		\$958,115
70	Electrical and Fire Alarm					\$958,115
71	Indoor Arena	26,400	SF	15.00	\$396,000	
72	Covered Connector - Trailer Loading	3,559	SF	5.00	\$17,795	
73	Mounted Police - Offices/Support	7,200	SF	15.00	\$108,000	
74	Mounted Police12 - stall barn wing	16,416	SF	10.00	\$164,160	
75	Therapy Center - Offices/Support	7,200	SF	15.00	\$108,000	
76	Therapy Center - 12 stall barn wing	16,416	SF	10.00	\$164,160	
77						
78	LOW VOLTAGE				w/ 21. Technology	
79						
80	DEMOLITION					No Work
81						
82	SITE WORK			3.50		\$270,169
83	Site Work					\$270,169
84	Hardscape, landscape at perimeter withing 5' of building	77,191	GSF	3.50	\$270,169	
85						
86	SUBCONTRACTOR BONDING			2.71		\$209,015
87	Sub Bond / Subguard					\$209,015
88	Sub Bond / Subguard	17,417,917		1.20%	\$209,015	
89						
90	TOTAL TRADE DIRECT COST			228.36		\$17,627,000

Turner

December 2018

Pimlico Race Course Phase 2 Study

Rough Order of Magnitude

Cost of Construction Estimate

Add Alternate 3. Alternative Construction Schedule

	Description	Quantity	Unit	Unit Cost	Extension	Total
1	1. Demolition & Site Clearing					\$1,951,146
2	Building Demolition				No change	
3	Site Clearing and Site Demolition				TBD	
4	Demobilization / Remobilization	1	Allow	\$50,000	\$50,000	
5	Extended Schedule (General conditions and inefficiency)	3	Months	\$275,000	\$825,000	
6	Time Impact due to late start	\$3,045,857	Allow	2.50%	\$76,146	
7		6	Months	0.42%		
8	Additional scope due to phasing	1	Allow	\$1,000,000	\$1,000,000	
9	Temporary paving/removal				Inc. Above	
10	Temporary utilities				Inc. Above	
11	Temporary E&S and storm management				Inc. Above	
12						
13	2. Track & Infields					\$490,979
14	Time Impact due to Late Start	\$17,231,000		2.08%	\$358,979	
15		5	Months	0.42%		
16	Acceleration / overtime due to phasing	2	Months	\$66,000	\$132,000	
17						
18	3. Multi-Use Clubhouse (4 Levels)					\$5,185,667
19	Time Impact due to late start	\$134,492,000		2.08%	\$2,801,917	
20		5	Months	0.42%		
21	Demobilization / Remobilization	1	Allow	\$100,000	\$100,000	
22	Extended Schedule (General conditions and inefficiency)	3	Months	\$541,250	\$1,623,750	
23	Acceleration / overtime due to phasing	2	Months	\$330,000	\$660,000	
24						
25	6. Palio					\$906,517
26	Time Impact due to late start	\$3,782,000		0.83%	\$31,517	
27		2	Months	0.42%		
28	Demobilization / Remobilization	1	Allow	\$50,000	\$50,000	
29	Extended Schedule (General conditions and inefficiency)	3	Months	\$275,000	\$825,000	
30						
31	7. Hardscape Areas					\$8,638
32	Time Impact due to late start	\$2,073,000		0.42%	\$8,638	
33		1	Months	0.42%		
34						
35	9. Multi-Use Clubhouse Road					\$5,792
36	Time Impact due to late start	\$278,000		2.08%	\$5,792	
37		5	Months	0.42%		
38						
39	12. Tunnel #2					\$262,083
40	Time Impact due to late start	\$3,700,000		2.08%	\$77,083	
41		5	Months	0.42%		
42	Additional scope & time extension due to phasing	\$3,700,000	Allow	5.00%	\$185,000	
43						
44	13a. Infrastructure Roads, Signals, and Main Utility Lines					\$3,878,763
45	Time Impact due to late start	\$54,759,000		2.08%	\$1,140,813	
46		5	Months	0.42%		
47	Additional scope & time extension due to phasing	\$54,759,000	Allow	5.00%	\$2,737,950	
48						
49	13b. Permanent Power & Data Required for Preakness Event					\$94,633
50	Time Impact due to late start	\$1,336,000		2.08%	\$27,833	
51		5	Months	0.42%		
52	Additional scope & time extension due to phasing	\$1,336,000	Allow	5.00%	\$66,800	
53						
54						

E.2– Project Cost Estimate

Add Alternate 3. Alternative Construction Schedule						
Description		Quantity	Unit	Unit Cost	Extension	Total
56	14. Stormwater Management					\$294,100
56	Time Impact due to late start	\$4,152,000		2.08%	\$86,500	
57			5 Months	0.42%		
58	Additional scope & time extension due to phasing	\$4,152,000	Allow	5.00%	\$207,600	
59						
60	21. Technology Systems					\$253,000
61	Time Impact due to late start	\$12,144,000		2.08%	\$253,000	
62			5 Months	0.42%		
63						
64	TOTAL TRADE DIRECT COST					\$13,331,000

Add Alternate 4. District One Parking Structure						
	Description	Quantity	Unit	Unit Cost	Extension	Total
1	GENERAL REQUIREMENTS					\$193,425
2	General Requirements					\$193,425
3	General Requirements	1	LS	193,425	\$193,425	
4						
5	EXCAVATION & FOUNDATIONS					\$2,070,000
6	Excavation and Foundations					\$2,070,000
7	Shallow spread footing foundation system and slab on grade	207,000	GSF	10.00	\$2,070,000	
8						
9	STRUCTURE					\$6,210,000
10	Structure					\$6,210,000
11	CIP / Precast concrete structure	207,000	GSF	30.00	\$6,210,000	
12						
13	EXTERIOR WALL					\$1,242,000
14	Exterior Wall					\$1,242,000
15	Parking area spandrel panels, Elevator / stair tower enclosure	207,000	GSF	6.00	\$1,242,000	
16						
17	ROOFING & WATERPROOFING					\$155,250
18	Roofing & Waterproofing					\$155,250
19	Stair tower roof, misc waterproof	207,000	GSF	0.75	\$155,250	
20						
21	INTERIOR CONSTRUCTION & FINISHES					\$310,500
22	Interior Construction & Finishes					\$310,500
23	Walls, stairs, railings, paint	207,000	GSF	1.50	\$310,500	
24						
25	SPECIALTIES, EQUIPMENT, FURNISHINGS					\$31,050
26	Specialties, Equipment, Furnishings					\$31,050
27	Miscellaneous specialties	207,000	GSF	0.15	\$31,050	
28						
29	ELEVATORS					\$310,500
30	Elevators					\$310,500
31	2 4-stop elevators	207,000	GSF	1.50	\$310,500	
32						
33	FIRE PROTECTION					\$103,500
34	Fire Protection					\$103,500
35	Stand pipes only, open garage non-sprinklered	207,000	GSF	0.50	\$103,500	
36						
37	HVAC					\$51,750
38	HVAC					\$51,750
39	Miscellaneous ventilation fans, unit heaters	207,000	GSF	0.25	\$51,750	
40						
41	PLUMBING					\$1,914,750
42	Plumbing					\$258,750
43	Rain leaders & drains	207,000	GSF	1.25	\$258,750	
44						
45	ELECTRICAL & FIRE ALARM					\$828,000
46	Electrical					\$828,000
47	Power, lighting	207,000	GSF	4.00	\$828,000	
48						
49	LOW VOLTAGE					\$20,700
50	Low Voltage					\$20,700
51	Miscellaneous security infrastructure	207,000	GSF	0.10	\$20,700	
52						
53	DEMOLITION					No Work
54						
55	SITE WORK					\$155,250
56	Site Work					\$155,250

E.2– Project Cost Estimate



Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

Add Alternate 4. District One Parking Structure

Description							Quantity	Unit	Unit Cost	Extension	Total
57	Hardscape, landscape at perimeter withing 5' of building						207,000	GSF	0.75	\$155,250	
58											
59	SUBCONTRACTOR BONDING										\$126,063
60	Sub Bond / Subguard										\$126,063
61	Sub Bond / Subguard						10,505,250		1.20%	\$126,063	
62											
63	TOTAL TRADE DIRECT COST										\$12,895,000

Cost Estimate Area Summary



Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate

December 2018

Building Area Summary

LEVEL	3. Multi-Use Clubhouse			8. District One Parking Structure		Alt 1. Suite Tower			Alt 2. Equestrian Component		
	Enclosed GSF	Non Enclosed GSF	Total GSF	Total GSF	Cars	Enclosed GSF	Non Enclosed GSF	Total GSF	Enclosed GSF	Non Enclosed GSF	Total GSF
LEVEL											
Level 4	70,992	7,269	78,261	39,600	113						
Toilets	3,842										
Kitchen	3,065										
Dining	-										
Club Lounge	7,438										
Jockey Club	8,687										
Suites	32,047										
Circulation	14,297										
Vertical Circulation	1,616										
MEP/Maint./Storage/Misc.	-										
Balcony Terrace		7,269									
Level 3	82,854	12,874	95,728	55,800	159	18,144	2,044	20,188			
Toilets	5,329					800					
Kitchen	4,724					818					
Dining	44,981					1,863					
Office	2,773					-					
Club Lounge	7,436					1,108					
Suites	-					9,993					
Circulation	15,853					3,158					
Vertical Circulation	1,758					404					
MEP/Maint./Storage/Misc.	-					-					
Balcony Terrace		12,874				-	2,044				
Level 2	82,854	34,769	117,623	55,800	159	18,144	2,044	20,188	14,400	-	14,400
Toilets	5,329					800					
Kitchen	4,724					818					
Dining	44,981					1,863					
Office	2,773					-			14,400		
Club Lounge	7,436					1,108					
Suites	-					9,993					
Circulation	15,853					3,158					
Vertical Circulation	1,758					404					
MEP/Maint./Storage/Misc.	-					-					
Rooftop Garden		22,175				-	-				
Balcony Terrace		12,594					2,044				
Level 1	117,478		117,478	55,800	159	19,588		19,588	59,232	3,559	62,791
OTB	20,140					-					
Entry Ticketing	7,993					1,933					
Retail	904					-					
Toilets	3,480					800					
Kitchen	5,182					1,564					
Museum / Café	1,692					-					
History Center	7,200					-					
Club Lounge	-					1,108					
Dining	-					1,657					
Suites	-					9,993					
Circulation	14,129					2,129					
Vertical Circulation	1,758					404					
MEP/Maint./Storage/Misc.	55,000					-					
Police / Therapy stalls	-					-			32,832		
Indoor Arena	-					-			26,400		
Covered Connector	-					-				3,559	
Total	354,178	54,912	409,090	207,000	590	55,876	4,088	59,964	73,632	3,559	77,191

COST ESTIMATE






















Area Summary

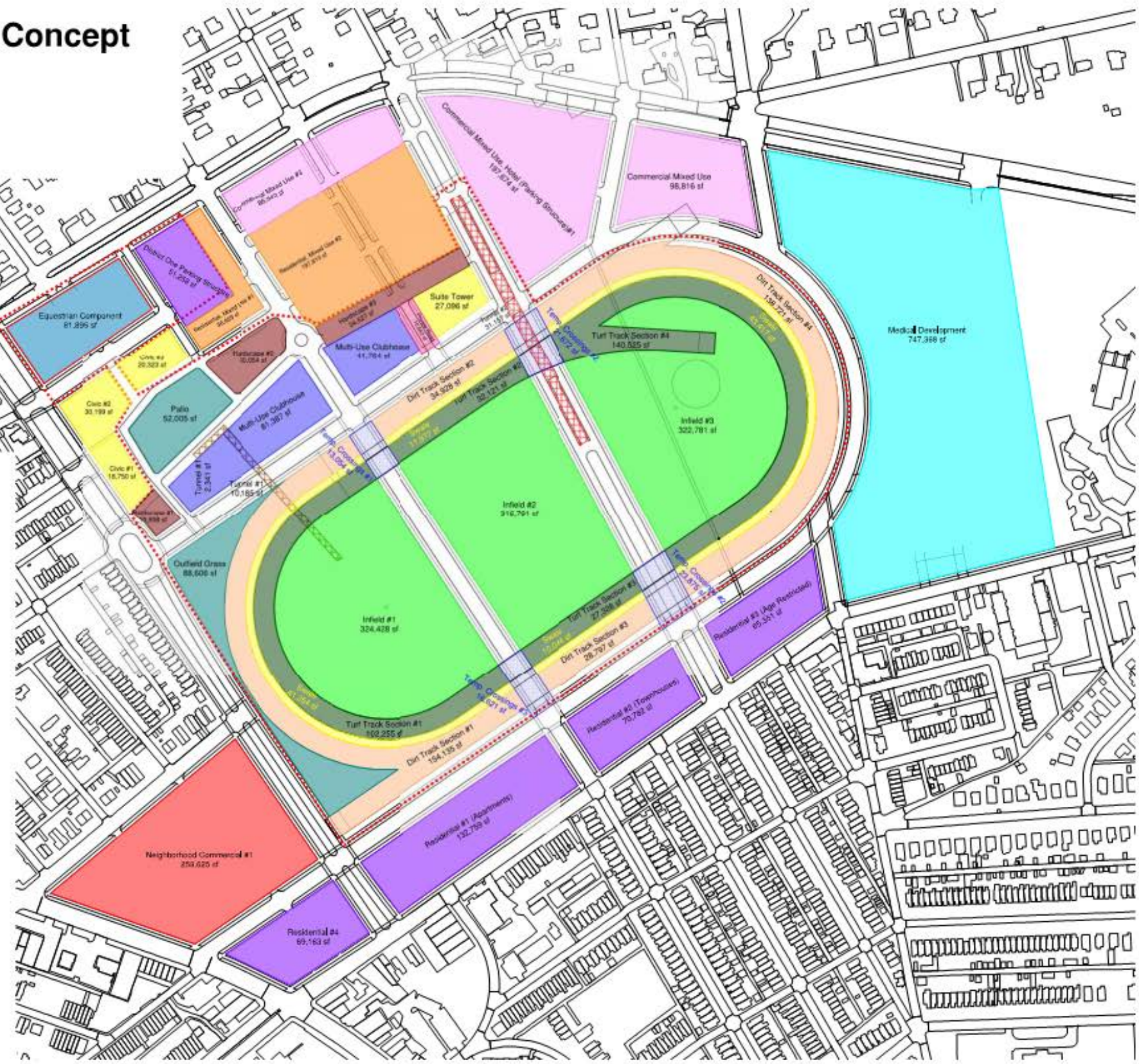


COST ESTIMATE

Takeoff Attachments

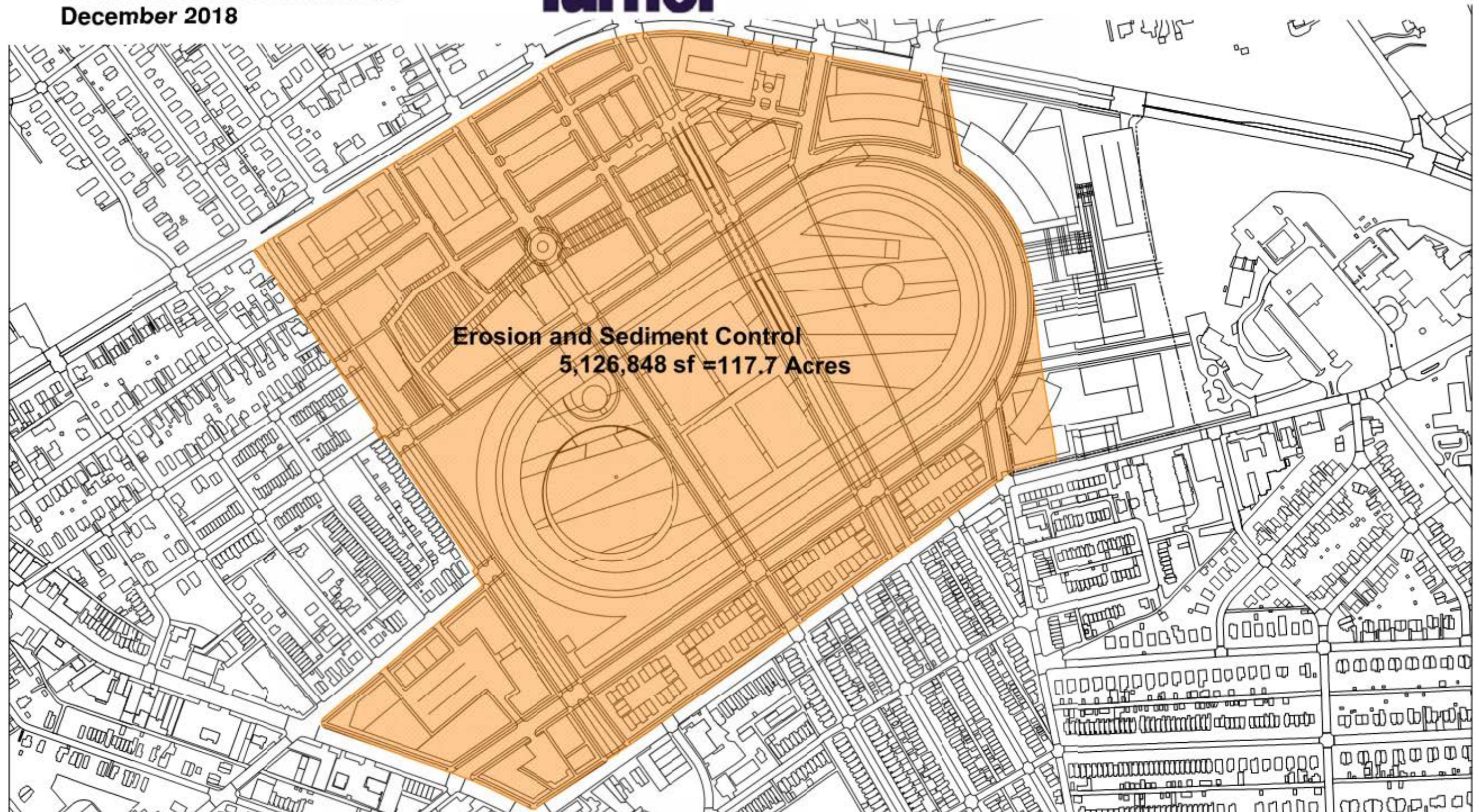
Pimlico Race Course Concept
Master Plan Scope
Identification Markup
December 2018

Legend			
	Description	Quantity	Unit
	2.a.) Dirt Track	356,583	sf
	2.b.) Turf Track	302,229	sf
	2.c.) Temporary Track Crossing	75,222	sf
	2.d.) Swale (Between Tracks)	106,786	sf
	2.e.) Infield	964,000	sf
	2.f.) Outfield Grass	88,606	sf
	2.g.) Tunnel #1	12,526	sf
	3.) Multi-Use Clubhouse	123,151	sf
	4.) Suite Tower	27,096	sf
	5.) Equestrian Component	81,896	sf
	6.) Palio	52,004	sf
	7.) Hardscape	75,517	sf
	8.) District One Parking Structure	51,258	sf
	9.) Private Roads	10,642	sf
	12.) Tunnel #2	31,157	sf
	15.) Civic	69,272	sf
	16.) Commercial Mixed Use, Hotel	383,022	sf
	17.) Neighborhood Commercial	259,625	sf
	18.) Residential	338,055	sf
	19.) Residential, Mixed Use	234,808	sf
	20.) Medical Development	747,367	sf
	Scope of Work Boundary	1	Count



**Pimlico Race Course Phase 2 Study
Erosion and Sediment Control
December 2018**

Turner



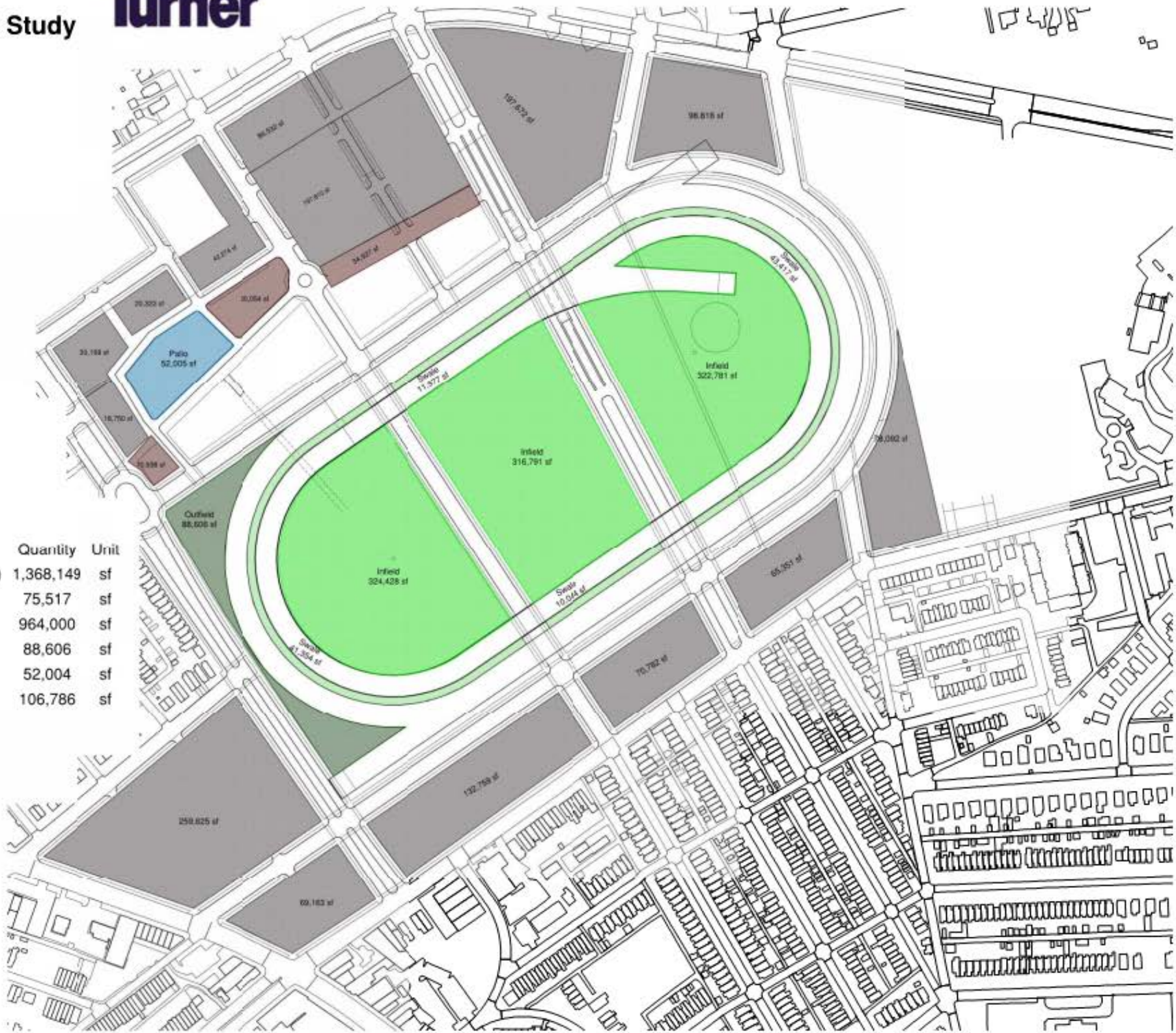
Pimlico Race Course Phase 2 Study
Demolition Takeoff
December 2018



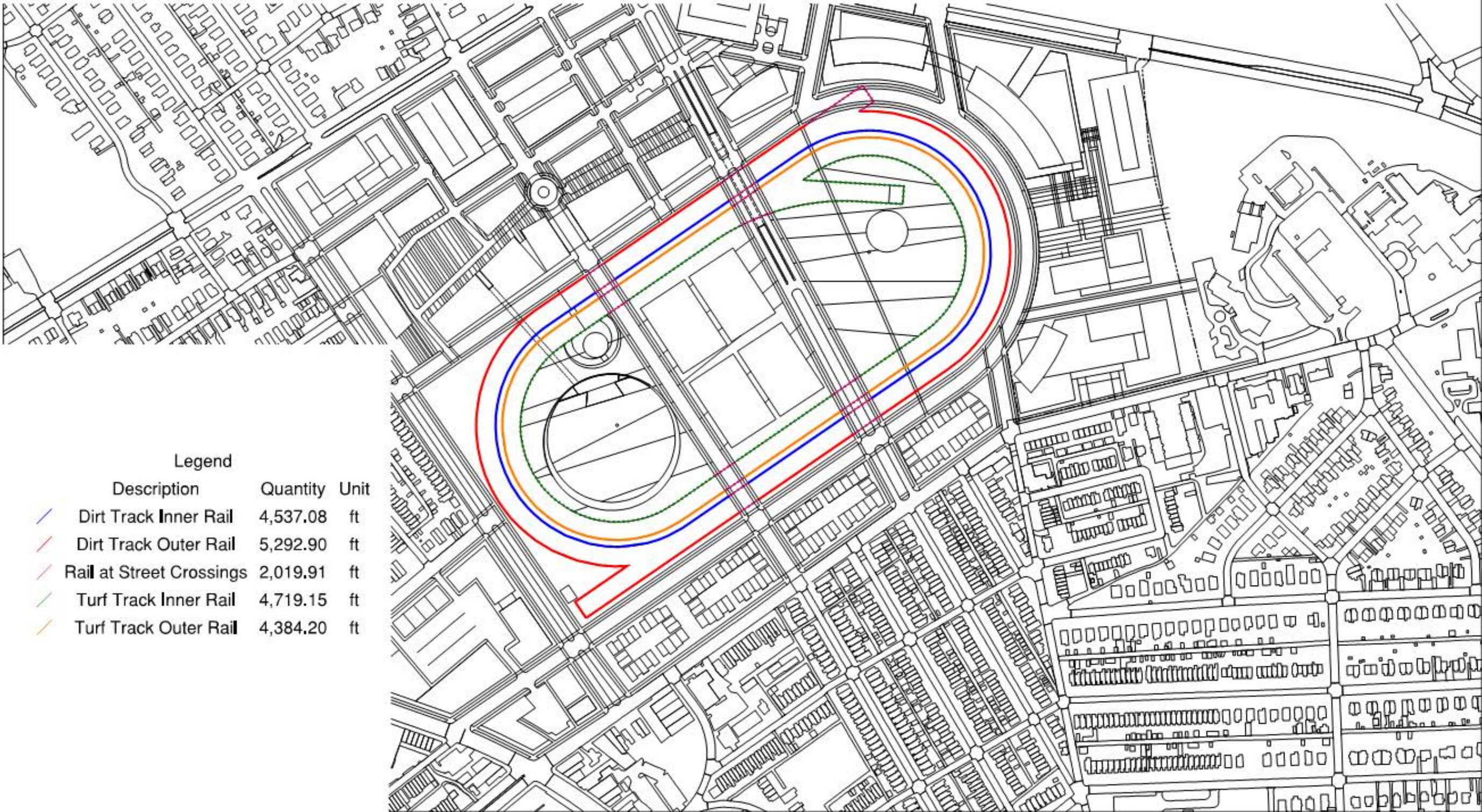
Pimlico Race Course Phase 2 Study
Takeoff, Topsoil Import
December 2018



Legend		
	Description	
	Future Development, Seeding (No topsoil import)	1,368,149 sf
	Topsoil Import - Hardscape	75,517 sf
	Topsoil Import - Infield	964,000 sf
	Topsoil Import - Outfield	88,606 sf
	Topsoil Import - Palio	52,004 sf
	Topsoil Import - Swale	106,786 sf

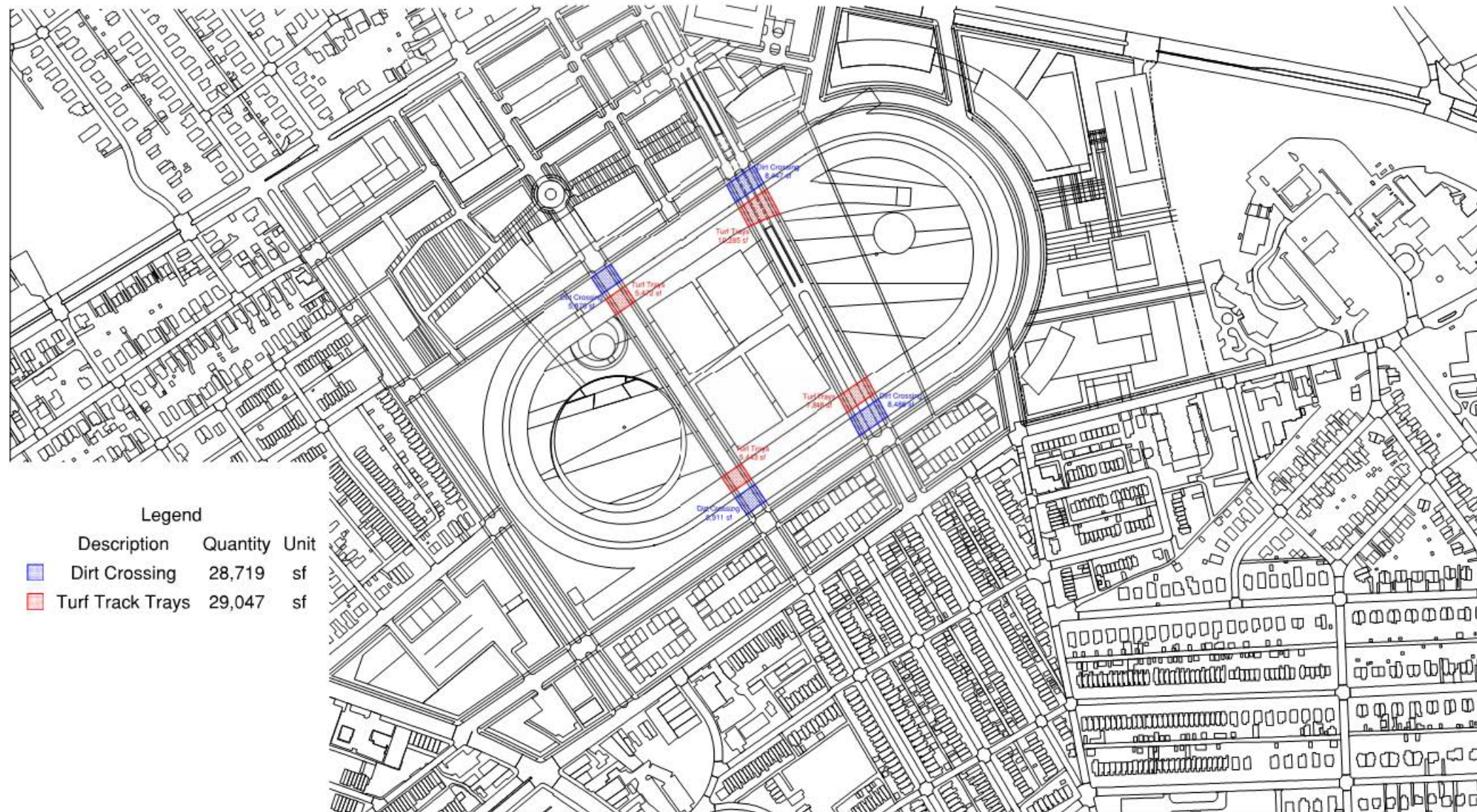


Pimlico Race Course Phase 2 Study
Track Railing Takeoff / Markup
December 2018

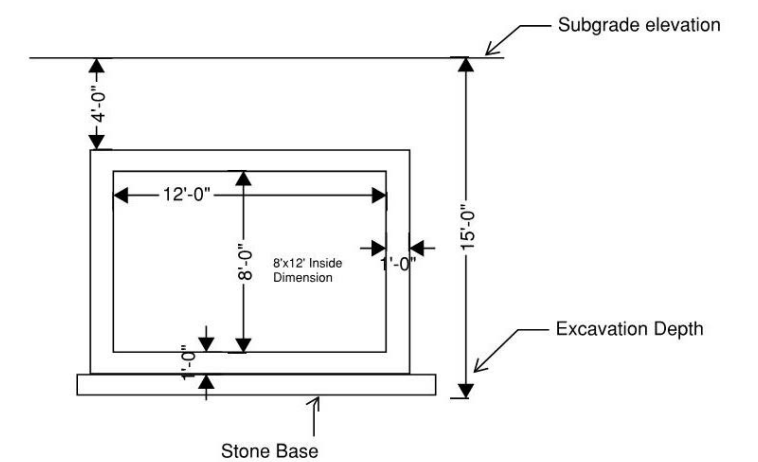


E.2 – Project Cost Estimate

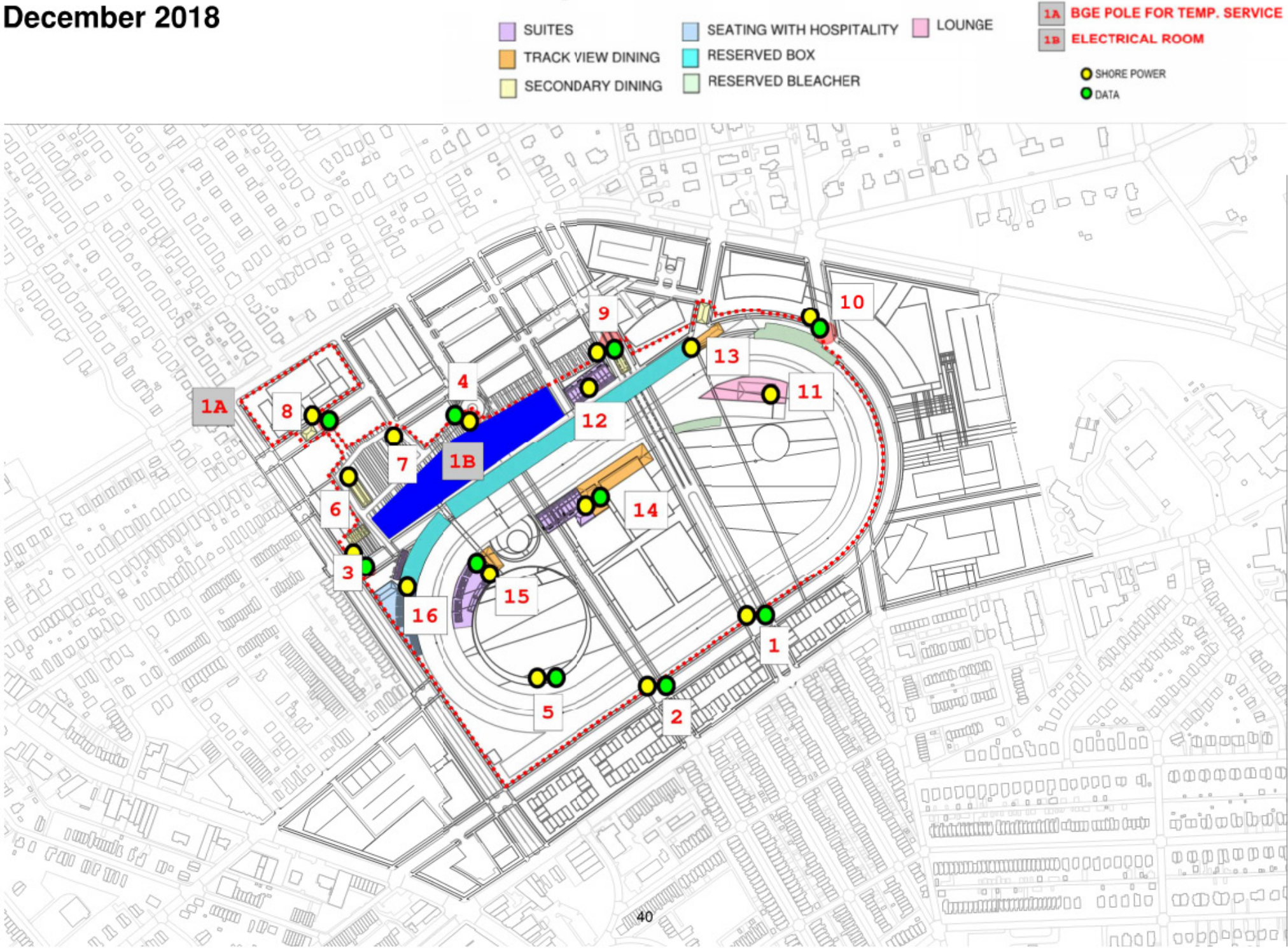
**Pimlico Race Course Phase 2 Study
Track Crossing Takeoff
December 2018**



**Pimlico Racecourse Redevelopment
Tunnel Sketch 10/19/18**



Pimlico Race Course Phase 2 Study
Shore Power and Data Identification Map
December 2018



E.2 – Project Cost Estimate

Pimlico Race Course Phase 2 Study Movable Turf Tray System Example December 2018

Turner



Cost Estimate Assumptions & Clarifications



ASSUMPTIONS & CLARIFICATIONS

Assumptions & Clarifications



General:

1. This estimate is based on the program documents prepared by Populous + RK&K included in the attached Document List.
2. The estimate includes direct trade costs only for permanent construction items. The following items are excluded from the direct cost estimate:
 - a. Premium time work.
 - b. Track infield improvements including amphitheaters, winners circle, soccer fields, lighting, site specialties, etc. per MSA's direction.
 - c. Any temporary / overlay construction items.
 - d. Any cost, schedule, or other impacts due to governmental or other authority actions (e.g. tariff).
3. Per MSA's direction, this estimate (including alternates) has excluded the following indirect and Owner costs. MSA will carry appropriate budget under separate cover:
 - a. General Conditions - Staff and non-staff
 - b. Design, Estimating, Construction, Escalation & Project contingency
 - c. General Liability Insurance
 - d. Builder's Risk Insurance
 - e. Payment and Performance Bond
 - f. Construction Manager Fee
 - g. Preconstruction Services
 - h. Design Fees
 - i. Fixture, Furnishings, and Equipment
 - j. Theming, Signage & Graphics
 - k. Program Management
 - l. Owner's Staff & Consultants
 - m. Testing & Inspections
 - n. Permitting & Environmental Fees
4. This estimate is based on the cost data of the fourth quarter of 2018.
5. Schedule is based on starting work after a Preakness Event to minimize overall impact to the event.
6. This estimate includes the site improvements and infrastructure estimate provided by RK&K.
 - a. Site improvements and infrastructure, including roads, utilities, site lighting, traffic control devices, landscape and hardscape.
7. This estimate includes the following items as part of the General Requirements costs.
 - a. Temporary Facilities
 - b. Hoist Facilities
 - c. Cleaning
 - d. General Expense
 - e. Safety Program
 - f. Temporary Plumbing
 - g. Rental Toilets
 - h. General protection and safety

Assumptions & Clarifications



Demolition & Site Clearing:

8. This estimate includes allowances for hazardous material abatement within the existing Clubhouse, Grandstand, and Concourse structures.
9. This estimate does not include contaminated soil remediation.
10. This demolition estimate is based on a site walk through without existing drawings or an engineering analysis of the structures.
11. This estimate assumes the stables on east side of the existing track have to be demolished.
12. This estimate assumes that the far southwest area of the parking lot near the intersection of Park Heights Ave. and Hayward Ave. is crushed stone and unpaved.
13. This estimate does not include demolition of areas of the far northeast parcel of the hospital redevelopment. It is assumed that this area will be developed at a later date.
14. This estimate assumes that the site is balanced. Import or export of fill soils is not included in this estimate.

Track Railing

15. This estimate includes the following PVC race railing systems* provided by Duralock per Populous' direction.
 - a. Permanent - dirt track inner & outer railing, turf track outer railing
 - b. Temporary - turf track inner railing, all road crossing railings

Track Crossings

16. This estimate includes the materials for, installation of the temporary dirt track at the areas of crossings at the roadways for one initial installation.
17. This estimate includes a movable turf tray system at areas of crossings at the roadways, an example which is StrathAyr.

Tunnel #1

18. This estimate includes a standard concrete finish.
19. This estimate includes 2 trench drains at the tunnel entrances and 2 sumps to discharge wastewater into the overall storm water system.
20. This estimate includes waterproofing on all 4 exterior sides of the precast tunnel with a standard bituminous coating.
21. This estimate includes the installation of non-mechanized air flow vents, under the assumption that forced air ventilation and temperature control will not be required.

Foundations

22. This estimate assumes spread footings at all structures. Deep foundations are not included.

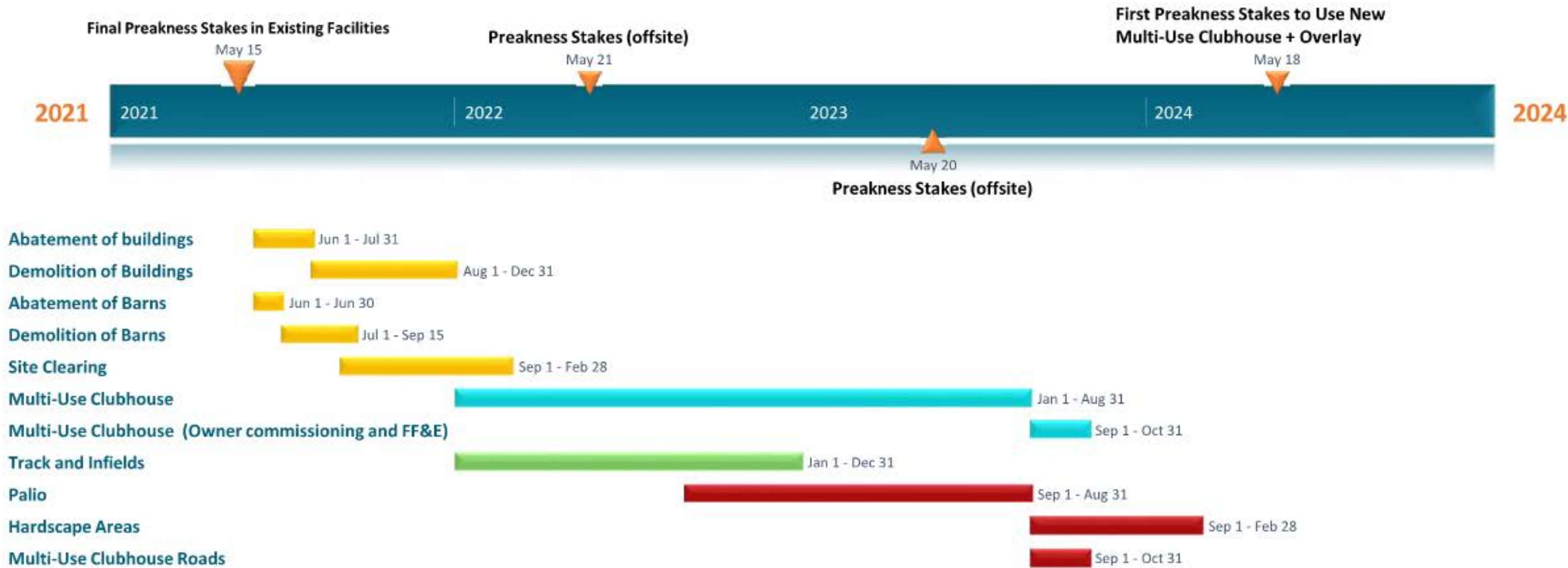
Preliminary Construction Schedule



**PRELIMINARY CONSTRUCTION
SCHEDULE**



Pimlico Race Course Phase 2 Study
Preliminary Construction Schedule
December 2018



Turner

Pimlico Race Course Phase 2 Study

Preliminary Construction Schedule

Alternate Schedule Approach (Alternate 3.)

December 2018





Pimlico Race Course Phase 2 Study
Rough Order of Magnitude
Cost of Construction Estimate
December 2018

DOCUMENT LIST

DOCUMENT LIST		
Package	Dwg/Spec	Date
Track Sections	Track Section Detail2	8/27/2018
	Revised Palio Master Plan	8/27/2018
	15-16-Mile-Track-render	8/27/2018
Populous Preliminary Drawings	Equestrian Plan	8/30/2018
	Suite Tower Expansion	8/30/2018
	Floor plan overlays	8/29/2018
	Axon plans	
Pimlico Updated Master Plan	Pimlico Plan Site Area SF	9/6/2018
Pimlico Programming	Pimlico Equine Program (.xlsx)	9/7/2018
	Pimlico Clubhouse Program (.xlsx)	9/10/2018
Populous Updated Dwgs - Track Bldg	Final plans	9/10/2018
	Final Axon	9/10/2018
Base Plans	Masterplan Update	9/11/2018
	Masterplan (.dwg)	9/11/2018
Village One Parking Structure, received 9/26/18	Village One Real Estate	9/7/2018
Turf Track Narrative	Pimlico Turf Track Narrative (.docx)	9/26/2018
Suite Tower Expansion, received 9/26/18	Suite Tower Expansion	8/30/2018
Floor Plan Overlays	Floor plan overlays (Tower update)	9/17/2018
Overlay Information, recieved 9/27/18	Pimlico Overlay-Revised	9/27/2018
	Pimlico Overlay Totals (.xlsx)	9/27/2018
Pimlico Palio-Ped Bridge renderings 181004	Renderings of the Palio and Pedestrian Bridge	10/4/2018
Pimlico Overlay - Shore Power and Data	Pimlico Overlay - Shore Power and Data	9/28/2018

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

PROJECT SUMMARY by Road Segment

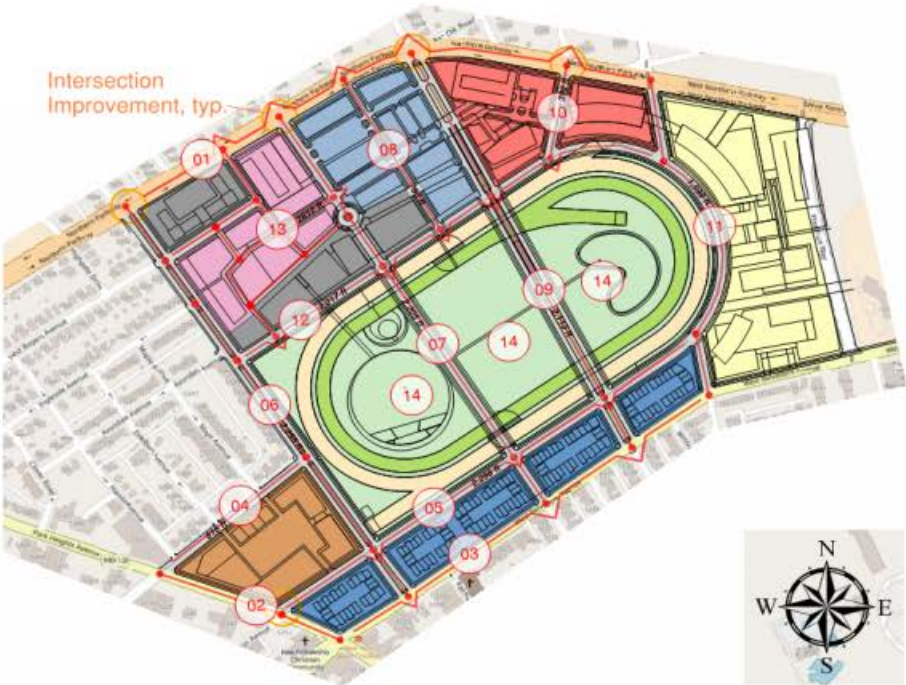
01 Northern Parkway (Redevelopment)	\$8,933,000
02 Park Heights Avenue (Redevelopment)	\$705,000
03 West Belvedere Avenue (Redevelopment)	\$1,061,000
04 Hayward Avenue (Redevelopment)	\$992,000
05 Paton Avenue Extension (New)	\$7,737,000
06 Winner Avenue Extension (New)	\$5,782,000
07 Key Avenue Extension (New)	\$6,471,000
08 Woodcrest Avenue Extension (New)	\$1,829,000
09 Merville Avenue Extension (New)	\$4,325,000
10 Rusk Avenue Extension (New)	\$5,295,000
11 Pimlico Road (Relocation)	\$4,644,000
12 Avondale Avenue Extension (New)	\$5,836,000
13 Civic Parcel Roads (New)	\$4,849,000
14 Stormwater Management	\$4,152,000
GRAND TOTAL	\$62,611,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

PROJECT SUMMARY by Category

Tunnel	\$3,700,000
Stormwater	\$4,152,000
Roads and Utilities	\$54,759,000
GRAND TOTAL	\$62,611,000



Key Sheet

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Assumptions

- 1. Streetscape and hardscape improvements within the road right-of-way serving the individual development parcels is not included.
- 2. Utility house connections serving the individual development parcels is not included.
- 3. Construction materials and methods to be in accordance with Baltimore City standards, details, and specifications.

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

ROADWAY WORK TEMPLATE WORKSHEET

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

ROADWAY WORK TEMPLATE SUMMARY

Road Type 1, Standard Corridor	\$	839	per lf
Road Type 2, Narrow Corridor	\$	649	per lf
Road Type 3, Wide Corridor	\$	918	per lf

E.2– Project Cost Estimate

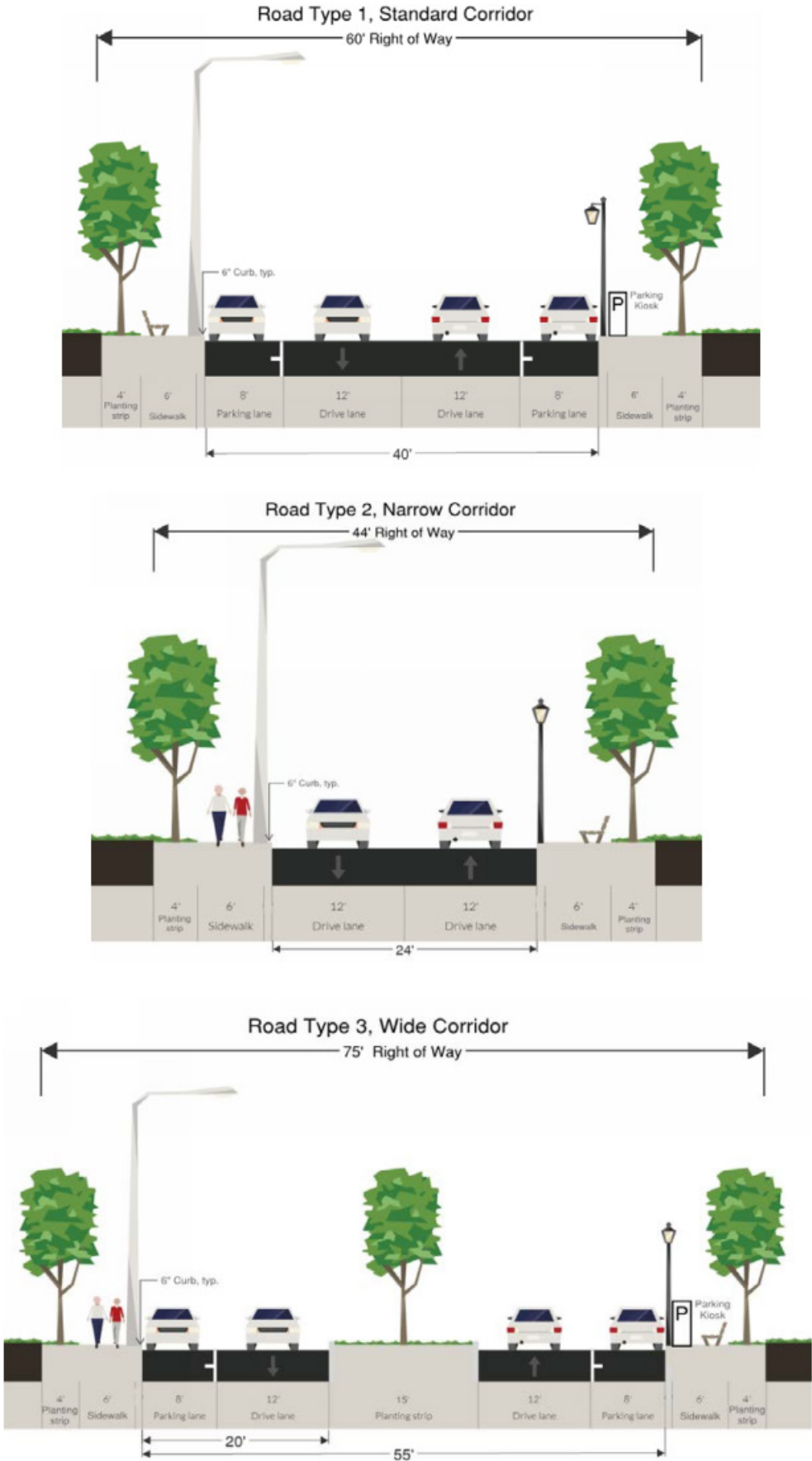
PIMLICO FEASIBILITY PH. 2
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

ROADWAY WORK TEMPLATE WORKSHEET

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

ROADWAY WORK

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
	Road Type 1, Standard Corridor <i>Configuration: 2 travel lanes, 2 parking lanes, 2 sidewalks, 2 grass strips, highway light poles, pedestrian light poles, street furniture, parking kiosks</i> <i>Roadway corridor length = 400 ft</i> <i>Roadway r/w width = 60 ft</i>				
	12 ft HMA travel lanes	If	800	\$86	\$68,800
	8 ft HMA parking lanes	If	800	\$58	\$46,400
	Pavement striping and signage	Is	1	\$12,000	\$12,000
	6" concrete curb and gutter	If	800	\$30	\$24,000
	6 ft concrete sidewalk	If	800	\$72	\$57,600
	Pedestrian light pole/fixture @ 1 / 50 ft	ea	8	\$6,000	\$48,000
	Highway light pole/fixture @ 1 / 200 ft	ea	2	\$3,600	\$7,200
	2.5" cal. Street trees @ 1 / 50 ft	ea	16	\$600	\$9,600
	Street furniture (trash recept., benches) @ 4 / 400 If	ea	4	\$2,400	\$9,600
	Parking kiosks @ 2 / 400 If	ea	2	\$9,600	\$19,200
	Demolition (See Contractor's Estimate)				
	Earthwork / Site grading	If	400	\$42	\$16,800
	4 ft Grass strip (top soil, seed, mulch)	If	800	\$4	\$3,200
	Stakeout	Is	1	\$5,000	\$5,000
	Erosion and sediment control	Is	1	\$3,000	\$3,000
	Maintenance of Traffic	Is	1	\$5,000	\$5,000
				Subtotal	\$335,400
	SUMMARY				
	Roadway corridor length		400 ft		
	Roadway r/w width		60 ft		
	Total Cost		\$335,400		
	Cost per Linear Foot	\$ 839	per If	Road Type 1, Standard Corridor	



E.2– Project Cost Estimate

	Road Type 2, Narrow Corridor					
	<i>Configuration: 2 travel lanes, no parking lanes, 2 sidewalks, 2 grass strips, highway light poles, pedestrian light poles, street furniture, Roadway corridor length = 400 ft Roadway r/w width = 44 ft</i>					
	Delete 8 ft HMA parking lanes	ls	-1	\$46,400		-\$46,400
	Delete Parking kiosks	ls	-1	\$19,200		-\$19,200
	Discount Earthwork (27% of base)	ls	-1	\$4,536		-\$4,536
	Discount ESC (27% of base)	ls	-1	\$810		-\$810
	Delete Maintenance of Traffic	ls	-1	\$5,000		-\$5,000
					Subtotal	-\$75,946
	SUMMARY					
	Roadway corridor length		400 ft			
	Roadway r/w width		44 ft			
	Base Cost (Road Type 1, Standard)		\$335,400			
Variation Adjustment		-\$75,946				
Total Cost		\$259,454				
Cost per Linear Foot			\$ 649	per lf	Road Type 2, Narrow Corridor	

Road Type 3, Wide Corridor <i>Configuration: 2 travel lanes, 2 parking lanes, 2 sidewalks, 2 grass strip, 1 center median, highway light poles, pedestrian light poles, street furniture, parking kiosks</i> <i>Roadway corridor length = 400 ft</i> <i>Roadway r/w width = 75 ft</i> Add 15 ft Landscape Median (top soil, seed, mulch) Add 2.5" cal. Street trees @ 1 / 50 ft Add Earthwork (25% of base) Add ESC (25% of base) Add 6" concrete curb and gutter Add Stakeout (25% of base) SUMMARY Roadway corridor length Roadway r/w width Base Cost (Road Type 1, Standard) Variation Adjustment Total Cost				
	If	400	\$9	\$3,600
	ea	4	\$500	\$2,000
	ls	1	\$4,200	\$4,200
	ls	1	\$750	\$750
	If	800	\$25	\$20,000
	ls	1	\$1,250	\$1,250
			Subtotal	\$31,800
	400	ft		
	75	ft		
\$335,400				
\$31,800				
\$367,200				
Cost per Linear Foot	\$ 918	per lf	Road Type 3, Wide Corridor	

ASSUMPTIONS

HMA Paving: 8" HMA Superpave, 19.0 mm (\$75/Ton), 12" Graded Aggregate Subbase (\$2/SF) - Total \$6/sf
Concrete Sidewalk: 4" depth, 6" graded aggregate base - Total \$10/sf
Lighting: Pedstrian 15' Homeland Light Pole & Fixture, Highway 27.5' Aluminum Street Light Pole & Fixture
Lighting: 27.5' Aluminum Street Light Pole & Fixture

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

01 Northern Parkway (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$0
2 Utility Work	\$8,932,600
3 Transportation*	\$0
4 Other	\$0
Subtotal	\$8,932,600
TOTAL COST (Rounded)	\$8,933,000

* For Intersection Improvements see segment summary for the intersecting road.

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

01 Northern Parkway (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

	6' X 12' X 7' HR Precast Manhole 4-4" Ductbank	EA LF	4 400	\$60,000 \$120	\$240,000 \$48,000
3	Transportation				\$0
4	Other				\$0

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$0
	Roadway work: None	If	0	\$0	\$0
2	Utility Work				\$8,932,600
	Water				\$0
	None				
	Sanitary Sewer				\$0
	None				
	Storm Drain				\$2,335,000
	Stormwater Management	ac		\$0	\$0
	Standard Precast Inlet Structure	EA	50	\$5,500	\$275,000
	Standard Precast Manhole Structure	EA	20	\$20,000	\$400,000
	15" RCP	LF	2000	\$110	\$220,000
	18" RCP	LF		\$190	\$0
	24" RCP	LF		\$250	\$0
	36" RCP	LF	2400	\$300	\$720,000
	48" RCP	LF	2000	\$360	\$720,000
	Gas				\$1,008,000
	20" MP	LF	2400	\$350	\$840,000
	BGE Design	LS	1	\$168,000	\$168,000
	Electric				\$1,409,000
	Relocate Roger's Avenue BGE feeders & BGE's Design	LS	1	\$500,000	\$500,000
	BGE Primary feeders & BGE's Design	LS	1	\$711,000	\$711,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$198,000	\$198,000
	Lighting				\$535,600
	1-3" Ductbank	LF	5600	\$60	\$336,000
	2-3" Ductbank	LF	1000	\$70	\$70,000
	Handboxes	EA	144	\$900	\$129,600
	City Conduit				\$3,357,000
	6' X 12' X 9' HR Precast Manhole	EA	10	\$70,000	\$700,000
	6-5", 6-4" & 3-3" Ductbank	LF		\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF		\$300	\$0
	12-5", 6-4" & 3-3" Ductbank	LF	4700	\$360	\$1,692,000
	Transformer Vault with BGE Equipment & Hardware	EA	3	\$155,000	\$465,000
	Switchgear Vault with BGE Equipment & Hardware	EA	5	\$100,000	\$500,000
	Verizon Conduit				\$288,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

02 Park Heights Avenue (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$0
2 Utility Work	\$405,000
3 Transportation*	\$300,000
4 Other	\$0
<hr/>	
Subtotal	\$705,000
<hr/>	
TOTAL COST (Rounded)	\$705,000

* For Intersection Improvements see segment summary for the intersecting road.

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

02 Park Heights Avenue (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$0
	Roadway work: None	If	0	\$0	\$0
2	Utility Work				\$405,000
	Water				\$0
	None				
	Sanitary Sewer				\$0
	None				
	Storm Drain				\$133,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	6	\$5,500	\$33,000
	Standard Precast Manhole Structure	EA	5	\$20,000	\$100,000
	15" RCP	LF	0	\$110	\$0
	18" RCP	LF	0	\$190	\$0
	24" RCP	LF	0	\$250	\$0
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	Gas				\$0
	None				
	Electric				\$54,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$54,000	\$54,000
	Lighting				\$146,000
	1-3" Ductbank	LF	1600	\$60	\$96,000
	2-3" Ductbank	LF	200	\$70	\$14,000
	Handboxes	EA	40	\$900	\$36,000
	City Conduit				\$0
	6' X 12' X 9' HR Precast Manhole	EA	0	\$70,000	\$0
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	0	\$300	\$0
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	0	\$155,000	\$0
	Switchgear Vault with BGE Equipment & Hardware	EA	0	\$100,000	\$0

E.2– Project Cost Estimate

	Verizon Conduit				\$72,000
	6' X 12' X 7' HR Precast Manhole	EA	1	\$60,000	\$60,000
	4-4" Ductbank	LF	100	\$120	\$12,000
3	Transportation				\$300,000
	Signalized intersection	EA	1	\$300,000	\$300,000
4	Other				\$0

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

03 West Belvedere Avenue (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$0
2 Utility Work	\$1,061,200
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$1,061,200
<hr/>	
TOTAL COST (Rounded)	\$1,061,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

03 West Belvedere Avenue (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$0
	Roadway work: None	If	0	\$0	\$0
2	Utility Work				\$1,061,200
	<u>Water</u>				<u>\$0</u>
	None				
	<u>Sanitary Sewer</u>				<u>\$0</u>
	None				
	<u>Storm Drain</u>				<u>\$491,000</u>
	Stormwater Management	ac		\$0	\$0
	Standard Precast Inlet Structure	EA	24	\$5,500	\$132,000
	Standard Precast Manhole Structure	EA	14	\$20,000	\$280,000
	15" RCP	LF	200	\$110	\$22,000
	18" RCP	LF	300	\$190	\$57,000
	24" RCP	LF		\$250	\$0
	36" RCP	LF		\$300	\$0
	48" RCP	LF		\$360	\$0
	<u>Gas</u>				<u>\$0</u>
	None				
	<u>Electric</u>				<u>\$135,000</u>
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$135,000	\$135,000
	<u>Lighting</u>				<u>\$363,200</u>
	1-3" Ductbank	LF	4000	\$60	\$240,000
	2-3" Ductbank	LF	500	\$70	\$35,000
	Handboxes	EA	98	\$900	\$88,200
	<u>City Conduit</u>				<u>\$0</u>
	6' X 12' X 9' HR Precast Manhole	EA	0	\$70,000	\$0
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	0	\$300	\$0
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	0	\$155,000	\$0
	Switchgear Vault with BGE Equipment & Hardware	EA	0	\$100,000	\$0

	<u>Verizon Conduit</u>				<u>\$72,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	1	\$60,000	\$60,000
	4-4" Ductbank	LF	100	\$120	\$12,000
3	Transportation				\$0
4	Other				\$0

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

04 Hayward Avenue (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$684,624
2 Utility Work	\$307,800
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$992,424
<hr/>	
TOTAL COST (Rounded)	\$992,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

04 Hayward Avenue (Redevelopment)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$684,624
	Road Type 1, Standard Corridor	If	816	\$839	\$684,624
2	Utility Work				\$307,800
	Water				\$0
	None				
	Sanitary Sewer				\$0
	None				
	Storm Drain				\$135,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	8	\$5,500	\$44,000
	Standard Precast Manhole Structure	EA	4	\$20,000	\$80,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	0	\$190	\$0
	24" RCP	LF	0	\$250	\$0
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	Gas				\$0
	None				
	Electric				\$48,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$48,000	\$48,000
	Lighting				\$124,800
	1-3" Ductbank	LF	1600	\$60	\$96,000
	2-3" Ductbank	LF	0	\$70	\$0
	Handboxes	EA	32	\$900	\$28,800
	City Conduit				\$0
	6' X 12' X 9' HR Precast Manhole	EA	0	\$70,000	\$0
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	0	\$300	\$0
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	0	\$155,000	\$0
	Switchgear Vault with BGE Equipment & Hardware	EA	0	\$100,000	\$0

E.2– Project Cost Estimate

	Verizon Conduit					\$0
	6' X 12' X 7' HR Precast Manhole	EA	0	\$60,000		\$0
	4-4" Ductbank	LF	0	\$120		\$0
3	Transportation					\$0
4	Other					\$0

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

05 Paton Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$1,928,022
2 Utility Work	\$5,808,520
3 Transportation*	\$0
4 Other	\$0
Subtotal	\$7,736,542
TOTAL COST (Rounded)	\$7,737,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

05 Paton Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$1,928,022
	Road Type 1, Standard Corridor	lf	2298	\$839	\$1,928,022
2	Utility Work				\$5,808,520
	<u>Water</u>				<u>\$418,500</u>
	Water Main, including Appurtenances and Services	LF	1550	\$270	\$418,500
	<u>Sanitary Sewer</u>				<u>\$1,294,400</u>
	Gravity Sewer, including Manholes and Laterals	LF	2060	\$240	\$494,400
	Sewage Pumping Station, including Force Main	LS	1	\$800,000	\$800,000
	<u>Storm Drain</u>				<u>\$683,000</u>
	Stormwater Management	ac		\$0	\$0
	Standard Precast Inlet Structure	EA	12	\$5,500	\$66,000
	Standard Precast Manhole Structure	EA	4	\$20,000	\$80,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	400	\$190	\$76,000
	24" RCP	LF	1800	\$250	\$450,000
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	<u>Gas</u>				<u>\$465,120</u>
	8" MP	LF	2280	\$170	\$387,600
	BGE Design	LS	1	\$77,520	\$77,520
	<u>Electric</u>				<u>\$522,000</u>
	BGE Primary feeders & BGE's Design	LS	1	\$366,000	\$366,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$156,000	\$156,000
	<u>Lighting</u>				<u>\$401,500</u>
	1-3" Ductbank	LF	4800	\$60	\$288,000
	2-3" Ductbank	LF	400	\$70	\$28,000
	Handboxes	EA	95	\$900	\$85,500
	<u>City Conduit</u>				<u>\$1,580,000</u>
	6' X 12' X 9' HR Precast Manhole	EA	5	\$70,000	\$350,000
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	2400	\$300	\$720,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	2	\$155,000	\$310,000
	Switchgear Vault with BGE Equipment & Hardware	EA	2	\$100,000	\$200,000

	<u>Verizon Conduit</u>				<u>\$444,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	4	\$60,000	\$240,000
	4-4" Ductbank	LF	1700	\$120	\$204,000
3	Transportation				\$0
4	Other				\$0

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

06 Winner Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$2,070,090
2 Utility Work	\$3,411,720
3 Transportation*	\$300,000
4 Other	\$0
<hr/>	
Subtotal	\$5,781,810
<hr/>	
TOTAL COST (Rounded)	\$5,782,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

06 Winner Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$2,070,090
	Road Type 3, Wide Corridor	If	2255	\$918	\$2,070,090
2	Utility Work				\$3,411,720
	Water				\$661,600
	Water Main, including Appurtenances and Services	LF	2440	\$270	\$658,800
	Paving Removal and Replacement, along WM	LF	100	\$28	\$2,800
	Sanitary Sewer				\$301,200
	Gravity Sewer, including Manholes and Laterals	LF	1255	\$240	\$301,200
	Storm Drain				\$115,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	8	\$5,500	\$44,000
	Standard Precast Manhole Structure	EA	3	\$20,000	\$60,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	0	\$190	\$0
	24" RCP	LF	0	\$250	\$0
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	Gas				\$315,520
	20" MP	LF	280	\$170	\$47,600
	8" MP	LF	1080	\$170	\$183,600
	BGE Design	LS	1	\$84,320	\$84,320
	Electric				\$447,000
	BGE Primary feeders & BGE's Design	LS	1	\$306,000	\$306,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$141,000	\$141,000
	Lighting				\$371,400
	1-3" Ductbank	LF	4400	\$60	\$264,000
	2-3" Ductbank	LF	300	\$70	\$21,000
	Handboxes	EA	96	\$900	\$86,400
	City Conduit				\$996,000
	6' X 12' X 9' HR Precast Manhole	EA	6	\$70,000	\$420,000
	6-5", 6-4" & 3-3" Ductbank	LF	1600	\$270	\$432,000
	8-5", 6-4" & 3-3" Ductbank	LF	0	\$300	\$0
	12-5", 6-4" & 3-3" Ductbank	LF	400	\$360	\$144,000
	Transformer Vault with BGE Equipment & Hardware	EA	0	\$155,000	\$0
	Switchgear Vault with BGE Equipment & Hardware	EA	0	\$100,000	\$0

E.2– Project Cost Estimate

	<u>Verizon Conduit</u>				<u>\$204,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	2	\$60,000	\$120,000
	4-4" Ductbank	LF	700	\$120	\$84,000
3	Transportation				\$300,000
	Signalized intersection	EA	1	\$300,000	\$300,000
4	Other				\$0

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

07 Key Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$1,849,995
2 Utility Work	\$4,320,680
3 Transportation*	\$300,000
4 Other	\$0
<hr/>	
Subtotal	\$6,470,675
<hr/>	
TOTAL COST (Rounded)	\$6,471,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

07 Key Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$1,849,995
	Road Type 1, Standard Corridor	If	2205	\$839	\$1,849,995
2	Utility Work				\$4,320,680
	<u>Water</u>				<u>\$261,950</u>
	Water Main, including Appurtenances and Services	LF	965	\$270	\$260,550
	Paving Removal and Replacement, along WM	LF	50	\$28	\$1,400
	<u>Sanitary Sewer</u>				<u>\$1,592,410</u>
	Gravity Sewer, including Manholes and Laterals	LF	2345	\$240	\$562,800
	Paving Removal and Replacement, along Sewer	LF	80	\$38	\$3,040
	Sewage Pumping Station, including Force Main	LS	1	\$800,000	\$800,000
	Outside of Zone 07: Sewer to SC 940 Tie-in	LF	815	\$240	\$195,600
	Outside of Zone 07: Paving to SC 940 Tie-in	LF	815	\$38	\$30,970
	<u>Storm Drain</u>				<u>\$357,000</u>
	Stormwater Management	ac		\$0	\$0
	Standard Precast Inlet Structure	EA	20	\$5,500	\$110,000
	Standard Precast Manhole Structure	EA	8	\$20,000	\$160,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	400	\$190	\$76,000
	24" RCP	LF	0	\$250	\$0
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	<u>Gas</u>				<u>\$138,720</u>
	8" MP	LF	680	\$170	\$115,600
	BGE Design	LS	1	\$23,120	\$23,120
	<u>Electric</u>				<u>\$387,000</u>
	BGE Primary feeders & BGE's Design	LS	1	\$228,000	\$228,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$159,000	\$159,000
	<u>Lighting</u>				<u>\$411,000</u>
	1-3" Ductbank	LF	5000	\$60	\$300,000
	2-3" Ductbank	LF	300	\$70	\$21,000
	Handboxes	EA	100	\$900	\$90,000
	<u>City Conduit</u>				<u>\$824,600</u>
	6' X 12' X 9' HR Precast Manhole	EA	2	\$70,000	\$140,000
	6-5", 6-4" & 3-3" Ductbank	LF	480	\$270	\$129,600
	8-5", 6-4" & 3-3" Ductbank	LF	1000	\$300	\$300,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	1	\$155,000	\$155,000
	Switchgear Vault with BGE Equipment & Hardware	EA	1	\$100,000	\$100,000

	<u>Verizon Conduit</u>				<u>\$348,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	3	\$60,000	\$180,000
	4-4" Ductbank	LF	1400	\$120	\$168,000
3	Transportation				\$300,000
	Signalized intersection	EA	1	\$300,000	\$300,000
4	Other				\$0

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

08 Woodcrest Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$512,710
2 Utility Work	\$1,316,750
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$1,829,460
<hr/>	
TOTAL COST (Rounded)	\$1,829,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

08 Woodcrest Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$512,710
	Road Type 2, Narrow Corridor	If	790	\$649	\$512,710
2	Utility Work				\$1,316,750
	Water				\$256,550
	Water Main, including Appurtenances and Services	LF	945	\$270	\$255,150
	Paving Removal and Replacement, along WM	LF	50	\$28	\$1,400
	Sanitary Sewer				\$19,200
	Gravity Sewer, including Manholes and Laterals	LF	80	\$240	\$19,200
	Storm Drain				\$238,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	4	\$5,500	\$22,000
	Standard Precast Manhole Structure	EA	3	\$20,000	\$60,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	500	\$190	\$95,000
	24" RCP	LF	200	\$250	\$50,000
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	Gas				\$102,000
	8" MP	LF	500	\$170	\$85,000
	BGE Design	LS	1	\$17,000	\$17,000
	Electric				\$117,000
	BGE Primary feeders & BGE's Design	LS	1	\$66,000	\$66,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$51,000	\$51,000
	Lighting				\$139,000
	1-3" Ductbank	LF	1600	\$60	\$96,000
	2-3" Ductbank	LF	100	\$70	\$7,000
	Handboxes	EA	40	\$900	\$36,000
	City Conduit				\$445,000
	6' X 12' X 9' HR Precast Manhole	EA	1	\$70,000	\$70,000
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	400	\$300	\$120,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	1	\$155,000	\$155,000
	Switchgear Vault with BGE Equipment & Hardware	EA	1	\$100,000	\$100,000

E.2– Project Cost Estimate

	Verizon Conduit					\$0
	6' X 12' X 7' HR Precast Manhole	EA	0	\$60,000		\$0
	4-4" Ductbank	LF	0	\$120		\$0
3	Transportation					\$0
4	Other					\$0

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

09 Merville Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$1,939,734
2 Utility Work	\$2,084,970
3 Transportation*	\$300,000
4 Other	\$0
Subtotal	\$4,324,704
TOTAL COST (Rounded)	\$4,325,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

09 Merville Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$1,939,734
	Road Type 3, Wide Corridor	lf	2113	\$918	\$1,939,734
2	Utility Work				\$2,084,970
	<u>Water</u>				<u>\$263,300</u>
	Water Main, including Appurtenances and Services	LF	970	\$270	\$261,900
	Paving Removal and Replacement, along WM	LF	50	\$28	\$1,400
	<u>Sanitary Sewer</u>				<u>\$214,560</u>
	Gravity Sewer, including Manholes and Laterals	LF	894	\$240	\$214,560
	<u>Storm Drain</u>				<u>\$326,110</u>
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	20	\$5,500	\$110,000
	Standard Precast Manhole Structure	EA	7	\$20,000	\$140,000
	15" RCP	LF	1	\$110	\$110
	18" RCP	LF	400	\$190	\$76,000
	24" RCP	LF	0	\$250	\$0
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	<u>Gas</u>				<u>\$0</u>
	None				
	<u>Electric</u>				<u>\$255,000</u>
	BGE Primary feeders & BGE's Design	LS	1	\$120,000	\$120,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$135,000	\$135,000
	<u>Lighting</u>				<u>\$365,000</u>
	1-3" Ductbank	LF	4000	\$60	\$240,000
	2-3" Ductbank	LF	500	\$70	\$35,000
	Handboxes	EA	100	\$900	\$90,000
	<u>City Conduit</u>				<u>\$565,000</u>
	6' X 12' X 9' HR Precast Manhole	EA	1	\$70,000	\$70,000
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	800	\$300	\$240,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	1	\$155,000	\$155,000
	Switchgear Vault with BGE Equipment & Hardware	EA	1	\$100,000	\$100,000

	<u>Verizon Conduit</u>				<u>\$96,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	1	\$60,000	\$60,000
	4-4" Ductbank	LF	300	\$120	\$36,000
3	Transportation				\$300,000
	Signalized intersection	EA	1	\$300,000	\$300,000
4	Other				\$0

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

10 Rusk Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$333,922
2 Utility Work	\$960,680
3 Transportation*	\$300,000
4 Other: Vehicular Tunnel	\$3,700,000
<hr/>	
Subtotal	\$5,294,602
<hr/>	
TOTAL COST (Rounded)	\$5,295,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

10 Rusk Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$333,922
	Road Type 1, Standard Corridor	If	398	\$839	\$333,922
2	Utility Work				\$960,680
	Water				\$147,200
	Water Main, including Appurtenances and Services	LF	540	\$270	\$145,800
	Paving Removal and Replacement, along WM	LF	50	\$28	\$1,400
	Sanitary Sewer				\$114,480
	Gravity Sewer, including Manholes and Laterals	LF	477	\$240	\$114,480
	Storm Drain				\$207,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	4	\$5,500	\$22,000
	Standard Precast Manhole Structure	EA	2	\$20,000	\$40,000
	15" RCP	LF	0	\$110	\$0
	18" RCP	LF	0	\$190	\$0
	24" RCP	LF	100	\$250	\$25,000
	36" RCP	LF	400	\$300	\$120,000
	48" RCP	LF	0	\$360	\$0
	Gas				\$81,600
	8" MP	LF	400	\$170	\$68,000
	BGE Design	LS	1	\$13,600	\$13,600
	Electric				\$120,000
	BGE Primary feeders & BGE's Design	LS	1	\$96,000	\$96,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$24,000	\$24,000
	Lighting				\$62,400
	1-3" Ductbank	LF	800	\$60	\$48,000
	2-3" Ductbank	LF	0	\$70	\$0
	Handboxes	EA	16	\$900	\$14,400
	City Conduit				\$180,000
	6' X 12' X 9' HR Precast Manhole	EA	0	\$70,000	\$0
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	600	\$300	\$180,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	0	\$155,000	\$0
	Switchgear Vault with BGE Equipment & Hardware	EA	0	\$100,000	\$0

E.2– Project Cost Estimate

	Verizon Conduit				<u>\$48,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	0	\$60,000	\$0
	4-4" Ductbank	LF	400	\$120	\$48,000
3	Transportation				\$300,000
	Signalized intersection	EA	1	\$300,000	\$300,000
4	Other: Vehicular Tunnel				\$3,700,000
	Vehicular Tunnel and retaining walls (900' l x 20' w x 16' h)	LS	1	\$2,550,000	\$2,550,000
	Earthwork	LS	1	\$470,000	\$470,000
	Storm Drain	LS	1	\$150,000	\$150,000
	Waterproofing	LS	1	\$220,000	\$220,000
	Electric and Lighting	LS	1	\$190,000	\$190,000
	Ventilation	LS	1	\$120,000	\$120,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

11 Pimlico Road (Relocation)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$1,340,722
2 Utility Work	\$3,303,730
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$4,644,452
<hr/>	
TOTAL COST (Rounded)	\$4,644,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

11 Pimlico Road (Relocation)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$1,340,722
	Road Type 1, Standard Corridor	If	1598	\$839	\$1,340,722
2	Utility Work				\$3,303,730
	Water				\$383,450
	Water Main, including Appurtenances and Services	LF	1415	\$270	\$382,050
	Paving Removal and Replacement, along WM	LF	50	\$28	\$1,400
	Sanitary Sewer				\$0
	None				
	Storm Drain				\$495,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	8	\$5,500	\$44,000
	Standard Precast Manhole Structure	EA	7	\$20,000	\$140,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	0	\$190	\$0
	24" RCP	LF	1200	\$250	\$300,000
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	Gas				\$269,280
	8" MP	LF	1320	\$170	\$224,400
	BGE Design	LS	1	\$44,880	\$44,880
	Electric				\$336,000
	BGE Primary feeders & BGE's Design	LS	1	\$246,000	\$246,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$90,000	\$90,000
	Lighting				\$236,000
	1-3" Ductbank	LF	2800	\$60	\$168,000
	2-3" Ductbank	LF	200	\$70	\$14,000
	Handboxes	EA	60	\$900	\$54,000
	City Conduit				\$1,296,000
	6' X 12' X 9' HR Precast Manhole	EA	3	\$70,000	\$210,000
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	0	\$300	\$0
	12-5", 6-4" & 3-3" Ductbank	LF	1600	\$360	\$576,000
	Transformer Vault with BGE Equipment & Hardware	EA	2	\$155,000	\$310,000
	Switchgear Vault with BGE Equipment & Hardware	EA	2	\$100,000	\$200,000

	Verizon Conduit				\$288,000
	6' X 12' X 7' HR Precast Manhole	EA	2	\$60,000	\$120,000
	4-4" Ductbank	LF	1400	\$120	\$168,000
3	Transportation				\$0
4	Other				\$0

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

12 Avondale Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$1,860,063
2 Utility Work	\$3,976,250
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$5,836,313
<hr/>	
TOTAL COST (Rounded)	\$5,836,000

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

12 Avondale Avenue Extension (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$1,860,063
	Road Type 1, Standard Corridor	If	2217	\$839	\$1,860,063
2	Utility Work				\$3,976,250
	Water				\$484,650
	Water Main, including Appurtenances and Services	LF	1795	\$270	\$484,650
	Sanitary Sewer				\$446,400
	Gravity Sewer, including Manholes and Laterals	LF	1860	\$240	\$446,400
	Storm Drain				\$597,000
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	12	\$5,500	\$66,000
	Standard Precast Manhole Structure	EA	6	\$20,000	\$120,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	0	\$190	\$0
	24" RCP	LF	1600	\$250	\$400,000
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	Gas				\$367,200
	8" MP	LF	1800	\$170	\$306,000
	BGE Design	LS	1	\$61,200	\$61,200
	Electric				\$372,000
	BGE Primary feeders & BGE's Design	LS	1	\$246,000	\$246,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$126,000	\$126,000
	Lighting				\$344,000
	1-3" Ductbank	LF	4000	\$60	\$240,000
	2-3" Ductbank	LF	200	\$70	\$14,000
	Handboxes	EA	100	\$900	\$90,000
	City Conduit				\$945,000
	6' X 12' X 9' HR Precast Manhole	EA	3	\$70,000	\$210,000
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	1600	\$300	\$480,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	1	\$155,000	\$155,000
	Switchgear Vault with BGE Equipment & Hardware	EA	1	\$100,000	\$100,000

E.2– Project Cost Estimate

	<u>Verizon Conduit</u>				<u>\$420,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	4	\$60,000	\$240,000
	4-4" Ductbank	LF	1500	\$120	\$180,000
3	Transportation				\$0
4	Other				\$0

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

13 Civic Parcel Roads (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$1,824,988
2 Utility Work	\$3,024,200
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$4,849,188
<hr/>	
TOTAL COST (Rounded)	\$4,849,000

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

13 Civic Parcel Roads (New)

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work				\$1,824,988
	Road Type 2, Narrow Corridor	lf	2812	\$649	\$1,824,988
2	Utility Work				\$3,024,200
	<u>Water</u>				<u>\$491,400</u>
	Water Main, including Appurtenances and Services	LF	1820	\$270	\$491,400
	<u>Sanitary Sewer</u>				<u>\$375,600</u>
	Gravity Sewer, including Manholes and Laterals	LF	1565	\$240	\$375,600
	<u>Storm Drain</u>				<u>\$264,000</u>
	Stormwater Management	ac	0	\$0	\$0
	Standard Precast Inlet Structure	EA	10	\$5,500	\$55,000
	Standard Precast Manhole Structure	EA	8	\$20,000	\$160,000
	15" RCP	LF	100	\$110	\$11,000
	18" RCP	LF	200	\$190	\$38,000
	24" RCP	LF	0	\$250	\$0
	36" RCP	LF	0	\$300	\$0
	48" RCP	LF	0	\$360	\$0
	<u>Gas</u>				<u>\$265,200</u>
	8" MP	LF	1300	\$170	\$221,000
	BGE Design	LS	1	\$44,200	\$44,200
	<u>Electric</u>				<u>\$321,000</u>
	BGE Primary feeders & BGE's Design	LS	1	\$246,000	\$246,000
	BGE Secondary Lighting Cables & BGE's Design	LS	1	\$75,000	\$75,000
	<u>Lighting</u>				<u>\$196,000</u>
	1-3" Ductbank	LF	2400	\$60	\$144,000
	2-3" Ductbank	LF	100	\$70	\$7,000
	Handboxes	EA	50	\$900	\$45,000
	<u>City Conduit</u>				<u>\$1,015,000</u>
	6' X 12' X 9' HR Precast Manhole	EA	4	\$70,000	\$280,000
	6-5", 6-4" & 3-3" Ductbank	LF	0	\$270	\$0
	8-5", 6-4" & 3-3" Ductbank	LF	1600	\$300	\$480,000
	12-5", 6-4" & 3-3" Ductbank	LF	0	\$360	\$0
	Transformer Vault with BGE Equipment & Hardware	EA	1	\$155,000	\$155,000
	Switchgear Vault with BGE Equipment & Hardware	EA	1	\$100,000	\$100,000

	<u>Verizon Conduit</u>				<u>\$96,000</u>
	6' X 12' X 7' HR Precast Manhole	EA	0	\$60,000	\$0
	4-4" Ductbank	LF	800	\$120	\$96,000
3	Transportation				\$0
4	Other				\$0

E.2– Project Cost Estimate

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

PIMLICO FEASIBILITY PH. 2
Baltimore City, MD
CONCEPTUAL COST OF INFRASTRUCTURE CONSTRUCTION ESTIMATE

14 Stormwater Management

14 Stormwater Management

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

Prepared By: Rummel, Klepper, & Kahl, LLP
Date: December 2018

SEGMENT SUMMARY

1 Roadway Work	\$0
2 Utility Work	\$4,152,000
3 Transportation*	\$0
4 Other	\$0
<hr/>	
Subtotal	\$4,152,000
<hr/>	
TOTAL COST (Rounded)	\$4,152,000

Item No.	Item Description	Unit	Quantity	Unit Price	Cost
1	Roadway Work Roadway work: None	If	0	\$0	\$0
2	Utility Work				\$4,152,000
	Water				\$0
	None				
	Sanitary Sewer				\$0
	None				
	Storm Drain				\$4,152,000
	Stormwater Management (cost per AC of Impervious Treated)	AC	39	\$100,000	\$3,900,000
	Standard Precast Inlet Structure	EA		\$5,500	\$0
	Standard Precast Manhole Structure	EA	6	\$20,000	\$120,000
	15" RCP	LF	1200	\$110	\$132,000
	18" RCP	LF		\$0	\$0
	24" RCP	LF		\$0	\$0
	36" RCP	LF		\$300	\$0
	48" RCP	LF		\$360	\$0
	Gas				\$0
	None				
	Electric				\$0
	None				
	Lighting				\$0
	None				
	City Conduit				\$0
	None				

E.2– Project Cost Estimate

	<u>Verizon Conduit</u>					
	None					\$0
3	Transportation					\$0
4	Other					\$0



TABLE OF CONTENTS

NON-RACING LAND USE ANALYSIS AND METHODOLOGY	2
NEIGHBORHOOD ENVIRONS	5
PEER RACE TRACK ANALYSIS	20
RETAIL ANALYSIS	34
OFFICE ANALYSIS	43
HOTEL ANALYSIS	46
RESIDENTIAL ANALYSIS	51
POTENTIAL NON-RACING LAND USE PROGRAMS	60
OVERALL SUMMARY	81

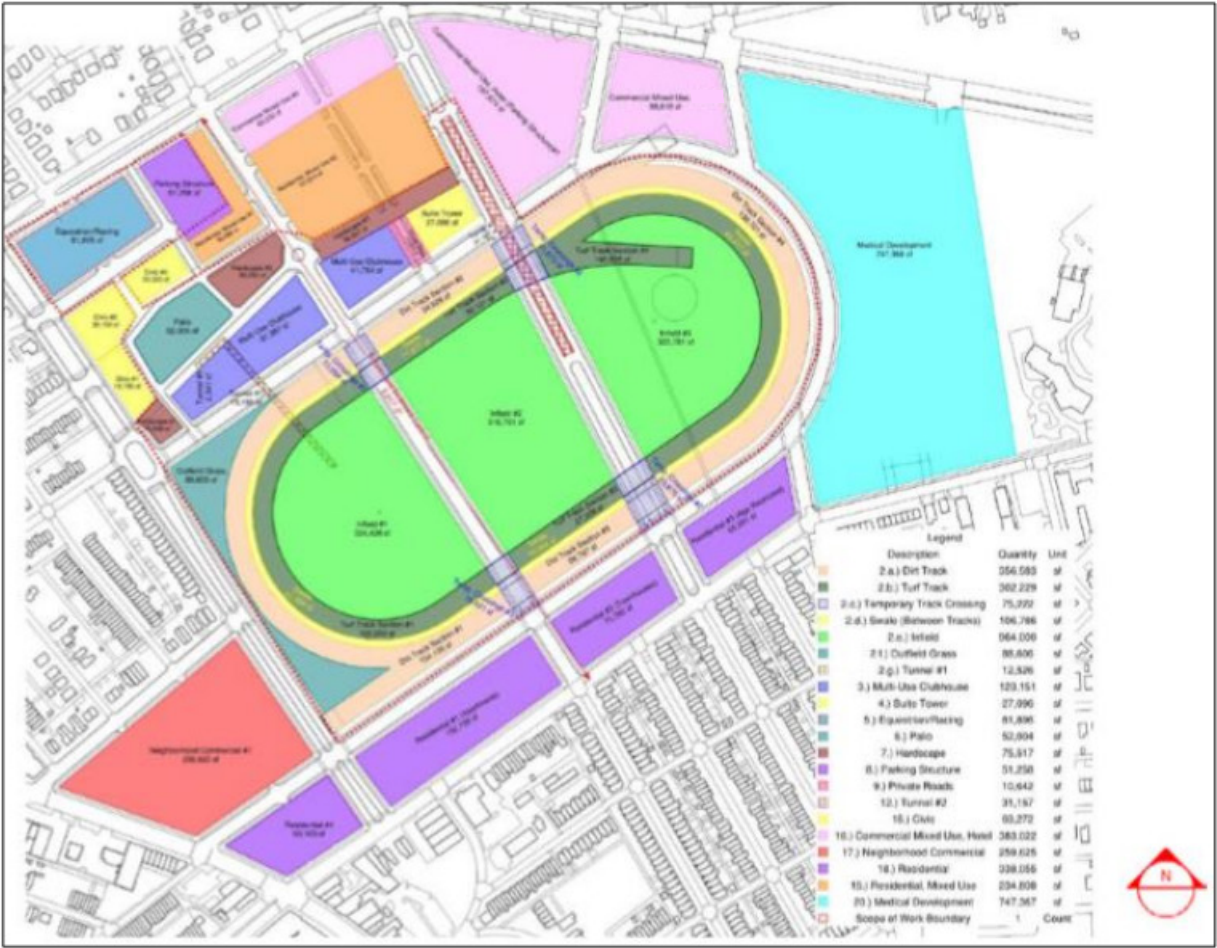


NON-RACING LAND USE ANALYSIS AND METHODOLOGY

The consultant team analyzed potential non-racing land use programs considering the needs of the adjoining neighborhoods and stakeholders including LifeBridge Health. First, Entreken Associates, Inc. obtained an understanding of Pimlico Race Course and its surrounding environs which was accomplished through multiple visits to Pimlico Race Course and the surrounding neighborhood districts. Additional data was reviewed from secondary sources including demographic and socioeconomic statistics and concept planning documents for Baltimore City and surrounding neighborhoods.

The following graphic depicts the Pimlico site reconfiguration that creates land areas for potential development by rotating the track and the reduced site requirements to support live racing. Year-round connectivity through the track would provide public activation of the infield which is typically underutilized at conventional race tracks.

NON-RACING LAND USE ANALYSIS
AND METHODOLOGY



E.3– Non-Racing Land Use Analysis

4

Entreken Associates, Inc. reviewed the situational analysis as it relates to location and access to Pimlico Race Course and provided an overview analyzing the demographics of the surrounding neighborhoods.

The general land use classifications are defined as follows:

- Equestrian/Racing: The key fixed facilities required to host the Preakness Stakes.
- Green Space: Open space at the infield and throughout the development that may be accessible to the public.
- Civic: Potential public service and quality of life components such as a community resource center, police/fire substation, STEM center, etc.
- Commercial Mixed Use, Hotel: Potential hotel property with restaurants and storefront retail.
- Residential Mixed Use: Low-rise residential with ground level retail and restaurants.
- Residential: Potential mix of single/multi-family and age-restricted low rise residential.
- Neighborhood Commercial: Grocery store anchor with storefront retail and services.
- LifeBridge Health Campus: Planned expansion of LifeBridge Medical Campus at Sinai Hospital.

It is important to understand that this is a hypothetical, conceptual analysis of potential uses that could occur – not a feasibility study of what will occur – which is particularly relevant since Pimlico Race Course is owned by the MJC/TSG.

A peer race track comparison among seven existing horse racing venues in the U.S. was prepared. The baseline of the comparison comprised a 1-mile and 5-mile radii surrounding the respective peer facilities with focus on Demographic & Income Profiles, Household Income and Poverty Levels, Housing Profiles and Retail Market Place Profiles.

Predicated on the foregoing information, potential alternative land use development options were analyzed and presented in a matrix format ranking the probability of use as High, Moderate or Low. Research culminated in a summary of future development opportunities that could occur within the Near Term (1-3 Years) or Long Term.

The sections that follow present the market due diligence related to the non-racing land use analysis.

5

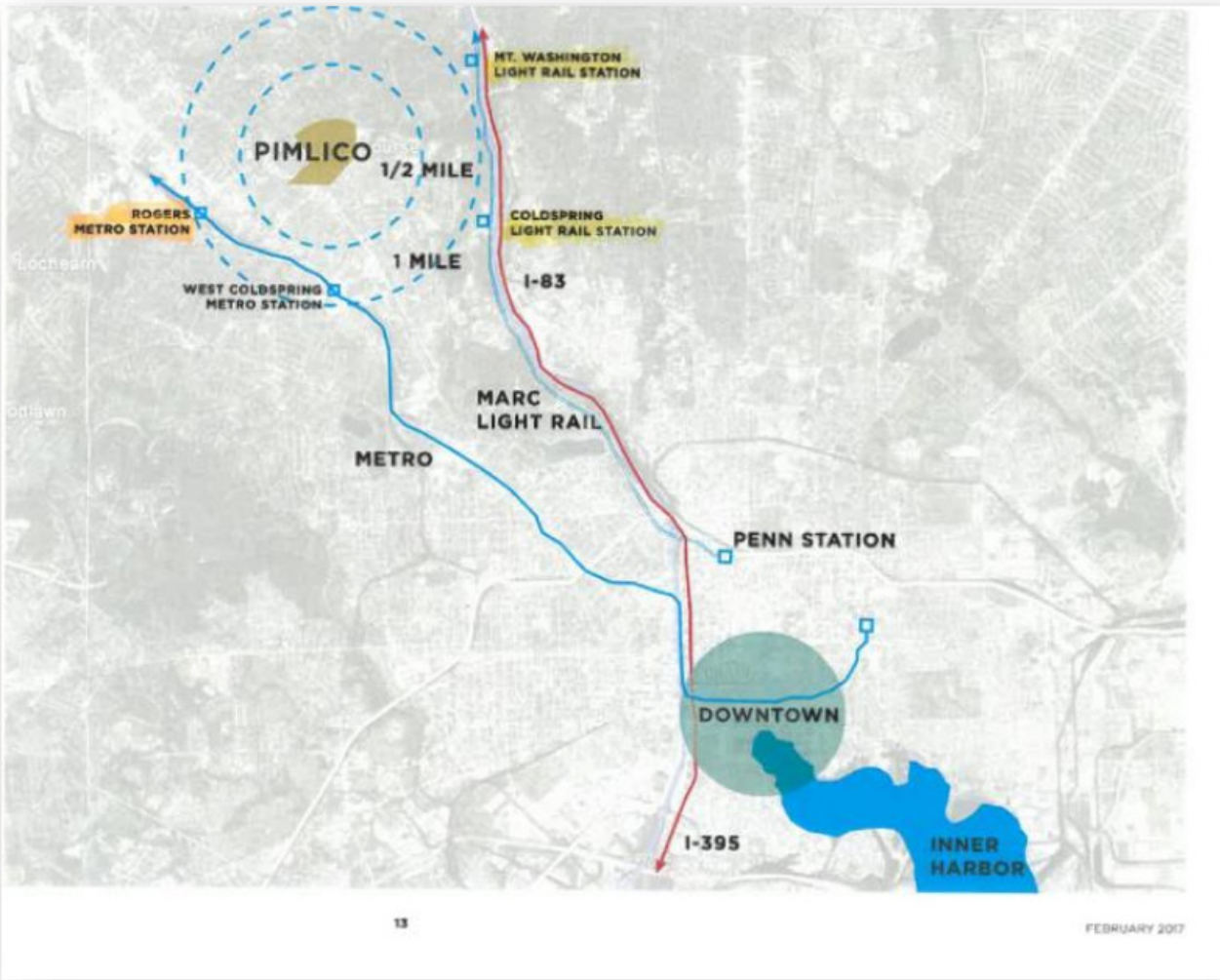
NEIGHBORHOOD ENVIRONS





Situational Analysis

Location and Access



Pimlico is located approximately seven miles driving distance northwest of downtown Baltimore and the Inner Harbor. The most direct driving route is Interstate 83 north to Northern Parkway westbound which feeds directly into the Pimlico grounds. The drive time is approximately 10 minutes.

Downtown and other parts of the City are also served by the Metro which provides service from multiple stations in the downtown area and along the route northwest to Rogers Station, approximately one mile from Pimlico. The Metro also stops further south at Coldspring Station, approximately one mile from Pimlico.



MARC light rail provides service via Penn Station with stops at Coldspring Station, approximately 1.5 miles from Pimlico and further north at Mt. Washington Station, approximately 1.5 miles from Pimlico.

Baltimore-Washington International airport is located approximately 20 miles from Pimlico which is an approximate 30-minute drive.

Within the immediate region, Washington D.C. is approximately 42 miles south with an average drive time of +/- one hour. Philadelphia is approximately 100 miles northwest with an average drive time of one hour and forty-five minutes. Amtrak NE Regional rail service from Philadelphia to Baltimore takes approximately one hour and fifteen minutes. Accessibility to Pimlico is convenient from within the Baltimore urban area and the International airport as well as the larger regional statistical area including Washington D.C. and Philadelphia. The combined region (Baltimore, Washington & Philadelphia) has a population in excess of 16 million which is larger than the regional population base of most race tracks in North America with the possible exceptions of Santa Anita in Los Angeles market and Belmont Park in the New York City market.



Surrounding Neighborhoods & Demographic Analysis

Census Tract Neighborhoods Surrounding Pimlico Race Course				
Subject Neighborhood	Census Tract	Tapestry	2017 Median Household income	2017 Population
Pimlico Good, Levindale & Clyburn	245102717.00	Urban Rows	\$28,838	5,799
North				
Mount Washington	245102715.01	Urban Chic/In Style	\$100,697	3,931
Cheswolde	245102720.03	Retirement Communities	\$77,878	5,365
Cross Country	245102720.02	Old & Newcomers	\$64,369	6,239
Glen	245102720.06	Simple Living	\$27,980	3,565
Fallstaff	245102720.07	Simple Living	\$39,891	4,760
West				
Reisterstown Station & Woodmere	245102801.01	Old & Newcomers	\$45,405	4,093
South				
Grove Park & West Arlington	245102801.02	Urban Rows	\$43,864	6,128
Arlington	245102718.01	Urban Rows	\$33,593	3,105
Langston-Hughes	245102718.02	Urban Rows	\$29,004	3,209
Dolfield	245101510.00	Urban Rows	\$34,920	4,994
Central Park Heights & Parklane	245102716.00	Urban Rows	\$32,312	4,547
Lucille Park & Towanda-Grantley	245101513.00	Urban Rows	\$27,835	4,548

Source: ESRI 2017 & Census Report 2017



Land Use and Neighborhood Content

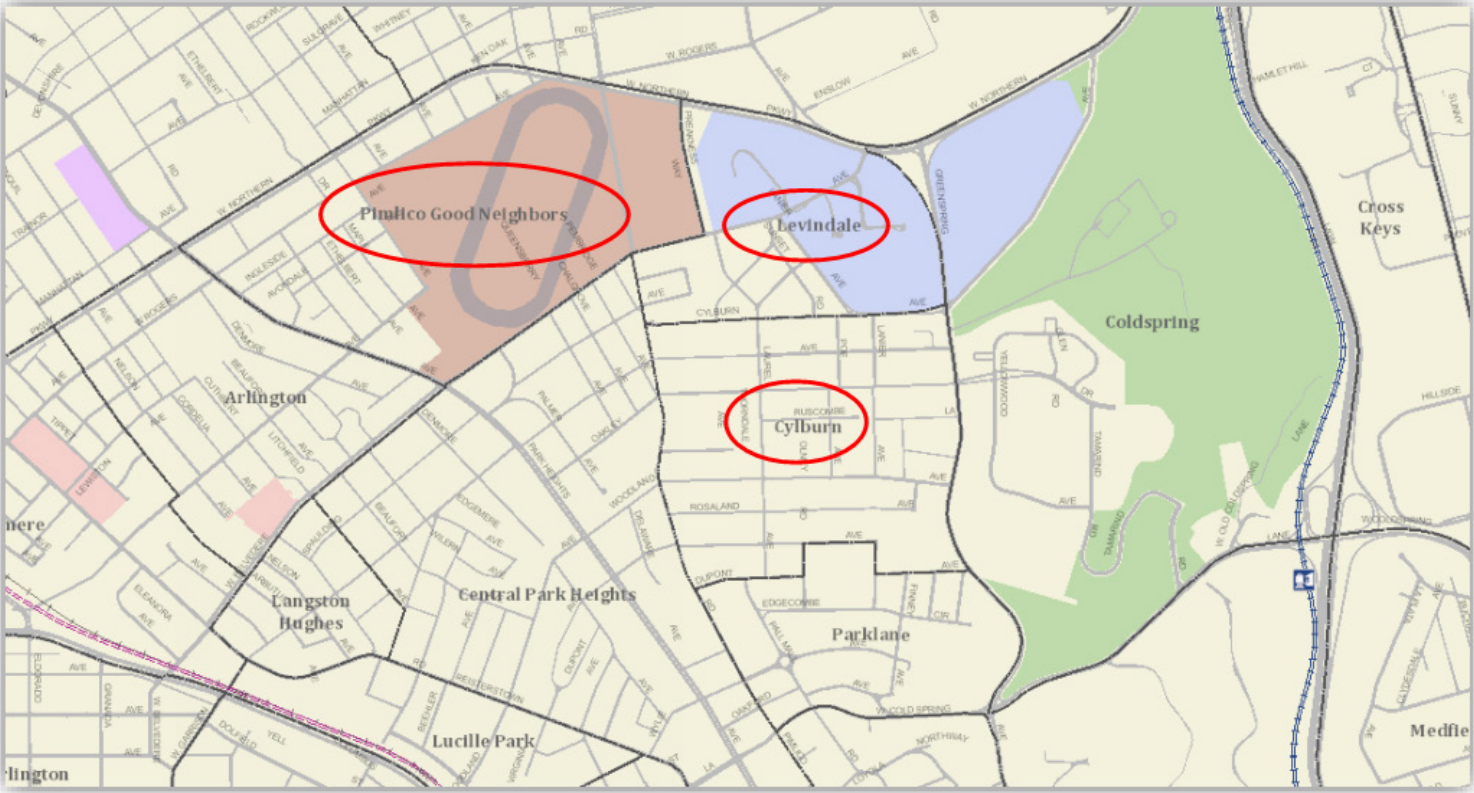
The Pimlico Race Course is located within the Pimlico Good, Levindale and Clyburn Neighborhood district flanked to the north by the Mt. Washington, Cheswolde, Cross Country, Glen and Fallstaff neighborhoods and to the west/southwest by the Reisterstown Station and Woodmere neighborhood districts.

To the south of Pimlico is the neighborhood typically referred to as Park Heights that actually comprises an array of neighborhood districts by US Census that include Grove Park & West Arlington, Arlington, Langston-Hughes, Dolfield, Central Park Heights & Parklane and Lucille Park & Towanda-Grantley. In aggregate, the census estimates that the population of the Park Heights neighborhoods is in excess of 26,000 residents. It is noted that this area has experienced nearly double the City’s rate of out-migration since the trend began in the 1970s.

Subject Pimlico Neighborhood

The Pimlico Good neighborhood is bound by Northern Parkway to the north, Park Heights Avenue to the west, Preakness Way to the east, and West Belvedere Avenue to the south. Located within these defined boundaries is the campus of the Pimlico Race Course which includes the massing of the race track associated improvements. Also located within this defined Census Tract, at the southeast quadrant of Northern Parkway and Park Heights Avenue, are residential row housing and accompanying light commercial improvements. Further, the Levindale neighborhood district and Clyburn neighborhood district are located within this Census Tract. The Levindale neighborhood is primarily occupied by the vast campus of LifeBridge Health (Sinai Hospital) and its medical facilities bordered by Northern Parkway to the north, Greenspring Avenue to the east and Clyburn Avenue to the south. The Pimlico Race Course is situated on the western boundary of the neighborhood. There is also a sizable residential cluster located within the Levindale neighborhood bound by West Belvedere Avenue on the north, Clyburn Avenue on the south and Pimlico Road on the west. Situated south of Levindale is the Clyburn neighborhood district bound by Pimlico Road on the west, Greenspring Avenue on the east and Dupont and Virginia Avenues forming the southern neighborhood boundary.

Census Tract	Tapestry	2017 Median Household Income	2017 Population
Pimlico Good, Levindale & Clyburn	Urban Rows	\$28,838	5,799



Neighborhood Overview									
Pimlico Good, Levindale & Clyburn	Residential Density Use Pattern				Retail & Commercial Density Pattern			Office & Mixed Use Density Pattern	
	Single Family	Condominium	Multifamily	Zillow SF Median Value	High	Moderate	Low	High	Moderate
	85%		15%	\$55,000		X			X

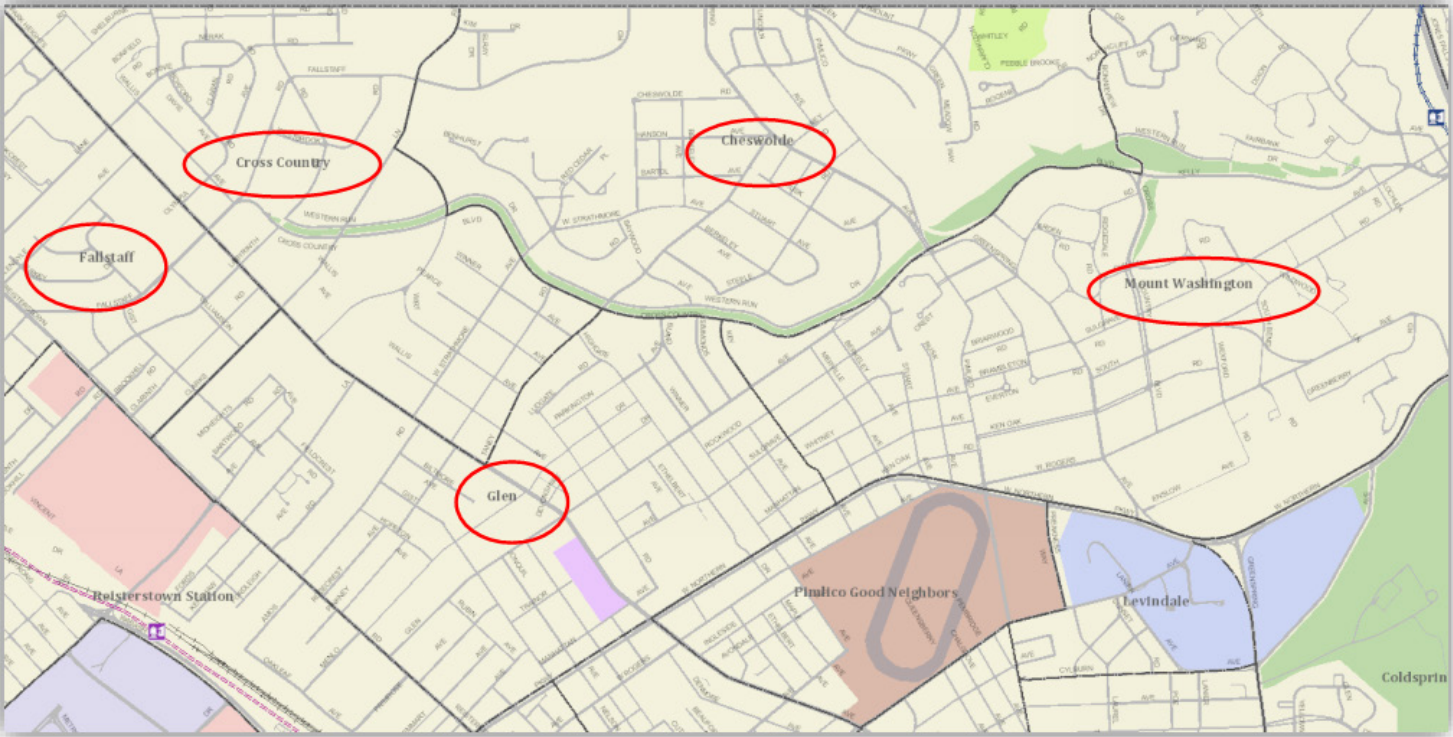
Note: Industrial uses are classified within the Commercial Density Pattern

North of Pimlico

This overall general neighborhood district is bound by the Northern Parkway along the south, Joseph Falls Parkway (I-83) along its eastern boundary and Park Heights Avenue (SR 129) along its western boundary. The northern boundary of these neighborhood districts generally traverses the Baltimore City limits.

	Census Tract	Tapestry	2017 Median Household Income	2017 Population
Mount Washington	245102715.01	Urban Chic/In Style	\$100,697	3,931
Cheswolde	245102720.03	Retirement Communities	\$77,878	5,365
Cross Country	245102720.02	Old & Newcomers	\$64,369	6,239
Glen	245102720.06	Simple Living	\$27,980	3,565
Fallstaff	245102720.07	Simple Living	\$39,891	4,760
			Total	23,860

E.3– Non-Racing Land Use Analysis



North Neighborhood Overview										
	Residential Density Use Pattern				Retail & Commercial Density Pattern			Office & Mixed Use Density Pattern		
	Single Family	Condominium	Multifamily	Zillow SF Median Value	High	Moderate	Low	High	Moderate	Low
Mount Washington	80%	15%	5%	\$328,900			X			X
Cheswolde	35%	60%	5%	\$288,300			X			X
Cross Country	50%	10%	40%	\$322,400			X			X
Glen	50%	25%	25%	\$158,900		X			X	
Fallstaff	75%	5%	25%	\$138,700		X			X	

E.3– Non-Racing Land Use Analysis



13

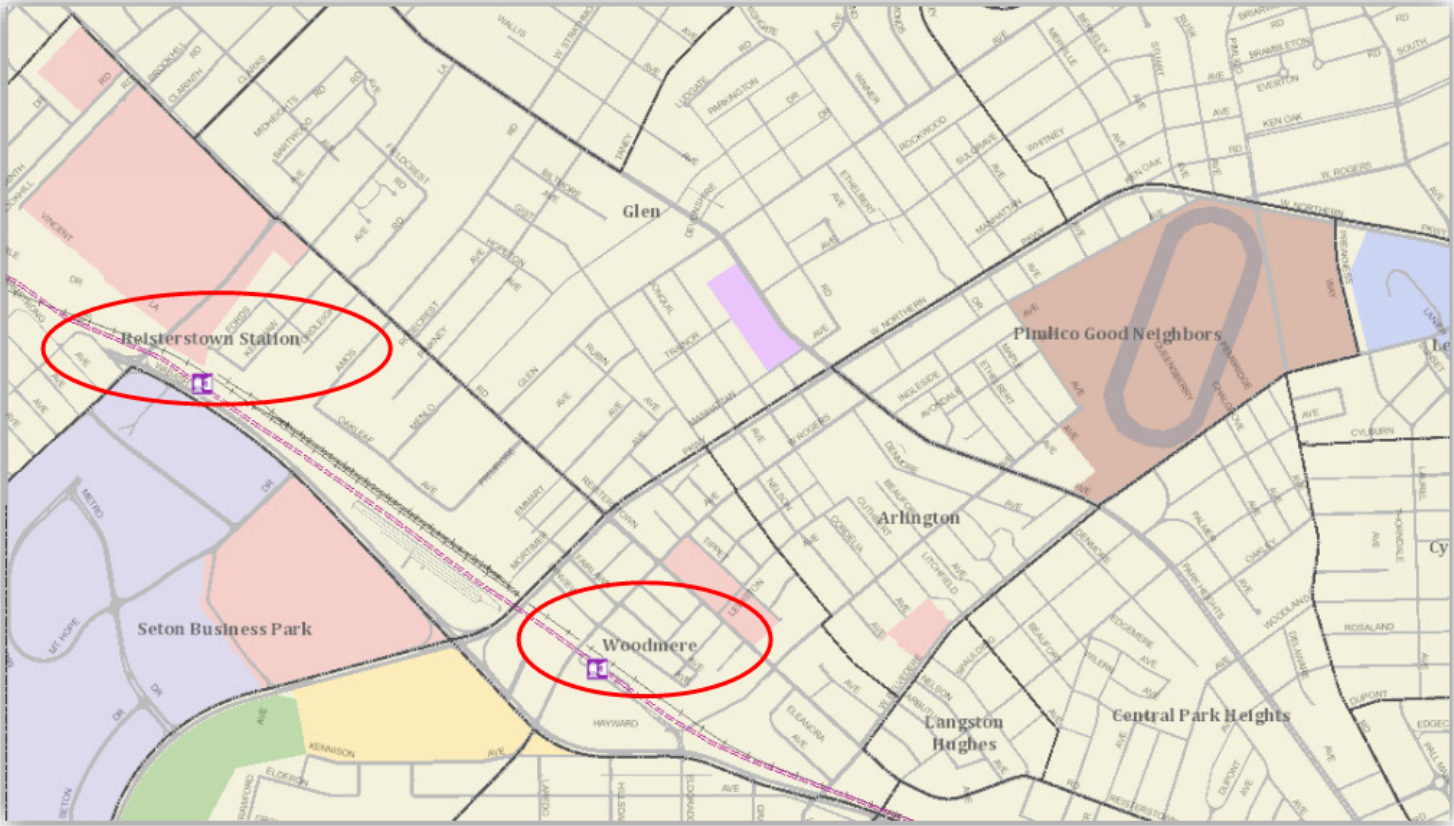
West of Pimlico

The Reisterstown Station neighborhood district is generally situated west/southwest of Pimlico and bound on the northerly edge by Reisterstown Road that traverses northwesterly from Northern Parkway to Labyrinth Road on the north (by Census Tract). The Metro line generally navigates along the western boundary intersecting with Northern Parkway at the southern boundary. The Woodmere neighborhood (by Census Tract) is generally bound by Northern Parkway along the northwesterly edge and Wabash Avenue along its southwesterly boundary. The southeastern boundary takes a circuitous jog closing with the northern boundary generally running along Gist Avenue to Northern Parkway.

	Census Tract	Tapestry	2017 Median Household Income	2017 Population
Reisterstown Station & Woodmere	245102801.01	Old & Newcomers	\$45,405	4,093



14



West Neighborhood Overview										
Reisterstown Station & Woodmere	Residential Density Use Pattern				Retail & Commercial Density Pattern			Office & Mixed Use Density Pattern		
	Single Family	Condominium	Multifamily	Zillow SF Median Value	High	Moderate	Low	High	Moderate	Low
	95%		5%	\$328,900	X				X	

Note: Industrial uses are classified within the Commercial Density Pattern

E.3– Non-Racing Land Use Analysis



15

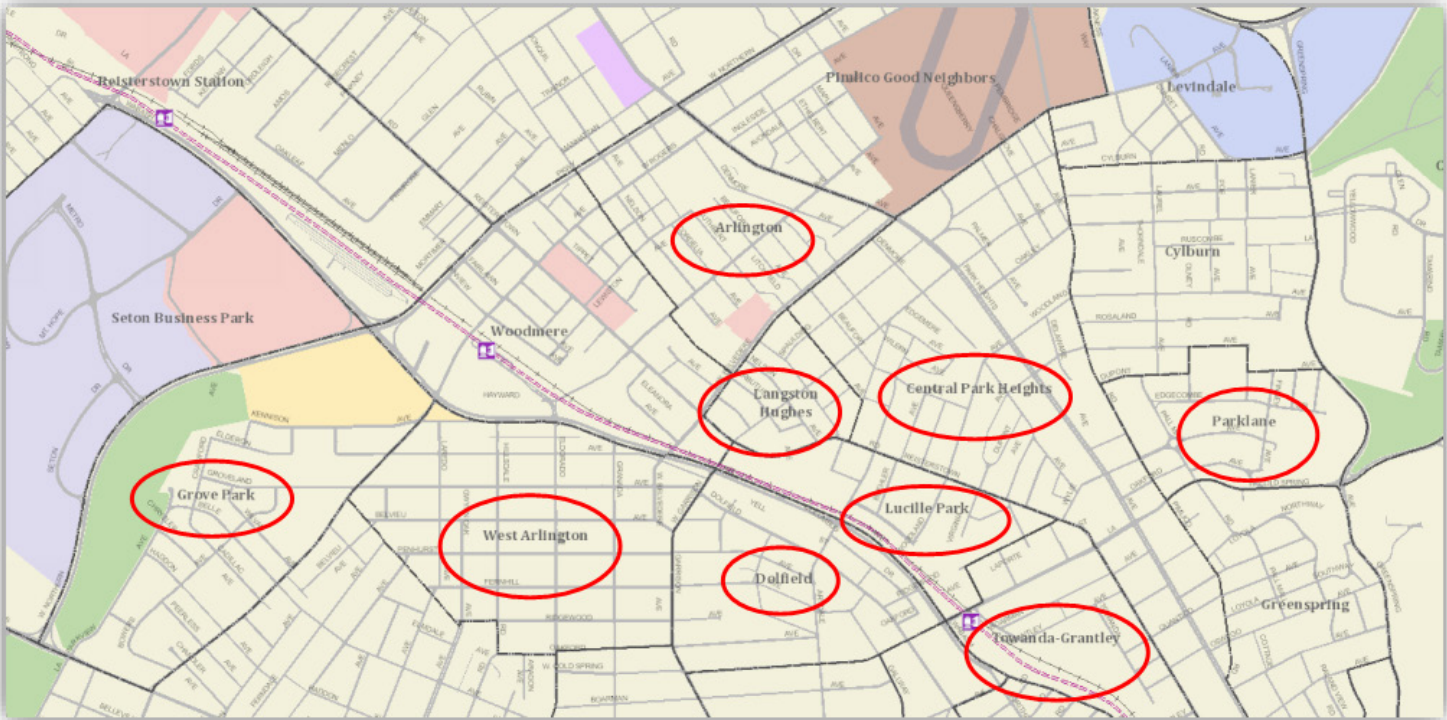
South of Pimlico

Situated along the southern quadrant of Pimlico is a district typically referred to as the Park Heights neighborhood. This area comprises an array of neighborhood districts defined by Census Tracts as Grove Park & West Arlington, Arlington, Langston-Hughes, Dolfield, Central Park Heights & Parklane and Towanda-Grantley.

	Census Tract	Tapestry	2017 Median Household Income	2017 Population
Grove Park & West Arlington	245102801.02	Urban Rows	\$43,864	6,128
Arlington	245102718.01	Urban Rows	\$33,593	3,105
Langston-Hughes	245102718.02	Urban Rows	\$29,004	3,209
Dolfield	245101510.00	Urban Rows	\$34,920	4,994
Central Park Heights & Parklane	245102716.00	Urban Rows	\$32,312	4,547
Lucille Park & Towanda-Grantley	245101513.00	Urban Rows	\$27,835	4,548
			Total	26,531



16



	South Neighborhood Overview						
	Residential Density Use Pattern				Retail & Commercial Density Pattern		
	Single Family	Condominium	Multifamily	Zillow SF Median Value	High	Moderate	Low
Grove Park & West Arlington	85%		15%	\$142,700			X
Arlington	85%		15%	\$53,700			X
Langston-Hughes	90%		10%	No Data		X	X
Dolfield	90%		10%	\$129,500			X
Central Park Heights & Parklane	85%		15%	No Data		X	X
Lucille Park & Towanda-Grantley	65%		35%	No Data		X	X

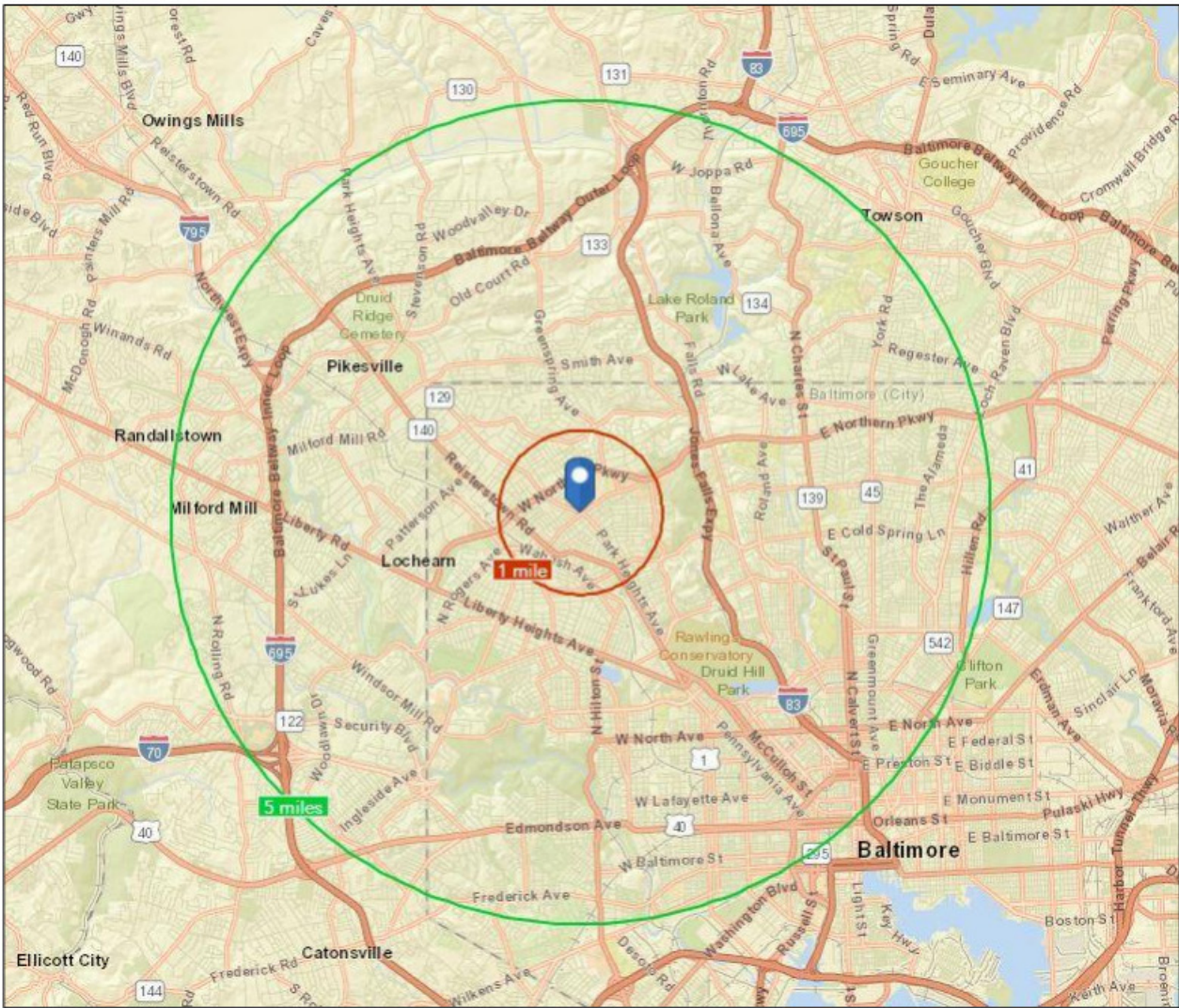
E.3– Non-Racing Land Use Analysis

Demographic & Income Profile - Pimlico Race Course						
2017	Radii		Drivetime			
	1 Mile	5 Mile	30 Minutes			
Population	27,696	493,431	1,393,631			
Households	10,494	194,767	548,939			
Owner Occupied Units	5,237	94,404	304,824			
Renter Occupied Units	5,258	100,364	244,115			
Median Age	41.4	37.7	37.9			
Households By Income						
Median Household Income	\$36,214	\$45,839	\$57,771			
National Median Income -	\$57,617					
% Households Below National Median +/-						
	(<) \$15,000	20.9%	17.8%	12.7%		
	\$15,000-\$24,999	15.2%	11.2%	8.9%		
	\$25,000-\$34,999	12.3%	9.3%	9.3%		
	\$35,000-\$49,999	14.6%	11.9%	12.0%		
	\$50,000-\$58,000	11.3%	13.0%	13.6%		
Total % Households Below National Median +/-				74.3%	63.2%	56.5%
Households by Income Under National Poverty Level						
Household of 2 - <\$15,000				21.3%	18.2%	12.7%
Household of 4 - \$15,000-\$24,999				15.2%	11.1%	8.5%
% Race & Ethnicity						
2017	Radii		Drivetime			
	1 Mile	5 Mile	30 Minutes			
	White Alone	11.0%	29.5%	44.1%		
	Black Alone	85.8%	62.2%	44.0%		
	Other Races	3.2%	8.3%	11.9%		
Housing Profile - Pimlico Race Course						
2017	Radii		Drivetime			
	1 Mile	5 Mile	30 Minutes			
Median Occupied Home Value				\$126,696	\$193,838	\$243,620
Average Occupied Home Value				\$164,641	\$256,404	\$303,496
Median Household Income				\$36,214	\$45,839	\$57,771
Ratio/Median Home Value to Median Income				3.50	4.23	4.22
% Owner Occupied Units				40.00%	40.60%	49.30%
Market Profile - Pimlico Race Course						
Top 3 Tapestry Segments		Family Foundations	Family Foundations	Parks & Rec		
		Modest Income Homes	Modest Income Homes	Family Foundations		
		Retirement Communities	City Commons	Enterprising Professionals		

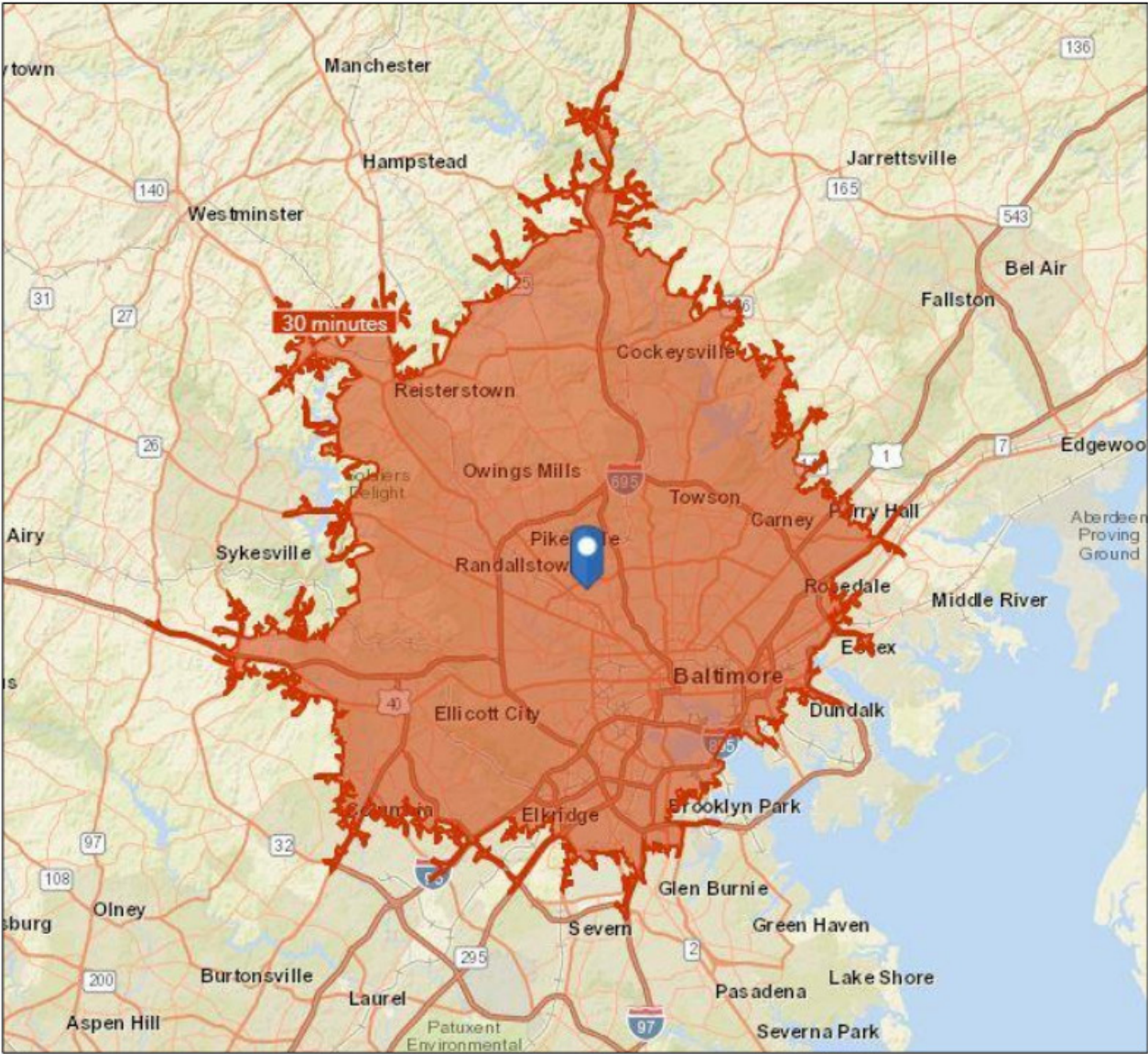
Notes:
The total area encompassing the 1-mile radius is situated within Baltimore City.
A portion of the area encompassing the 5-mile radii lies outside Baltimore City, particularly to the north and west.

Source: esri 2018

1- and 5-Mile Radii



30-Minute Drive Time





PEER RACE TRACK ANALYSIS

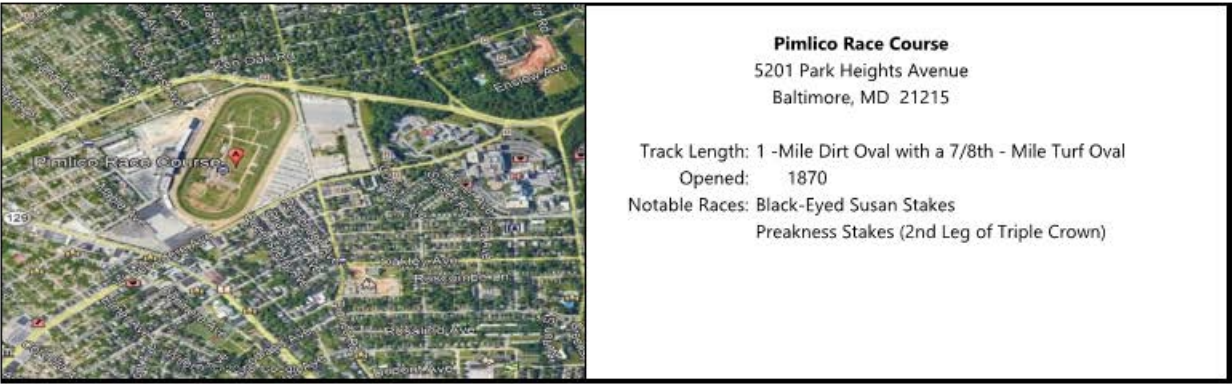
PEER RACE TRACK ANALYSIS

This section compares the surrounding demographics of the subject Pimlico Race Course to seven peer type race track facilities in the U.S. The baseline of the comparison comprised a 1-mile and 5-mile radii surrounding the respective peer facilities including Demographic and Income Profiles, Household & Housing Profiles and Retail Market Place Profiles.

The peer race track comparison provides a snapshot comparison of race track facilities and their surrounding environs to Pimlico Race Course. There was no attempt to make comparisons whereby a definitive conclusion for a certain residential and/or commercial product type is determined. The overview among the peer tracks and Pimlico Race Course focuses on what may be similar neighborhood environs whereby market trends may be observed and utilized in the assessment of potential land uses which may warrant additional, more detailed market and feasibility analysis.

E.3– Non-Racing Land Use Analysis

22



Demographic & Income Comparison Profile	1 Mile Radius					5 Mile Radii				
	2018 Summary									
	Population	27,222				486,398				
	Households	10,316				192,017				
	Median Household Income	\$36,919				\$47,152				
	Household by Income Under National Poverty Level									
	Household of 2 - <\$15,000	21.30%				18.20%				
	Household of 4 - \$15,000-\$24,999	15.20%				11.10%				
	2018 Race & Ethnicity									
	White Alone	10.50%				28.80%				
Black Alone	86.40%				64.00%					
Other Races	3.10%				7.20%					
Housing Profile										
2018 Summary										
Owner Occupied Units	41.80%				40.70%					
Renter Occupied Units	37.70%				35.40%					
Vacant	19.61%				16.10%					
Median Value	\$140,152				\$198,401					
Ratio/Median Home Value to Median Income	3.80				4.21					
Retail Market Place Profile (Rounded \$000)										
Building Material, Garden Equip. & Supply Stores	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
2017 Industry Summary										
Total Retail Trade	\$238,435	\$90,661	\$147,774	44.9	99	\$5,623,602	\$3,356,003	\$2,267,598	25.3	1,925
Total Food & Drink	\$25,368	\$11,189	\$14,179	38.8	48	\$619,787	\$511,211	\$108,576	9.6	993
2017 Industry By Group										
Motor Vehicle & Parts Dealers	\$49,913	\$19,692	\$30,221	43.4	26	\$1,157,508	\$337,059	\$820,448	54.9	149
Furniture & Home Furnishing Stores	\$8,570	\$789	\$7,781	83.1	3	\$203,864	\$75,035	\$128,829	46.2	66
Electronics & Appliance Stores	\$9,156	\$3,365	\$5,790	46.2	3	\$220,605	\$218,120	\$2,485	0.6	74
Building Material, Garden Equip. & Supply Stores	\$15,615	\$2,489	\$13,125	72.5	2	\$363,234	\$105,239	\$257,994	55.1	62
Food & Beverage Stores	\$44,890	\$23,302	\$21,677	31.7	27	\$1,063,575	\$1,147,005	(\$83,429)	-3.8	488
Gasoline Stations	\$21,930	\$11,777	\$10,153	30.1	5	\$505,690	\$369,597	\$136,093	15.5	103
General Merchandise Stores	\$38,864	\$5,661	\$33,203	74.6	5	\$926,145	\$250,629	\$675,516	57.4	92
Miscellaneous Retailers	\$8,888	\$2,369	\$6,519	57.9	11	\$209,781	\$138,541	\$71,239	20.5	260
Food Services & Drinking Places	\$25,368	\$11,189	\$14,179	38.8	48	\$619,787	\$511,211	\$108,576	9.6	993

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

E.3– Non-Racing Land Use Analysis

23




Laurel Park Racetrack
198 Laurel Race Track Road
Laurel, MD 20725

Track Length: 1 & 1/8th-Mile Dirt Oval with 1- Mile Turf Oval
Opened: 1911
Notable Races: Frank J. DeFrancis Memorial Dash Stakes
Barbara Fritchie Handicap
Baltimore Washington International Turf Cup
Maryland Million

Demographic & Income Comparison Profile	1 Mile Radius					5 Mile Radii				
2018 Summary										
Population	9,733					135,152				
Households	3,721					48,276				
Median Household Income	\$65,668					\$89,935				
Household by Income Under National Poverty Level										
Household of 2 - <\$15,000	5.70%					4.40%				
Household of 4 - \$15,000-\$24,999	3.70%					3.80%				
2018 Race & Ethnicity										
White Alone	35.30%					35.70%				
Black Alone	37.20%					42.00%				
Other Races	27.50%					22.30%				
Housing Profile										
2018 Summary										
Owner Occupied Units	34.30%					53.00%				
Renter Occupied Units	58.90%					42.00%				
Vacant	6.80%					4.90%				
Median Value	\$287,550					\$348,004				
Ratio/Median Home Value to Median Income	4.38					3.87				
Retail Market Place Profile (Rounded \$000)										
	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
2017 Industry Summary										
Total Retail Trade	\$130,064	\$422,166	(\$292,101)	-52.9	114	\$2,280,275	\$2,663,413	(\$383,138)	-7.8	636
Total Food & Drink	\$14,626	\$19,985	(\$5,358)	-15.5	32	\$258,676	\$199,050	\$59,625	13.0	237
2017 Industry By Group										
Motor Vehicle & Parts Dealers	\$26,910	\$167,018	(\$140,107)	-72.2	21	\$472,507	\$683,226	(\$210,719)	-18.2	80
Furniture & Home Furnishing Stores	\$4,624	\$13,988	(\$9,364)	-50.3	8	\$83,814	\$176,900	(\$93,086)	-35.7	61
Electronics & Appliance Stores	\$5,080	\$17,126	(\$12,046)	-54.2	8	\$90,512	\$124,182	(\$33,669)	-15.7	63
Building Material, Garden Equip. & Supply Stores	\$7,611	\$44,944	(\$37,383)	-71.1	9	\$147,349	\$276,770	(\$129,421)	-15.7	63
Food & Beverage Stores	\$25,008	\$96,944	(\$71,936)	-59.0	19	\$426,535	\$573,451	(\$146,915)	-14.4	103
Gasoline Stations	\$12,036	\$40,296	(\$28,259)	-54.0	8	\$203,297	\$319,114	(\$115,816)	-22.2	36
General Merchandise Stores	\$21,727	\$15,874	\$5,852	15.6	4	\$377,613	\$310,924	\$66,688	9.7	31
Miscellaneous Retailers	\$4,720	\$7,945	(\$3,224)	-25.5	15	\$84,636	\$52,779	\$31,856	23.2	72
Food Services & Drinking Places	\$14,626	\$19,985	(\$5,358)	-15.5	32	\$258,676	\$199,050	\$59,625	13.0	237

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

E.3– Non-Racing Land Use Analysis



Belmont Park
2150 Hemstead Turnpike
Elmont, NY 11003


Track Length: 1.5 Miles: Widner Turf Course 1 5/16th Miles
Opened: 1905
Notable Races: Belmont Stakes (3rd Leg of Triple Crown)
Jockey Club Gold Cup
Woodward Stakes

Demographic & Income Comparison Profile	1 Mile Radius					5 Mile Radii				
	2018 Summary									
	Population	35,262				946,040				
	Households	10,628				312,851				
	Median Household Income	\$85,104				\$80,137				
	Household by Income Under National Poverty Level									
	Household of 2 - <\$15,000	5.80%				7.50%				
	Household of 4 - \$15,000-\$24,999	5.50%				6.30%				
	2018 Race & Ethnicity									
	White Alone	19.80%				32.00%				
Black Alone	59.50%				35.00%					
Other Races	20.70%				33.00%					
Housing Profile										
2018 Summary										
Owner Occupied Units	68.40%				61.40%					
Renter Occupied Units	26.40%				32.90%					
Vacant	5.20%				5.80%					
Median Value	\$429,393				\$472,739					
Ratio/Median Home Value to Median Income	5.05				5.90					
Retail Market Place Profile (Rounded \$000)										
	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
2017 Industry Summary										
Total Retail Trade	\$440,278	\$83,233	\$357,045	68.2	58	\$12,990,124	\$8,769,172	\$4,220,952	19.4	3,702
Total Food & Drink	\$49,480	\$19,774	\$29,706	42.9	45	\$1,467,704	\$938,345	\$529,358	22.0	2,005
2017 Industry By Group										
Motor Vehicle & Parts Dealers	\$86,254	\$22,564	\$63,690	58.5	7	\$2,524,027	\$2,197,367	\$326,659	6.9	340
Furniture & Home Furnishing Stores	\$16,125	\$1,101	\$15,024	87.2	2	\$479,028	\$241,443	\$237,584	33.0	201
Electronics & Appliance Stores	\$16,978	\$6,803	\$10,175	42.8	3	\$506,069	\$299,999	\$206,069	25.6	206
Building Material, Garden Equip. & Supply Stores	\$27,354	\$5,502	\$21,852	66.5	6	\$793,479	\$685,283	\$108,195	7.3	346
Food & Beverage Stores	\$78,225	\$9,578	\$68,646	78.2	14	\$2,318,640	\$1,442,734	\$875,905	23.3	605
Gasoline Stations	\$42,627	\$9,932	\$32,695	62.2	2	\$1,251,351	\$744,803	\$506,548	25.4	181
General Merchandise Stores	\$53,131	\$5,195	\$48,936	85.4	4	\$1,575,487	\$821,402	\$754,085	31.5	187
Miscellaneous Retailers	\$16,582	\$7,750	\$8,831	36.3	6	\$491,378	\$323,412	\$167,965	20.6	525
Food Services & Drinking Places	\$49,480	\$19,774	\$29,706	42.9	45	\$1,467,704	\$938,345	\$529,358	22.0	2,005

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

E.3– Non-Racing Land Use Analysis

26



Saratoga Race Course

267 Union Avenue

Saratoga Springs, NY 12866

Track Length: 1 1/8th - Mile dirt tract & 1 -Mile turf track

Opened: 1863

Notable Races: Travers Stakes

Whitney Handicap


Woodward Stakes

1 Mile Radius					5 Mile Radii				
5,549					43,082				
2,751					18,016				
\$76,914					\$76,552				
8.80%					8.30%				
7.10%					7.90%				
89.30%					91.40%				
3.70%					2.60%				
7.00%					6.00%				
40.90%					55.30%				
43.00%					32.80%				
16.10%					11.90%				
\$363,456					\$293,362				
4.73					3.83				
Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
\$118,685	\$44,008	\$74,677	45.9	19	\$787,708	\$916,872	(\$129,164)	-7.6	385
\$13,443	\$13,828	(\$385)	-1.4	20	\$87,717	\$151,155	(\$63,437)	-26.6	199
\$23,788	\$3,505	\$20,283	74.3	2	\$160,303	\$137,375	\$22,928	7.7	24
\$4,417	\$2,875	\$1,541	21.1	3	\$29,293	\$31,340	(\$2,047)	-3.4	30
\$4,587	\$0	\$4,587	100.0	0	\$30,094	\$29,622	\$471	0.8	15
\$7,010	\$1,139	\$5,870	72.0	1	\$49,088	\$59,086	(\$10,109)	-9.3	22
\$20,965	\$8,291	\$12,673	43.3	4	\$137,208	\$107,640	\$29,568	12.1	37
\$11,707	\$0	\$11,707	100.0	0	\$77,763	\$63,449	\$14,314	10.1	18
\$14,334	\$0	\$14,334	100.0	0	\$94,165	\$167,075	(\$72,910)	-27.9	16
\$4,518	\$22,840	(\$18,321)	-67.0	3	\$30,074	\$125,694	(\$95,619)	-61.4	65
\$13,443	\$13,828	(\$385)	-1.4	20	\$87,717	\$151,155	(\$63,437)	-26.6	199

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

E.3– Non-Racing Land Use Analysis

27



Aqueduct Racetrack
110 Rockaway Blvd.
South Ozone Park, NY 11420

Track Length: 1 1/8th - Mile dirt tract & 1 -Mile outer turf track
Opened: 1894
Notable Races: Wood Memorial Stakes
Cigar Mile Handicap
Carter Handicap
Gotham Stakes

1 Mile Radius					5 Mile Radii				
90,452					1,579,292				
25,807					529,369				
\$64,054					\$56,134				
9.20%					13.70%				
8.40%					9.40%				
20.00%					27.70%				
16.20%					35.90%				
63.80%					36.40%				
50.50%					37.70%				
42.90%					55.50%				
6.60%					6.80%				
\$477,656					\$472,505				
7.46					8.42				
					</				

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

E.3– Non-Racing Land Use Analysis



Surfside Race Track at Del Mar
2260 Jimmy Durante Blvd.
Del Mar, CA 92014


Track Length: 1-Mile oval with chutes for 7/8th & 1 1/4 mile races
Opened: 1937
Notable Races: Pacific Classic
Bing Crosby Stakes
Del Mar Oaks
Del Mar Futurity
2017 Breeders Cup

Demographic & Income Comparison Profile	1 Mile Radius					5 Mile Radii				
	2018 Summary									
	Population	6,103				100,129				
	Households	2,839				39,357				
	Median Household Income	\$102,008				\$131,332				
	Household by Income Under National Poverty Level									
	Household of 2 - <\$15,000	6.60%				5.20%				
	Household of 4 - \$15,000-\$24,999	2.40%				2.90%				
	2018 Race & Ethnicity									
	White Alone	80.50%				74.10%				
Black Alone	0.40%				0.70%					
Other Races	19.10%				25.20%					
Housing Profile										
2018 Summary										
Owner Occupied Units	39.40%				62.60%					
Renter Occupied Units	45.50%				31.60%					
Vacant	15.10%				5.90%					
Median Value	\$1,391,152				\$1,132,230					
Ratio/Median Home Value to Median Income	13.64				8.62					
Retail Market Place Profile (Rounded \$000)										
	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
2017 Industry Summary										
Total Retail Trade	\$173,778	\$160,273	\$13,504	4.0	105	\$2,954,451	\$1,007,529	\$1,946,922	49.1	582
Total Food & Drink	\$19,810	\$50,469	(\$30,658)	-43.6	45	\$332,164	\$234,903	\$97,260	17.2	294
2017 Industry By Group										
Motor Vehicle & Parts Dealers	\$34,931	\$1,979	\$32,951	89.3	2	\$610,070	\$30,051	\$580,019	90.6	14
Furniture & Home Furnishing Stores	\$6,560	\$8,927	(\$2,366)	-15.3	7	\$114,794	\$36,124	\$78,669	52.1	33
Electronics & Appliance Stores	\$6,558	\$5,194	\$1,364	11.6	5	\$112,233	\$37,129	\$75,103	50.3	38
Building Material, Garden Equip. & Supply Stores	\$10,373	\$9,908	\$465	2.3	8	\$190,323	\$76,730	\$113,593	42.5	62
Food & Beverage Stores	\$28,380	\$52,453	(\$24,073)	-29.8	11	\$467,871	\$332,367	\$135,504	16.9	55
Gasoline Stations	\$14,737	\$29,524	(\$14,787)	-33.4	3	\$248,542	\$173,148	\$75,394	17.9	19
General Merchandise Stores	\$29,342	\$7,495	\$21,846	59.3	5	\$490,825	\$27,294	\$463,530	89.5	17
Miscellaneous Retailers	\$6,512	\$9,293	(\$2,781)	-17.6	22	\$110,628	\$48,326	\$62,302	39.2	117
Food Services & Drinking Places	\$19,810	\$50,469	(\$30,658)	-43.6	45	\$332,164	\$234,903	\$97,260	17.2	294

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

E.3– Non-Racing Land Use Analysis

29

		<div>Santa Anita Park 285 Huntington Drive Arcadia, CA 91007</div> <div>Track Length: 1-Mile dirt track & 0.9-Mile turf track Opened: 1934 Notable Races: Santa Anita Derby Santa Anita Handicap Santa Anita Oaks 2016 Breeders Cup 2019 Breeders Cup</div>							
1 Mile Radius					5 Mile Radii				
15,884					402,405				
5,668					131,826				
\$77,782					\$75,125				
8.70%					8.30%				
5.60%					7.70%				
27.80%					40.80%				
1.40%					2.50%				
70.80%					56.70%				
46.50%					52.90%				
48.40%					42.10%				
5.10%					5.00%				
\$893,911					\$683,998				
11.49					9.10				
Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
\$244,774	\$706,026	(\$461,251)	-48.5	216	\$5,549,083	\$5,574,810	(\$25,726)	-0.2	2,130
\$27,627	\$93,225	(\$65,598)	-54.3	90	\$621,790	\$649,407	(\$27,616)	-2.2	999
\$48,983	\$289,659	(\$240,676)	-71.1	4	\$1,112,107	\$1,685,810	(\$573,702)	-20.5	203
\$9,340	\$4,400	\$4,939	35.9	5	\$209,953	\$220,618	(\$10,664)	-2.5	136
\$9,486	\$12,476	(\$2,989)	-13.6	12	\$213,040	\$250,469	(\$37,429)	-8.1	124
\$14,949	\$8,850	\$6,098	25.6	11	\$337,535	\$255,946	\$81,588	13.7	188
\$39,603	\$22,379	\$17,223	27.8	20	\$900,746	\$795,949	\$104,797	6.2	267
\$20,828	\$11,301	\$9,526	29.7	2	\$476,038	\$486,423	(\$10,385)	-1.1	92
\$41,200	\$157,428	(\$116,227)	-58.5	6	\$934,842	\$635,732	\$299,109	19.0	87
\$9,157	\$10,373	(\$1,216)	-6.2	29	\$206,376	\$187,660	\$18,716	4.7	338
\$27,627	\$93,225	(\$65,598)	-54.3	90	\$621,790	\$649,407	(\$27,616)	-2.2	999

Source: esri 2018 Demographic & Income Comparison, Housing Profile, Retail Market Potential & 2017 Retail MarketPlace Profile

The following table provides a demographic and income profile comparison of the profiled race tracks.

Summary of Comparisons - 1 Mile Radius								
Demo & Income Profile	Pimlico Race Course	Laurel Park Racetrack	Gulfstream Park Racing & Casino	Belmont Park	Saratoga Race Course	Aqueduct Racetrack	Surfside Race Place at Del Mar	Santa Anita Park
Population	27,222	9,733	22,806	35,262	5,549	90,452	6,103	15,884
Households	10,316	3,721	10,498	10,628	2,751	25,807	2,839	5,668
Median Household Income	\$36,919	\$65,668	\$44,040	\$85,104	\$76,914	\$64,054	\$102,008	\$77,782
% Household Under National Poverty Level								
Household of 2 - <\$15,000	21.30%	5.70%	17.40%	5.80%	8.80%	9.20%	6.60%	8.70%
Household of 4 - \$15,000-\$24,999	15.20%	3.70%	12.00%	5.50%	7.10%	8.40%	2.40%	5.60%
2018 Race & Ethnicity								
White Alone	10.50%	35.30%	81.50%	19.80%	89.30%	20.00%	80.50%	27.80%
Black Alone	86.40%	37.20%	9.70%	59.50%	3.70%	16.20%	0.40%	1.40%
Other Races	3.10%	27.50%	8.80%	20.70%	7.00%	63.80%	19.10%	70.80%
Housing Profile								
Median Value	\$140,152	\$287,550	\$221,478	\$429,393	\$363,456	\$477,656	\$1,391,152	\$893,911
Ratio/Median Home Value to Median Income	3.80	4.38	5.03	5.05	4.73	7.46	13.64	11.49
% Vacant	19.80%	6.80%	24.70%	5.20%	16.10%	6.60%	15.10%	5.10%

Summary of Comparisons - 5 Mile Radii								
Demo & Income Profile	Pimlico Race Course	Laurel Park Racetrack	Gulfstream Park Racing & Casino	Belmont Park	Saratoga Race Course	Aqueduct Racetrack	Surfside Race Place at Del Mar	Santa Anita Park
Population	486,398	135,152	361,615	946,040	43,082	1,579,292	100,129	402,405
Households	192,017	48,276	150,767	312,851	18,016	529,369	39,357	131,826
Median Household Income	\$47,152	\$89,935	\$48,037	\$80,137	\$76,552	\$56,134	\$131,332	\$75,125
% Household Under National Poverty Level								
Household of 2 - <\$15,000	18.20%	4.40%	13.40%	7.50%	8.30%	13.70%	5.20%	8.30%
Household of 4 - \$15,000-\$24,999	11.10%	3.80%	11.40%	6.30%	7.90%	9.40%	2.90%	7.70%
2018 Race & Ethnicity								
White Alone	28.80%	35.70%	62.90%	32.00%	91.40%	27.70%	74.10%	40.80%
Black Alone	64.00%	42.00%	27.40%	35.00%	2.60%	35.90%	0.70%	2.50%
Other Races	7.20%	22.30%	9.70%	33.00%	6.00%	36.40%	25.20%	56.70%
Housing Profile								
Median Value	\$198,401	\$348,004	\$233,637	\$472,739	\$293,362	\$472,505	\$1,132,230	\$683,998
Ratio/Median Home Value to Median Income	4.21	3.87	4.86	5.90	3.83	8.42	8.62	9.10
% Vacant	16.10%	4.90%	22.80%	5.80%	11.90%	6.80%	5.90%	5.00%

Source: Esri 2018

Key Observations

- Based on Median Household Income, Pimlico ranked the lowest in both the 1- and 5- mile radii compared to all profiled peer tracks.
- Based on Median Value of Housing, Pimlico also ranked the lowest in both the 1- and 5-mile radii compared to all profiled peer tracks.
- Based on Percentage Household Under National Poverty Level (total of households with 2 and 4 persons), Pimlico ranked the highest within a 1-mile radius (36.5%) of all households and 29.3% of all households within a 5-mile radii.
- Based on Total Percentage Vacant in Housing (Owner/Renter), the Pimlico market within a 1-mile radius indicated a 19.80% vacancy factor which decreases to 16.10% within a 5-mile radii.
- Based on Race & Ethnicity related to the Pimlico market; the census classification Black Alone commanded the highest percentage within both the 1 and 5 Mile Radii compared to the Peer Tracks. Within a 1-mile radius, the Black Alone category equated to 86.4% of population and 64.0% of the population within a 5-mile radii.
- Within the 1-mile radius of Pimlico, the ratio of 3.80 of Median Housing Value to Median Household Income is considered consistent with national market loan underwriting affordability standards. Within the 5-mile radii, the ratio skews upward to 4.21 which is slightly over the rule of thumb of up to 4 times Median Income.

E.3– Non-Racing Land Use Analysis

32

The following table provides a retail market profile comparison of the profiled race tracks.

Retail Market Profile Comparison - 1 Mile Radius						Retail Market Profile Comparison - 5 Mile Radii					
(Rounded \$000)	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses	(Rounded \$000)	Demand	Supply	Retail Gap	Leakage/Surplus Factor	# of Businesses
Pimlico						Pimlico					
Total Retail Trade	\$238,435	\$90,661	\$147,774	44.9	99	Total Retail Trade	\$5,623,602	\$3,356,003	\$2,267,598	25.3	1,925
Total Food & Drink	\$25,368	\$11,189	\$14,179	38.8	48	Total Food & Drink	\$619,787	\$511,211	\$108,576	9.6	993
Laurel Park						Laurel Park					
Total Retail Trade	\$130,064	\$422,166	(\$292,101)	-52.9	114	Total Retail Trade	\$2,280,275	\$2,663,413	(\$383,138)	-7.8	636
Total Food & Drink	\$14,626	\$19,985	(\$5,358)	-15.5	32	Total Food & Drink	\$258,676	\$199,050	\$59,625	13.0	237
Gulfstream						Gulfstream					
Total Retail Trade	\$303,513	\$828,639	(\$525,126)	-46.4	291	Total Retail Trade	\$4,372,142	\$5,919,278	(\$1,547,136)	-15.0	2,720
Total Food & Drink	\$32,722	\$87,768	(\$55,045)	-45.7	95	Total Food & Drink	\$474,051	\$625,400	(\$151,349)	-13.8	940
Belmont						Belmont					
Total Retail Trade	\$440,278	\$83,233	\$357,045	68.2	58	Total Retail Trade	\$12,990,124	\$8,769,172	\$4,220,952	19.4	3,702
Total Food & Drink	\$49,480	\$19,774	\$29,706	42.9	45	Total Food & Drink	\$1,467,704	\$938,345	\$529,358	22.0	2,005
Saratoga						Saratoga					
Total Retail Trade	\$118,685	\$44,008	\$74,677	45.9	19	Total Retail Trade	\$787,708	\$916,872	(\$129,164)	-7.6	385
Total Food & Drink	\$13,443	\$13,828	(\$385)	-1.4	20	Total Food & Drink	\$87,717	\$151,155	(\$63,437)	-26.6	199
Aqueduct						Aqueduct					
Total Retail Trade	\$818,050	\$500,324	\$317,726	24.1	333	Total Retail Trade	\$15,703,126	\$8,778,242	\$6,924,883	28.3	4,990
Total Food & Drink	\$93,595	\$56,012	\$37,583	25.1	162	Total Food & Drink	\$1,784,947	\$1,155,213	\$629,734	21.4	2,798
Sufside Del Mar						Sufside Del Mar					
Total Retail Trade	\$173,778	\$160,273	\$13,504	4.0	105	Total Retail Trade	\$2,945,451	\$1,007,529	\$1,946,922	49.1	582
Total Food & Drink	\$19,810	\$50,469	(\$30,658)	-43.6	45	Total Food & Drink	\$332,164	\$234,903	\$97,260	17.2	294
Santa Anita						Santa Anita					
Total Retail Trade	\$244,774	\$706,026	(\$461,251)	-48.5	216	Total Retail Trade	\$5,549,083	\$5,574,810	(\$25,726)	-0.2	2,130
Total Food & Drink	\$27,627	\$93,225	(\$65,598)	-54.3	90	Total Food & Drink	\$621,790	\$649,407	(\$27,616)	-2.2	999

33

Key Observations

The Leakage/Surplus Factor presents a snapshot of retail opportunity. This is the measure of the relationship between supply & demand that range from +100 (total leakage) to -100 (total surplus). A positive value represents leakage of retail opportunity outside of the trade area. A negative value represents a surplus of retail sales, a market where customers are drawn-in from outside the trade area.

The Retail Gap represents the difference between Retail Potential & Retail Sales.

- Based on Industry Summary, Total Retail Trade within the 1-mile radius of Pimlico reflects a positive Leakage Factor (44.9) whereby demand outweighs supply among the retail trade groups. Similarly, a positive Leakage Factor of 25.3 exists within the 5-mile radii. The Retail Gap is approximately \$147.8M within the 1-mile radius and \$2.3B within the 5-mile radius.
- Based on Industry Summary, Total Food & Drink within the 1-mile radius of Pimlico reflects a positive Leakage Factor (38.8) whereby demand outweighs supply among the food and beverage operations. Similarly, a positive Leakage Factor of 9.6 exists within the 5-mile radii. The Food & Beverage Gap is approximately \$14.2M within the 1-mile radius and \$108.6M within the 5-mile radii.
- The Industry Gap in order of highest to lowest for the Pimlico neighborhood within a 1-mile radius is summarized as follows:

Pimlico Neighborhood Highest Industry Gap by Leakage Factor		
By Industrty Group	1 - Mile	5-Miles
	Leakage Factor	
> Furniture & Home Furnishings	83.1	46.2
> Building Materials, Garden Equip. & Supply	72.5	55.1
>General Merchadise Stores	74.6	57.4
> Micellaneous Retailers	57.9	20.5
>Motor Vehicle & Parts	43.4	54.9
>Food & Beverage Stores	31.7	-3.8
>Food Services & Drinking Places	38.8	9.6

In the four sections that follow, the retail sector and its primary and secondary trade areas that surround Pimlico are analyzed. From the trade area analysis conclusions are drawn as to potential retail density and other mixed use potential for retail, office, hotel and residential.

E.3– Non-Racing Land Use Analysis



RETAIL ANALYSIS

RETAIL ANALYSIS

Retail Categories

The retail sector typically comprises two categories either Convenience Retail or Comparison Retail. Convenience Retail relates to convenience good and grocery items. Comparison Retail channels comparison goods and food & beverage items.

Convenience Retail



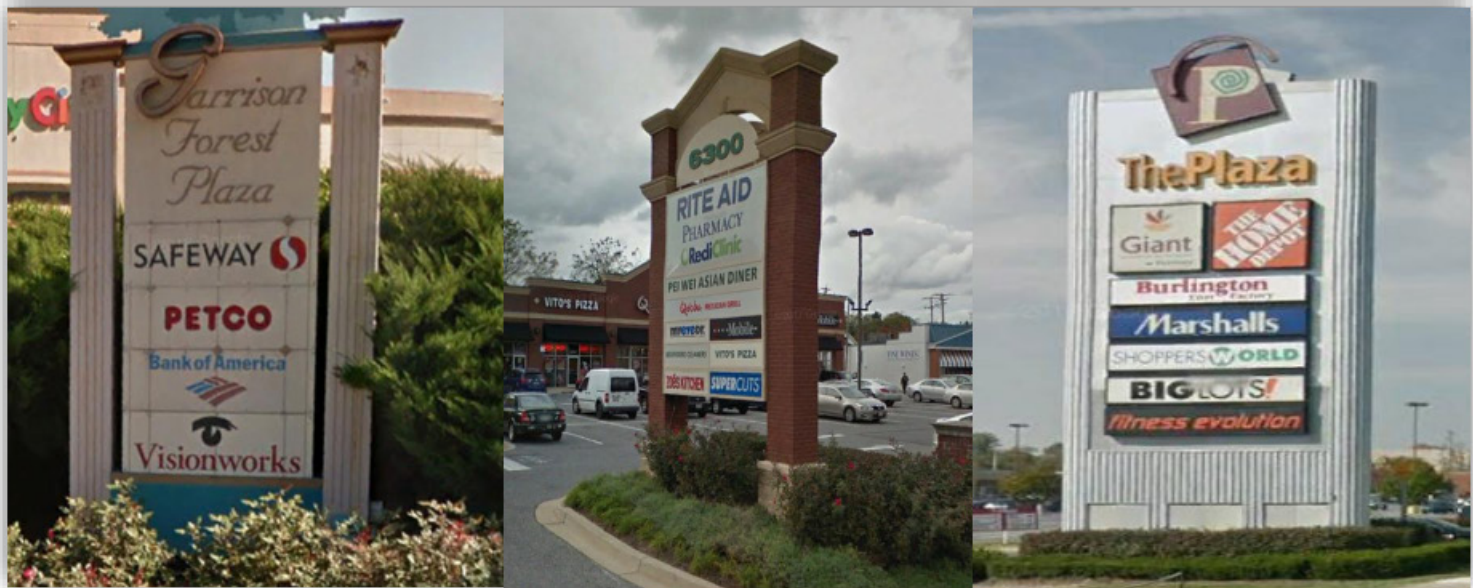
- > Grocery Stores
- > Pharmacy/Health Care
- > Office Supplies
- > General Merchandise
- > Jewelry Stores

Comparison Retail



- > Electronics & Appliances
- > Clothing
- > Furniture
- > Building/Hardware
- > Sporting Goods
- > Food & Beverage

Primary and Secondary Trade Areas



The Trade Area is a contiguous area from which a retailer and/or personal service vendor retrieves customers for the sales of merchandise or services. A major component is identifying the Trade Area for a specific retail and/or personal service program is identifying gaps or overlaps in market coverage of existing stores and personal service trades.

Previously identified was the GAP Factor surrounding the Pimlico neighborhood based on a 1- and 5-mile radii. Based on the Industry Summary for 2017, a Retail Gap of over \$147M (reported GAP Factor of 44.9) exists within the 1-mile radius. Similarly, there exists a Food & Beverage Gap of over \$14M (reported GAP Factor of 38.8). When extending out to a 5-mile radii, the Retail Trade Gap is \$2.26B with a reported lower Retail GAP Factor of 25.3. The gap lowers significantly for Food & Beverage to approximately \$108M with a reported GAP Factor of 9.6.

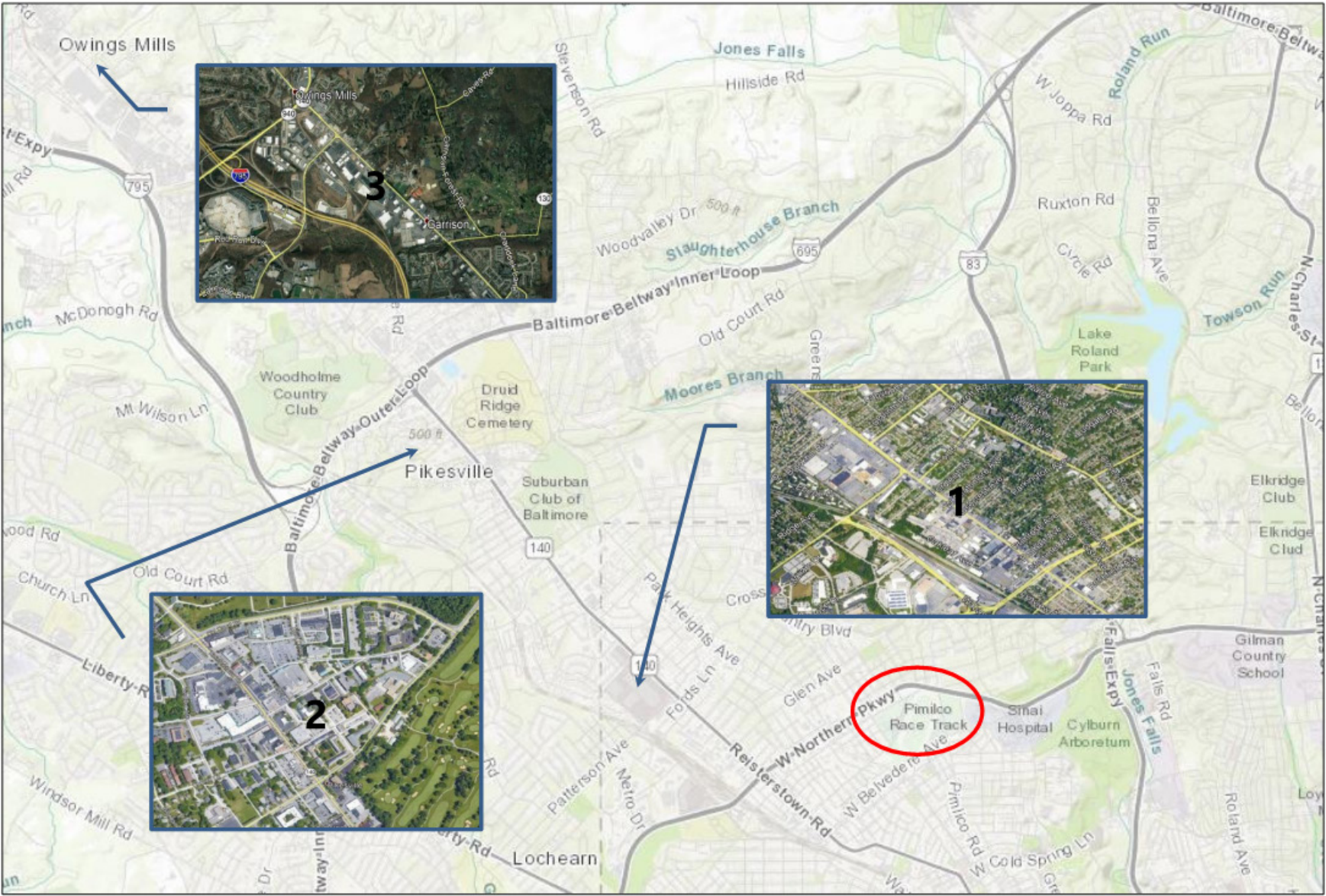
The following is a summary of comparative Trade Areas surrounding the Pimlico neighborhood.

	TRADE AREAS						
	Primary Trade Areas		Secondary Trade Areas				
	1	2	3	4	5	6	7
	Reisterstown Road Corridor Baltimore City	Pikesville Area Reisterstown Road Corridor	Owings Mills/Garrison Area Reisterstown Road Corridor	York Road & Getting's Ave	York Road & W Belvedere Ave	Falls Road & Smith Ave	Smith Ave & Laurelwood Ave
Relation to Pimlico	1.0 Mile W	3.2 Miles NW	5-7 Miles NW	3.5 Miles NE	3.5 Miles E	1.5 Miles NE	1.7 Miles N
Convenience Goods							
Grocery Store	X	X	X	X		X	X
Pharmacy/Health Care	X	X	X	X	X	X	X
Office Supplies	X	X	X		X		
General Merchandise	X	X	X	X	X	X	X
Bank Branch	X	X	X	X	X	X	X
Convenience/Gas	X	X	X	X			
Gas Station	X	X	X				X
Personal Service	X	X	X	X	X	X	
Auto Care	X	X	X	x			X
Comparison Goods							
Fast Food	X	X	X	X	X		X
Dining	X	X	X	X	X	X	X
Bars/Clubs	X	X	X		X		
Coffee Shop	X	X	X	X	X	X	
Electronics/Appliances	X	X	X				
Building/Hardware	X	X	X				X
Sporting Goods	X	X	X				
Hotels	X	X	X				
Car Dealerships	X	X	X				
Big Box-Department Store	X	X	X	X			
Personal Service	X	X	X	X	X	X	X

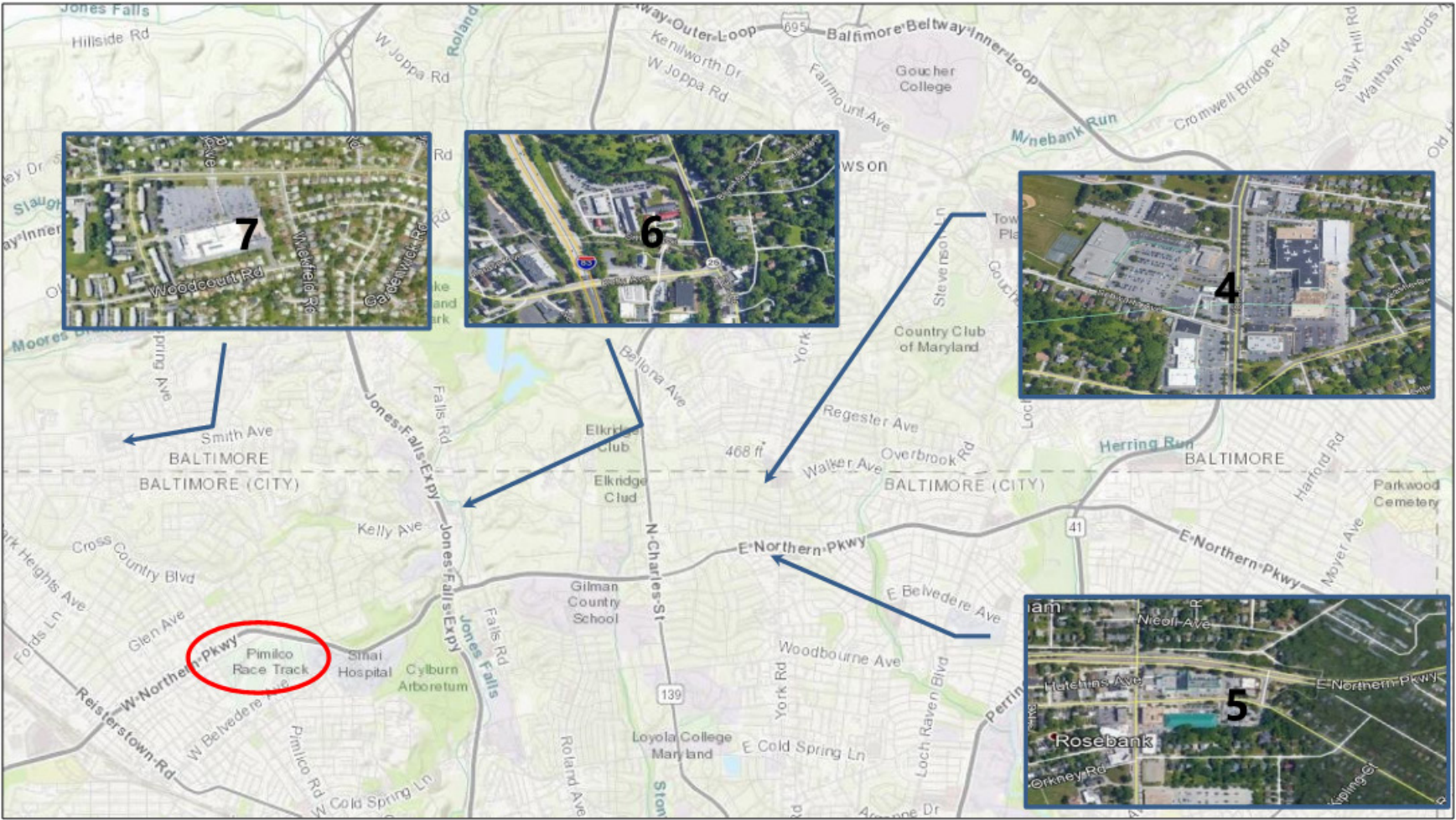
The Primary Trade Areas represents the Reisterstown Road Corridor that extends northwest approximately 1.5 miles from Northern Parkway to the Baltimore City limit. Primary Trade Area 2 represents the Reisterstown Road Corridor extending through Pikesville to I-695 approximately 4 miles to the northwest. The Primary Trade Area exemplifies the areas that demonstrate high traffic volume, high density retail/commercial trade, and generally represents contemporary retail profiles within the 1-mile radius and 5-mile radii. The Primary Trade Areas also represent all Retail Profile Industry Groups. The Secondary Trade Areas typically do not provide access to all Industry Groups and may be outside the study area.

Secondary Trade Area 3 is also along the Reisterstown Road Corridor but extends 5 to 7 miles from Pimlico north of I-695. Secondary Trade Areas 4 through 7 are situated east/northeast of Pimlico and represent various Convenience & Comparison retail channels as alternatives to the Primary Trade Areas.

E.3– Non-Racing Land Use Analysis



E.3– Non-Racing Land Use Analysis





Market Indices

Overview					Reisterstown Rd Corridor Retail		
12 Mo Deliveries in SF		12 Mo Net Absorption in SF		Vacancy Rate		12 Mo Rent Growth	
0		92.3 K		3.8%		2.8%	
KEY INDICATORS							
Current Quarter	RBA	Vacancy Rate	Asking Rent	Availability Rate	Net Absorption SF	Deliveries SF	U/Construction
Power Center	387,156	7.2%	\$20.26	6.4%	279	0	0
Neighborhood Center	3,388,390	5.4%	\$24.91	6.0%	47,720	0	195,140
Strip Center	450,271	8.0%	\$24.98	8.7%	4,940	0	0
General Retail	3,617,726	1.5%	\$21.63	2.9%	3,483	0	10,000
Submarket	7,843,543	3.8%	\$23.21	4.8%	56,422	0	205,140

Source: CoStar 2Q 2018

The analytics based on the Reisterstown Road Corridor Retail sub-market indicate a range of vacancies in the retail sector of 1.5% to 8.0% and an average vacancy within the sub-market of 3.8%. The average rent within the retail sub-market sector is \$23.21/SF with a 12-month growth forecast at 2.8%.

New Construction

New construction and proposed construction primarily include the redevelopment of the former mall site in Owing Mills now known as Town Center, which includes 205,000+ SF under construction scheduled to be delivered in Q4 2018 and proposed construction of 328,000+ SF scheduled to be delivered 2Q 2019.

Construction

Under Construction					Reisterstown Rd Corridor Retail		
Property Name/Address	Rating	Building SF	Stories	Start	Complete	Developer/Owner	
1 Costco 10300 Mill Run Cir	5-Star	195,140	1	Apr-18	Oct-18	Kimco Realty Corp	
2 9300 Lyons Mill Rd	3-Star	10,000	1	Sep-17	Oct-18	Kimco Realty Corp	
Proposed							
Property Name/Address	Rating	Building SF	Stories	Start	Complete	Developer/Owner	
1 10300 Mill Run Cir	4-Star	204,706	1	Sep-18	Jun-19	Kimco Realty Corp	
2 10300 Mill Run Cir	3-Star	99,231	1	Sep-18	Jun-19	Kimco Realty Corp	
3 10300 Mill Run Cir	4-Star	24,622	1	Sep-18	Jun-19	Kimco Realty Corp	
4 Proposed 11050 Red Run blvd	3-Star	10,368	1	Sep-18	Jul-19		
5 Retail Pad Site 8890 McDonogh Rd	3-Star	4,000	1	Jan-19	Jun-19		
6 10201 Reisterstown Rd	3-Star	4,000	1	Sep-18	Jan-19		
7 11016 Reisterstown Rd	3-Star	3,595	1	Dec-18	May-19		

Source: CoStar 2Q 2018



Supply & Demand

Overall inventory within the Reisterstown Road Corridor YTD is forecast at 7,843,543 SF with a forecast of 204,015 SF net absorption (primarily the Town Center in Owing Mills). Through 2018, total supply of all retail is forecast at 8,047,588 SF with a five-year forecast through 2022 at 8,207,261 SF. Potential growth over the next five years is forecast at around 2%.

Supply & Demand Trends

Reisterstown Rd Corridor Retail							
OVERALL SUPPLY & DEMAND							
Year	Inventory			Net Absorption			
	SF	SF Growth	%Growth	SF	% of Inv	Construction Ratio	
2022	8,207,261	56,651	0.70%	53,180	0.60%	1.1	
2021	8,150,610	51,259	0.60%	42,495	0.50%	1.2	
2020	8,099,351	40,955	0.50%	32,528	0.40%	1.3	
2019	8,058,396	10,838	0.10%	200,234	2.50%	0.1	
2018	8,047,558	204,015	2.60%	40,187	0.50%	5.1	
YTD	7,843,543	0	0.00%	37,272	0.50%	0	
2017	7,843,543	255,863	3.40%	289,936	3.70%	0.9	
2016	7,587,680	9,100	0.10%	-24,307	-0.30%	-	
2015	7,587,680	144,665	1.90%	134,397	1.80%	1.1	
2014	7,433,915	5,000	0.10%	4,483	0.10%	1.1	
2013	7,428,915	-17,650	-0.20%	-9,480	-0.10%	-	
2012	7,446,565	-54,726	-0.70%	255,795	3.40%	-	
2011	7,501,291	19,863	0.30%	-57,124	-0.80%	-	
2010	7,481,428	8,100	0.10%	-36,445	-0.50%	-	
2009	7,473,328	11,225	0.20%	10,747	0.10%	1	
2008	7,462,103	38,592	0.50%	35,257	0.50%	1.1	
2007	7,423,511	162,783	2.20%	201,103	2.70%	0.8	
2006	7,260,728	-	-	-197,241	-2.70%	-	

Source: CoStar 2Q 2018

E.3– Non-Racing Land Use Analysis



OFFICE ANALYSIS

OFFICE ANALYSIS

Class A and B office space is very limited within the Pimlico neighborhood. The Baltimore Northwest office sub-market comprises the northwest sector of Baltimore City which includes the Reisterstown Road Corridor, The Pimlico neighborhood district and surrounding neighborhoods as previously discussed. The analytics based on the Northwest office sub-market indicate a range of vacancies in the office sector of 0% to 7.6% and an average vacancy within the sub-market of 4.7%. The average rent within the retail sub-market sector is \$24.30/SF with a 12-month growth forecast at -0.2%. There is no new construction and/or proposed construction reported within the Northwest sub-market.

There are 9 reported sales in the past 12-months indicating an average price point of \$383/SF and median price point of \$132/SF. The average CAP Rate is 7.0% and reported average vacancy at time of sale was 2.0%.



Market Indices

Overview					Reisterstown Rd Corridor Retail		
12 Mo Deliveries in SF		12 Mo Net Absorption in SF		Vacancy Rate		12 Mo Rent Growth	
0		20.8 K		4.7%		-0.2%	
KEY INDICATORS							
Current Quarter	RBA	Vacancy Rate	Asking Rent	Availability Rate	Net Absorption SF	Deliveries SF	U/Construction
4 & 5 Star	540,566	0.0%	\$42.88	0.0%	0	0	0
3 Star	2,289,114	7.6%	\$22.77	8.2%	(3,031)	0	0
1 & 2 Star	1,449,836	1.9%	\$19.79	2.4%	(1,455)	0	0
Submarket	4,279,516	4.7%	\$24.30	5.2%	(4,486)	0	0

Source: CoStar 2Q 2018

Supply & Demand Trends

OVERALL SUPPLY & DEMAND

Year	SF	Inventory	
		SF Growth	%Growth
2022	4,279,516	0	0.0%
2021	4,279,516	0	0.0%
2020	4,279,516	0	0.0%
2019	4,279,516	0	0.0%
2018	4,279,516	0	0.0%
YTD	4,279,516	0	0.0%
2017	4,279,516	0	0.0%
2016	4,279,516	0	0.0%
2015	4,279,516	0	0.0%
2014	4,279,516	0	0.0%
2013	4,279,516	540,566	14.5%
2012	3,738,950	0	0.0%
2011	3,738,950	0	0.0%
2010	3,564,230	174,720	4.9%
2009	3,564,230	0	0.0%
2008	3,465,230	2,752	0.1%
2007	3,561,478	75,148	2.2%
2006	3,486,330	17,142	-

Reisterstown Rd Corridor Retail		
SF	Net Absorption	
	% of Inv	Construction Ratio
(14,243)	-0.3%	-
(11,498)	-0.3%	-
(12,653)	-0.3%	-
(9,045)	-0.2%	-
(21,984)	-0.5%	-
(22,593)	-0.5%	-
117,251	2.7%	0
20,202	0.5%	0
11,210	0.3%	0
(42,724)	-1.0%	-
580,917	13.6%	0.9
18,036	0.5%	0
(235)	0.0%	-
120,705	3.2%	1.4
(59,162)	-1.7%	-
(15,031)	-0.4%	-
75,505	2.1%	1
54,182	1.6%	0.3

Source: CoStar 2Q 2018

E.3– Non-Racing Land Use Analysis



HOTEL ANALYSIS

HOTEL ANALYSIS

A hotel adjacent to the Pimlico Race Course property is a reasonable consideration taking into account the reconfiguration of the race track. The excess land allows for a realistic discussion of a hotel footprint overlooking the race track that could also be developed into a significant part of the Preakness Stakes’ experience.



Market Indices

According to CBRE Hotels by year end 2018, Baltimore hotels are forecast to see a RevPar (revenue per available room) decrease of 1.9%. RevPar is calculated by multiplying the hotel’s average daily rate (ADR) by its occupancy rate. The decrease in RevPar is the result of an estimated decline in occupancy of 1.8% and a 0.2% loss in ADR. The 1.9% in Baltimore RevPar is less than the national projection of a 3.1% increase.

Both upper and lower priced segments in Baltimore are expected to show negative RevPar change by year end. Lower priced hotels are forecast to attain a 0.9% gain in ADR, but suffer a 1.7% decrease in occupancy, resulting in a 0.8% RevPar decline. Upper-priced hotels are projected to experience an ADR decline of 1.6%, along with a 1.8% loss in occupancy, resulting in a 3.4% RevPar decline.

Looking towards 2019, Baltimore RevPar is expected to grow 1.7%, reversing the downward trend of 2018. Prospects for RevPar growth in the upper priced segment (positive 1.6%) are better than the lower priced segment (positive 1.4%). Baltimore occupancy levels are expected to range from 65.2% to 65.9% during the 5-year forecast period.

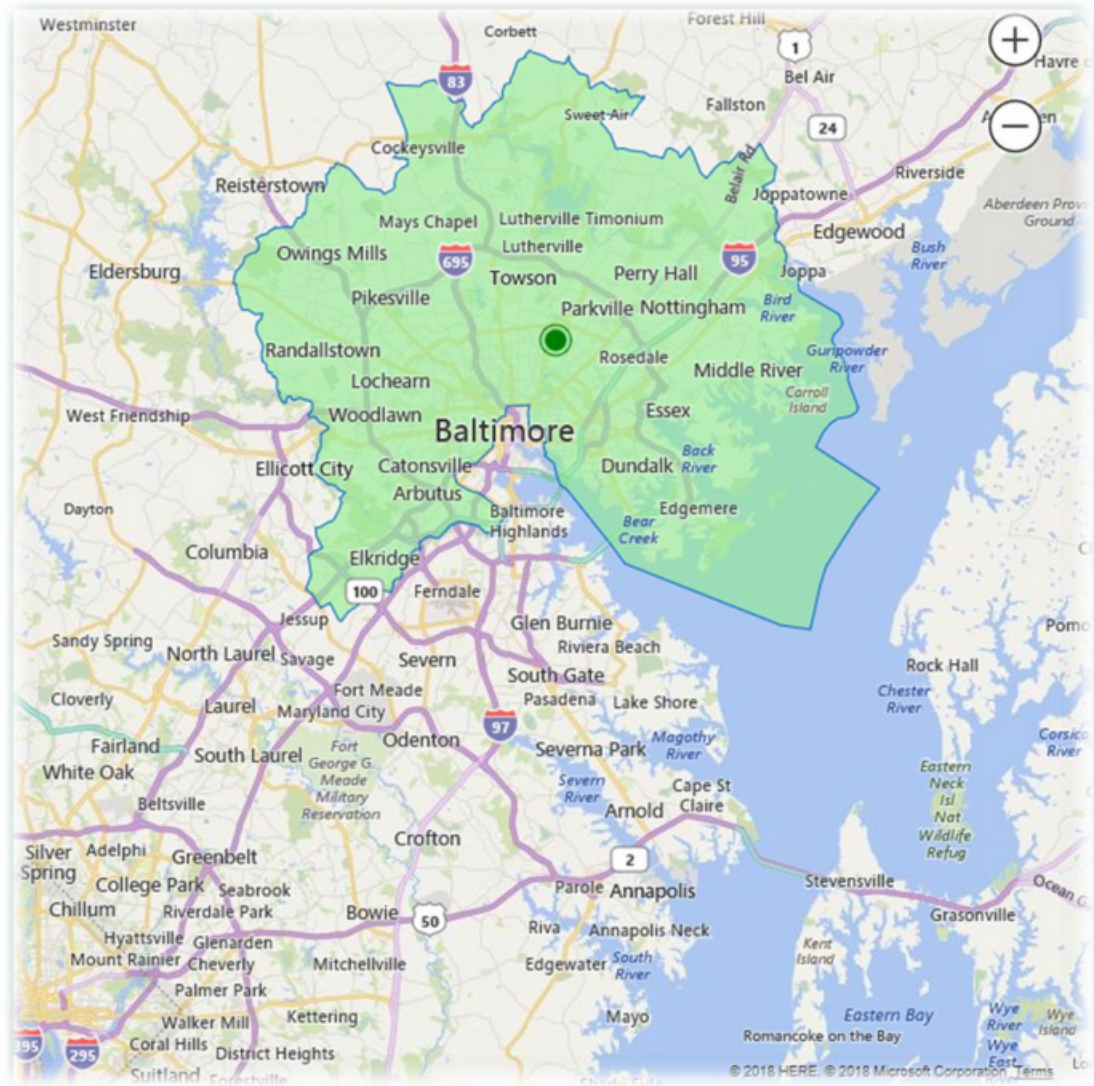
Market Segments – Representative Brands

Representative Hotel Brands					
Upper Priced			Lower Priced		
Fairmont	Embassy Suites	Courtyard Marriot	Best Western Plus	Best Western	Days Inn
Four Seasons	Hilton	Crown Plaza	Comfort Inn	Red Lion	Econo Lodge
Loews	Hyatt	Hyatt Place	Hampton Inn	La Quinta	Extended Stay America
Ritz Carlton	Marriott	Radisson	Holiday Inn	Mainstay Suites	Red Roof
W Hotels	Westin	Residence Inn	TownPlace Suites	Quality Inn	Value Place

Trade Area Hotel Properties				
			Distance From Pimlico	Classification
Radisson	5100 Falls Road		1.5 Miles E	Upper Priced
Red Roof Inn	5810 Reisterstown Road		1 Mile SW	Lower Priced
Quality Inn	4200 Primrose Avenue		1 Mile W	Lower Priced
Howard Jonhson by Wybdam	407 Reisterstown Road		2.5 Miles NW	Lower Priced
Double Tree	1726 Reisterstown Road		3.75 Miles NW	Upper Priced
Ramada Inn by Wyndham	1721 Reisterstown Road		3.75 Miles NW	Lower Priced

There follows a comparison of lower and upper priced hotel market segment in the defined Baltimore Suburban sub-market where the Pimlico Race Course is located.

Baltimore Suburban Sub-Market



E.3– Non-Racing Land Use Analysis

Five Year History (Annual)

Baltimore — Suburbs Submarket — Lower-Priced Hotels

YEAR	OCC	ΔOCC	ADR	ΔADR	REVPAR	ΔREVPAR	SUPPLY	ΔSUPPLY	DEMAND	ΔDEMAND
2013	59.3%	-	\$73.93	-	\$43.86	-	4,899	-	2,906	-
2014	63.2%	6.5%	\$75.90	2.7%	\$47.93	9.3%	5,111	4.3%	3,228	11.1%
2015	64.5%	2.2%	\$79.03	4.1%	\$50.99	6.4%	5,291	3.5%	3,414	5.8%
2016	65.3%	1.2%	\$81.75	3.4%	\$53.39	4.7%	5,378	1.6%	3,513	2.9%
2017	62.8%	-3.8%	\$81.75	0.0%	\$51.37	-3.8%	5,427	0.9%	3,410	-2.9%

Five Year History (Annual)

Baltimore — Suburbs Submarket — Upper-Priced Hotels

YEAR	OCC	ΔOCC	ADR	ΔADR	REVPAR	ΔREVPAR	SUPPLY	ΔSUPPLY	DEMAND	ΔDEMAND
2013	61.7%	-	\$119.74	-	\$73.85	-	2,445	-	1,508	-
2014	65.2%	5.8%	\$121.29	1.3%	\$79.12	7.1%	2,445	0.0%	1,595	5.8%
2015	65.8%	0.8%	\$124.32	2.5%	\$81.77	3.4%	2,444	-0.1%	1,608	0.8%
2016	67.2%	2.2%	\$126.79	2.0%	\$85.22	4.2%	2,444	0.0%	1,643	2.2%
2017	65.2%	-2.9%	\$126.52	-0.2%	\$82.56	-3.1%	2,543	4.1%	1,659	1.0%

Source: STR, Q2 2018.

E.3– Non-Racing Land Use Analysis



RESIDENTIAL ANALYSIS



RESIDENTIAL ANALYSIS

Population Demographics

Population		
	1 Mile Radius	5 Mile Radii
2010	28,837	491,523
2018	27,222	486,398
2023	26,140	479,985

Households		
	1 Mile Radius	5 Mile Radii
2010	10,935	194,571
2018	10,316	192,017
2023	9,871	188,879

Average Household Size		
	1 Mile Radius	5 Mile Radii
2010	2.56	2.39
2018	2.56	2.39
2023	2.56	2.39

Median Age		
	1 Mile Radius	5 Mile Radii
2010	40.3	36.7
2018	41.4	37.9
2023	41.9	38.7

Source: ESRI Demographic & Income Profile 2018

- Population within a 1-mile radius of Pimlico is decreasing based on the 2010 US Census. From 2010 to 2018 the population decreased 5.60% and, by 2023, is forecast to have an additional decrease of 3.75%, or a total decrease of population of 9.35% from 2010.
- The number of households also decreased at a relatively similar rate based on the 2010 US Census. From 2010 to 2018, total households decreased 5.66% and, by 2023, are forecast to have an additional decrease of 4.07%, or a total decrease of Households of 9.73% from 2010.
- The average household size within a 1-mile radius remains the same and the median age is forecast to increase slightly.
- Population and households within the 5-mile radii are also forecast to decrease slightly from the reported 2010 Census to 2023.



Residential Market Overview

As presented previously, Pimlico and surrounding neighborhood districts are a dichotomy in study. Within a 1-mile radius of Pimlico Race Course, median personal income and median housing value range significantly from north of the race track to south of the race track. The race track is a significant physical barrier between the neighborhood districts north and south of the track. The overview that follows analyzes the immediate surrounding neighborhoods to the west and south of the race track that would be most impacted by the reconfiguration of the track and re-purpose of excess land that may benefit the immediate neighborhoods.

Pimlico Community Development Authority (PCDA)

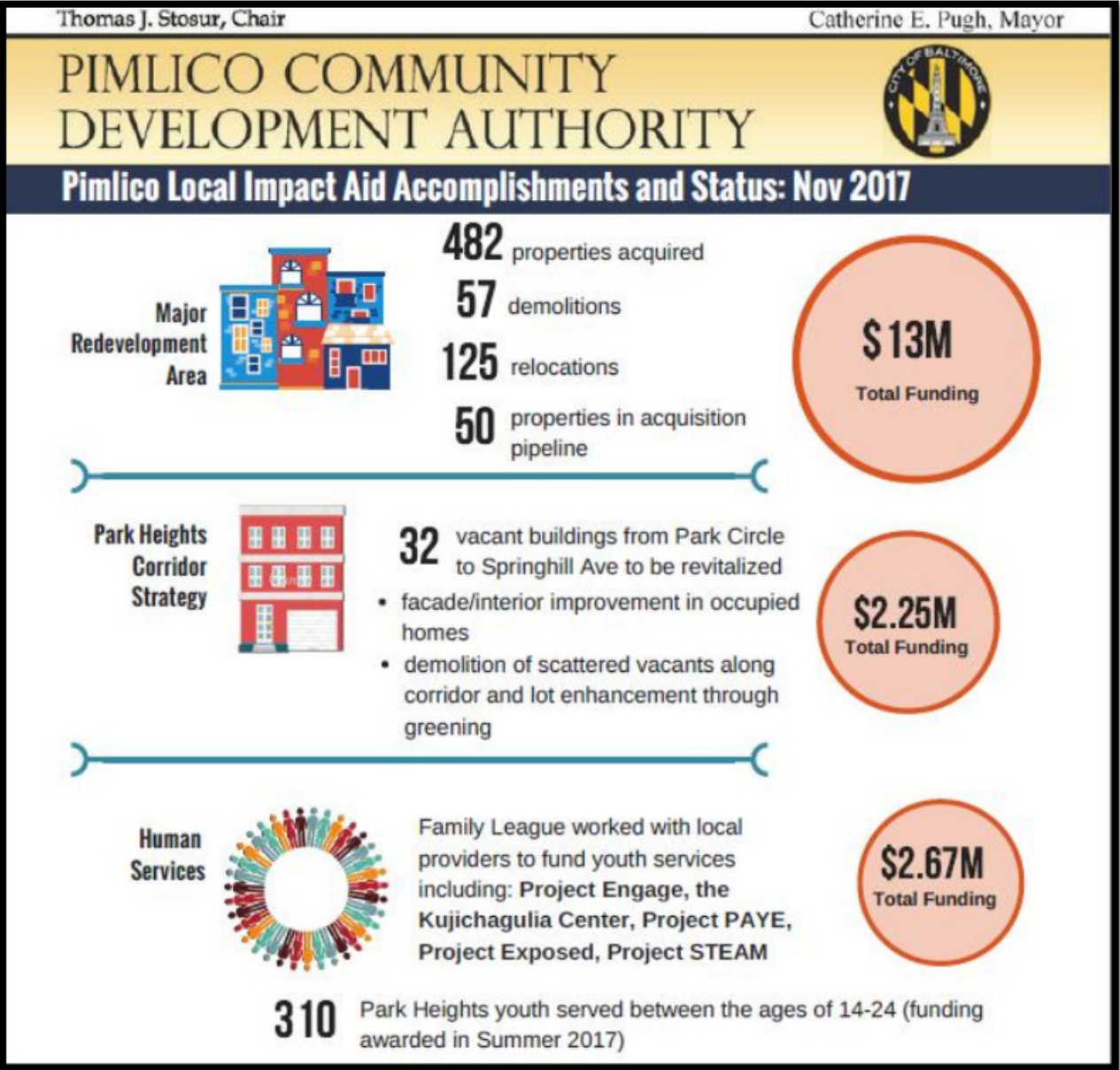
The PCDA is an advisory group established by the State legislature to provide community input on how slots funding is allocated in the Pimlico area. For FY 2019, the City is estimating that \$6.8M in Local Impact Aid will be available for the entire Pimlico area. The reported estimate is subject to change. It is noted that the FY 2018 revenue was less than expected. PCDA has the responsibility to advise the Mayor on spending plan priorities. The FY 2018 Video Lottery Terminal spending Plan for the Pimlico area was approved on April 24, 2017. The plan focused on where the need is the highest and impact the greatest by allocating 85% of funding to the Park Heights Master Plan area.

Park Heights Master Plan

Based on the Master Plan Updates and Spending Plan Recommendations by PCDA one of the key components of the Park Heights Master Plan is the redevelopment of the Major Redevelopment Area in Central Park Heights. The 60 acres centered on Park Heights and Woodland Avenues were comprised of nearly 600 properties, of which approximately 400 were vacant buildings and lots, and represented the most blighted and distressed area within the entire 1,500 acre Master Plan. Redevelopment could accommodate hundreds of new housing units, along with new parks, streetscape improvements and other amenities.

The updated report further states that new housing should include a wide range of housing types, from freestanding single family houses to row houses to multi-family, reflecting the diverse nature and demand. The City’s initial assumption is that 25% of the new housing would be affordable. Within the 25%, the goal is for an even mix of low-income housing units and moderate income housing units financed through tax credits and other housing subsidy programs.

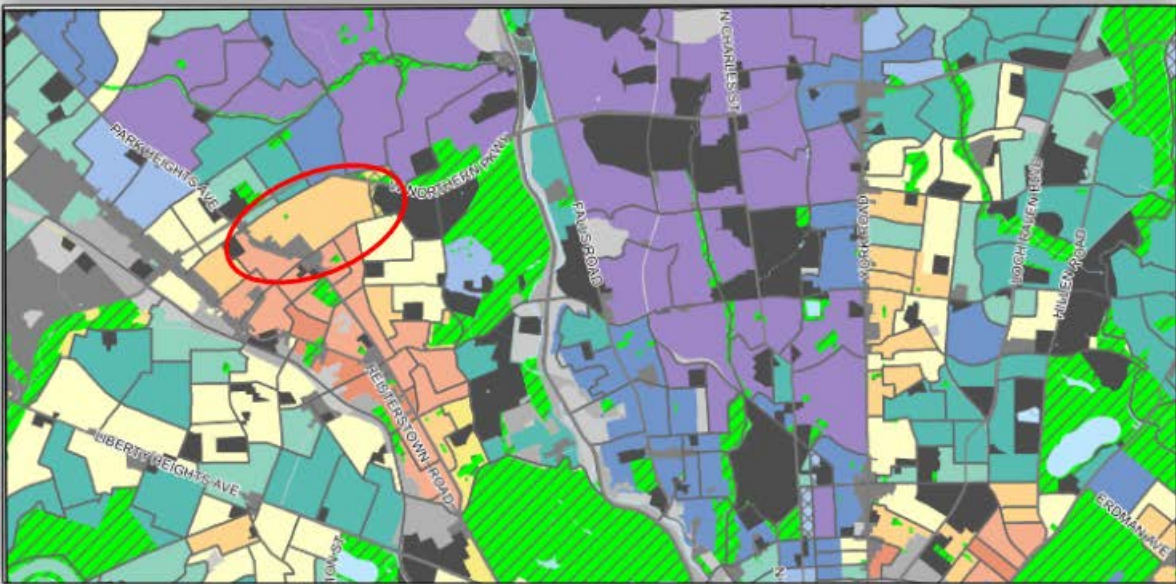
To date, based on information supplied by the Pimlico Community Development Authority, 482 out of 581 properties have been acquired, 125 relocation have been completed, and 57 properties53p have been demolished. Approximately \$17M has been spent to date on these activities, including \$8M in slots revenue, \$4.75M in City bond revenue funds and \$4.5M in State funds. In FY19, an additional \$1.8M in City bond funds will be used towards acquisition, relocation, and demolition.



The following analysis explores the Pimlico neighborhood within a 1-mile radius and the demographics of ownership and factors that promote affordability.

Pimlico Neighborhood District

Baltimore City 2017 Housing Market Typology Map (May 2018)



Market	Number of BG	Median Sales Price	Sales Price Variance	Foreclosures as % of Sales	% of Land either Vacant Building or Vacant Land	% Owner Occupied	% Residential Properties >\$10k Permits	Housing Units per Acre
A	42	\$ 403,995	0.53	7.7%	0.3%	61.5%	5.0%	8.2
B	78	\$ 223,970	0.48	10.3%	1.0%	55.9%	4.8%	33.4
C	23	\$ 191,953	0.56	14.2%	5.8%	21.2%	5.2%	32.1
D	92	\$ 102,989	0.53	26.9%	1.4%	78.1%	3.5%	10.0
E	57	\$ 89,397	0.64	25.2%	3.8%	32.2%	3.6%	23.2
F	85	\$ 52,015	0.71	30.3%	4.2%	55.8%	2.6%	18.5
G	26	\$ 34,827	0.97	24.5%	9.1%	20.1%	2.5%	32.9
H	74	\$ 31,332	0.82	25.6%	7.0%	51.4%	1.9%	26.5
I	82	\$ 16,508	1.10	20.4%	15.9%	42.5%	1.1%	33.8
J	46	\$ 9,249	1.16	15.8%	21.1%	33.4%	0.7%	38.5
Split	10	\$ 124,461	0.54	20%	5%	49%	4%	27.0
Other	38	N/A	N/A	N/A	N/A	N/A	N/A	N/A

The various neighborhoods surrounding Pimlico Race Course were previously discussed in detail. Based on the Market Typology Map and the color key shown above, the median sales prices generally correspond with the US Census data previously presented but appear skewed lower than reported recent sales by Zillow. The adjacent neighborhoods west and south of Pimlico Race Course are important because these areas are part of the Slot Funding for capital improvements particularly applied to Park Heights Master Plan and Liberty-Wabash Area. Both these areas of the PCDA are primarily represented in the color key above as H, I & J and reflect a median sales price of \$31,332, \$16,508, and \$9,249, respectively. It is important to note that these three areas reflect the highest percentage of foreclosure rate and the highest percentage of vacant buildings and lots. These neighborhood areas also appear to have the highest density of housing units per acre.



Occupied Housing

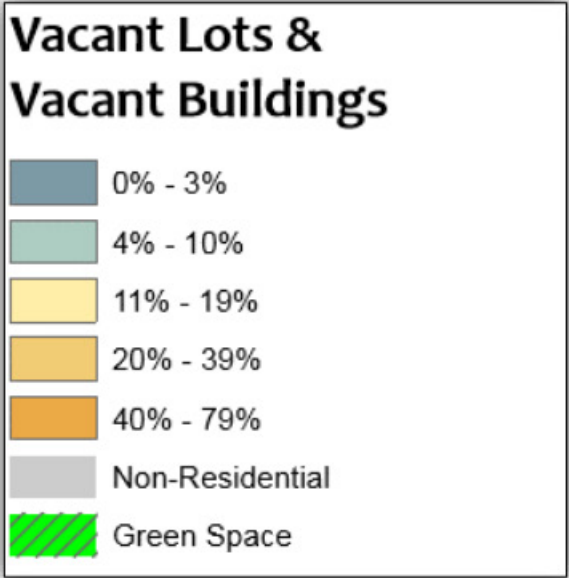
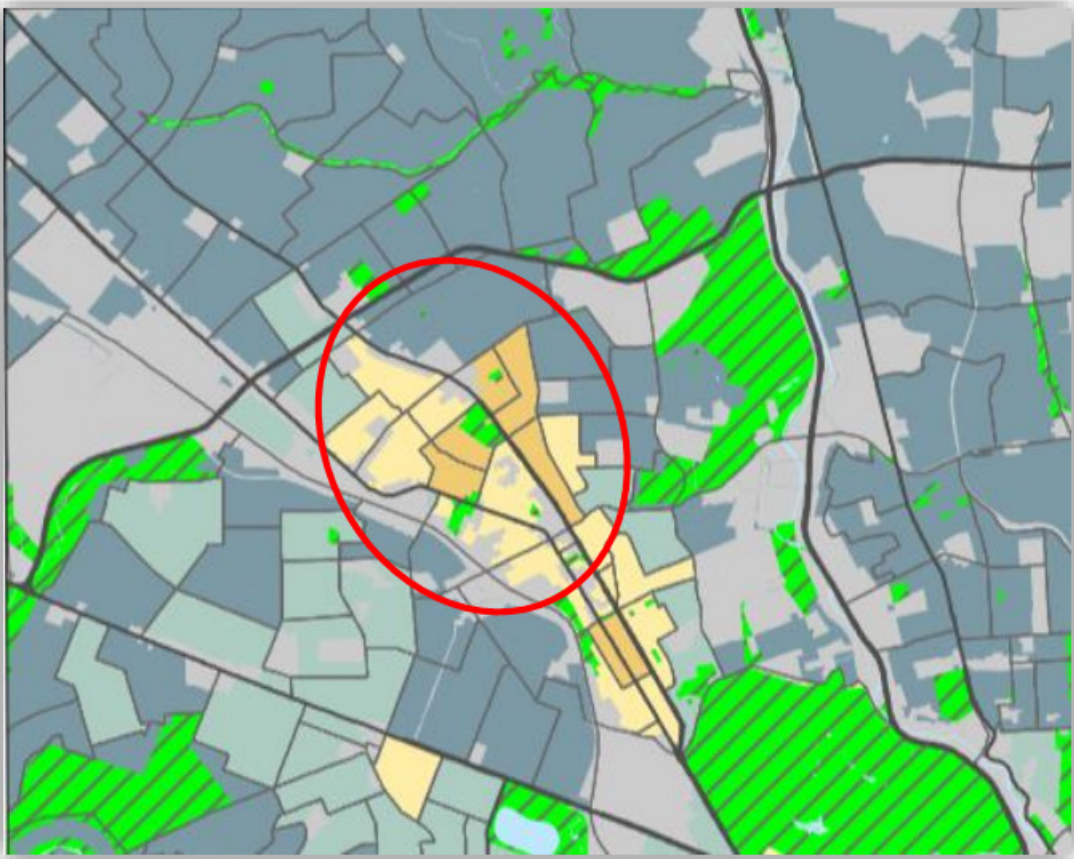
Housing Units by Occupancy Type and Tenure						
Housing Units by Occupancy Type and Tenure	2010		1-Mile Radius			
			2017	2022		
Total Housing Units	12,973	100.0%	13,082	100.0%	13,148	100.0%
Occupied	10,935	84.3%	10,495	80.2%	10,307	78.4%
Owner	5,749	44.3%	5,337	40.0%	5,146	39.1%
Renter	5,186	40.0%	5,258	40.2%	5,161	39.3%
Vacant	2,038	15.7%	2,588	19.8%	2,841	21.6%
Source: ESRI Housing Profile 2017						

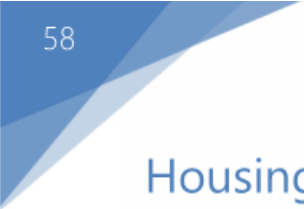
- As of 2017, owner occupied and renter occupied housing represented a similar percentage.
- Vacant housing within a 1-Mile Radius represented almost 20% of total housing.

The graphic that follows, which was prepared by Baltimore Housing as of July 2017, illustrates the percentage of vacant lots and buildings in the Pimlico neighborhood district. It is important to note that within the Park Heights Master Plan and Liberty-Wabash Area, south and west of the race track, the percentages of vacant lots and building inventory are the highest, reported at 20% to 79%.



Baltimore City 2017 Housing Market Typology Map (May 2018)





Housing Opportunities

As previously reported, approximately 35% of the households of 2-4 persons within a 1-mile radius of the Pimlico Race Course are at or under the national poverty level. Approximately 42% of the population base within the 1-mile radius has a median income reported in the range of \$25,000 to \$75,000. It is also noted that the highest percent aggregate of Owner Occupied Housing Units by Value (69%) within a 1-mile radius had a value range from \$50,000 to \$200,000, with a median value of \$126,696.

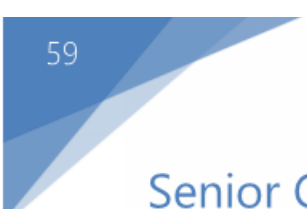
A simple underwriting standard for affordability in home ownership is a multiplier of household income equating to home affordability. This also applies to qualification regarding rental housing. Typical national multipliers range from 2.5 to 4 times household income in affordability standard. This may vary among regions of the US but typically channels as a standard. As such, the following is an affordability analysis based on a 1-mile radius of Pimlico focused on household income of \$25,000 to \$75,000.

Predicated on the median home value of \$126,626, the household income range of \$35,000 to \$55,000 meets the standard underwriting guideline. This extracts to approximately 20% to 22% of the population within the 1-mile radius of Pimlico. Also, assuming that 25% of household income is allocated to a mortgage payment, the affordable monthly payment equates to a range of \$729 to \$1,146 per month. It is noted that a 90% mortgage (assuming a home median value of \$126,626) at a rate of 4.5% for 30 years would be approximately \$600 per month.

The same affordability indices generally apply to rental qualification of around 25% of annual income.

Affordability 1-Mile Radius			
Owner Occupied Housing - Home Median Value		\$126,696	
Household Income Allocated to Mortgage Payment		25% Annually	Monthly
Affordability Ratio by Median Income			
\$25,000	Ratio		
\$25,000	5.07	\$6,250	\$521
\$35,000	3.62	\$8,750	\$729
\$45,000	2.82	\$11,250	\$938
\$55,000	2.30	\$13,750	\$1,146
\$65,000	1.95	\$16,250	\$1,354
\$75,000	1.69	\$18,750	\$1,563

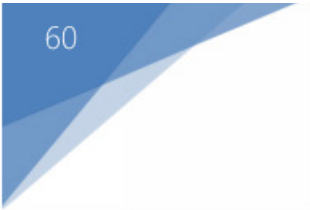
Source: ESRI 2018



Senior Care Opportunities

The demand for senior care is growing rapidly across the country. Baby Boomers are turning 65 at a rate of 10,000 people per day. The number of Americans aged 65 and over is estimated to nearly double in the coming decades, from 43 million in 2012 to nearly 84 million in 2050, when they will comprise 20% of the total population.

Within a 1-mile radius of the Pimlico neighborhood approximately 17% of the reported 2018 population is 65 and older. This increases to approximately 20% of the population within a 5-mile radii. Also, within a 1-mile radius approximately 13% of the population is 55-64 years of age which increases to approximately 14% within the 5-mile radii. The trending demand for senior care and senior housing opportunities could align well with the vacant residential land potential along the southern perimeter of the Pimlico Race course.



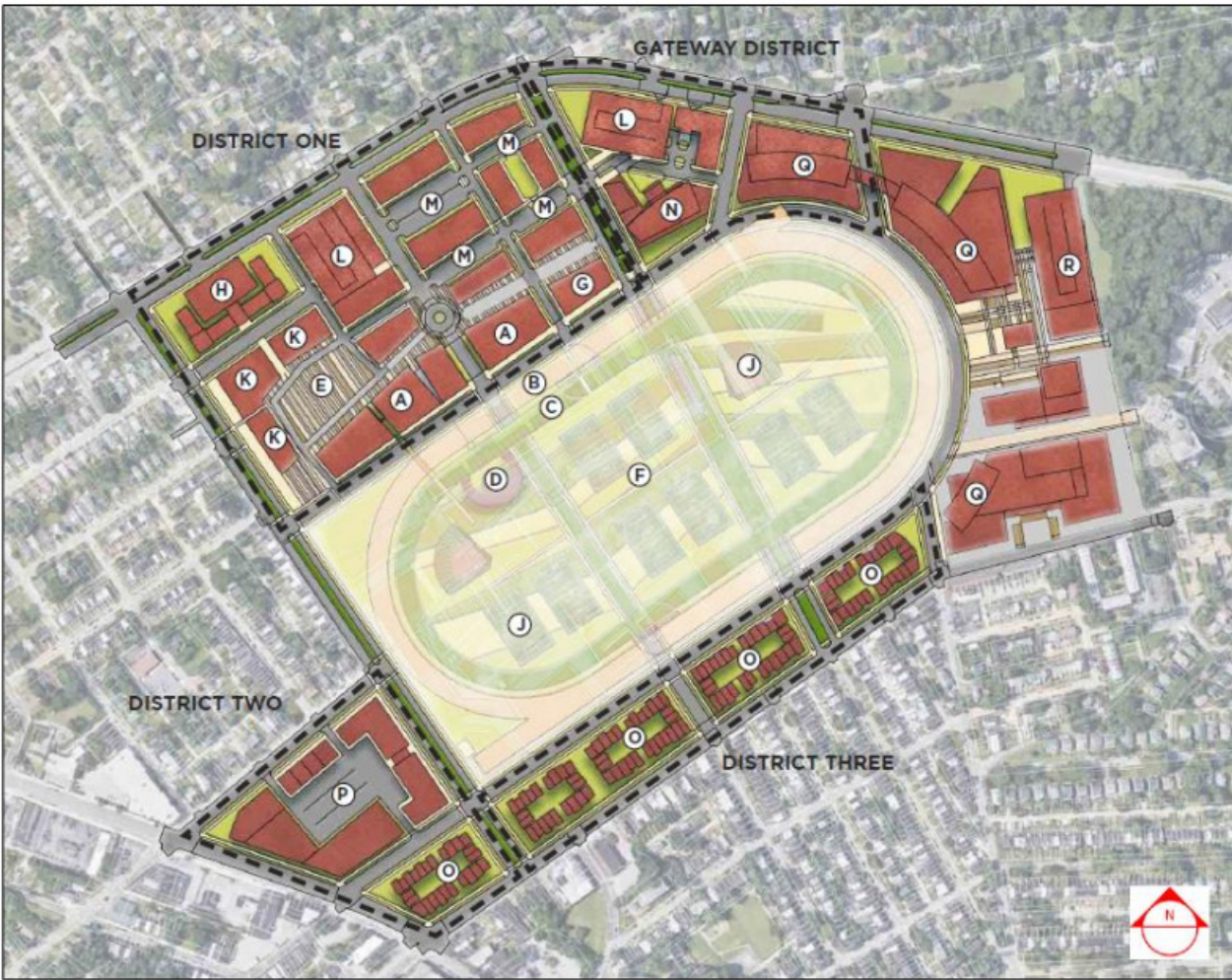
POTENTIAL NON-RACING
LAND USE PROGRAMS



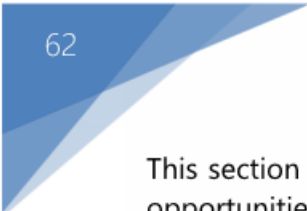
POTENTIAL NON-RACING LAND USE PROGRAMS

This section focuses on the market assessment of potential non-racing land use options. Based on the data and analysis presented in the previous sections of this report, including the trade area analysis, along with other market research as well as feedback from the consultant team and key stakeholders during the visioning process, a district concept was developed whereby land use allocations were assigned within the individual districts based on integration with the massing of race track improvements associated with day-to-day functions which may overlap with the Preakness Stakes’ event.

Four neighborhood districts were identified that linked non-racing commercial and residential development potential to the reconfiguration of the race track which are illustrated in the graphic below.



Source: Populous.



This section of the report describes each district and identifies potential land use development opportunities that could occur within the Near Term (1-3 Years) or Long Term including a land use matrix ranking potential land uses as High, Moderate or Low.

The potential development surrounding Pimlico Race Course has the capability to create job opportunities, increase consumer spending and raise the overall tax base both at the local and the State levels.

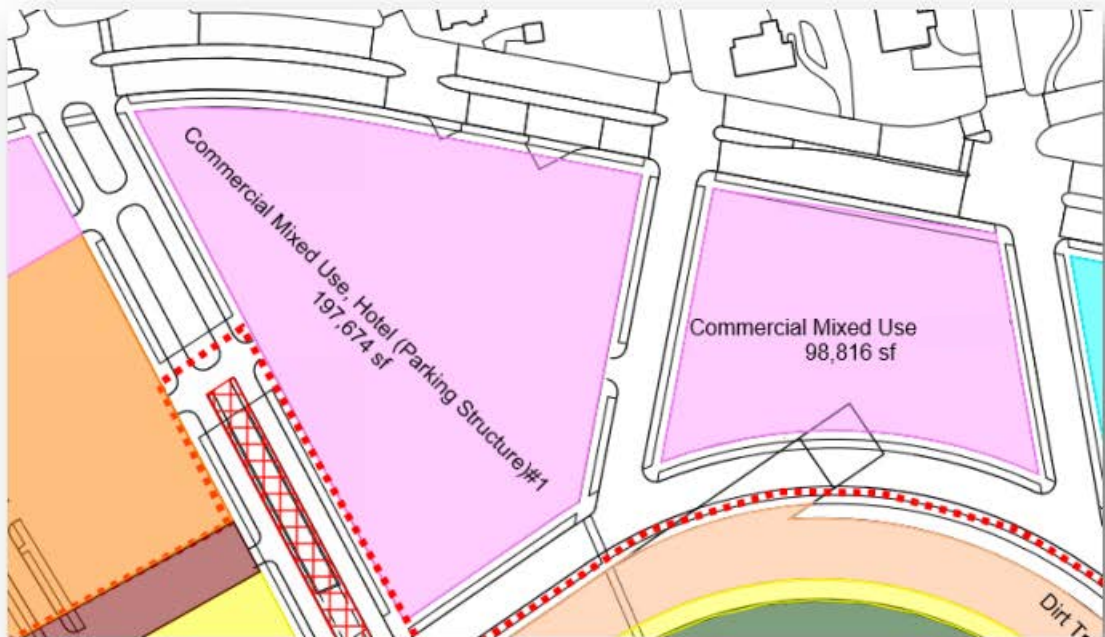
In addition, the potential land use options could also dovetail with race track and civic functions. Further, future development opportunities, public and/or private, could unite with the surrounding neighborhood districts in concert with long range neighborhood development plans such as the Park Heights Master Plan.

As noted earlier in the report, it is important to understand that this is a hypothetical, conceptual analysis of potential uses that could occur – not a feasibility study of what will occur – which is particularly relevant since Pimlico Race Course is owned by the MJC/TSG.



Gateway District

This area of potential redevelopment is situated in the northeast quadrant of the site and is viewed as the gateway entry from Northern Parkway to Pimlico Race Course. This area appears to be well-suited for future commercial and mixed use development because of its high visibility and ease of access from Northern Parkway as well as its adjacency to the LifeBridge Health Campus.



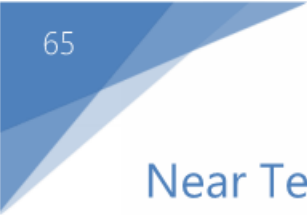
The following illustrates the Pimlico Land Use Matrix for the Gateway District.

Gateway District Phasing

296,490 SF Total Land Area		6.81 Acres		
Land Allocation:			Improvement Allocation	
Pimlico Commercial Mixed Use:			1-3 Years	Long Term
Hotel Pad:	20,000 SF	0.46 Acres	X	
Parking Garage:	32,500 SF	0.75 Acres		X
Balance Allocated to Commercial Mixed Use:	145,174 SF	3.33 Acres		X
Total Pimlico Commercial Mixed Use:		197,674 SF		
Potential LifeBridge Allocation		98,816 SF		
Near Term Development (1-3 Years)				
Hotel	58,750 SF			
Long Term Potential Development				
Parking Garage	130,000 SF			
Commercial Mixed Use	145,174 SF			
Total Future Pimlico Improvement Allocation:		333,924 SF		



Pimlico Land Use Matrix				
		High	Moderate	Low
Gateway District Phasing				
	Hotel	58,750	SF	
	Long Term Development	275,174	SF	
Total Pimlico Improvement Allocation		333,924	SF	
<u>Retail Improvements</u>				
	5K-9K	X		
	10K-14K		X	
	15K-24K		X	
	>25K			X
<u>Restaurant Casual Dining</u>				
	3K-5K	X		
	>5K			X
<u>Concept Restaurant/Craft Brewery</u>				
	3K-5K		X	
	>5K			X
Fast Food Out Parcel Pad				X
<u>Bars/Clubs</u>				
	3K-5K	X		
	>5K		X	
<u>Office Space</u>				
	Ground Floor	X		
	2-3 Floors	X		
<u>Medical Office Space</u>				
	Ground Floor	X		
	2-3 Floors	X		
<u>Technology & Innovation</u>				
	Ground Floor		X	
	2-3 Floors		X	
<u>Hotel</u>				
	Flag 125-150 Units	X		
	Independent 125-150 Units			X
	Extended Stay <100 Units	X		
<u>Parking Garage</u>				
	350-400 Spaces			X



Near Term Development (1-3 Years)

Hotel

Upon reconfiguration of the race track, the near term development opportunity from the private sector is a potential hotel development. The integration of a hotel development in conjunction with the reconfiguration of the race track could be timely whereby the hotel site location is adjacent to the race track and could take advantage of the view. Further, with the expansion of the LifeBridge Health campus, a nearby hotel property could be a valuable service to families and visiting medical professionals. If the track is open to the public for recreational activities and the potential of future development, a hotel property could benefit from the annual year-round traffic from non-racing activities. Given the location and the quality of the proposed race track improvements, a Select (or Mid-Range) Service hotel facility is a viable use consideration.

The orientation of the hotel to the race track could provide premium views from the rooms during the Preakness Stakes and command premium rates over a two or three day race event package.

Baltimore - All Hotels

Comparison of the next 4-quarters to the previous 4-quarters:

Occupancy

Occupancy is estimated to decrease to 65.9%, a decline over the past 4-quarters’ rate of 66.4%, but above the long run average of 64.7%.

Average Daily Rate

ADR growth expectations are increasing, positive 1.3% vs. the past 4-quarters’ rate of negative 0.4% but are lower than the long run average of positive 2.4%.

Revenue Per Available Room

RevPar growth projections are climbing to 0.5% as compared to the past 4-quarters’ rate of negative 2.4% but are lower than then long run average of positive 2.6%.

Supply Side

Supply growth is climbing 3.7% vs. the past 4-quarters’ rate of 1.9% and greater than the long run average of 2.4%.

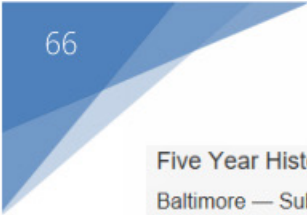
Demand Side

Forecast demand growth is climbing, positive 2.9% vs. the past 4-quarters’ rate of negative 0.1% and is greater than the long run average of positive 2.6%.

Source: CBRE Hotels 2Q 2018

Baltimore – Lower & Upper Priced Hotels and All Hotels

The tables and graphics that follow provide a summary of hotel statistics for lower and upper priced hotels in the Baltimore Suburban market area (which includes the Pimlico neighborhood area) and all hotels in Baltimore City for the last five years, including RevPar and occupancy rates.



Five Year History (Annual)										
Baltimore — Suburbs Submarket — Lower-Priced Hotels										
YEAR	OCC	ΔOCC	ADR	ΔADR	REVPAR	ΔREVPAR	SUPPLY	ΔSUPPLY	DEMAND	ΔDEMAND
2013	59.3%	-	\$73.93	-	\$43.86	-	4,899	-	2,906	-
2014	63.2%	6.5%	\$75.90	2.7%	\$47.93	9.3%	5,111	4.3%	3,228	11.1%
2015	64.5%	2.2%	\$79.03	4.1%	\$50.99	6.4%	5,291	3.5%	3,414	5.8%
2016	65.3%	1.2%	\$81.75	3.4%	\$53.39	4.7%	5,378	1.6%	3,513	2.9%
2017	62.8%	-3.8%	\$81.75	0.0%	\$51.37	-3.8%	5,427	0.9%	3,410	-2.9%

Source: STR, Q2 2018.

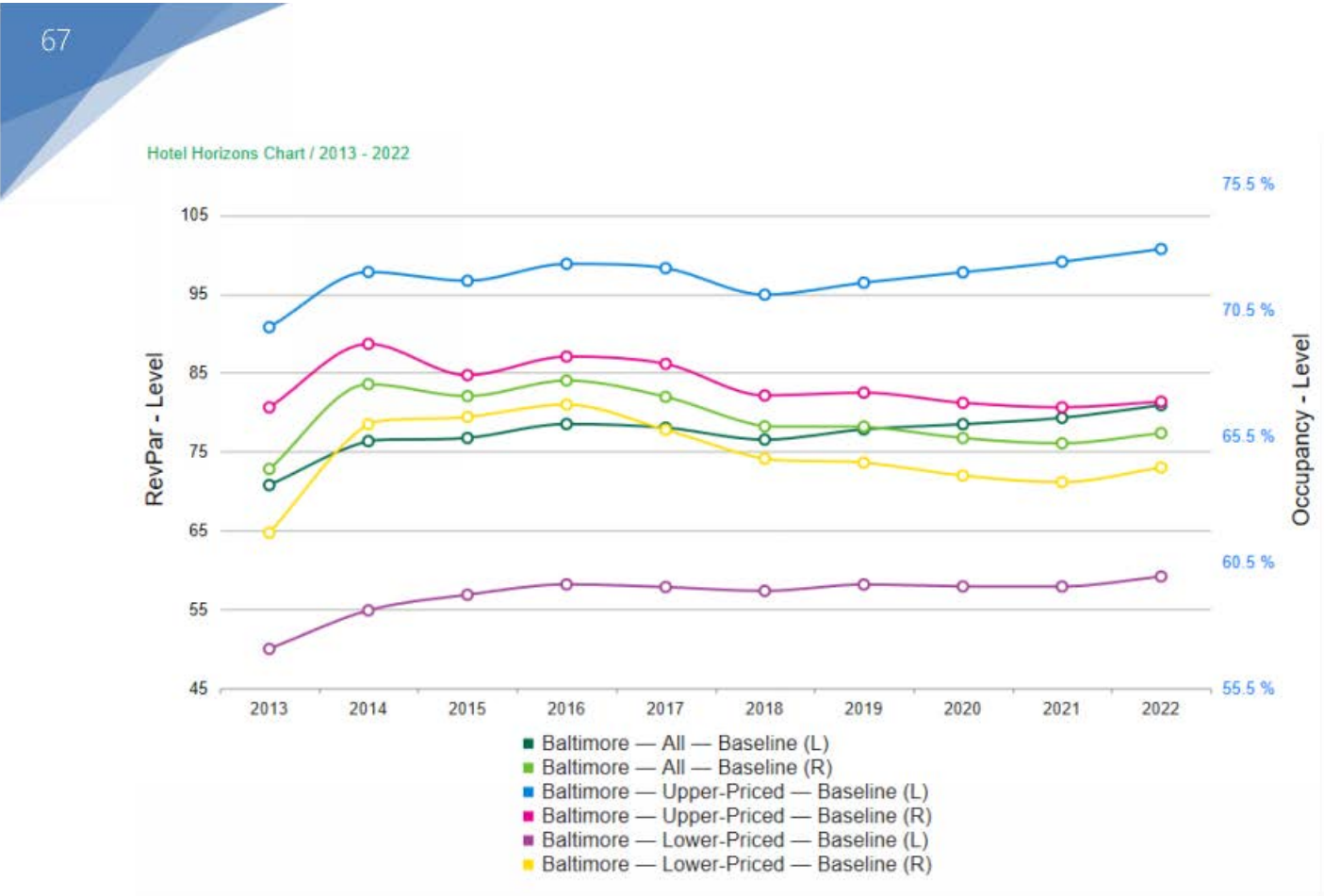
Five Year History (Annual)										
Baltimore — Suburbs Submarket — Upper-Priced Hotels										
YEAR	OCC	ΔOCC	ADR	ΔADR	REVPAR	ΔREVPAR	SUPPLY	ΔSUPPLY	DEMAND	ΔDEMAND
2013	61.7%	-	\$119.74	-	\$73.85	-	2,445	-	1,508	-
2014	65.2%	5.8%	\$121.29	1.3%	\$79.12	7.1%	2,445	0.0%	1,595	5.8%
2015	65.8%	0.8%	\$124.32	2.5%	\$81.77	3.4%	2,444	-0.1%	1,608	0.8%
2016	67.2%	2.2%	\$126.79	2.0%	\$85.22	4.2%	2,444	0.0%	1,643	2.2%
2017	65.2%	-2.9%	\$126.52	-0.2%	\$82.56	-3.1%	2,543	4.1%	1,659	1.0%

Source: STR, Q2 2018.

Five Year History (Annual)										
Baltimore — City Submarket — All Hotels										
YEAR	OCC	ΔOCC	ADR	ΔADR	REVPAR	ΔREVPAR	SUPPLY	ΔSUPPLY	DEMAND	ΔDEMAND
2013	66.3%	-	\$154.17	-	\$102.28	-	8,293	-	5,501	-
2014	68.4%	3.1%	\$161.38	4.7%	\$110.43	8.0%	8,195	-1.2%	5,608	1.9%
2015	65.7%	-4.0%	\$159.99	-0.9%	\$105.11	-4.8%	8,440	3.0%	5,545	-1.1%
2016	67.0%	2.0%	\$161.74	1.1%	\$108.34	3.1%	8,540	1.2%	5,720	3.2%
2017	66.7%	-0.5%	\$159.81	-1.2%	\$106.56	-1.6%	8,694	1.8%	5,797	1.3%

Source: STR, Q2 2018.

E.3– Non-Racing Land Use Analysis



Overall over the past five years RevPar in the lower priced suburban hotel market has increased 18% (from \$43.86 to \$51.37) while occupancy has increased slightly at 5% with a reported delta change downward 2.9% from 2016 to 2017. The upper priced suburban hotel market RevPar has increased 12% (from \$73.85 to \$85.56) while occupancy has increased approximately 6% with a reported delta change downward 0.2% from 2016 to 2017. RevPar for all hotels in the Baltimore market increased by approximately 4% (from \$102.28 to \$106.56) while occupancy has remained generally static around 66%.

Pipeline development accounts for 391 rooms in the planning stage or 4.7% of sub-market share.

Pipeline			
Upper Priced Brand	Properties	# of Rooms	% Submarket
Planning	1	233	2.8%
Final Planning	1	158	1.9%

68

Conclusion

The integration of an on-site hotel property at Pimlico within the near term of 1 to 3 years in conjunction with the new track reconfiguration and massing of race track improvements appears reasonable. A hotel property of approximately 150 rooms represents less than 2% of market share within the surrounding suburban market and provides a neighborhood niche for a quality Select (or Mid-Range) Service hotel property for Preakness Stakes activities and year-round for neighborhood and travel demands. The footprint of the hotel approximates 20,000 SF (100' x 200') and total building area assumes 58,750 SF in a 5 floor mid-rise suburban concept.

Long Term Development

A parking garage is a potential long term private development opportunity which could service the hotel and surrounding commercial development within the Gateway District. A portion of the facility could be rented for public parking during the Preakness Stakes. The footprint of the garage approximates 32,500 SF (130' X 250'). The concept assumes 3 levels over ground with a building mass of 130,000 SF or a Floor Area Ratio (FAR) of 4.0. Parking capacity is estimated to be between 350 and 400 cars.

Land area allocated for future development is approximately 3.33 acres (145,174 SF). The massing of future building improvements approximates 145,174 SF or a FAR of 1.0. As presented in the Land Use Matrix, Retail, Restaurant/Bars and Office Space ranks high in consideration. The market will vary over the long term and market demands and feasibility will dictate other possible uses. Potential for technology and innovation space and the possibility of a concept restaurant or craft brewery could also be considered.

Potential LifeBridge Allocation

It is noted that due to the reconfiguration of the race track there is an overlap into LifeBridge owned land of approximately 98,816 SF. Therefore, a trade-off of the same area which is aligned as the eastern parcel within the Gateway District adjacent to the land currently owned by LifeBridge could be explored. This potential exchange was discussed in workshop sessions with stakeholders during the development of the land use concept.

District One

This area of potential redevelopment abuts the west edge of the Gateway District and provides the greatest roadway frontage along Northern Parkway. At 18.44 acres, District One represents the largest overall land area where a blend of residential and commercial mixed use could occur. Civic improvements, such as a community resource center or STEM center, and permanent equestrian facilities could also be programmed in this district.



The following shows the Pimlico Land Use Matrix for District One.

District One Phasing

803,148 SF Land Area 18.44 Acres

Land Allocation:			Improvement Allocation	
			1-3 Years	Long Term
Near Term Racing Allocation	253,016 SF	5.81 Acres		
Long Term Racing Allocation	108,991 SF	2.50 Acres		
Long Term Civic Allocation	69,272 SF	1.59 Acres		
Long Term Commercial Allocation	137,060 SF	3.15 Acres		
Long Term Residential Allocation	234,809 SF	5.39 Acres		
Total District One Phasing Land Allocation			18.44 Acres	
Mixed Use Clubhouse Site #1	81,387 SF	1.87 Acres	X	
Mixed Use Clubhouse Site #2	41,764 SF	0.96 Acres	X	
Palio	52,005 SF	1.19 Acres	X	
Hardscape #1	10,938 SF	0.25 Acres	X	
Hardscape #2	30,054 SF	0.69 Acres	X	
Hardscape #3	34,527 SF	0.79 Acres	X	
Tunnel #1	2,341 SF	0.05 Acres	X	
Equestrian/Racing	81,895 SF	1.88 Acres		X
Suite Tower	27,096 SF	0.62 Acres		X
Civic #1	18,750 SF	0.43 Acres		X
Civic #2	30,199 SF	0.69 Acres		X
Civic #3	20,323 SF	0.47 Acres		X
Parking Structure - Commercial Use	51,528 SF	1.18 Acres		X
Commercial Mixed Use #3	85,532 SF	1.96 Acres		X
Parking Garage Wrap Residential Mixed Use	36,999 SF	0.85 Acres		X
Residential Mixed Use #2	197,810 SF	4.54 Acres		X
Near Term Development (Year 1-3)				
Multi Use Clubhouse	409,000 SF			
Palio	52,005 SF			
Hardscape #1	10,938 SF			
Hardscape #2	30,054 SF			
Hardscape #3	34,527 SF			
Tunnel #1	2,341 SF			
Long Term Potential Development				
Equestrian/Racing	77,191 SF			
Suite Tower	59,964 SF			
Civic #1	TBD			
Civic #2	TBD			
Civic #3	TBD			
Non-Racing Development				
Parking Structure	207,000 SF			
Parking Garage Wrap - Mixed Use	36,999 SF			
Commercial Mixed Use	55,600 SF			
Residential Mixed Use	260,000 SF			
Total Non-Racing Development	559,599 SF			



Pimlico Land Use Matrix			
	High	Moderate	Low
District One Phasing			
Total Non-Racing Development	559,599	SF	
Commercial Mixed-Use	299,599	SF	
Residential Mixed-Use	260,000	SF	
<u>Retail Improvements</u>			
5K-9K	X		
10K-14K		X	
15K-24K		X	
>25K			X
<u>Small Box Retail</u>			
<10K	X		
>10K		X	
<u>Convenience/Gas</u>			
	X		
<u>Restaurant Casual Dining</u>			
3K-5K	X		
>5K			X
<u>Concept Restaurant/Craft Brewery</u>			
3K-5K	X		
>5K			X
Fast Food Out Parcel Pad	X		
<u>Grocery</u>			
<25K		X	
>25K			X
<u>Bars/Clubs</u>			
3K-5K	X		
>5K		X	
<u>Office Space</u>			
Ground Floor			X
2-3 Floors			X
<u>Medical Office Space</u>			
Ground Floor			X
2-3 Floors			X
<u>Technology & Innovation</u>			
Ground Floor		X	
2-3 Floors		X	
<u>Hotel</u>			
Flag 125-150 Units		X	
Independent 125-150 Units		X	
Extended Stay <100 Units		X	
<u>Parking Garage</u>			
550-600 Spaces			X
<u>Residential</u>			
Apartments	X		
Live/Work	X		
Row Housing		X	



District One Phasing

Near Term Development (1-3 Years)

District One comprises the most intense potential development including multiple land uses. The race associated improvements to be developed Near Term (Years 1-3) include the areas identified for the Multi-Use Clubhouse, Palio and hardscape area, and Tunnel #1. The Multi-Use Clubhouse building structure estimates a potential building mass of 409,000 SF. The Palio and hardscape areas anticipate site coverage equal to a FAR of 1.0.

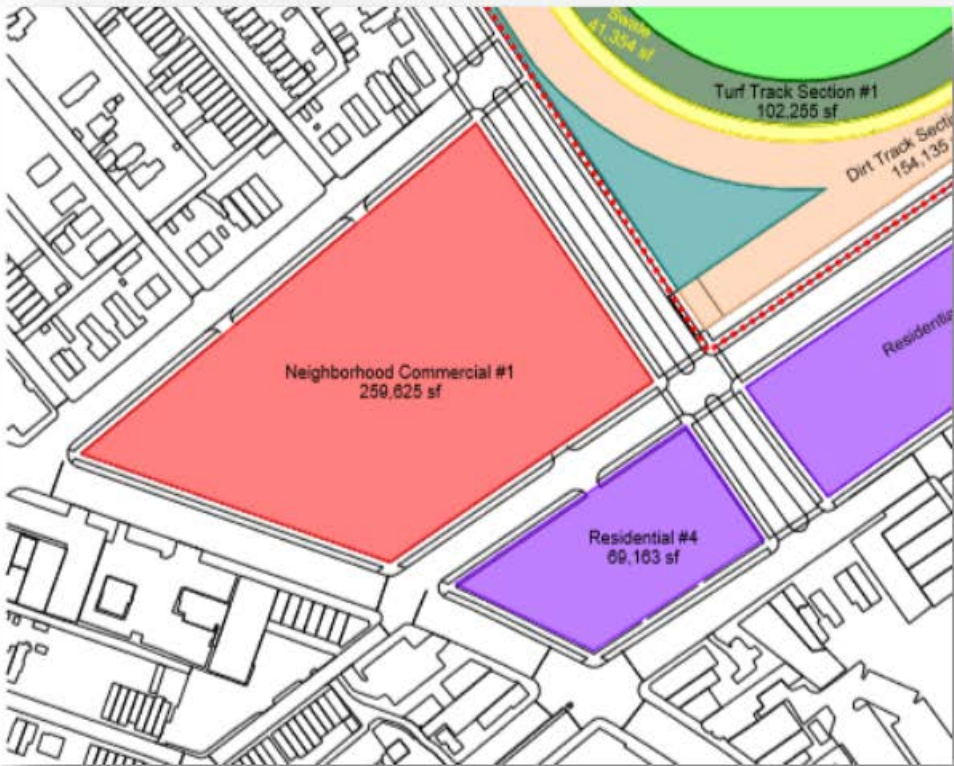
Long Term Development

The equestrian/racing facility contemplates a building facility of 77,191 SF along Northern Parkway adjacent to the planned parking structure and commercial wrap (36,999 SF), and mixed use residential. The parking garage site allocation is 51,528 SF and contemplates four stories totaling about 207,000 SF. Also contemplated in the long term development allocation are three civic buildings with sizes to be determined as community needs are better understood. The development of the suite tower site (27,096 SF) envisions a building adjacent to the clubhouse buildings that could support suites and high end hospitality on race days and conference needs year-round. The residential mixed use land area comprises 197,810+ SF estimated for up to 260,000 SF of apartment and live/work space. Consideration is that 200,000 SF of the residential allocation focus on 2-3 story loft style apartments and/or condominiums surrounding an enclosed courtyard. These could be located near the planned Hardscape #3 area. The remaining residential allocation (60,000 SF) considers 2-3 story live/work combination across from the Gateway District fronting the main entryway to the Pimlico Race Course and planned tunnel entry to the infield. The commercial mixed use site (85,532 SF) anticipates potential improvements of up to +/- 55,600 SF or and FAR of 0.65.

It is possible that the parking structure could be constructed in the near term to support both live racing and to serve as a catalyst for development in the district. Furthermore, the equestrian support spaces at the northwest corner of District One could be constructed earlier to support racing and engage the community on the site as it develops.

District Two

This area of potential redevelopment is programmed for Neighborhood Commercial land uses and considered instrumental in the inclusion of the surrounding residential neighborhood needs.



District Two Phasing

328,788 SF Land Area		7.55 Acres	
		Improvement Allocation	
		1-3 Years	Long Term
Land Allocation:			
Grocery Store	50,000 SF	1.15 Acres	X
Surface Parking	125,000 SF	2.87 Acres	X
Future Neighborhood Commercial & Green Space	84,625 SF	1.94 Acres	X
Total Neighborhood Commercial	259,625 SF	5.96 Acres	
SF Available for retail development based on 0.70 FAR	182,000 SF		
Residential Parcel #4:	69,163 SF	1.59 Acres	X
Near Term Development (1-3 Years)			
Grocery Store	50,000 SF		
Surface Parking	125,000 SF		
Long Term Potential Development			
Future Neighborhood Commercial	7,000 SF		
Residential Parcel #4	48,000 SF	40 Units	

The following illustrates the Pimlico Land Use Matrix for District Two.

Pimlico Land Use Matrix				
		High	Moderate	Low
District Two Phasing				
Neighborhood Commercial Development				
Near Term Development Allocation	175,000 SF			
Long Term Development Allocation	7,000 SF			
Long Term Residential Allocation	48,000 SF			
Neighborhood Commercial				
Grocery				
<25K			X	
25K-50K		X		
>50K		X		
Neighborhood Retail Center				
<5K		X		
5K-10K			X	
Convenience/Gas			X	
Neighborhood Personal Service				
<5K		X		
5K-10K			X	
Small Box Retail				
<10K		X		
Restaurant Casual Dining				
3K-5K		X		
>5K				X
Bars/Clubs				
3K-5K			X	
>5K				X
Neighborhood Residential				
Detached Townhouse		X		
Row House		X		
Detached Single Family				X
Detached 2 Story 4 Plex			X	
3-4 Story Suburban Apartment Building				X
Small Apartment Units <900 SF			X	
Modern Row House Style Apartments		X		
Affordable Housing				
Small Apartment Units <900 SF			X	



District Two Phasing

Near Term Development (1-3 Years)

It is noted that the Park Heights and southern neighborhood districts are considered a food desert whereby there is no immediate availability of fresh fruits, vegetables, and other fresh food items to local area residents. Baltimore City is providing tax cut incentives to big box grocery stores to entice development in approved Baltimore neighborhoods. The City now offers personal property tax credits to grocery stores locating or making significant renovations within targeted areas in the City. The lack of access to healthy food choices contributes to disparities in life expectancy, which can differ up to 18 years. In addition, quality supermarkets often serve as a catalyst for increased economic development in a community.

It is important to note that market research indicates there is a Retail GAP for Food & Beverage Stores within a 1-mile radius of Pimlico Race Course. As such, a 50,000 SF grocery store is identified as a potential Near Term (1-3 Years) development opportunity along with 125,000 SF of surface parking in concert with the reconfiguration of the race track. The grocery store and parking could be sited on the Neighborhood Commercial Parcel with orientation to Park Heights Avenue.

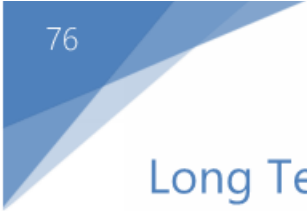
Tax Credit

- A 10-year, 80 percent credit against property tax for supermarkets locating in or making significant improvements in targeted areas
- Personal property typically covers furniture, fixtures and equipment

Qualifications

- Must be located in the grocery store incentive area
- For newly constructed store, must have expended on new personal property an amount equal to or greater than \$150,000 or \$25 per square foot
- For newly renovated stores, have expended on new personal property an amount based on total floor space as follows:
 - 20,000 SF or less, at least \$5 per square foot
 - More than 20,000 SF up to an including 45,000 SF, at least \$8 per square foot
 - More than 45,000 SF, at least \$10 per square foot
- Must have at least 500 SF dedicated to the sale of fruits and vegetables
- Must have at least 500 SF dedicated to the sale of other perishable goods including meat, seafood and dairy products

It is also noted that based on the Retail Profile study there is a Retail GAP concerning Food & Beverage Stores within a 1-mile radius of Pimlico.



Long Term Development

Predicated on a 0.70 FAR for the commercial parcel allocation of approximately 182,000 SF (259,625 X 0.70) and further assuming the Near Term (1-3 Years) grocery store and parking development comprises 175,000 SF, additional potential future development allocation for commercial improvements is estimated at 7,000 SF.

Similarly, a 0.70 FAR is applied to the residential land allocation of 69,163 SF indicating an applied land area of 48,000 SF, assuming an approximate 70% FAR. A 2-story townhouse and/or row house development may be appropriate for this site. As such, total potential improvements equate to 40 units or 25 units per acre. The total ground level site coverage allocation for this use is 40,000 SF.

District Three

This area of potential redevelopment is divided among three land parcels and is envisioned as a mixed residential program for senior living, townhouse and/or row type single family living, and multi-family apartment development. These programmed residential clusters could provide a smooth and modern transition to the neighborhoods on the southern quadrant of the race track. Future residential development within these three blocks could be influential in the redevelopment efforts consistent with the Park Heights Master Plan.



The following shows the Pimlico Land Use Matrix for District Three.

District Three Phasing

268,892 SF Land Area		6.17 Acres	
Land Allocation:		Improvement Allocation	
Residential Parcel #1:	132,759 SF	3.05 Acres	X
Residential Parcel #2:	70,782 SF	1.62 Acres	X
Residential Parcel #3:	65,351 SF	1.50 Acres	X
Near Term Development (1-3 Years)			
Residential Parcel #3:	65,000 SF	100 Units	
Long Term Potential Development			
Residential Parcel #1:	157,500 SF	175 Units	
Residential Parcel #2:	48,000 SF	40 Units	

Pimlico Land Use Matrix				
		High	Moderate	Low
District Three Phasing				
Development Concept Allocation	270,500	SF		
Residential Parcel #1 - (175 Units)	157,500	SF		
Residential Parcel #2 - (40 Units)	48,000	SF		
Residential Parcel #3 - (100 Units)	65,000	SF		
<u>Residential Parcel #1</u>				
Market Rent				
3-4 Story Suburban Apartment Building		X		
Small Apartment Units <900 SF		X		
Modern Row House Style Apartments		X		
Affordable				
Small Apartment Units <900 SF		X		
<u>Residential Parcel #2</u>				
Detached Townhouse		X		
Row Housing		X		
Detached Single Family			X	
Detached 2 Story 4 Plex			X	
<u>Residential Parcel #3</u>				
Age Restricted		X		
Independent Living		X		
Affordable Senior Housing		X		



District Three Phasing
Near Term Development (1-3 Years)

Development of Residential Parcel #3 appears to be the most likely to occur in the near term. With the close proximity to the LifeBridge Health campus, a range of senior living type facilities could evolve and align with the Park Heights Master Plan district. Age Restricted, Independent Living, and/or Affordable Senior Housing are all considered high potential development. Development potential approximates 100 units based on an allocation of 650 SF per unit which assumes 350 SF allocated per room and a 300 SF allocation per room for common areas, hallways and offices. The total building improvements approximate (100 units X 650 SF) 65,000 SF.

Long Term Development

One of the key components of the Park Heights Master Plan is the redevelopment of the Major Redevelopment Area in Central Park Heights. The 60 acres centered on Park Heights and Woodland Avenues were comprised of nearly 600 properties, of which approximately 400 were vacant buildings and lots, and represented the most blighted and distressed area within the 1,500-acre Master Plan. Redevelopment could accommodate hundreds of new housing units, along with new parks, streetscape improvements and other amenities.

The updated report further states that new housing should include a wide range of housing types, from freestanding single family houses to row houses to multi-family, reflecting the diverse nature and demand. The City’s initial assumption is that 25% of the new housing would be affordable. Within the 25%, the goal is for an even mix of low-income housing units and moderate income housing units financed through tax credits and other housing subsidy programs.

To date, based on information supplied by the Pimlico Community Development Authority, 482 out of 581 properties have been acquired, 125 relocations have been completed, and 57 properties have been demolished. Approximately \$17M has been spent on these activities, including \$8M in slots revenue, \$4.75M in City bond revenue funds and \$4.5M in State funds. In FY 19, an additional \$1.8M in City bond funds are slated to be used towards acquisition, relocation, and demolition.

The future of Residential Parcels #1 & #2 needs to align with the redevelopment efforts immediately south within the Park Heights Neighborhood. In the long term, private development interests could construct housing and apartments that meet the need of the reinvested community. This is predicated on the success of the Pimlico Race Course reconfiguration and the success of development interests in the other districts surrounding the race track.

Parcel #1 is envisioned as multi-family development. It is estimated that up to 175 units could be developed contemplating an average of 900 SF per unit. Unit inventory could range from 450 SF for studio apartments to 1,200 SF for 2 or 3 bedroom units. The total developable area approximates 157,500 SF (175 units X 900 SF per unit).



Parcel #2 contemplates townhouse/row housing up to 40 units based on the site configuration. The typical unit structure averages 1,200 SF. Total building area would equate to 48,000 SF (40 units X 1,200 SF per unit).

OVERALL SUMMARY

OVERALL SUMMARY

In the visioning process, market due diligence related to potential non-racing development was conducted. This included analysis of demographic and socioeconomic data and situational awareness relative to the immediate neighborhood location and access. This also included commuting patterns and public transportation access to the Pimlico neighborhood. Further, the analysis considered the diversity of the surrounding neighborhood environs that incorporated commercial and residential demand and supply variables that influence marketability of potential non-racing development. In summary, four neighborhood districts were envisioned that linked non-racing commercial and residential development potential, either Near Term (1-3 Years) or Long Term Development to the reconfiguration of the race track. The potential development surrounding the Pimlico Race Course has the capability to create job opportunities, increase consumer spending and raise the overall tax base both at the local and State levels.

The following graphic illustrates the resulting conceptual plan.



Source: Populous.

