May 18, 2021

The Honorable Emily Keller
Mayor, City of Hagerstown
One East Franklin Street
Hagerstown, Maryland 21740

RE: Hagerstown Multi-Use Sports and Events Facility - Concept Design Report
Hagerstown, Maryland

Dear Mayor Keller,

The Maryland Stadium Authority (MSA) is pleased to present the attached concept design report (the "Report") for the Hagerstown Multi-Use Sports and Events Facility. The effort was undertaken pursuant to the Memorandum of Understanding between the City of Hagerstown and MSA dated October 1, 2019.

The concept design and due diligence effort included:

- Design and engineering services including geotechnical, environmental and utility location and capacity analysis.
- Real estate / land acquisition analysis.
- Cost estimating services.

MSA engaged the following consultants to provide services toward the effort:

- Rummel, Klepper & Kahl, LLP (RK&K), in partnership with Populous, provided design and engineering services.
- O'Connor Construction Management Incorporated (OCMI) provided cost estimating services.

The Report is comprised of the following documents:

- Hagerstown Multi-Use Sports and Events Facility Concept Design Report by RK&K dated January 2021.
- Hagerstown Multi-Use Sports and Events Facility Project – Concept 1 Program Level Cost Estimate by OCMI dated January 2021.
- Hagerstown Multi-Use Sports and Events Facility Project – Concept 4 Program Level Cost Estimate by OCMI dated January 2021.

The methodology used to complete the effort was as follows:

- RK&K and Populous developed four potential project execution concepts based on the facility program and characteristics of the selected site.
    - The consultants and MSA deemed Concept 1 to have the highest likely cost of construction.
    - Concept 4 was deemed by the consultants and MSA to have the lowest likely cost of construction.
- OCMI developed cost estimates for the construction of Concept 1 and 4 to establish the highest and lowest range of the cost of construction for the project.

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- The estimated construction cost amount was used to estimate costs for general conditions, fees and bonding by a Construction Manager. This was added to the construction cost to determine the total estimated Cost of Construction amount.
- The total estimated cost of construction amount was also used to estimate the "soft costs" associated with non-construction related items including design and engineering, permitting, owner project management and on-site representation, testing and inspection services, and overall project contingency.

A summary of the estimated cost to design and construct Concept 1 and Concept 4 is as follows.

CONCEPT 1	**Cost of Construction**	**Soft Costs**	**TOTAL**
Site Development	$8,465,267	$1,779,733	$10,245,000
Building / Facility	$48,523,820	$10,201,181	$58,725,000
Subtotal	*$56,989,087*	*$11,980,913*	
TOTAL ESTIMATE - CONCEPT 1			**$68,970,000**

CONCEPT 4	**Cost of Construction**	**Soft Costs**	**TOTAL**
Site Development	$7,821,353	$1,656,647	$9,478,000
Building / Facility	$43,851,632	$9,285,368	$53,137,000
Subtotal	*$51,672,985*	*$10,942,016*	
TOTAL ESTIMATE - CONCEPT 4			**$62,615,000**

The estimated range of costs associated with real estate transactions is between $5.6 million and $9.9 million. This amount is not included in the design and construction estimates for Concept 1 and 4.

Next steps for the City of Hagerstown include, but are not limited to, the following:

- Determine whether to continue to pursue the project.
- Identify and secure the source(s) of funds for the project.
- Pursue necessary real estate transactions to gain control over the property to be developed as part of the project.
- Select the proposed concept(s) for further development.

Please contact this office with any questions or concerns.

Yours,

Michael J. Frenz

Michael J. Frenz
Executive Director

Hagerstown Multi-Use Sports and Events Facility
Hagerstown, Maryland

Concept Design Report

PREPARED FOR
City of Hagerstown &
Maryland Stadium Authority
351 West Camden Street, Suite 300
Baltimore, Maryland 21201

Project Location
W Baltimore Street & Summit Ave
Hagerstown, MD 21740

PREPARED BY

Rummel, Klepper & Kahl, LLP
In Association with Populous
700 East Pratt Street, Suite 500
Baltimore, Maryland 21202

May 2021

Contents

I. Concept Design Statement of Work Summary

The Maryland Stadium Authority (MSA) on behalf of the City of Hagerstown (COH), engaged the RK&K/Populous team to study the feasibility of a new multi-use sports and events facility in downtown Hagerstown. In May 2019, the COH received the results of their Market and Site Assessment Report, prepared by Crossroads Consulting & Populous, that provided research and analysis of potential sites in Hagerstown. Subsequently, the COH selected the Baltimore Street location as the site to be further studied in the next phase of the due diligence process. The selection was based on the Baltimore Street site containing a minimum of 5.5 acres of land suitable to support construction of a 5,000 seat Class "A" Minor League ballpark with adequate parking available within a walkable radius to the site. Other evaluation factors were also included in the May 2019 report. The COH is now proceeding with conceptual studies of the Baltimore Street site with preparation of this concept report to be followed by schematic/concept design plans.

This concept design report is the first step in the development of the schematic design package for a new multi-use events facility in Hagerstown Maryland. It's anticipated minor league professional baseball will be the primary tenant however, the facility is being conceptualized as a comprehensive events facility. Specifically, RK&K's statement of work included the following:

Develop models to depict critical site conditions including grades, rock, environmental hot spots, utilities. Evaluate:

- Availability and capacity of the surrounding infrastructure including roads and utility systems
- Environmental site conditions related to hazardous materials including options for remediation and regulatory requirements
- Cultural resource assessment related to historic and archaeological conditions
- Geotechnical assessment with particular focus on karst and limestone conditions
- Traffic evaluation related to pedestrian access and parking needs
- Evaluation of the bond-funded Hagerstown Cultural Trail with the possibility of options for integration into the facility or adjacent to the facility but with the proposed site.
- Strategy for Property Acquisitions and next steps towards assembling the properties
- Initial concept diagrams related to the Site Plan and
- Facility layouts

We understand that the MSA will share the conceptual information with the MSA's project cost estimator to develop conceptual rough order-of-magnitude cost estimate ranges. We understand that it is the intent that this report and associated conceptual estimates be used by COH to assist with determining a preferred concept design option.

II. Site Description

The project site selected by the City of Hagerstown for this study is in downtown Hagerstown, Washington County, Maryland. The site, referred to as the "Baltimore Street Site" in previous studies, is bounded by Antietam Street to the North, Summit Avenue to the West, W Baltimore Street to the South and an unnamed alley to the East.

Figure 1 - Project Site

III. Concept Site Option Summary

The modeling in this report is the result of a coordination meetings between RK&K and Populous and a stakeholder workshop held on 9/2/2020 with the COH and MSA. Four site concepts have been developed for consideration.

The modeling was completed utilizing Bentley's SiteOPS software using available records and feedback from the concept design workshop. The layouts represent a conceptual layout informed by cut/fill and required site work. These are estimates only, intended to compare between sites and layouts, rather than to provide a specific cost.

The site layouts and features within this report are considered conceptual only and may be subject to change as design progresses. The layouts have been prepared prior to detailed site topographic and utility survey which may influence the limitations of space or features available within a site.

The arrangement of the field in all four models is oriented to maximize views of downtown. Based on the location of parking and the downtown core, which are both North of the stadium site, it is anticipated most attendees will be entering the stadium from the outfield at the connection to the cultural trail. The connection to the cultural trail will be maintained at the North and South edges of the site, however within the site, the trail will require relocation East towards the existing alley. Maintaining the alley along the east boundary of the site is important to maintain access to the adjacent properties and parking lots.

All options anticipate demolition of the buildings at 80 W Baltimore Street, 32 West Baltimore Street and 140 Summit Ave. Some concepts provide for possible engagement of adjacent privately-owned structures such as the Herald Mail and Antietam Paper Buildings. The design of the stadium will need to be sensitive to the residential neighborhood that borders the site along Summit Avenue.

The site is generally free of utilities, with the exception of a 3'x5' stone and brick arch storm drain through the future outfield. Based on feedback received from COH, it's likely the storm drain culvert will need replacement. Rock is exposed on site and based on geotechnical evaluation in some locations is immediately below the surface. Table 1 on page 12 includes a summary of rough order of magnitude rock removal, contaminated soil removal, cut, fill, and borrow/spoil for each layout. The unsuitable cut noted are areas of contaminated soil, based on the environmental site investigations, that may be able to be capped on-site or may require removal with proper handling and disposal.

Land Acquisition

The real estate acquisition execution plan below and shown in Appendix B, describes the approach to identify, research and administer the land acquisition and management program for the project. The May 2019 Market and Site Assessment Report has identified the need to acquire 3 privately-owned properties and 1 publicly owned property. It is with this report's preliminary identification the plan for land acquisition is prepared to provide guidance to the COH and the Schematic/Concept Planning Team in making decisions on land acquisition efforts and schedule. Potential cost ranges for property acquisition and relocation are noted in Appendix B.

Below are descriptions of the properties currently identified for acquisition by the preliminary site planning:

- **32 West Baltimore Street**: This property is privately owned by WLR Residential Properties Inc. in Frederick, MD and was purchased on 3/21/2019. The property is occupied by an Auto Spa and Lube Center. This is a very large business enterprise with multiple structures. A full fee-acquisition and relocation of the business would be required for this site.
- **140 Summit Avenue**: This property is privately owned by Sweeney Bros. Properties LLC in Hagerstown, MD and was purchased in 12/18/2018. The property is occupied by D&P Coin Operated Laundry. A full fee-acquisition and relocation of the business would be required for this site.
- **100 Summit Avenue**: This property is privately owned by Gatehouse Media Maryland in Pittsford, NY and was purchased on 2/13/2019 from the Herald Mail. The property is occupied by the Herald Mail building, however, only a partial fee acquisition is required for the project which impacts the parking lot at the site.
- **80 West Baltimore Street:** This property is publicly owned by Washington County Commissioners and the property is occupied by County offices including offices for Engineering and Planning.
- **Other Acquisitions**: There may be other acquisitions required for the project to accommodate the relocation of the Hagerstown Cultural Trail, Parking, utility relocations and other project needs that may be identified by the Schematic/Concept Planning Team or during the Preliminary Design and Final Design phases.

For the Hagerstown Multi-use Sports and Events Center project and specifically, the Baltimore Street site, it is assumed the facility will be owned by the City of Hagerstown (COH). As a public organization, the COH must follow the requirements of federal and state laws to acquire property. In the Constitution

of the United States, Amendment V states the government may not take property for public use without just compensation. In the Constitution of Maryland, Article III, § 40B also protects the rights of private property owners to receive just compensation when property is to be taken for public use. In addition, the Real Property Article of the Annotated Code of Maryland(§12-201), and Chapter 15 of the Maryland Rules, require the Government, whether federal, state or local, to pay just compensation for the acquisition of any property rights and/or improvements. The Draft Plan, its subsequent updates and the land acquisition efforts, if authorized, shall incorporate and adhere to the federal, state and local laws.

The acquisition process will require titles, appraisals, appraisal reviews, offers of just compensation, negotiations and settlements. If the properties are occupied, relocation assistance may also be required. If an amicable settlement through the negotiation process cannot be reached, the condemning agency (COH), will have the authority for eminent domain to complete acquisition.

Any property occupied by residential tenants/owners or business tenants/owners will be eligible for relocation assistance. Relocation benefits will include advisory services and payments based on State guidelines.

Relocations require a minimum of 90-day advanced notice; however, relocations of residential and business occupants typically take 6-9 months to complete. Availability of replacement locations is a key factor in the timeframe to complete relocations. When publicly owned real property, including land and/or facilities, is to be acquired, in lieu of paying the fair market value for the real property, the Agency may provide compensation by functionally replacing the publicly owned real property with another facility which will provide equivalent utility. Relocation for the publicly owned occupied property may require functional replacement and result in higher expenditures.

Adequate notices and time frames will be needed to provide owners and businesses maximum opportunities to identify replacement locations and time to move equipment and personal property. Once the Preliminary Design is completed and funding is approved, the project can move forward with initial interviews with potential displaced businesses. The businesses currently identified for relocations in the project area are complex entities and may require additional resources to successfully relocate.

The Draft Plan outline of project requirements for Acquisition and Relocation provides a brief and general concept of the project impacts. As the planning advances and more of the project details are developed, additional investigation and steps in the acquisition/relocation processes will be needed. These additional steps may include but are not limited to:

- **Title Searches:** More extensive review of title documents to review easements, encumbrances and other potential ownership issues.
- **Market Analysis for Replacement Sites:** Search of potential sites for businesses to relocate and availability of those sites
- **Business Analysis:** Complete initial interviews with businesses to determine relocation time frames, site requirements, equipment and inventories.
- Address other acquisition/relocation that may result based on temporary construction easements, staging areas, parking replacement, utility replacements and other project needs.

Lot Consolidation and Subdivision

This site will combine several individual parcels of record and therefor, a lot consolidation subdivision plat will be necessary. A subdivision plat will be submitted to the City of Hagerstown Planning

Commission for review and approval. This process may take several months for completion and approval.

Utilities

Public utilities are in close proximity to the site. A detailed capacity analysis of the utility systems was not completed as part of this study. As design progresses, a utility capacity analysis is recommended to determine if there is adequate capacity in the existing systems. Utility availability is expected as follows:

- **Water:** 24" (Summit Ave), 12" (W Baltimore St)
- **Sanitary Sewer:** 8" Gravity Sewer (Summit Ave), 10" Gravity Sewer (Baltimore Ave)
- **Gas:** Gas Service is currently provided on Baltimore Street to both 32 W. Baltimore St and 80 W. Baltimore Street. Medium pressure gas is available on Baltimore Street and low pressure gas is available on Summit Ave.
- **Electric:** Electric service is available on both Baltimore St. and Summit Ave.
- **Storm Drain:** There is a 3'x5' brick & stone arch storm drain through the middle of the project site. A portion of this was previously damaged and replaced by a 48" diameter steel pipe. Based on feedback received from COH, the arch storm drain is in poor condition and will need to be replaced. The estimated capacity of the culvert is 105 cfs which could be replaced with a 42" concrete pipe adjacent to the existing structure. Should adjacent replacement not be feasible due to below grade rock, the existing storm drain could be repaired and lined in place. It's assumed the below grade field drainage will tie into the replacement or repaired storm drain line. Due to the age of the adjacent storm drain system, any increase in storm drain discharge will require a detailed condition and capacity analysis to ensure adequate conveyance.

Utility availability maps are available in Appendix C.

Parking & Traffic

In 2012, the City of Hagerstown conducted a traffic impact study and parking study for a 6,000 seat event center which was expected to generate 2,000 event in-bound trips (based on minor league baseball and zoning requirements), generating a need for 2,000 parking spaces. The proposed concepts in this report have a maximum capacity of 5,000 people reducing the demand for parking spaces by approximately 17%, to a revised demand of 1,700 parking spaces.

An updated assessment by RK&K, shown in Appendix D, found 1,628 publicly available pay to park off-street parking spaces within a ½ mile radius of the proposed stadium site, based on publicly available data. Additionally, the 2012 COH report notes there are 500 on-street parking spaces available and more than 2,000 non-residential parking spaces available which for major event days could also be leveraged to provide ample parking for events. The assessment in Appendix D identified five private parking lots totaling 364 spaces in the vicinity of the stadium which may be good candidates for game day pay to park spaces.

The 2012 report also noted all but one intersection maintained a level of service A or B, operating at an acceptable level. The intersection of Washington Ave at Summit/Jonathan shows operating at a level of service E. This level of service is generally considered below acceptable and shows the intersection is operating at or near capacity. An event day signal and traffic plan should be created to manage traffic to significant events.

Once the final Schematic Design package is complete, a detailed parking and traffic analysis is recommended to determine the full extent of impacts and appropriate mitigation strategies.

Archeological Analysis

The overall objectives of the archaeological assessment, included in Appendix E, were to identify previously recorded archaeological sites and architectural properties in the vicinity of the Study Area that may be significant to regional and national cultural heritage, and to determine the effects of future activities on those properties. The Phase IA archaeological assessment included an intensive background investigation to provide a determination of archaeological probability for the property.

The Study Area is located southeast of historic downtown Hagerstown, just outside the Hagerstown Historic District (WA-HAG-158) and Hagerstown Commercial Core District (WA- HAG-143). It is bounded by West Antietam Street, Summit Avenue, West Baltimore Street, and Ayers Alley, and is currently occupied by commercial buildings and parking lots. Both neighboring historic districts are listed on the National Register of Historic Places (NRHP). Although there are no documented historic properties located within the Study Area, the Baltimore and Ohio (B&O) railroad depot servicing Hagerstown was once located at the corner of West Antietam Street and Summit Avenue just outside the Study Area's north corner. The project site is located in Maryland Archaeological Research Unit 19, the Antietam Creek and Conococheague Creek Drainage areas.

Three archaeological sites with precontact components and two with historic components have been identified within one mile of the Study Area, along with 123 documented historic properties within one quarter mile of it. The Study Area is located near the heart of historic Hagerstown and served a vital function as a freight yard that fostered its economic growth and industry during the nineteenth and early twentieth centuries. Historic maps and records document extensive industrial and transportation infrastructure on the property, but also extensive twentieth-century construction disturbance.

Precontact sites tend to contain perishable materials that do not survive the kind of extensive disturbance created by large construction episodes. Historic features tend to be more durable and may have survived the twentieth-century construction. While modern demolition and construction may have further disturbed archaeological resources in the center of the property, there is a moderate probability that intact archaeological resources exist in the corners of the property where clusters of structures are depicted on late nineteenth and early twentieth century historic maps. Traditional hand excavation methods of archaeological survey are unlikely to be effective in this environment, however, carefully conducted mechanical trenching under the close supervision of an archaeologist has been successful in identifying intact contexts in urban environments such as the Study Area. As such, mechanical trenching is recommended in the northeast, northwest, and southeast corners of the property to document possible in situ cultural features and contexts. In addition, mechanical trenching is recommended in the center of the property to assess the degree to which construction activity related to the railroad impacted that portion of the Study Area.

The cemetery associated with St. John's Evangelical Lutheran Church is generally shown on historic maps outside the Study Area and multiple records indicate that it was moved, however no records could be found of the number of individuals who were originally buried there or disinterred. It is possible that burials might be present along the southeastern boundary of the Study Area where it borders the St.

John's Evangelical Lutheran Church property. Archaeological monitoring is recommended in that area to assure that human remains are not disturbed by the proposed ground disturbing activity.

Finally, it is recommended that a viewshed analysis be conducted by a qualified architectural historian once the final concept plan of the facility is adopted in order to evaluate potential adverse effects to the surrounding historic districts and numerous individual historic structures in the vicinity.

Environmental Impact Analysis

A review of the previous environmental site assessments was completed as part of this report. A detailed summary of previously provided documentation is included in Appendix F, which identifies data gaps in the existing due diligence efforts, recommends potential remedial actions, evaluates potential regulatory oversight strategies, and to provides recommendations for next steps.

Phase I and Phase II Environmental Site Assessments (ESAs) completed at the Site in 2012 and 2013 identified several environmental issues at the Site parcels. The Phase I ESA identified four recognized environmental conditions (RECs) related to historic Site operations: the historic use of the Site as a railroad yard, automotive repair, and printing facility; evidence of three prior gasoline filling stations across the Site; the presence of an out-of-use 1,000-gallon heating oil underground storage tank (UST); and the presence of a former dry cleaner. Further, vent and fill pipes, indicative of the presence of potential heating oil tanks, were identified on the exterior of two Site buildings, but those buildings could not be inspected, so the presence of tanks could not be confirmed.

In July 2012, ECS Mid-Atlantic, LLC completed a Phase I ESA (ECS 2012) at the Site. Based on a review of historic records included in the Phase I ESA, the majority of the Site was owned and operated by the Washington County Railroad Company from 1967 through 1980. Historic fire insurance maps showed the property contained numerous gas and oil tanks, railroad spurs and industrial use. According to online records maintained by the State Department of Assessment and Taxation, the southwestern Site building located at 80 West Baltimore Street (Washington County Commissioners) was constructed in 1950, the western Site building addressed as 140 Summit Avenue (D&P Coin Op Laundry) and northeastern Site building addressed as 37 West Antietam Street (Antietam Paper Company) were constructed in 1900, and the southeastern Site building, addressed as 32 West Baltimore Street (Baltimore Street Station Car Wash) was constructed in 1990.

The Phase I ESA identified four RECs, one historic recognized environmental condition (HREC), and three Business Environmental Risks, as follows:

RECs:

- Historic Site Use: The majority of the Site was historically owned and operated by the Washington County Railroad Company from 1867 to 1980. The historic Sanborn fire insurance maps also revealed a history of numerous gas and oil tanks, railroad spurs (including a turntable), and industrial use. Railroad tracks are noted to often be associated with creosote timbers, herbicide applications, and possible fuel spills as part of the railroad operation. The historic use of the Site as a railroad yard, automotive repair, and printing (37 West Antietam Street) was considered to be a REC.
- Historic Filling Stations: Three filling stations were observed on the northwestern (Herald Mail Building), western (near D&P Coin Op), and southeastern portion of the subject on the 1951 Sanborn map. Historic gas stations operated with little, if any, regulation and are commonly associated with some degree of petroleum contamination.

- Underground Storage Tank: One 1,000-gallon heating oil UST was listed as out of use at the 140 Summit Avenue property (Coin-Op Laundry) and was recommended for removal.
- Former Dry Cleaner: A former dry cleaner operated at 140 Summit Avenue from prior to 1978 until approximately 2000.

HRECs:

- Prior Leaking Underground Storage Tanks (LUSTs): Two Site addresses were listed in the LUST database. The 100 Summit Avenue property (case number 96-0561WA) was identified with a case closed listing. Further, ECS noted that the MDE frequently closes cases with low levels of petroleum contamination present that are not a risk to human health or the environment. Future development grading activities and/or excavations may encounter petroleum contaminated material at the former tank location. If so, impacted material should be properly handled and disposed.

- The 80 West Baltimore Street property (case number 95-2029WA) was listed as closed by MDE with no release or cleanup noted.

Business Environmental Risks:

- Fill and Vent Pipes: Fill and vent pipes were observed along the exterior walls of 25 and 37 West Antietam Street. Fill and vent pipes are commonly associated with heating oil aboveground storage tanks (ASTs) located in the basement of the structures. ECS was not granted access to the buildings and could not assess the conditions of the tanks. ECS recommended assessing the AST conditions prior to redevelopment activities at the Site.
- Age of Site Structures: Given the age of construction of some onsite structures (buildings constructed prior to 1978), asbestos-containing materials and lead-based paint are possible. ECS recommended an asbestos and lead-paint survey for the subject prior to any demolition or renovation.
- Radon: The property is located in an EPA radon Zone 1, which means the area has a predicted average indoor radon screening level greater than 4 picocuries per liter (pCi/L). A level above 4 pCi/L is considered an environmental concern. ECS recommended mitigation be incorporated into future development plans.

Based on the identified RECs, ECS recommended a Phase II ESA consisting of soil and groundwater sampling within areas of concern at the Site. In general, Urban Green concured with the results of the ECS Phase I ESA. However, in addition to the recommendations provided, it is noteworthy, that in accordance with the Code of Maryland Regulations (COMAR) Section 26.10, Urban Green would have recommended that any inactive UST present at the Site should be evaluated and closed in accordance with local, state, and federal requirements.

In March 2013, Triad Engineering, Inc., completed a Phase II ESA (Triad 2013) at the Site to further evaluate the RECs identified in the Phase I ESA. In total, 26 soil borings were advanced across the Site and 22 soil samples and three groundwater samples were collected from those soil borings and three temporary wells. Samples were analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbons diesel range organics and gasoline range organics (TPH DRO/GRO), semi-volatile organic compounds (SVOCs), priority pollutant list (PPL) metals, and polychlorinated biphenyls (PCBs). Concentrations of arsenic and TPH DRO/GRO were identified in the soils above the Maryland Department of the Environment (MDE) Non-Residential Cleanup Standards, and concentrations of arsenic, benzene, beryllium, chromium, lead, mercury, naphthalene, nickel, 1,3,5-trimethylbenzene, and

TPH DRO/GRO were detected above the MDE cleanup standards for groundwater. In addition, the Phase II report identified four areas of the property where additional study would be prudent due to the laboratory results and the elevated levels of VOCs identified using field screening equipment during the investigation.

Results of the investigation identified concentrations of arsenic, mercury, TPH DRO, and TPH (C06-C10) in the soils above the 2018 MDE Cleanup Standards for Non-Residential Soil or the anticipated typical concentration (ATC). Arsenic was detected in concentrations in excess of the MDE Cleanup Standard for Non-Residential Soil of 3 milligrams per kilogram (mg/kg) in all 10 samples that were analyzed for PPL metals. Concentrations ranged from 6.6 mg/kg in sample B-9 10 to 29.0 mg/kg in sample B25. Mercury was detected at a concentration in excess of the ATC of 0.51 mg/kg in one of the 10 samples that were analyzed for PPL metals. Mercury was detected at 1 mg/kg in sample B- 14.

TPH DRO was detected in concentrations in excess of the MDE Cleanup Standard of 620 mg/kg in three of the 21 samples that were analyzed for TPH DRO. TPH DRO exceeded the cleanup standard in samples B-7 3.5 (652 mg/kg), B-8 5 (663 mg/kg), and B-9 10 (875 mg/kg). Further, concentrations of TPH (C06-C10) were detected in concentrations in excess of the MDE Cleanup Standard for Non- Residential Soil of 620 mg/kg in two of the 21 samples that were analyzed for TPH (C06-C10). TPH (C06-C10) exceeded the cleanup standard in samples B-9 10 (692 mg/kg) and B-15 (650 mg/kg).

Triad concluded that four areas of the Site may require environmental attention and cleanup based on the PID readings and laboratory analytical testing data. Triad then provided an estimated footprint of those four areas and provided a cost range to remove the soil in those areas. While Urban Green concurs that additional attention should be paid to those areas, there are substantial data gaps that prevent a more comprehensive understanding of the potential environmental concerns/subsurface impacts present at the Site and the associated bearing on project cost and schedule to address these impacts during future development activities.

Given the results of the Phase I and Phase II investigations, several data gaps exist that present challenges for evaluating the costs and schedule implications associated with the above environmental concerns during redevelopment of the Site.

A review of the existing environmental reports for the Site indicates that there are environmental issues that are recommended to be addressed prior to and during the proposed redevelopment of the property. Since the Phase I ESA is more than eight years old, an updated Report is recommended to examine current Site conditions and review any new environmental documentation, such as the records of the onsite UST removals conducted in 2018.

In addition, there are several other data gaps at present; however, these data gaps may be best addressed following a review of proposed Site plans. An optimal remediation strategy would limit the amount of soil to be disturbed or requiring offsite disposal. With a careful review of future Site plans and areas of proposed cut and fill across the Site, an appropriate work plan could be developed to carefully define the limits of disturbance and minimize the amount of soil characterization sampling required.

Further, prior to the construction of new structures at the Site, in the absence of a multi-seasonal soil gas sampling investigation, vapor mitigation should be included in the development plans. The soil and groundwater data collected in 2012 indicates the presence of petroleum-related compounds in soil and groundwater across the property. These compounds can create a vapor intrusion risk, and it is much

more cost effective to design a vapor mitigation strategy prior to construction rather than trying to retrofit a building upon its completion. For detailed remediation strategies, please see the report included in Appendix F.

The team should determine with its stakeholders if oversight from MDE is needed during the construction process. While the contaminants identified during the previous investigation may not require state regulatory involvement, there can be value to the project by enrolling the Site into an MDE-overseen program. The decision should be based upon the project's ownership structure, financial partners, tenant expectations and project timing.

If oversight from MDE is deemed desirable, the first step should be to request a pre-application or pre-development meeting where the initial findings can be presented, and a discussion started regarding plans for additional investigations that would be required by the Department. MDE can provide valuable, informal technical guidance during these preliminary meetings. Although no guidance would be considered official until the property is formally enrolled in one of its programs, pre-application meetings tend to serve as a valuable litmus test to judge if development plans will match well with MDE expectations. It is also important to note that MDE would expect an updated Phase I be submitted at the time of any program enrollment.

With or without MDE oversight, final construction documents should include a formal remediation plan that addresses the appropriate handling and disposal of soil and groundwater on the property. The plan should also address vapor mitigation, if necessary, and outline any steps necessary to protect the health and safety of construction workers during the redevelopment process.

Geotechnical Analysis

The project site is mapped in the Middle Member of the Stonehenge Formation, which consists of limestone. As such, there is potential for karst features to be encountered at the site. The band of the Stonehenge Limestone the site is mapped in appears to have significant karst activity to the south and farther north. There is a closed depression mapped just a block south of the site along Summit Ave, as shown in the adjacent figure.

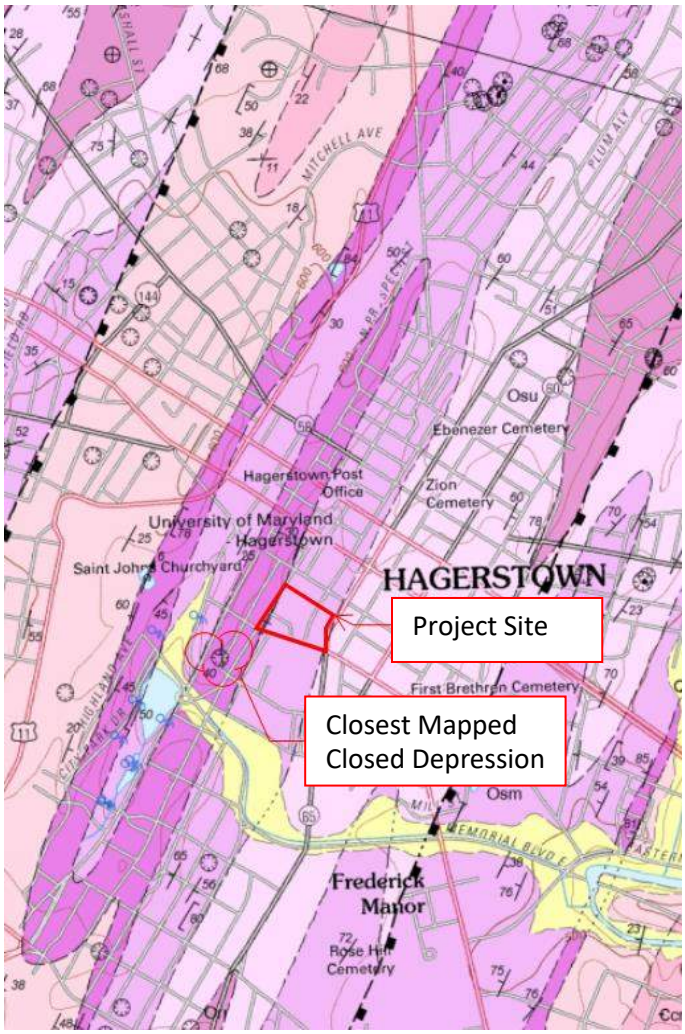


Figure 2 - Geotechnical Mapping

In situ decomposition of parent carbonate rock such as limestone typically produces a surficial layer of residual soil of variable thickness. Localized concentrations of bedding planes, fractures and other discontinuities often result in decomposition extending to deeper levels. Occasionally, solution activity develops below the rock surface; these are generally filled with very soft reworked residual material. Sometimes the soils will arch over the cavity until the cavity becomes too large, then the soil collapses forming a sink hole. More resistant, less fractured rock will often form pinnacles of unweathered rock that can extend to the ground surface. This combines with the solution cavities to form an irregular rock surface.

The NRCS Soil Survey for the project site suggests there may only be 5 to 7-ft of residual soil above bedrock. In an urban environment like this, there could also be additional fill overlying the residual soil. Rock outcropping can be observed at the southwest corner of the project site along Summit Ave.

To assess the subsurface conditions at the site, seismic surveys of the proposed Hagerstown Multi-Use Sports & Events Facility were conducted by ERT, Inc. (ERT) under contract to RK&K. The objective of the survey was to map the variation in thickness of the overburden materials using the standard seismic refraction technique to help estimate depth to bedrock and identify potential karst features. On June 17 and 18, 2020, four seismic refraction lines were placed in the field with reference to existing site features. The lines were placed roughly parallel to Hood Street, spaced 95- to 190-ft apart, located using GPS. The accuracy should be within approximately 1 ft.

The data was collected using a Geometrics SmartSeis 24-channel seismograph with 4.5-Hertz geophones. Each spread, consisting of up to 24 geophones, was arranged at a constant geophone interval of 5 feet along a straight line on the ground, yielding a geophone array length of up to 115 feet. A 16-lb sledgehammer struck directly on asphalt surfaces or against an aluminum plate placed on the ground was used as the seismic source.

Seismic refraction data was downloaded at the end of the survey. The data was analyzed using tomographic inversion to produce subsurface profiles. The seismic velocity in the bedrock was calculated along each spread and evaluated for its variation along each transect to determine the rippability of the bedrock.

Considering the seismic survey data results, it can be assumed for preliminary planning and cost estimating purposes that the proposed Hagerstown Multi-Use Sports and Event Facility can be founded on conventional spread footings bearing on completely weathered rock or bedrock around or below EL 535 in the southwest and northeast quadrant of the site and EL 530 in the northwest quadrant, generally speaking. Deeper foundations may be required in the Southeast quadrant. If significant cuts are proposed, it is likely that rock excavation techniques will be required. More detailed subsurface data is contained in ERT's report. It is possible that pinnacles or valleys in the bedrock surface may occur between the seismic lines tested.

For a detailed summary of the Geotechnical conditions, see Appendix G.

Stormwater Management

The Stormwater Management Design will follow the City of Hagerstown's Stormwater Design Regulations for Redevelopment. The majority of this site is already impervious with buildings, parking lot and paved roadways and therefor, the redevelopment process would require 50% of this area to be managed under the Stormwater Regulations. Artificial turf would follow MDE's interpretation and be treated as an impervious surface, which will require stormwater treatment. The majority of this area will most likely experience rock immediately below the surface and therefor infiltration will be highly unlikely for stormwater management. The City of Hagerstown Engineering Department has set a goal of trying to manage up to the 50% of redevelopment using whatever methods are deemed most practical. The engineering department has acknowledged that there may be some reduction in this requirement as the engineering design progresses and there is a better understanding of the full site conditions.

Building Permit Process

The building permit process will start with separate demolition plans for each site that has a building that must be demolished. Demo permits normally only take about 2 weeks for approval. A hazardous materials / asbestos investigation is needed first. If asbestos or hazardous materials are discovered, that needs properly removed first and the demolition permit may require additional time. After the site plan is approved by the City of Hagerstown Planning Department then a building permit may be obtained. The applicant must submit two sets of signed and sealed building plans together with a digital set of signed and sealed plans and the application to the City of Hagerstown Building Department.

Work in the Right of Way

This project may necessitate an abandonment of a portion of the public roads within this site so that this project may combine various parcels to create the overall development site. If right-of-way abandonment is necessary, a survey of that area and a plat must be prepared and submitted to the Mayor and Council through the City of Hagerstown's Engineering Department Office for right-of-way abandonment. This process may take several months to complete. If work within a public right-of-way is proposed and that right-of-way is not being abandoned, then a public works agreement would be required if the work occurring in the public right-of-way is significant. If the work within the public right-

of-way is minor, then a public works agreement would not be necessary, and the work would be approved as part of the overall site plan process for this project.

IV. Conceptual Options Overview

The following sections include summaries of each of the conceptual options prepared for the Site Concept Workshop and subsequent to the workshop. Each option is presented with basic components highlighted and associated pros/cons. We understand that MSA will share the conceptual information with their project cost estimator to develop conceptual rough order-of-magnitude cost estimate ranges. All quantities noted are approximate.

Program Highlights

Based on coordination with project stakeholders the goal of this facility is flexibility to achieve more than just a ballpark. Its needs to be a multi-purpose facility that can accommodate a variety of events, including sports, e-sports, concerts, festivals, town halls, movie nights, car shows, weddings, conferences, civic events, etc. To accomplish this task the facility must have spaces that are “chameleon like” in adopting to what event is happening that day or hour. For example, a suite for sports might be a break out room for conferences or the auxiliary locker room for sports will convert to a green room for concerts or the kid’s zone for sporting events will double as an asset along the Trail when there is no activity in the facility.

One of the most iconic pieces of the facility will be the Hagerstown Cultural Trail and its incorporation into the facility. It is anticipated that the trail will be part of the event experience and when not in event mode will maintain its identity as a destination for Hagerstown. The design team has added seating to the trail that looks into the field and has truly integrated it with the facility to be used during events or by trail users at all other times. A key aspect of the site layout that all options have addressed is the slope of the site. From the Southwest corner to the Northeast corner there is a 20’ grade difference which allows for multiple access points into the facility at varying levels. One scheme presents opportunities to incorporate surrounding buildings to integrate within the facility, resulting in a much broader approach to the master plan.

All four concepts are based on coordinated program which has a facility capacity of 5,000 people. This includes group sales, bars, 3000-3500 chair backs (no bleachers), lawn seating/berm, standing room only, and party decks. An important asset of the facility will be an event space for 400, and a designated community room. The event space will also be used during sporting events for patrons and will include 100 club seats that sit directly in front facing the field. There are six suites that will be equipped with AV capabilities for meetings and breakout sessions. Robust Wi-Fi connectivity and a high definition video board in left field are critical to keep this facility up to date with ever-changing technology.

Another highlight is the 360° concourse that allows spectators to view the activity from multiple vantage points. The concourse could be seen as an extension of the cultural trail and tell its unique story. The facility program is based on the most current MiLB guidelines and anticipates increased areas for player development that is currently under MLB review. The current field has been designed to accommodate the pitch requirements for a United Soccer League (USL) event, in addition to MiLB requirements. The auxiliary and visitor’s locker room could be utilized for a USL event. A detailed building program is included in Appendix H.

The facility is expected to be able to meet the following field standards:

- United Soccer League (330'x210')
- High School/Small College Football (360'x160'
- Rugby (300'x210')
- Lacrosse (330'x180')
- Field Hockey (300'x180')

Table 1 below includes a summary of site layout characteristics. The unsuitable cut is due to areas of contaminated soil which must either be relocated and capped on-site or removed and properly disposed. For comparison, the existing elevation in the middle of the parking lot (middle of the future outfield) is 536.5'. Table 2 below is a comparison summary of site features and constraints considered with each layout option.

Table 1 - Site Summary

Concept	Field Area (SF)	Field Elevation	Rock Cut (CY)	Unsuitable Cut (CY)	Earth Cut (CY)	Earth Fill (CY)	Import (CY)	Limit of Disturbance (AC)	Capacity (People)
1	107,000	535.5'	718	8,998	2,585	35,135	32,551	7.5	5,000
2	107,000	538'	145	10,343	5,588	23,825	18,238	7.5	5,000
3	107,000	538'	0	9,650	3,607	31,181	27,575	7.5	5,000
4	107,000	537'	1	7,000	6,539	32,880	26,340	7.5	5,000

Table 2 - Site Features & Constraints

Site Feature/Constraint	Concept 1	Concept 2	Concept 3	Concept 4
Meets Minor League Baseball Standards	Yes	Yes	Yes	Yes
Accommodates Football Runout	Yes	Yes	-	-
Semi-Truck Accessible	Yes	Yes	Yes	Yes
Cultural Trail Relocated	Yes	Yes	Yes	Yes
Player & Staff Parking on-site	Yes	Yes	-	-
Player Facilities at Field Level	Yes	-	-	Yes
Grounds & Maintenance facilities at Field Level	Yes	Yes	Yes	Yes
Maintains service drive to Herald Mail building	Yes	-	Yes	Yes
Commissary close to club/event/suite spaces	Yes	-	-	Yes
Allows for Future Expansion	Yes	Yes	-	Yes
Eliminates Rock Removal	-	-	Yes	Yes
Engages existing buildings	-	Yes	-	Yes
Accommodates United Soccer League play	Yes	Yes	Yes	Yes
Grounds &Maintenance facilities in stadium	Yes	Yes	-	Yes

V. Concept Option 1

This layout is the optimal stadium layout regardless of site constraints. It includes all team amenities and field maintenance at field level and can accommodate multiple rectangular sports. For detailed renderings, see the Architectural concept plans in Appendix A.

Site Summary

- Limit of Disturbance: 7.5 Ac
- Cut: 2,585 yd^3
- Fill: 35,135 yd^3
- Net Import: 32,551 yd^3
- Rock Removal: 718 yd^3
- Contaminated Soil Removal (Unsuitable Soil): 8,998 yd^3
- Field Elevation: 536.5'
- Capacity: 5,000

Site Layout

- Maintains access to the existing truck docks to the Herald Mail building
- Cultural trail has views over the 8' outfield fence (drink rail height)
- Field access from the north, semi-truck access from the right field bullpen
- Player, staff parking on site, partially under cover
- Cultural trail modified adjusted to the east, demo of existing buildings, maintains alley
- Large amount of rock removal

Field Level

- All team amenities and field maintenance at field level
- Field level at existing grades in left and right field
- Added length of left field to accommodate football runouts

Concourse Level

- Open concourse with views to field
- 360° concourse with change of elevations, cultural trail will be closed during events
- Kid zone located in cultural trail for 365 day/year use
- All seating below concourse
- Buildings along Summit Ave don't allow for 20' setback
- Home plate area respects the granite outcropping, can activate the outdoor space near the intersection
- Summit Street façade could be opened up for vendors, neighbors to view in
- Commissary located below club/event/suite spaces

Suite Level

- Event space, club along 1st base allows for focused views to downtown
- Closer relationship programmatically to administration
- Reduces vertical presence along Summit Ave (residential side)
- Expansion could occur along 3rd base line

Concept Option 1 Pros	Concept Option 1 Cons
1. Player & staff parking on site 2. Player, grounds & maintenance facilities at field level 3. Views from cultural trail maintained with no obstructions 4. Maintains service drive to Herald Mail building 5. Majority of seating is below concourse level 6. Allows for open area along Summit Ave for vendor trucks and visual connection between the street and the activity within the stadium 7. Commissary close to club/event/suite spaces 8. Expansion opportunities along 3rd base at suite level	1. Requires the greatest amount of rock removal 2. Minimum amount of setback from Summit Ave 3. Left field distance for baseball is longer than normal to accommodate football runout

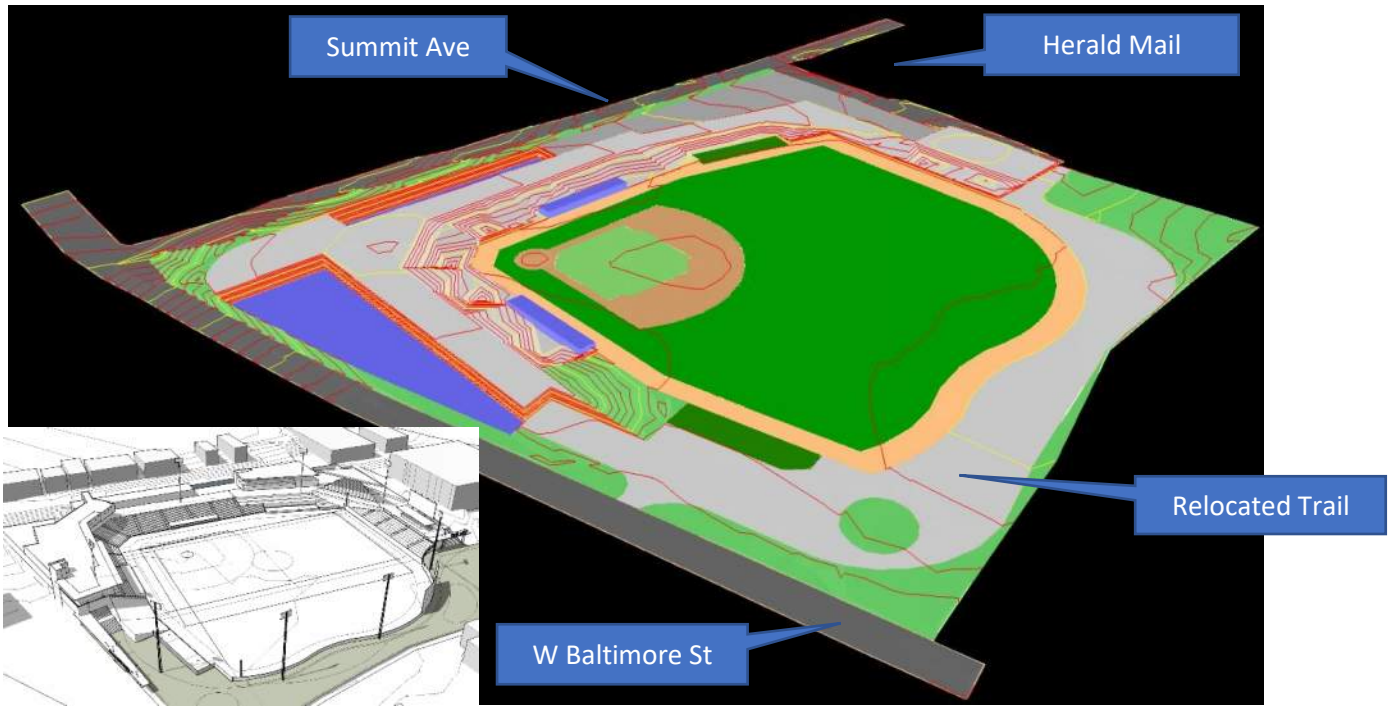


Figure 3 – Layout 1, Grading Model

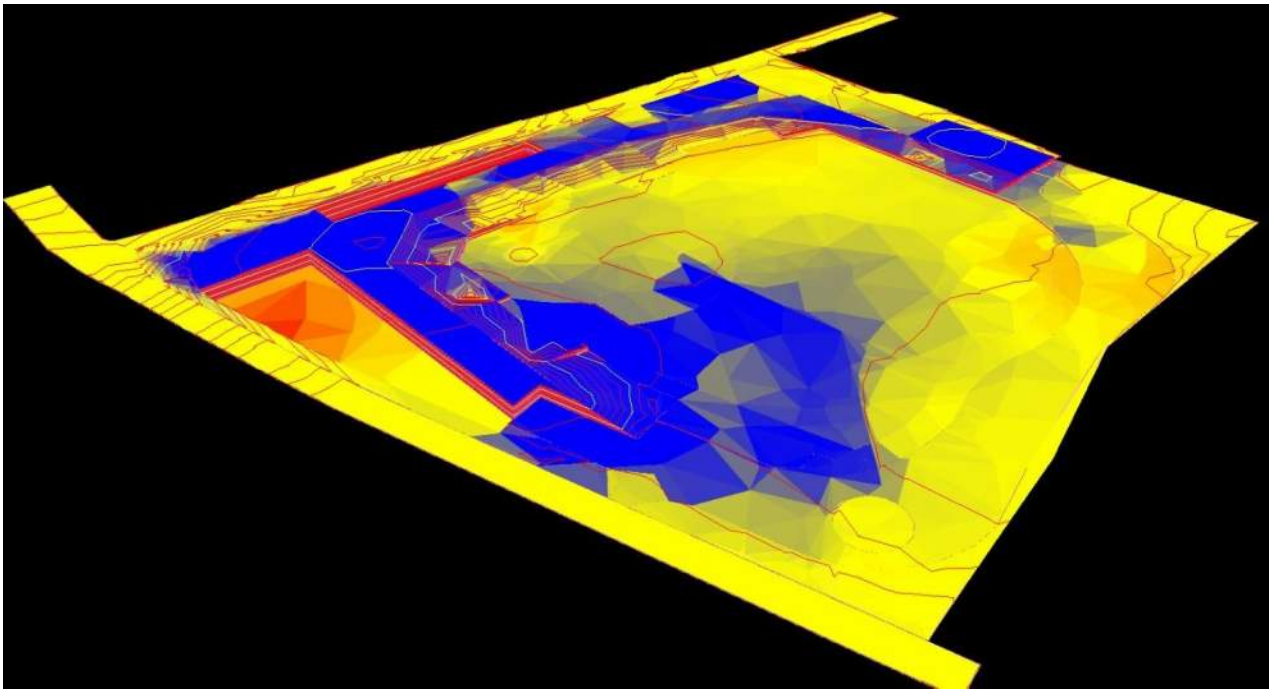


Figure 4 – Layout 1, Cut/Fill Model (Cut: Red, Fill: Blue, No Change: Yellow)

VI. Concept Option 2

This layout brings the facility further away from Summit Ave and raises the field elevation by 1.5', as compared to option 1. Additionally, this layout presents an opportunity to incorporate the Herald Mail building as part of the development. For detailed renderings, see the Architectural concept plans in Appendix A.

Site Summary

- Limit of Disturbance: 7.9 Ac
- Cut: 5,588 yd^3
- Fill: 23,825 yd^3
- Net Import: 18,238 yd^3
- Rock Removal: 145 yd^3
- Contaminated Soil Removal (Unsuitable Soil): 10,343 yd^3
- Field Elevation: 538'
- Capacity: 5,000

Site Layout

- Includes opportunity to incorporate the Herald Mail building for development
- Utilize loading dock and replace with parking and field access (semi-truck)
- Facility is moved off Summit Ave by 20' to soften impact of building off the street
- Move field elevation up 1.5' compared to option one, 2' above existing grade in left field and right field
- Access new parking, service off Antietam St
- Reduced rock removal/increased site fill

Field Level

- All team facilities moved to concourse
- Team tunnels to access dugouts
- Field access in left center field
- Football orientation is rotated 45° from home plate to center field to reduce length of left field; results in encroachment into the cultural trail

Concourse Level

- Increased square footage as compared to other options
- Split seating bowl to minimize impact of stadium on cultural trail (full seating would effectively eliminate trail, without elevating trail above outfield wall)
- Potential to include Herald Mail building in left field, offices, retail, event spaces
- Maintain views from concourse to field
- 360° concourse with change of elevations, cultural trail closed during events
- Kid zone located in cultural trail for 365-day use
- Cultural trail view into stadium is through outfield fence (fence is 6' above grade in most places)
- Commissary located in left field corner, away from suite level but accessible from concourse
- For smaller events, the split deck at this level would not have to open
- Outfield split deck can have its own identity
- No simple expansion along 3rd base line

Suite Level

- Additional expansion for club, event space is possible
- Access to new split seating deck off 3rd base via roof of concourse building or at concourse
- For smaller events the split deck at this level would not have to open
- Outfield split deck can have its own identity
- No simple expansion along 3rd base line

Concept Option 2 Pros	Concept Option 2 Cons
1. Potential engagement of the Herald Mail building for fan amenities, offices, retail & residential 2. Reduced amount of rock removal as compared to option 1 3. Player & staff parking on site 4. Left field wall is at the MiLB standard (football field runs from home plate to 2nd base) 5. Club & event space can be easily expanded 6. Grounds crew & maintenance facility at field level	1. Player facilities are at concourse level (not unusual but not preferred) 2. Split seating deck 3. Commissary located in left field, away from suites/club/event spaces 4. Limited 3rd base expansion at suite level 5. Cultural trail grades will need to be modified to maintain unobstructed views to the field 6. Viewing for football compromised 7. Cultural trail gets narrower because of the football field

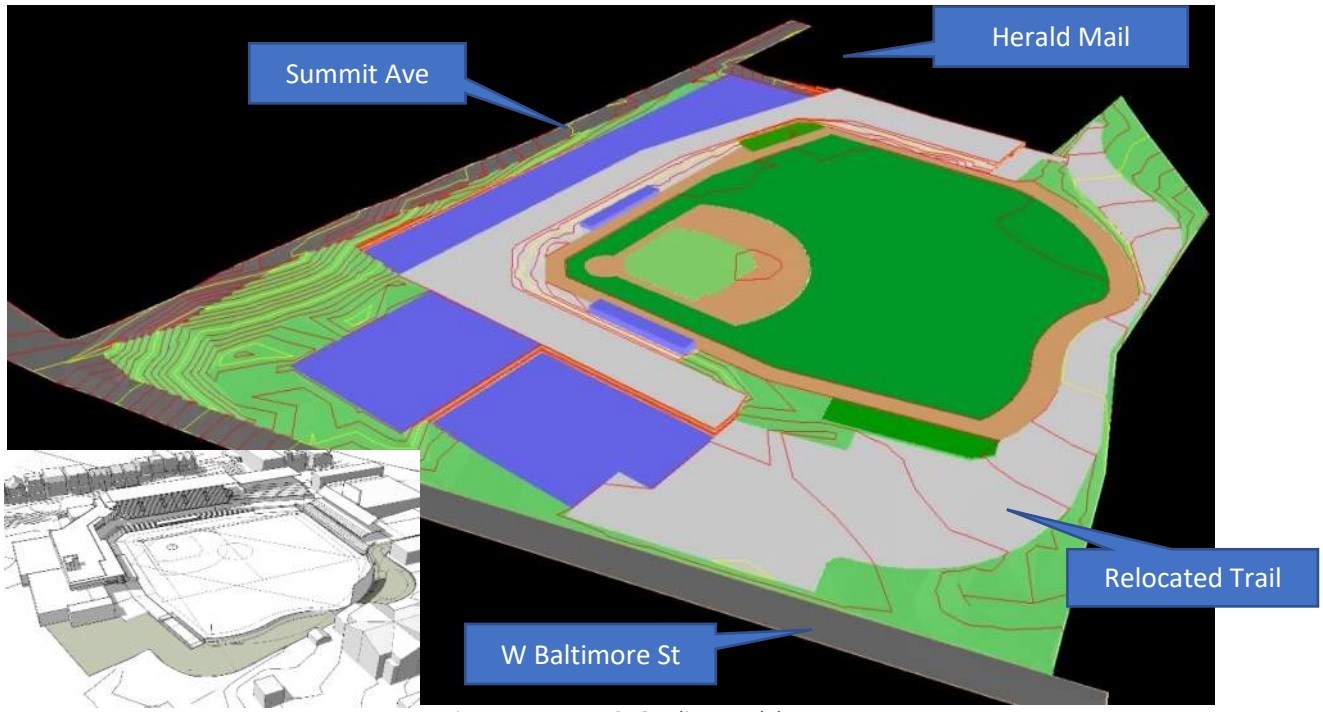


Figure 5 - Layout 2, Grading Model

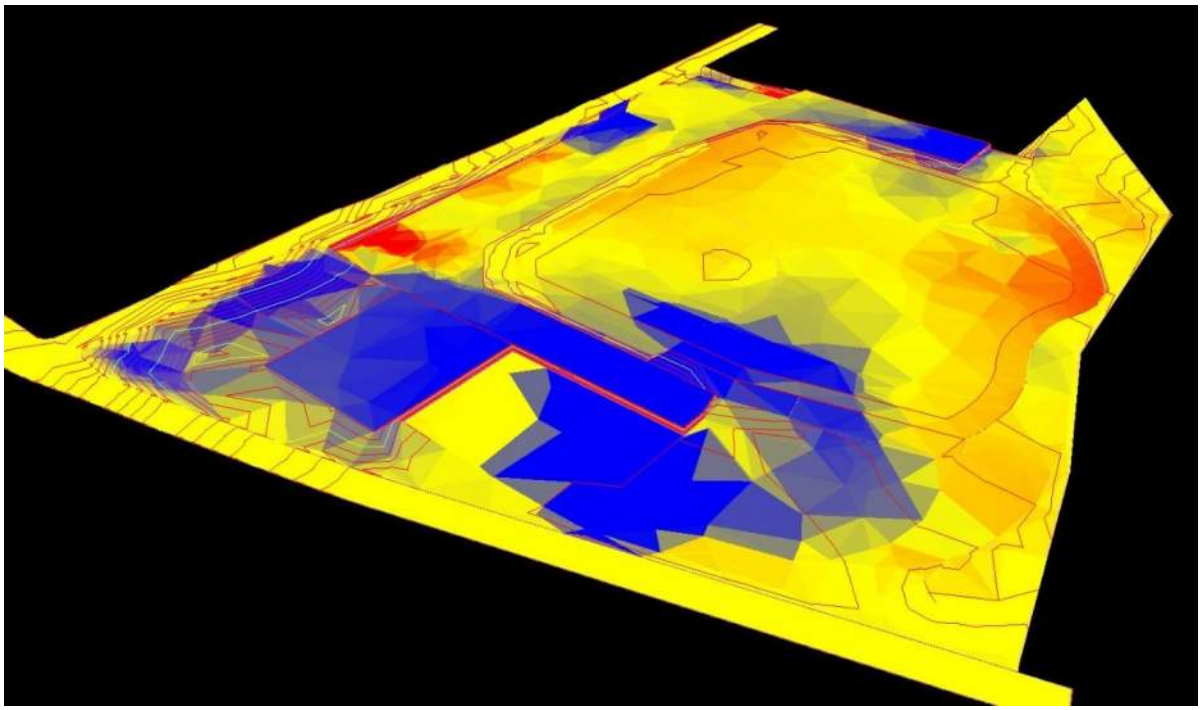


Figure 6 – Layout 2, Cut/Fill Model (Cut: Red, Fill: Blue, No Change: Yellow)

VII. Concept Option 3

Layout 3 maintains access to the loading dock at the Herald Mail building, moves the facility back to the corner (similar to option 1) but brings the field and team facilities up 1.5' from option one. This significantly reduces the need for rock removal on site. For detailed renderings, see the Architectural concept plans in Appendix A.

Site Summary

- Limit of Disturbance: 7.5 Ac
- Cut: 3,607 yd^3
- Fill: 31,181 yd^3
- Net Import: 27,575 yd^3
- Rock Removal: 0 yd^3
- Contaminated Soil Removal (Unsuitable Soil): 9,650 yd^3
- Field Elevation: 538'
- Capacity: 5,000

Site Layout

- Maintains access to the existing truck docks to the Herald Mail building
- Moves field elevation up 1.5' compared to option one, 2' above existing in left & right field
- Field access is at right field bullpen
- Maintenance/field building is in right field off cultural trail/alley
- Minimal to no rock removal/increased site fill
- No parking on site; player & staff parking off site

Field Level

- All team facilities moved to concourse
- Team tunnels to access dugouts
- Field access in right field through bullpen
- Football orientation is along 3rd base but with no runouts to reduce length of left field

Concourse Level

- Increased square footage
- Split seating bowl to minimize impact of stadium on cultural trail; full seating would effectively eliminate trail, without elevating trail above outfield wall
- Maintain views from concourse to field
- 360° concourse with change of elevations, cultural trail closed during events
- Kid zone located in cultural trail for 365-day use
- Cultural trail view into stadium is through outfield fence (fence is 6' above grade in most places)
- Commissary located in left field, away from suite level but with access from concourse

Suite Level

- Access to new split seating deck off 3rd base via roof of concourse building or at concourse
- For smaller events the split deck at this level would not have to open
- Outfield split deck can have its own identity
- No simple expansion along 3rd base line, due to existing deck

Concept Option 3 Pros	Concept Option 3 Cons
1. Least amount of rock removal 2. Maintains service access to Herald Mail building 3. Minimum MiLB field dimensions are met with football running home plate to 3rd base	1. Grounds keeping/maintenance facility along Baltimore St. within the cultural trail 2. Player facilities are at concourse level (not too unusual but not preferred) 3. Split seating deck 4. Commissary located in left center, away from suites/club/event space 5. Field access across trail, through left field bullpen 6. Limited 3rd base expansion at suite level 7. Cultural trail grades will need to be modified to maintain unobstructed views to the field 8. No player or staff parking 9. No player runouts for football

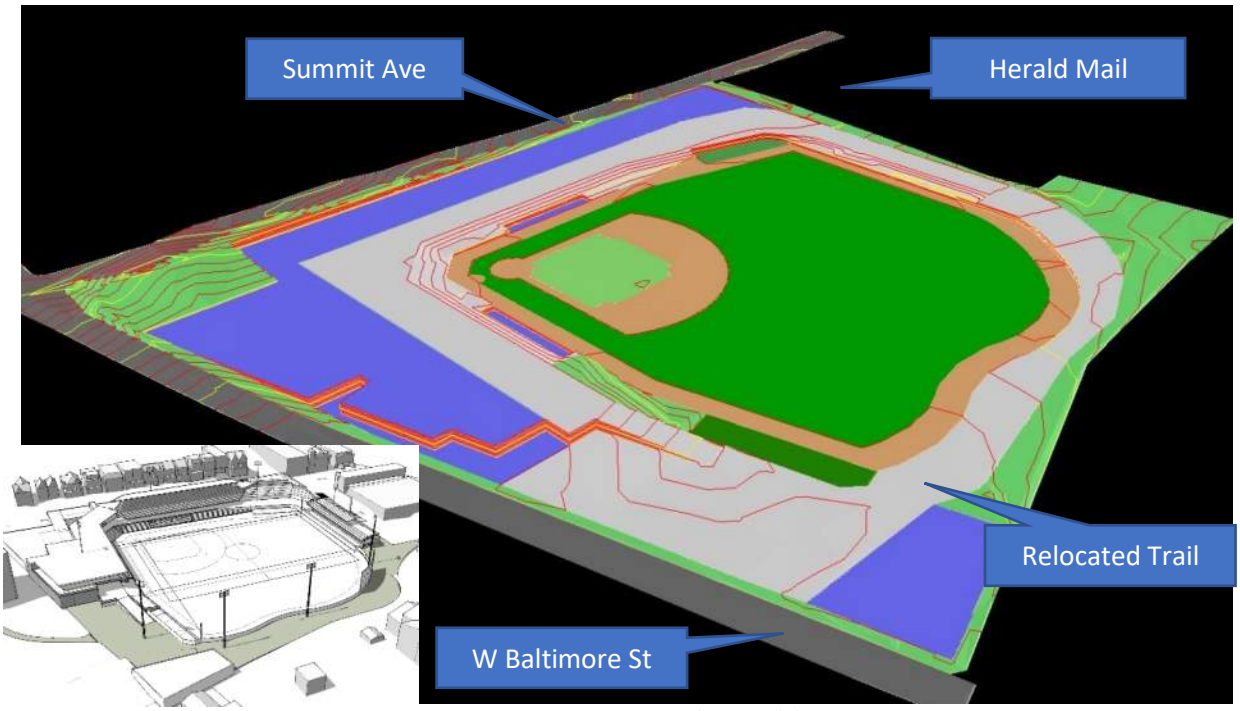


Figure 7 – Layout 3, Grading Model

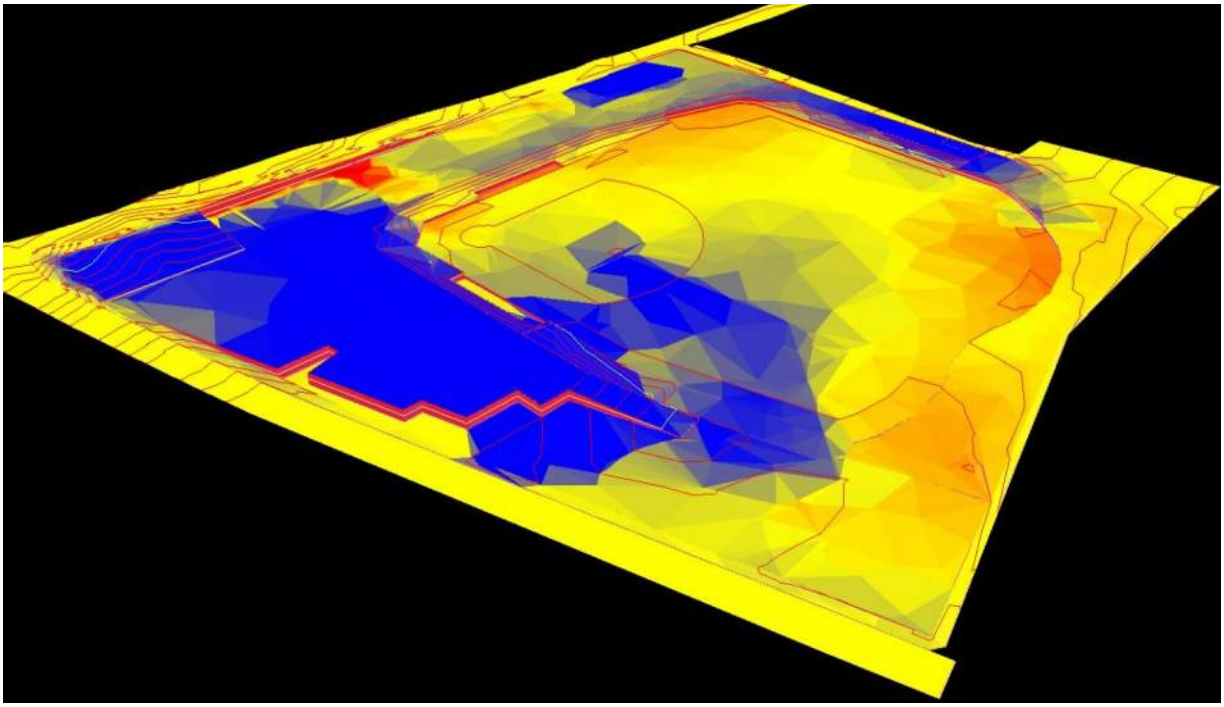


Figure 8 – Cut/Fill Model (Cut: Red, Fill: Blue, No Change: Yellow)

VIII. Concept Option 4

Layout 4 is a hybrid of other options presented. The field elevation has been lowered from options 2 and 3 to 537'. For detailed renderings, see the Architectural concept plans in Appendix A.

Site Summary

- Limit of Disturbance: 7.5 Ac
- Cut: 6,539 yd^3
- Fill: 32,880 yd^3
- Net Import: 26,575 yd^3
- Rock Removal: 1 yd^3
- Contaminated Soil Removal (Unsuitable Soil): 7,000 yd^3
- Field Elevation: 537'
- Capacity: 5,000

Site Layout

- Opportunity to incorporate existing Antietam Paper building in left center field for team administration and ticket offices
- Maintains access to the existing truck docks to the Herald Mail building
- Cultural trail has views over the 8' outfield fence (drink rail height) with slight adjustment to the grades
- Field access from the north; semi-truck access will need to be from the right field bullpen
- Player, staff parking off site; No parking on site
- Cultural trail modified adjusted to the east, demo of existing buildings, maintains alley
- Small amount of rock removal/increased site fill

Field Level

- All home team amenities, field maintenance, at field level
- Consider remote ticket window added at right field if admin and ticket are included in a renovated building in left center field
- Field level at 1' above existing grades in left field & right field
- No additional length of left field to accommodate football runouts
- Moves field elevation up 0.5' compared to option one

Concourse Level

- Considers utilization of existing building for Administration and ticket sales in left center field
- Open concourse with views to field
- 360° concourse with change of elevations, cultural trail will be shut down during events
- Kid zone located in cultural trail for 365-day use
- All seating below concourse
- Buildings along Summit Ave at concourse and 20' off street
- Visitor clubhouse at grade and below concourse but not at field level
- Home plate area respects the granite outcropping (undetermined how to activate)
- Access via ramp, stairs, elevator; two gates – left center field and right field
- Summit Ave façade could be opened for vendors, neighbors to view in
- Commissary located below club lounge for easy access to event facilities

Suite Level

- Event space, club along 1st base allows for focused views to downtown
- Commissary located below club and suites
- Reduces vertical presence along Summit Ave (residential side)
- Expansion could occur along 3rd base line

Concept Option 4 Pros	Concept Option 4 Cons
1. Home team, grounds keeping & maintenance facilities at field level 2. Maintains service drive to the Herald Mail building 3. Opportunity to locate team offices, ticketing & team store are located off site in renovated building in left center field 4. Team store & ticketing located where the majority of spectators are coming from 5. Allows for open area along Summit Ave for vendor trucks and visual connection between the street and the activity within 6. Commissary close to club/event/suite spaces 7. Expansion along 3rd base at suite level 8. Minimal rock removal 9. Views from cultural trail maintained with no obstructions 10. Minimum MiLB field dimensions are met with football running home plate to 3rd base	1. Team offices, ticketing & team store are assumed to be located away from stadium 2. Likely a remote ticketing & team store in right field 3. No player runouts for football 4. Concert truck access at right field

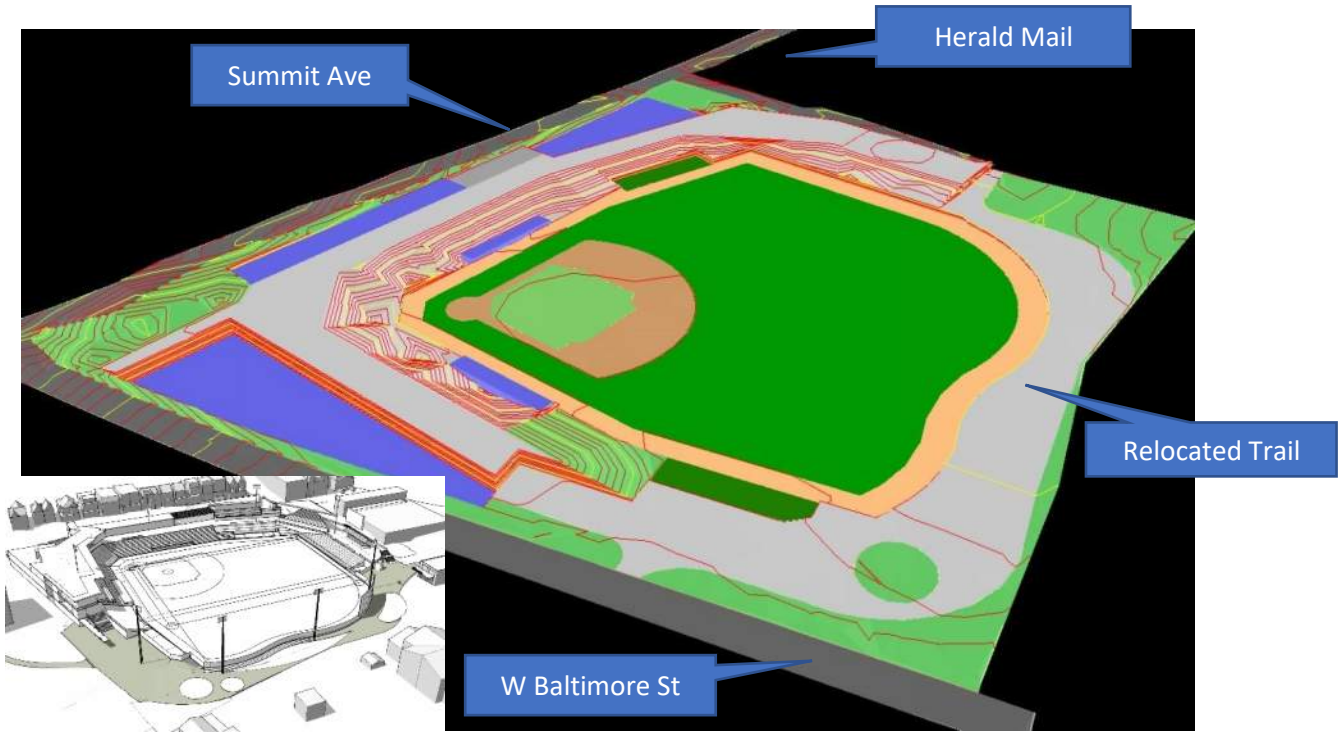


Figure 9 – Layout 4, Grading Model

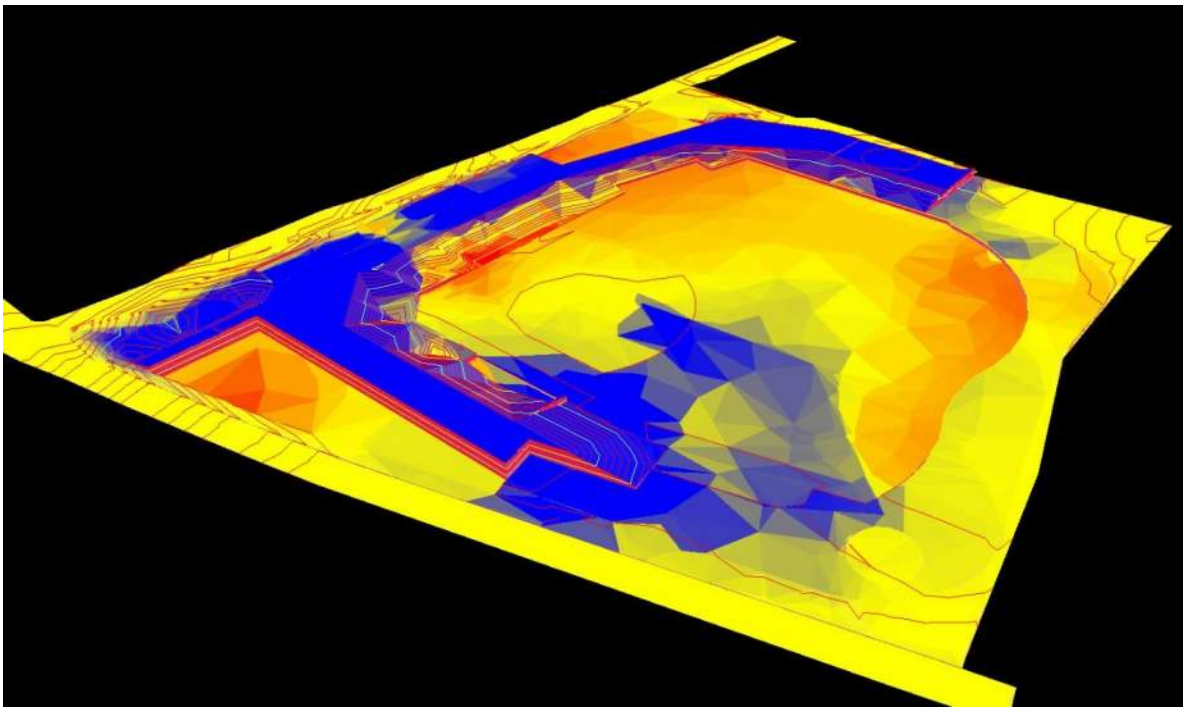


Figure 10 – Cut/Fill Model (Cut: Red, Fill: Blue, No Change: Yellow)

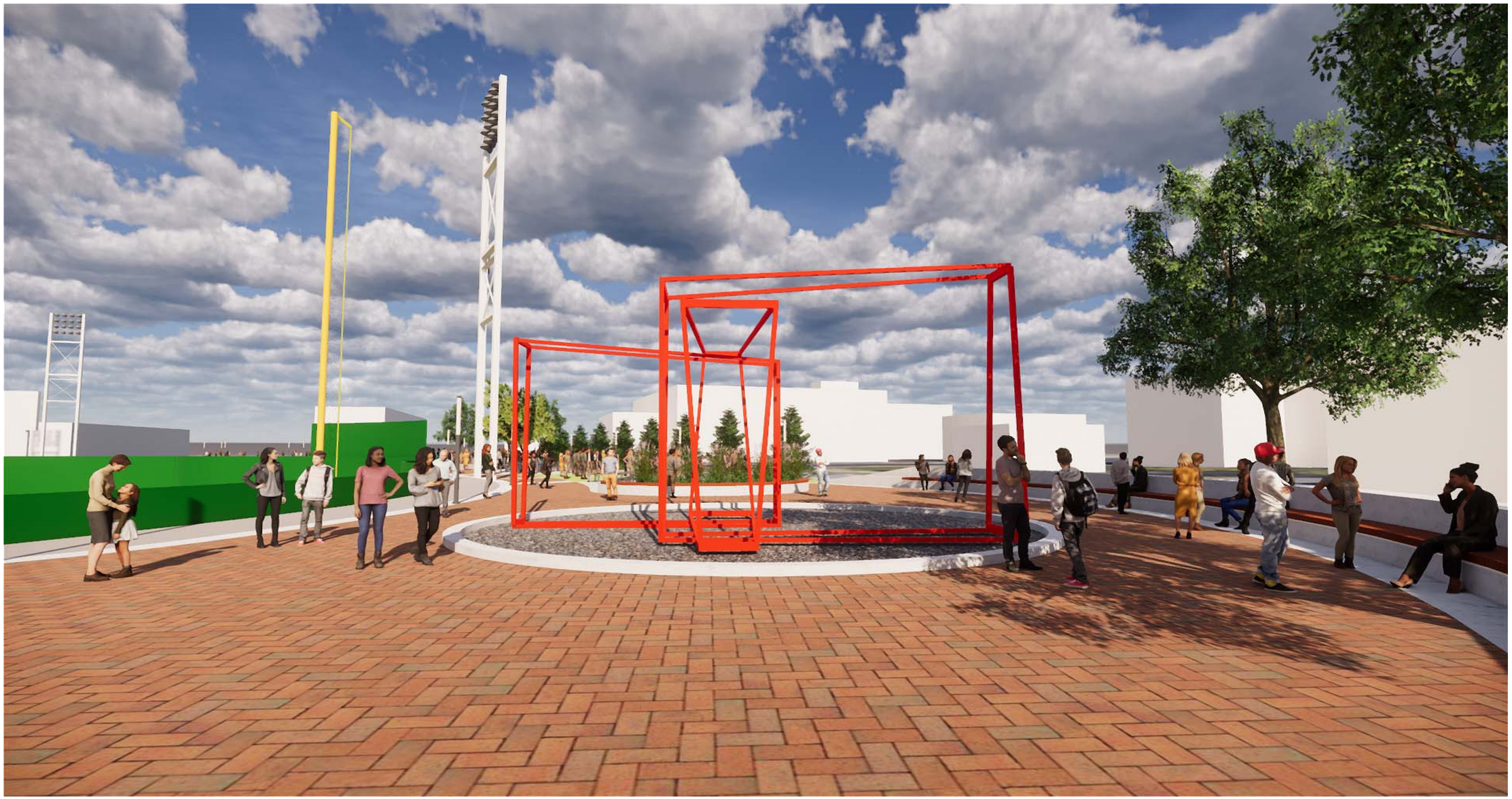
IX. Recommendations/Next Steps

- City of Hagerstown to select one of the four proposed concepts for development into a schematic design package.
- Engage a surveyor to develop a detailed topographic survey and subsurface utility investigation for design beyond the schematic design package.
- Evaluate the existing buildings which are to be demolished for hazardous materials, including asbestos. If either are discovered, they will increase the time and cost for demolition.
- Complete a utility capacity analysis to determine if adequate utility capacity exists within the public utility systems to support the proposed site improvements.
- Complete an updated detailed parking and traffic analysis to determine the full extent of impacts and prepare appropriate mitigation strategies. This should include updated traffic and turning movement counts after traffic returns to normal post COVID-19 or utilizing recent traffic counts prior to March 2020. The analysis should include evening and weekend modeling during expected game/event times.
- Mechanical trenching is recommended in the northeast, northwest, and southeast corners of the property to document possible in situ cultural features and contexts. In addition, mechanical trenching is recommended in the center of the property to assess the degree to which construction activity related to the railroad impacted that portion of the Study Area.
- Engage a qualified Architectural Historian to conduct a viewshed once the final concept plan of the facility is adopted in order to evaluate potential adverse effects to the surrounding historic districts and numerous individual historic structures in the vicinity.
- Since the Phase I ESA is more than eight years old, an updated Report is recommended to examine current Site conditions and review any new environmental documentation, such as the records of the onsite UST removals conducted in 2018.
- The project management team should determine with its stakeholders if oversight from MDE is needed during the construction process. While the contaminants identified during the previous investigation may not require state regulatory involvement, there can be value to the project by enrolling the Site into an MDE-overseen program. The decision should be based upon the project's ownership structure, financial partners, tenant expectations and project timing.

X. Appendices

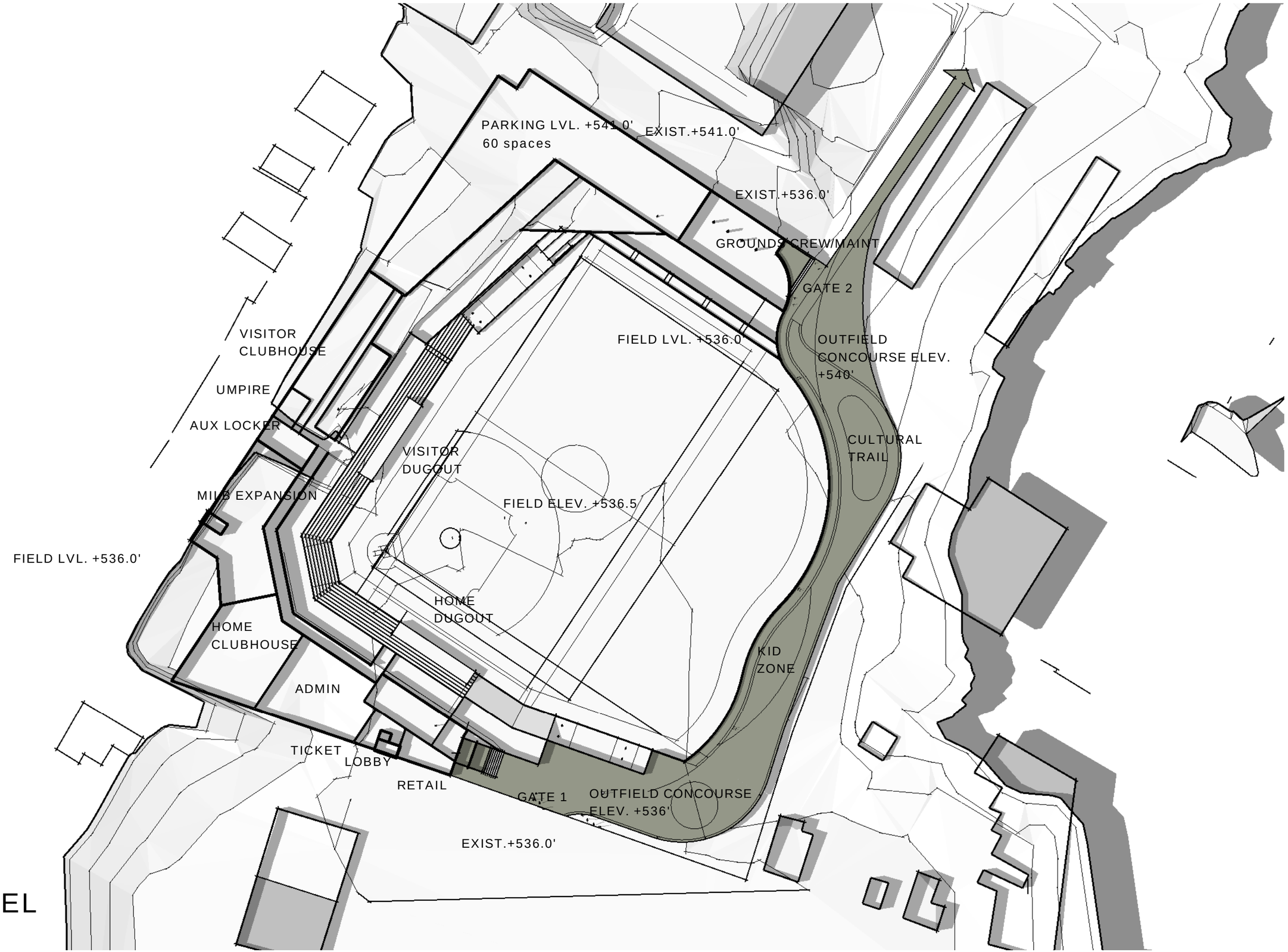
A – Architectural Concept Renderings
B – Real Estate Acquisition Plan
C – Utility Availability Maps
D – Parking and Traffic Plan
E –Archeological Investigation Report
F – Environmental Impact Review
G – Geotechnical Assessment
H – Building Program
I – Workshop Notes

Appendix A
Architectural Concept Renderings



HAGERSTOWN MULTI-PURPOSE SPORTS AND EVENTS FACILITY

CONCEPT ONE


PARKING LVL. +541.0'
60 spaces
EXIST.+541.0'
EXIST.+536.0'
GROUNDS/CREW/MAINT
GATE 2
VISITOR
CLUBHOUSE
FIELD LVL. +536.0
OUTFIELD
CONCOURSE ELEV.
+540'
UMPIRE
AUX LOCKER
CULTURAL
TRAIL
VISITOR
DUGOUT
MILB EXPANSION
FIELD ELEV. +536.5
FIELD LVL. +536.0'
HOME
DUGOUT
HOME
CLUBHOUSE
KID
ZONE
ADMIN
TICKET
LOBBY
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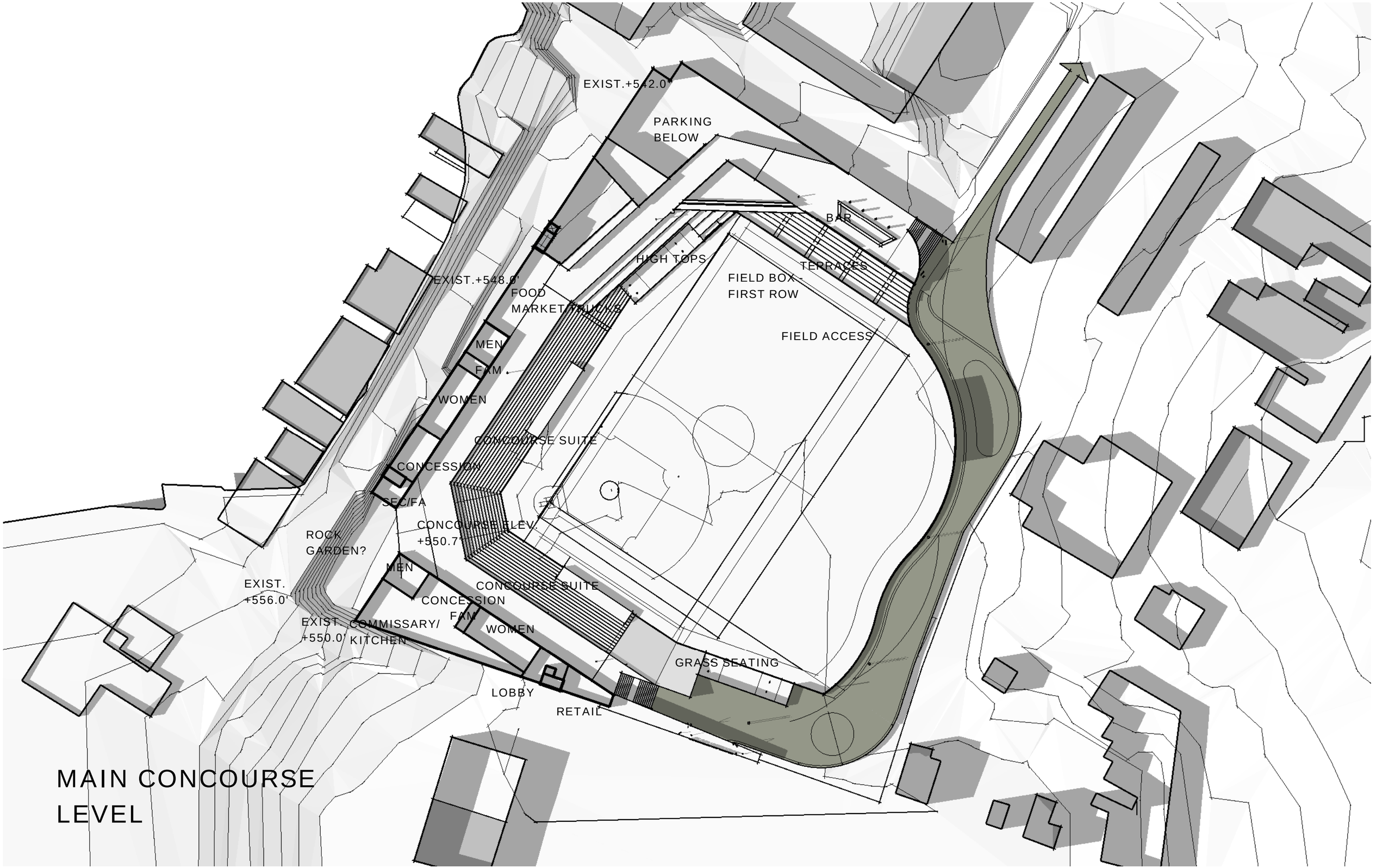
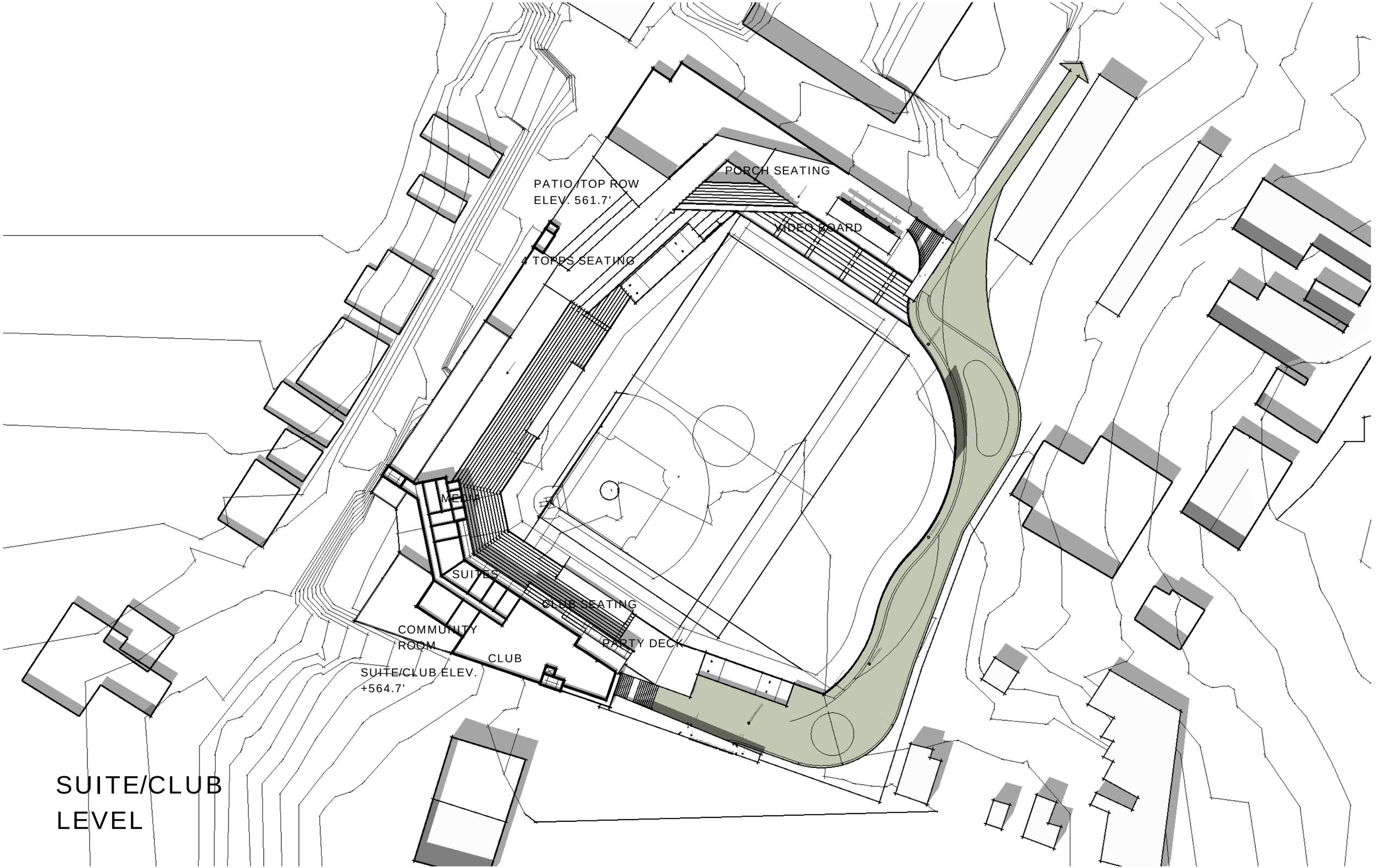
EXIST.+536.0'

FIELD LEVEL

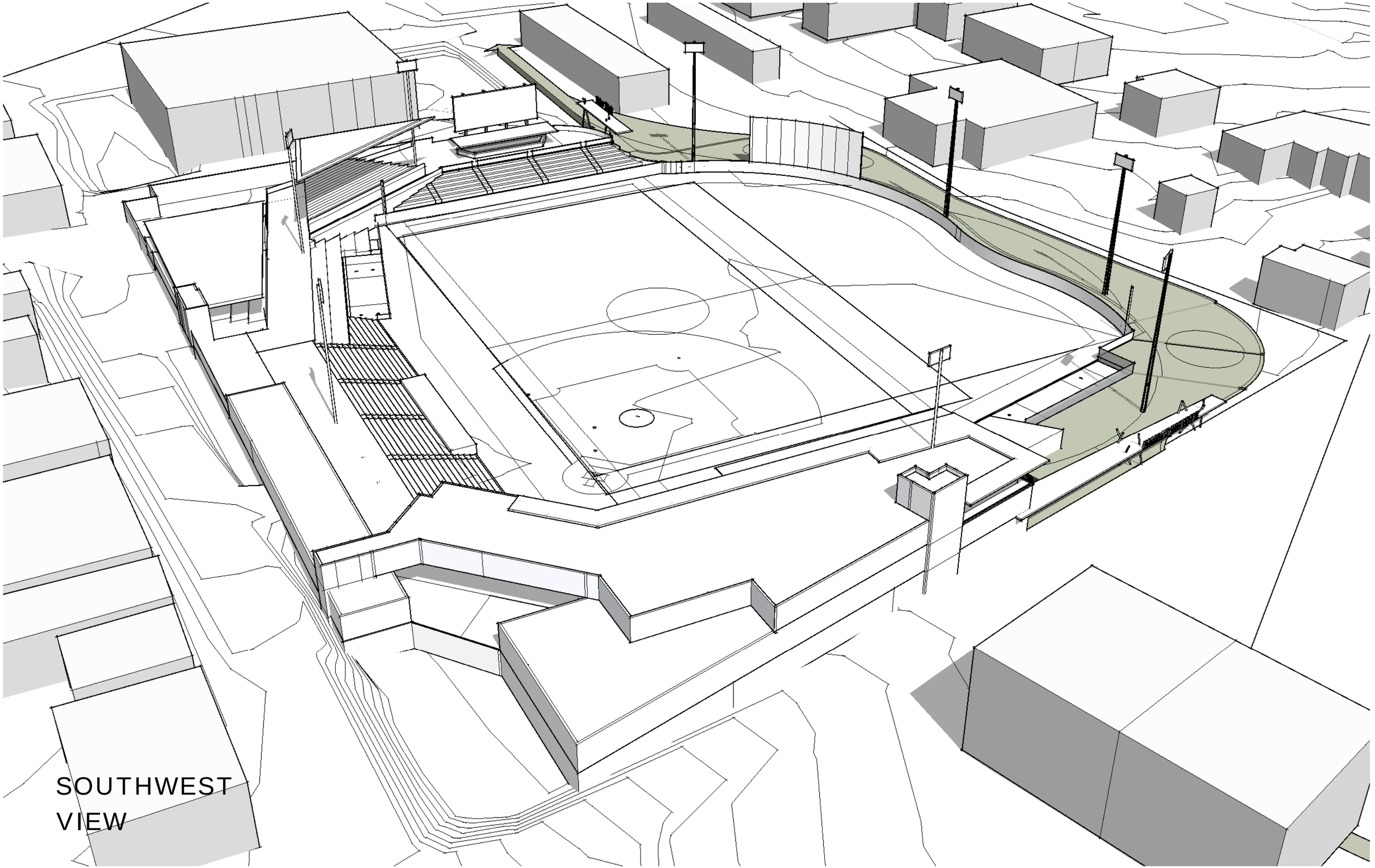


MAIN CONCOURSE LEVEL

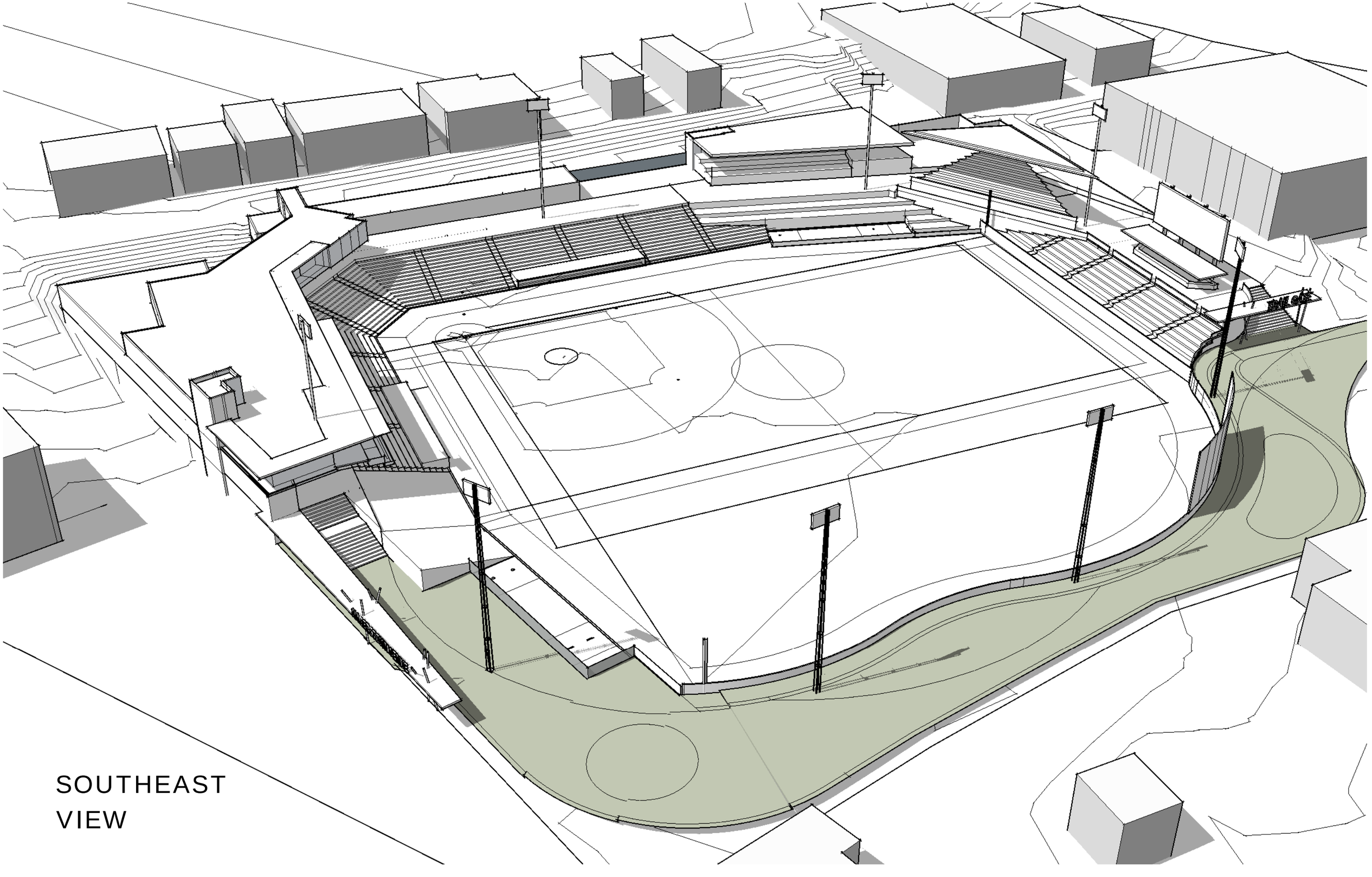


SUITE/CLUB LEVEL

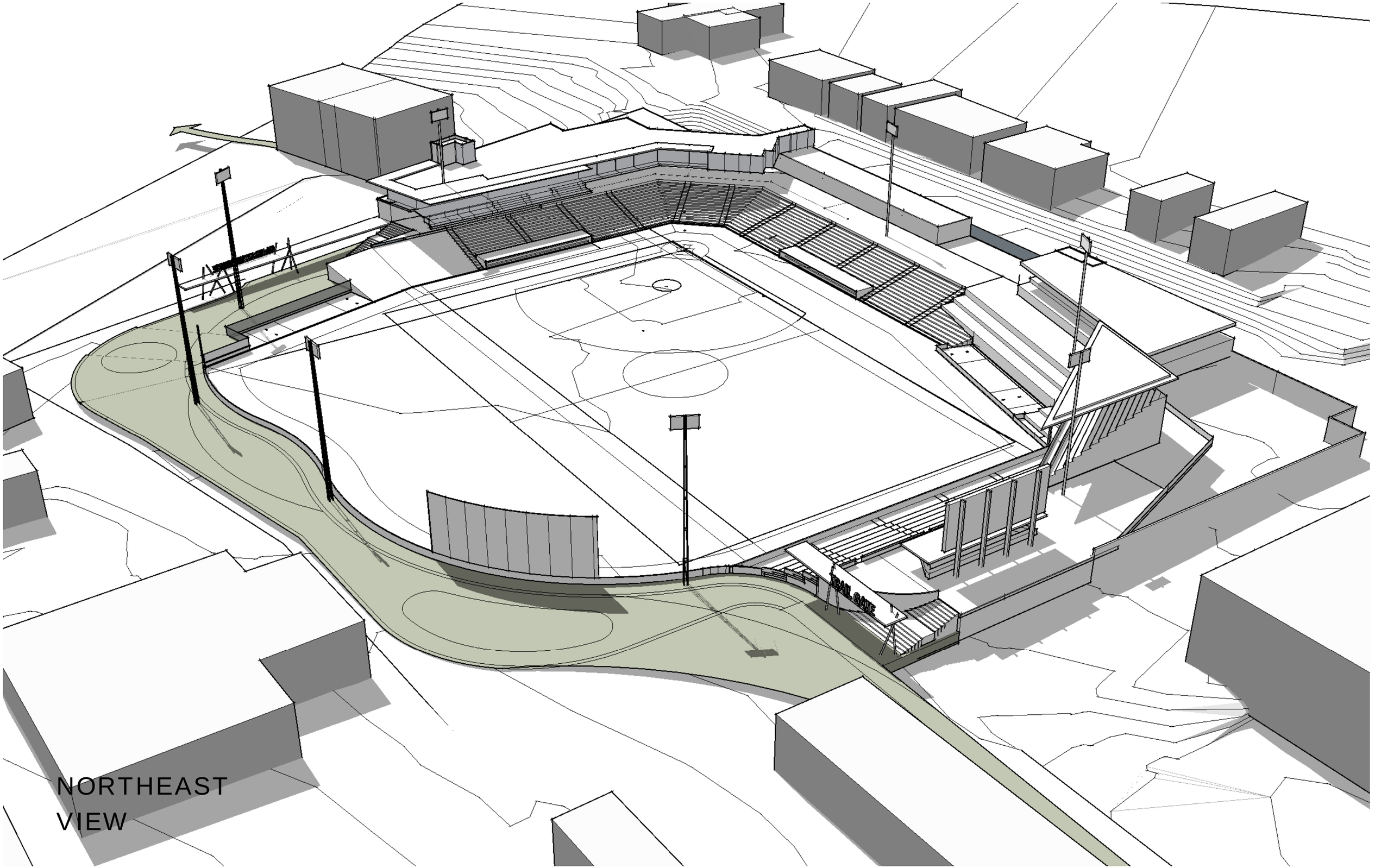

ROOF LEVEL



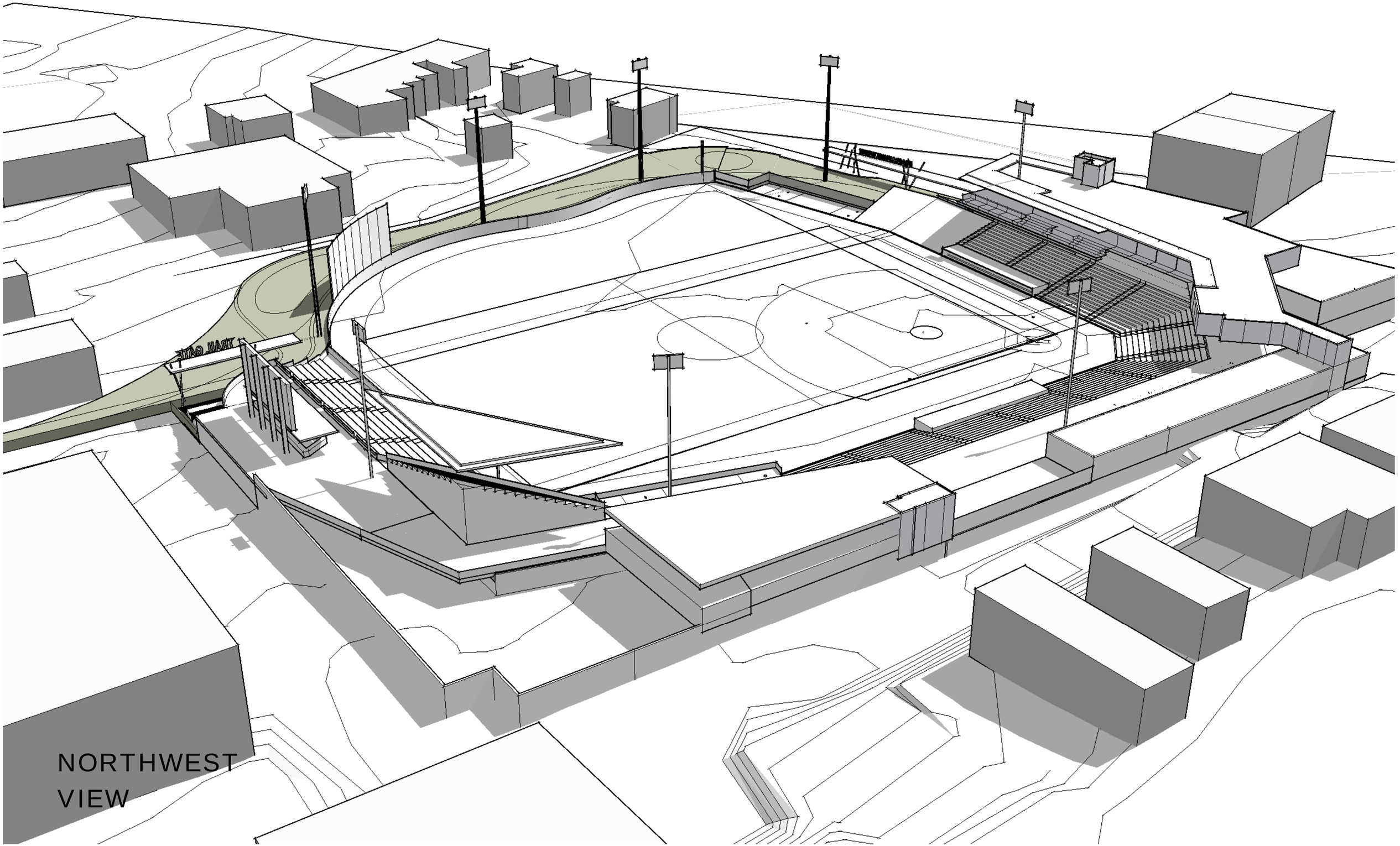
SOUTHWEST
VIEW



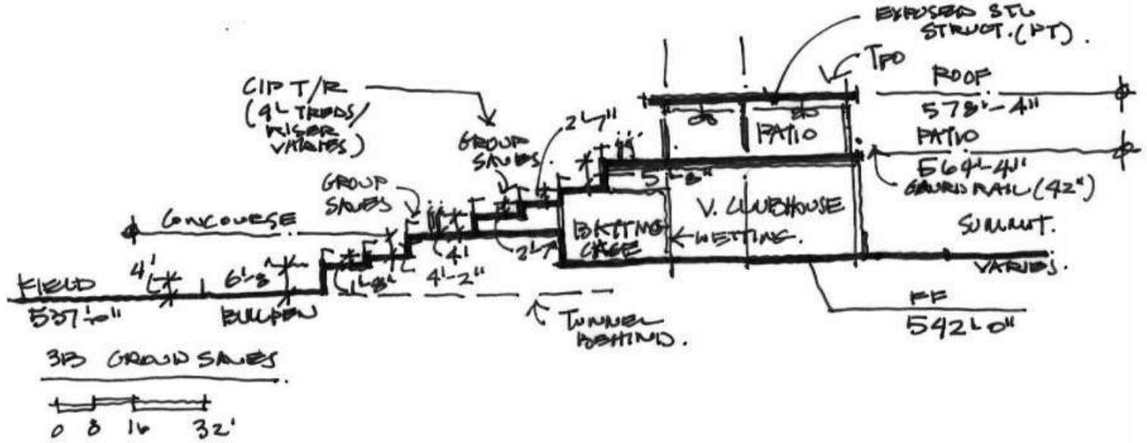
SOUTHEAST
VIEW



NORTHEAST
VIEW

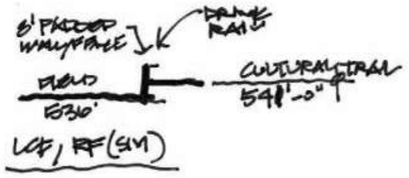


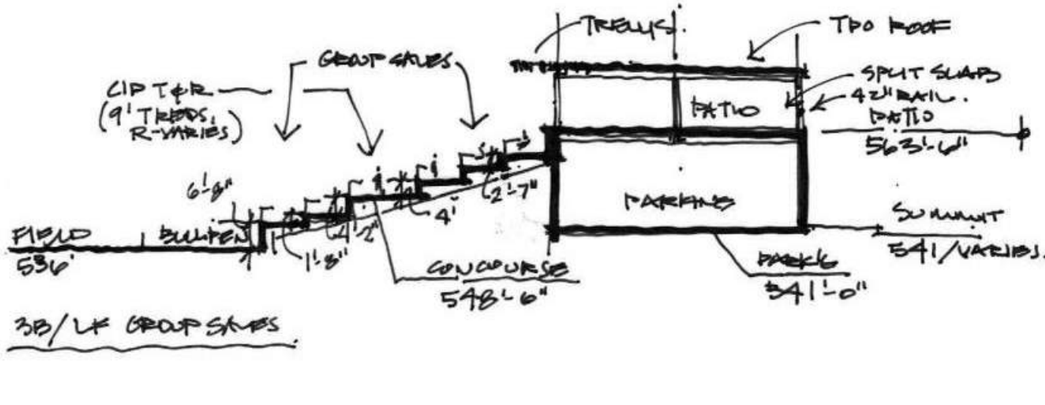
NORTHWEST
VIEW

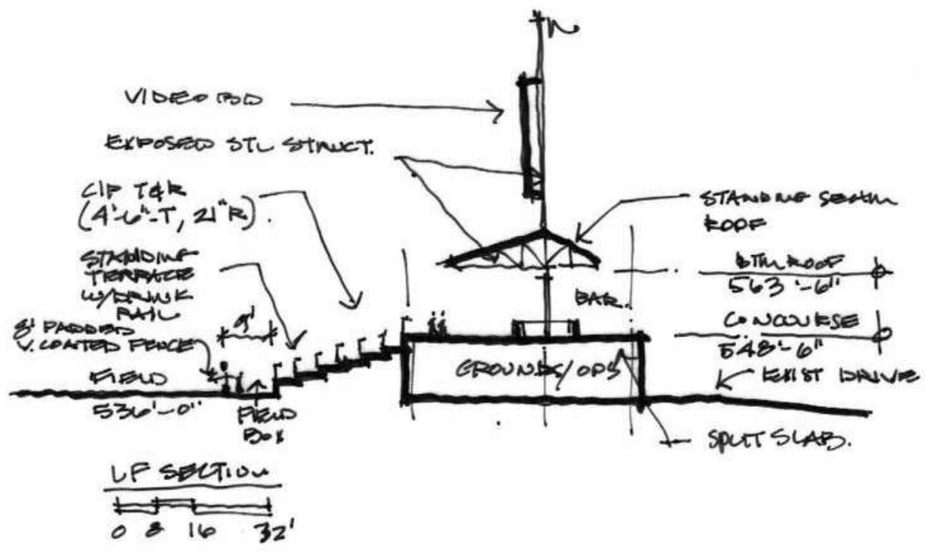

CIP T/R
(9' TREDS/
RISER
VARIES)
GROUP
SEATS
GROUP
SEATS
CONCOURSE
FIELD
537'-0"
BULLPEN
4'
6'-8"
4'-2"
2'-7"
BATTING
CAGE
PATIO
V. CLUBHOUSE
MEETING.
EXPOSED STL
STRUCT. (PT).
TPO
ROOF
578'-4"
PATIO
564'-4"
GUARD RAIL (42")
SUMMIT.
VARIES.
TUNNEL
BEHIND.
FF
542'-0"
3B GROUP SEATS
0 8 16 32'

(VINYL COATED)
8' CHAIN LINK
FENCE PADDED
TOP & POST
FIELD
537'-0"
RF SECTION
12'
CULTURAL
TRAIL
KID ZONE
6' DECORATIVE
FENCE
ALLEY
540'-0"
GRANITE/STONE
TREADS.

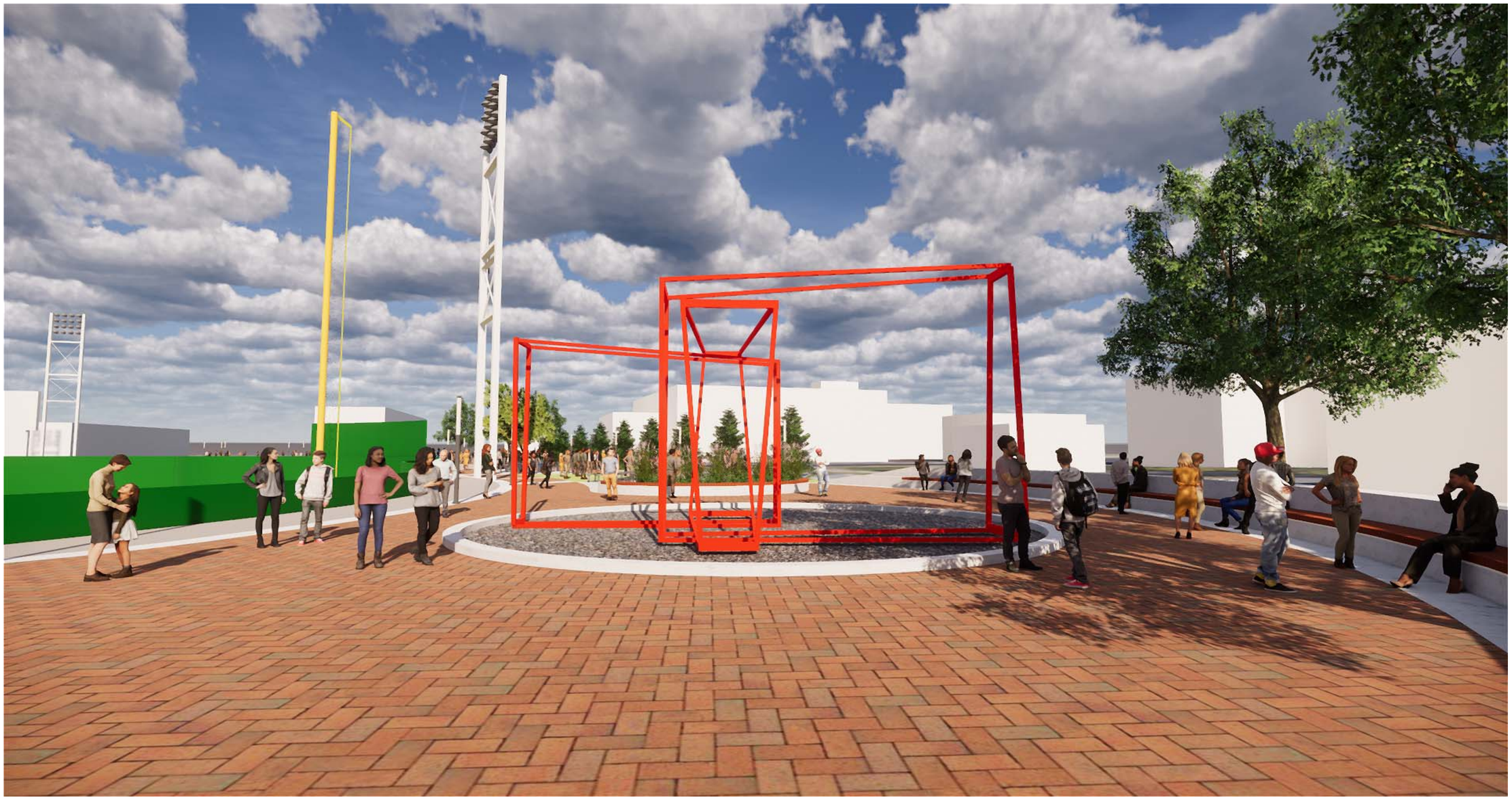

8' PADDED
FENCE
DRINK RAIL.
CULTURAL TRAIL.
FIELD
537'-0"
541'-6"
LCF SECTION
0 8 16 32'


8' PADDED
WINDSCREEN
DRINK
RAIL
FIELD
536'
CULTURAL TRAIL
541'-0"
LCF/RF (3M)


CIP T&R
(9' TREDS,
R-VARIES)
GROUP SEATS
TRELLIS.
TPO ROOF
SPLIT SLABS
42" RAIL.
PATIO
563'-6"
PATIO
6'-8"
4'
2'-7"
PARKING
FIELD
536'
BULLPEN
1'-8"
CONCOURSE
548'-6"
PARK
541'-0"
SUMMIT
541/VARIES.
3B/LF GROUP SEATS

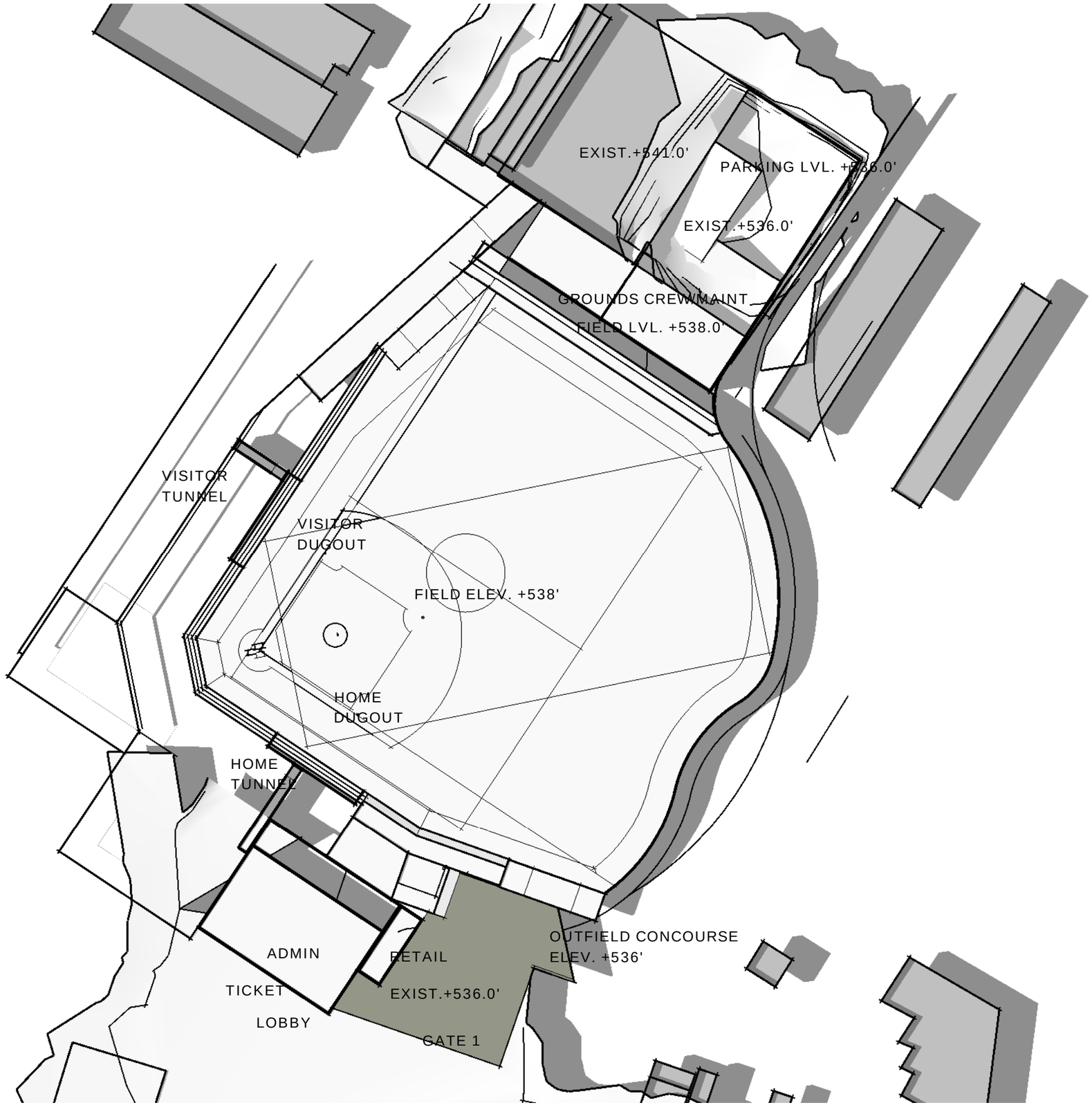

VIDEO POD
EXPOSED STL STRUCT.
CIP T&R
(4'-6"-T, 21"R).
STANDING SEAM
ROOF
STANDING
TERRACE
W/DRINK
RAIL
8' PADDED
V. COATED FENCE
BTM ROOF
563'-6"
BAR.
CONCOURSE
548'-6"
GROUNDS/OPS
EXIST DRIVE
FIELD
536'-0"
FIELD
BOX
SPLIT SLAB.
LF SECTION
0 8 16 32'

SECTIONS

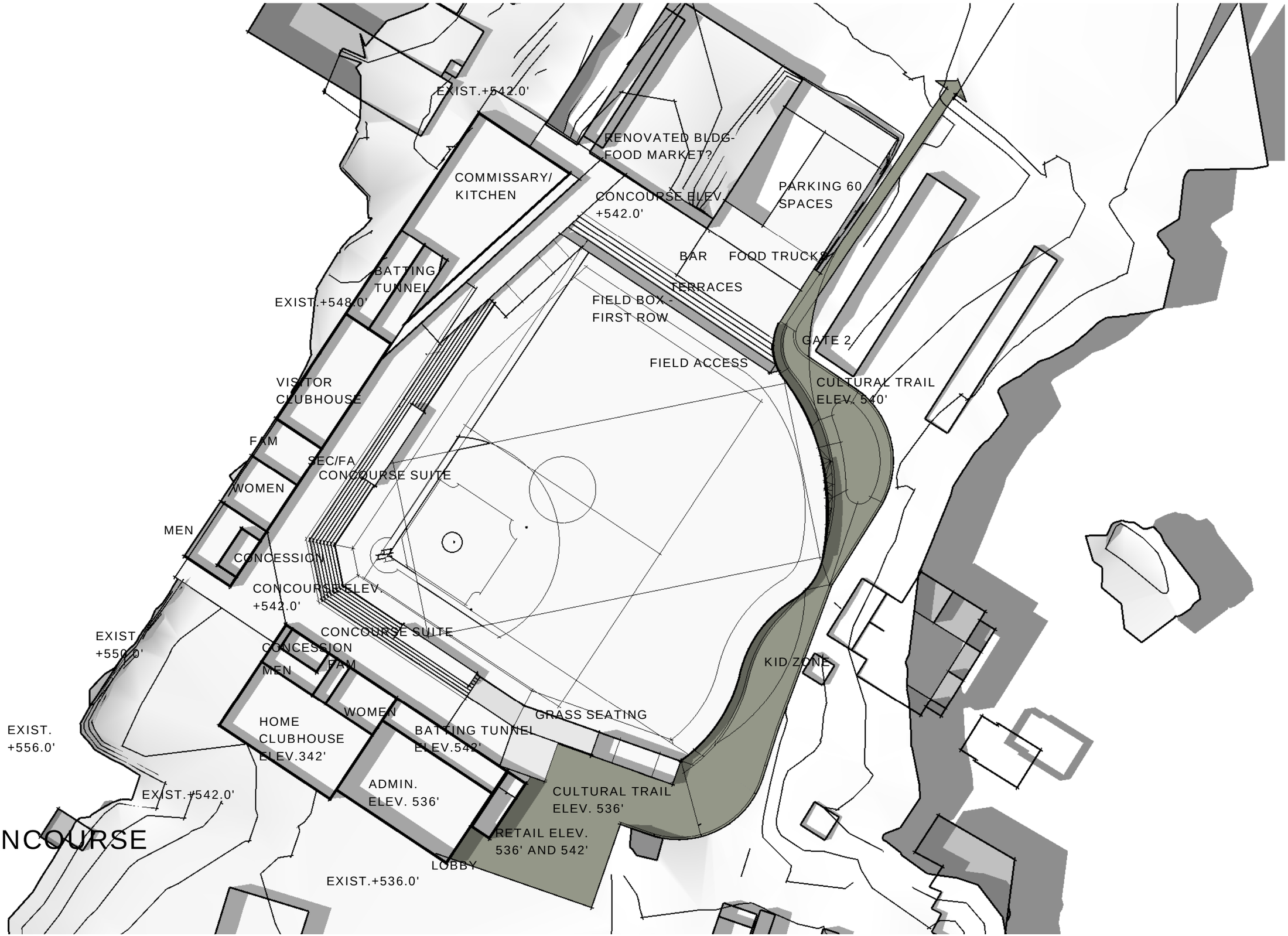


HAGERSTOWN MULTI-PURPOSE SPORTS AND EVENTS FACILITY

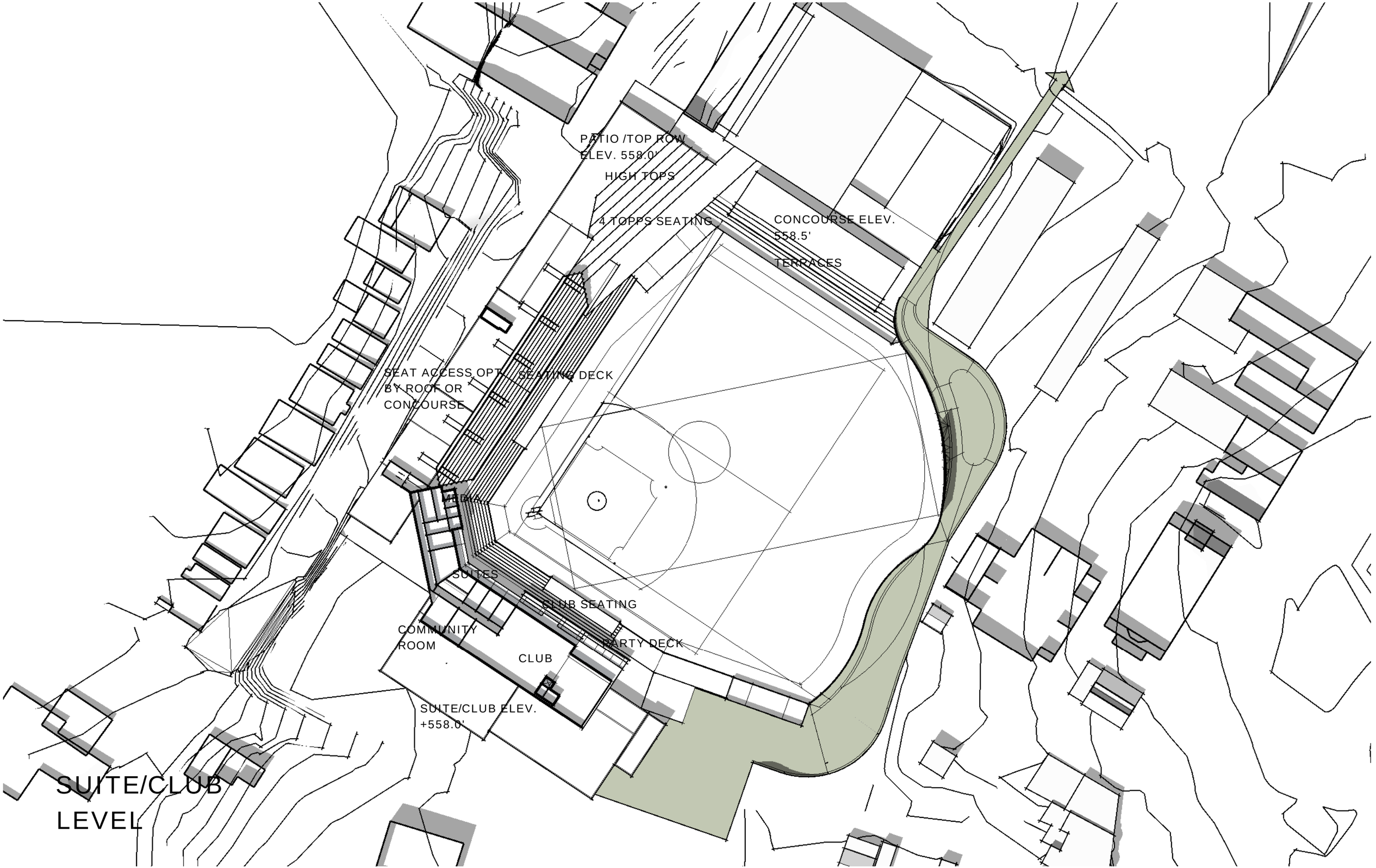
CONCEPT TWO


EXIST.+541.0'
PARKING LVL. +536.0'
EXIST.+536.0'
GROUNDS CREW/MAINT
FIELD LVL. +538.0'
VISITOR
TUNNEL
VISITOR
DUGOUT
FIELD ELEV. +538'
HOME
DUGOUT
HOME
TUNNEL
ADMIN
TICKET
LOBBY
RETAIL
EXIST.+536.0'
GATE 1
OUTFIELD CONCOURSE
ELEV. +536'

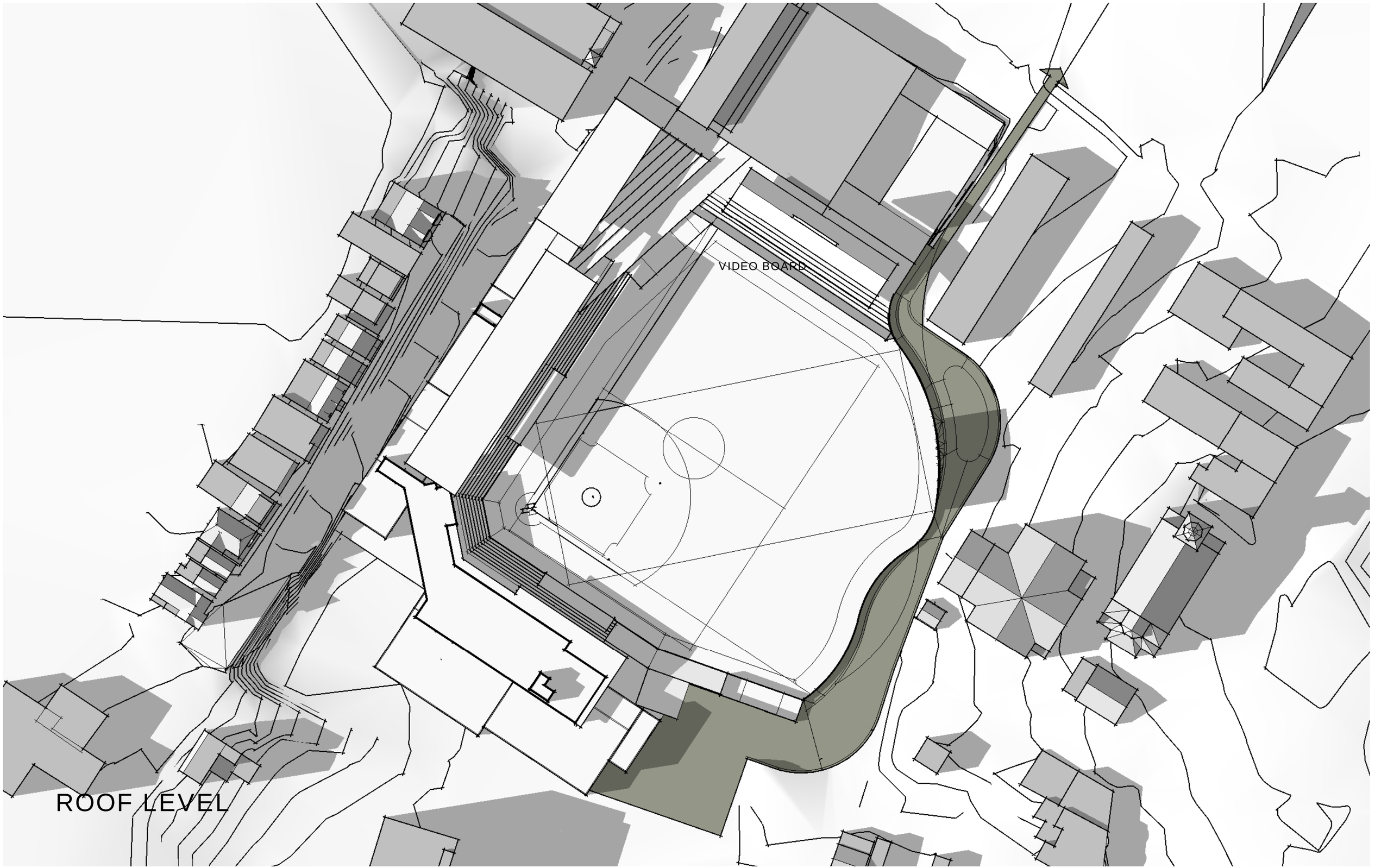
FIELD LEVEL

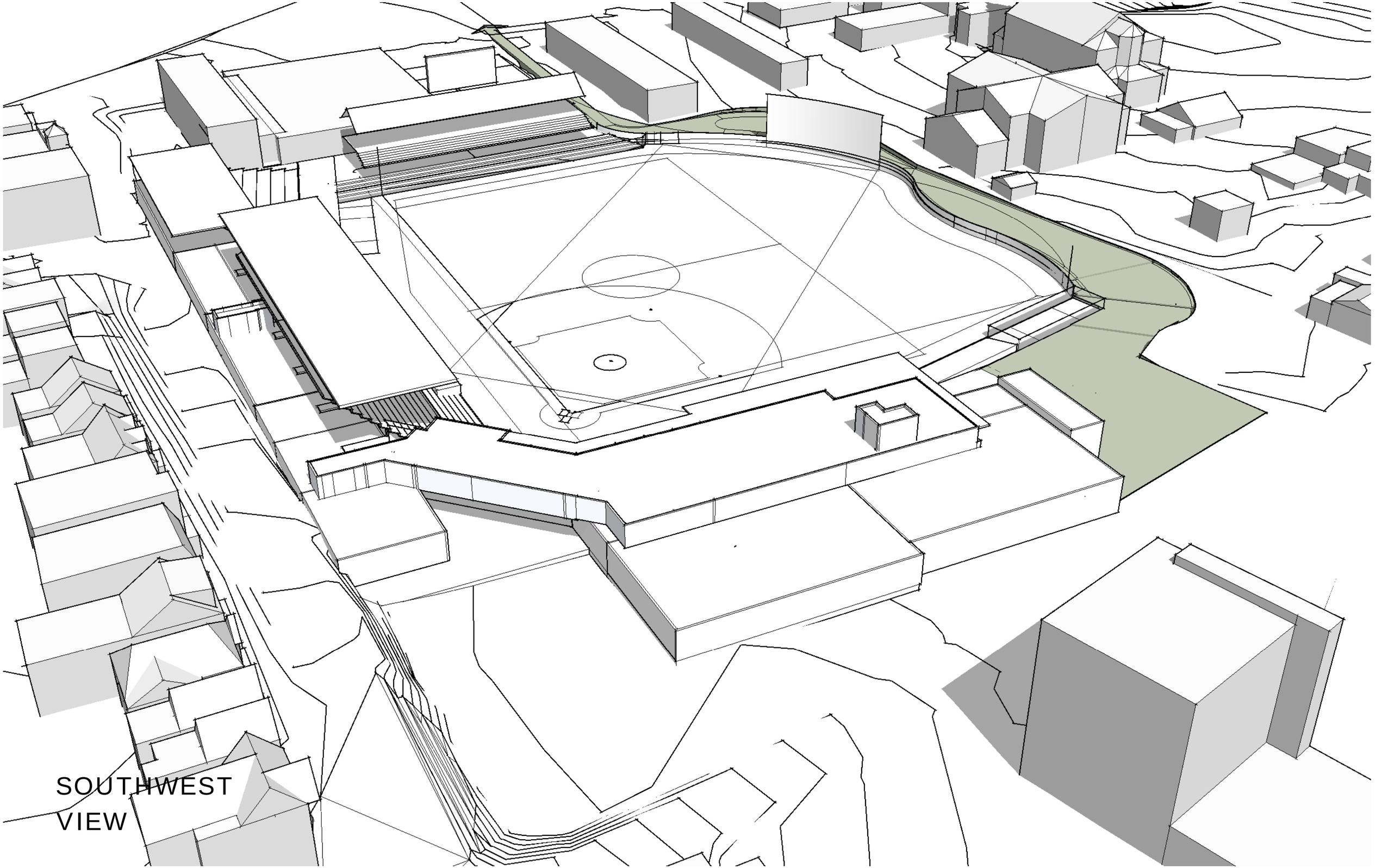


MAIN CONCOURSE LEVEL

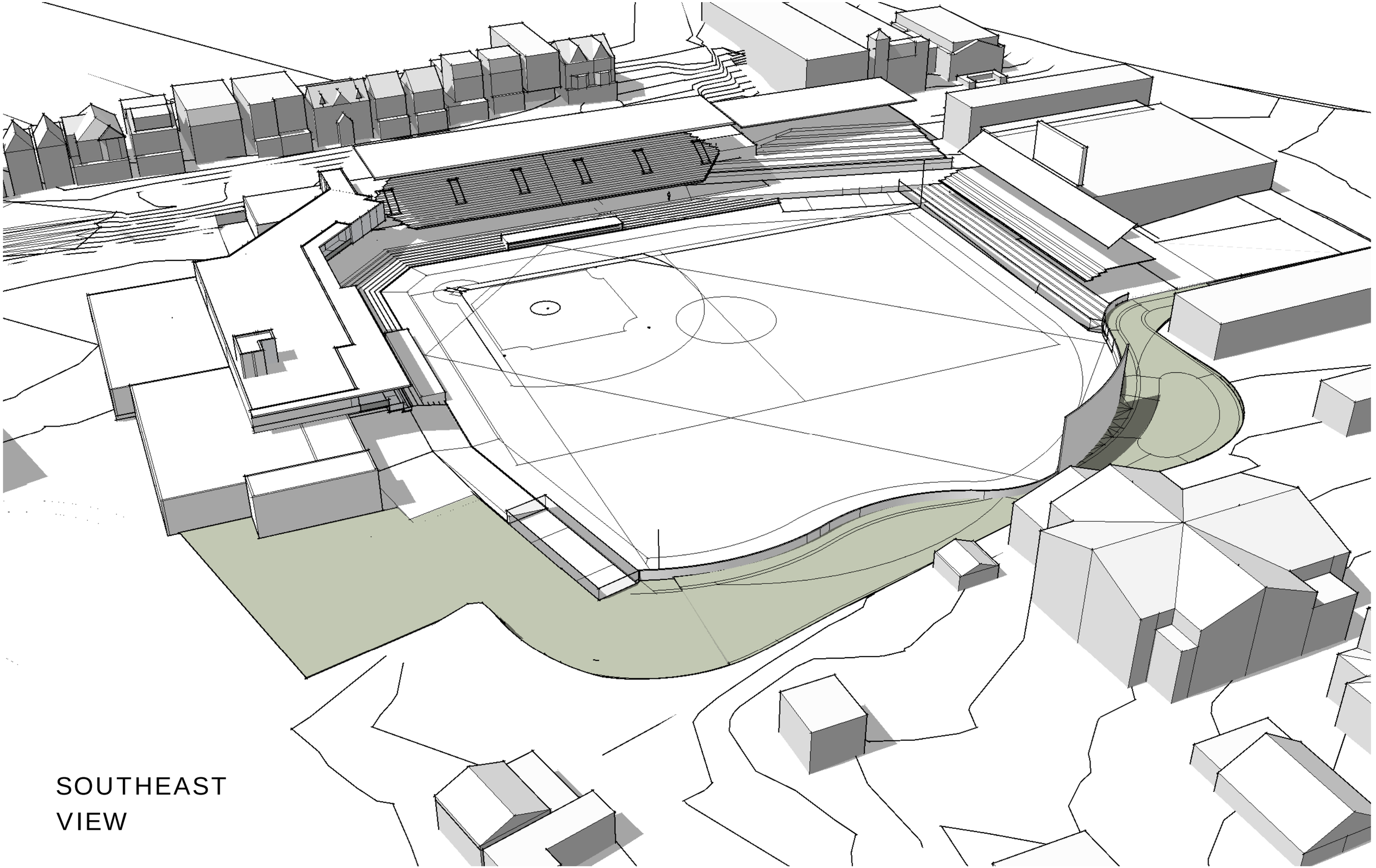


SUITE/CLUB LEVEL

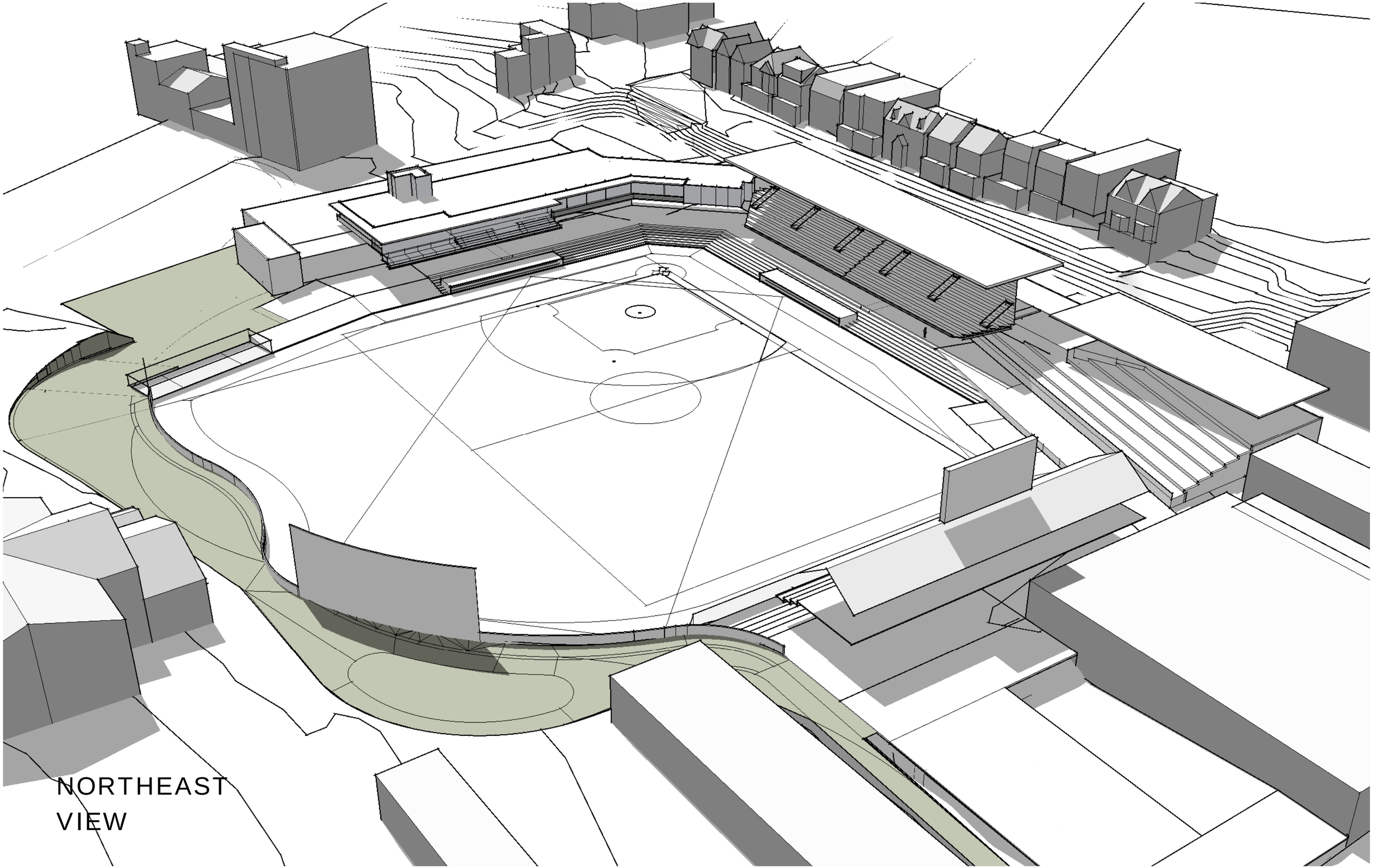

VIDEO BOARD
ROOF LEVEL



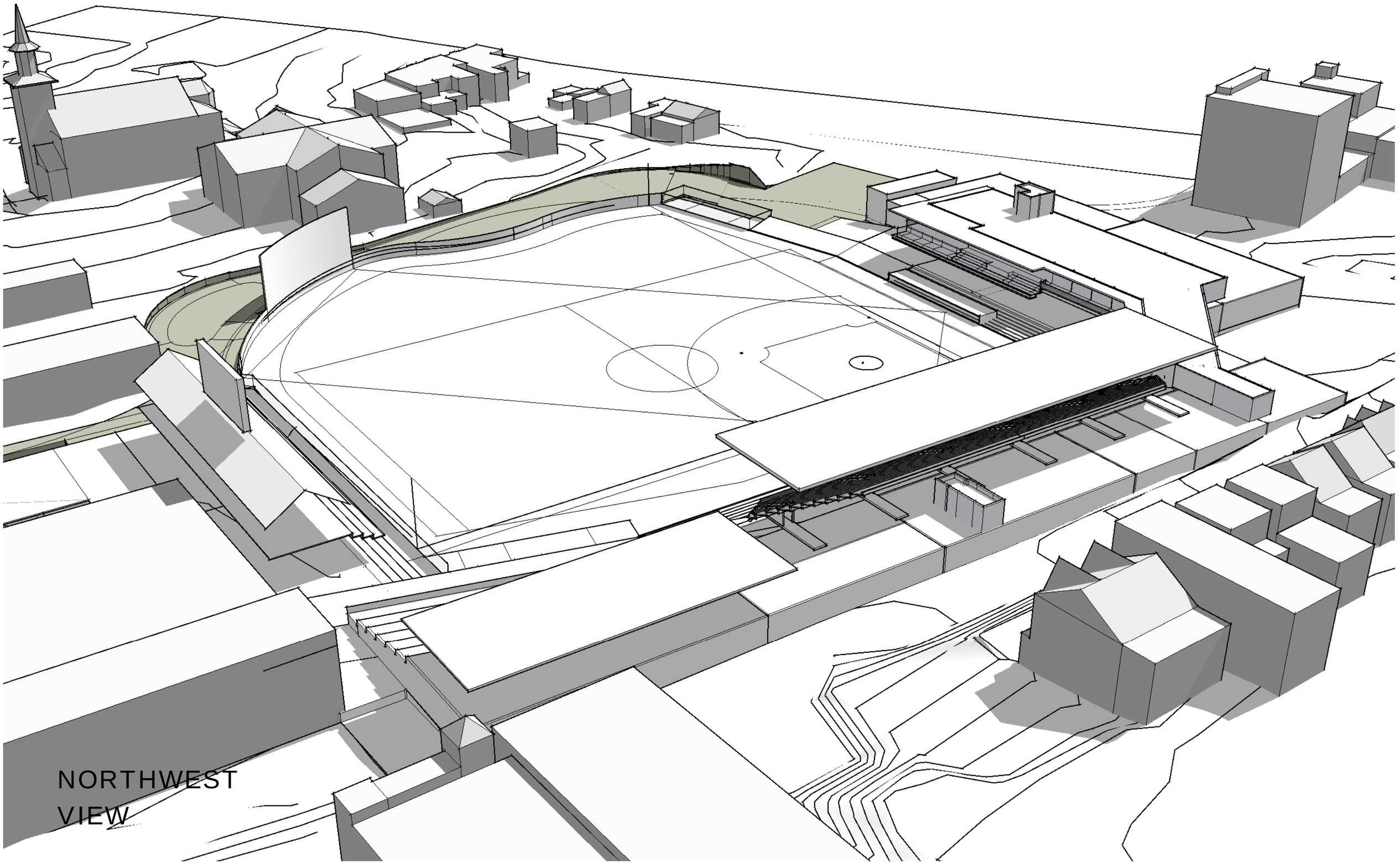
SOUTHWEST
VIEW



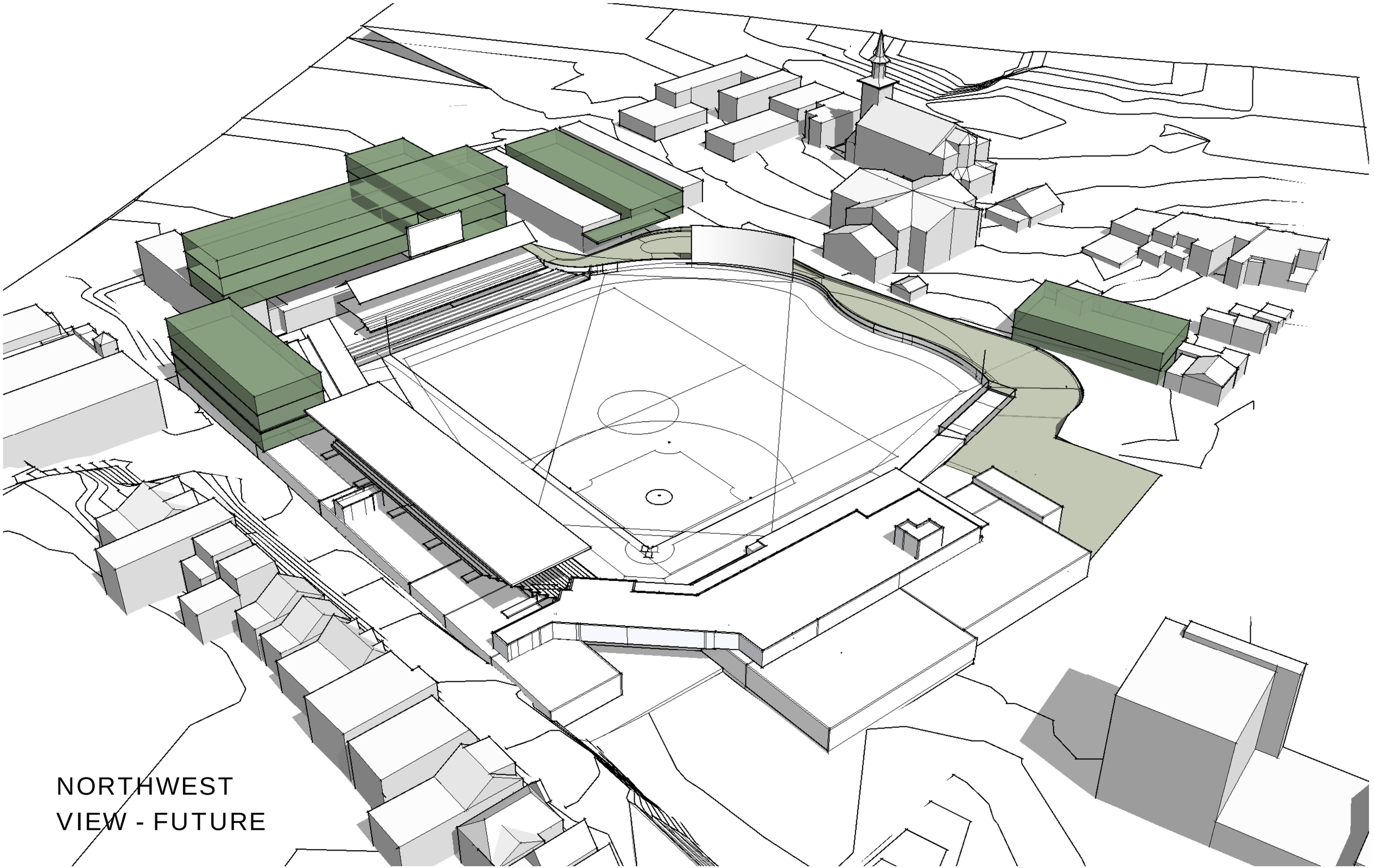
SOUTHEAST
VIEW



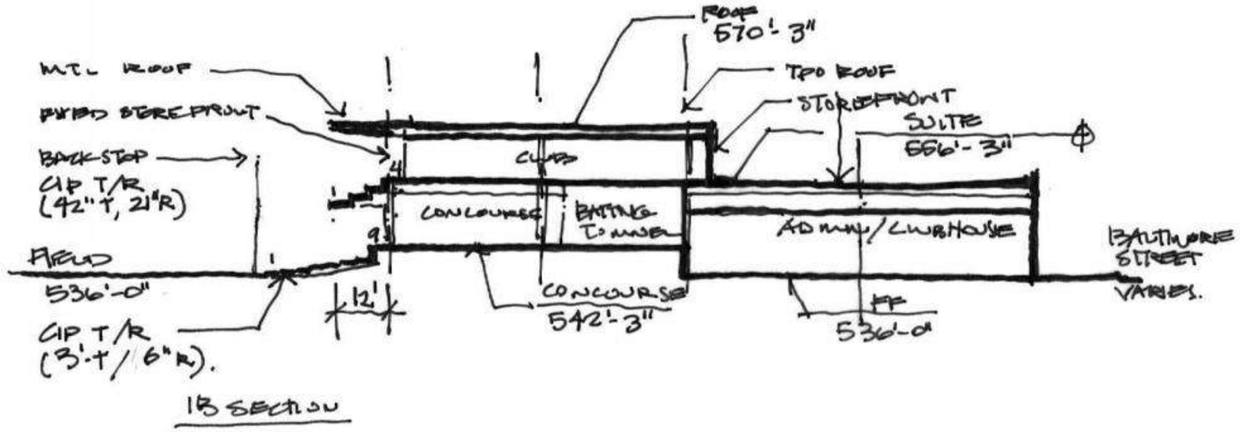
NORTHEAST
VIEW



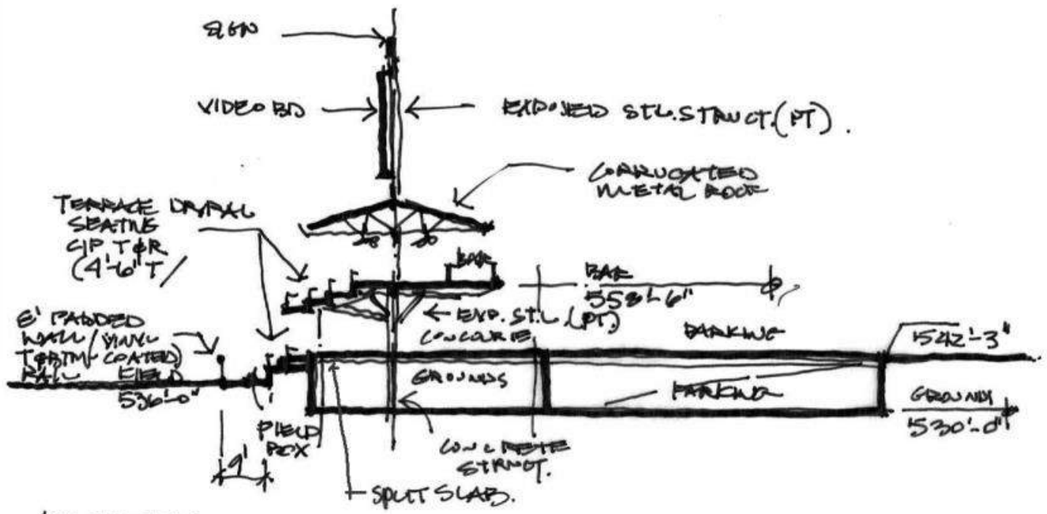
NORTHWEST
VIEW



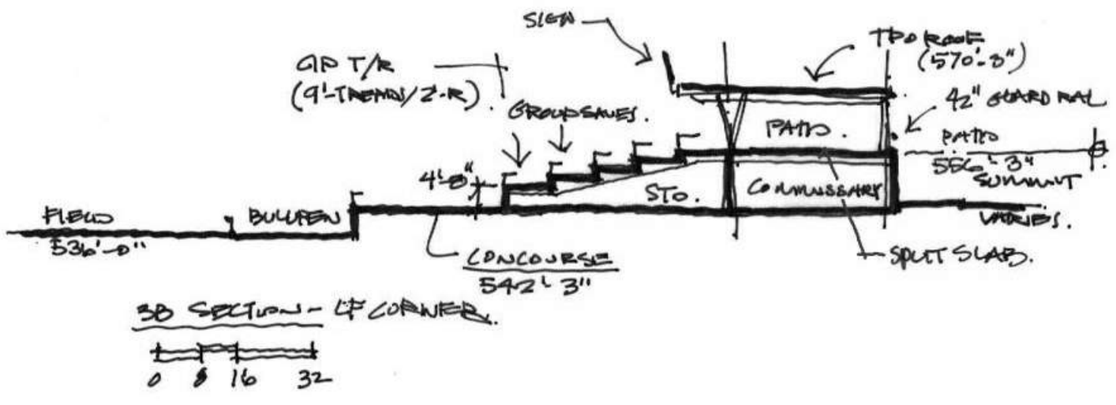
NORTHWEST
VIEW - FUTURE



1B SECTION

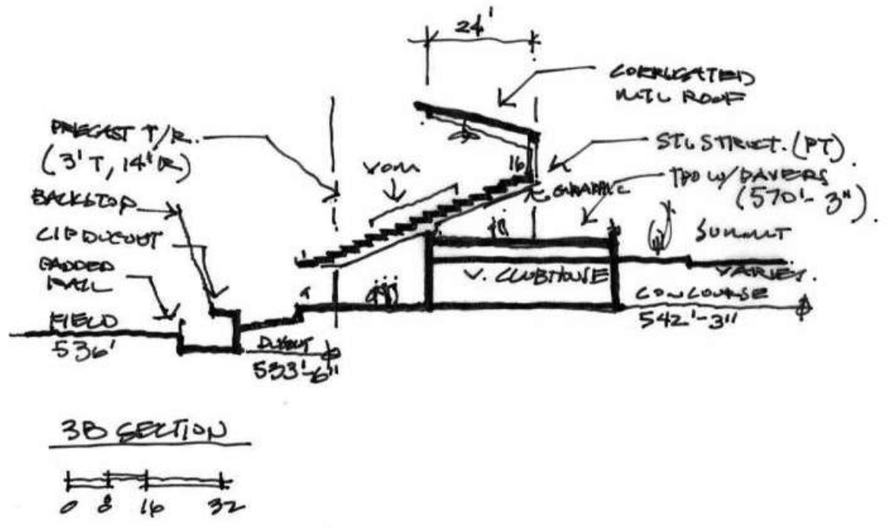


RF SECTION



3B SECTION - LF CORNER.

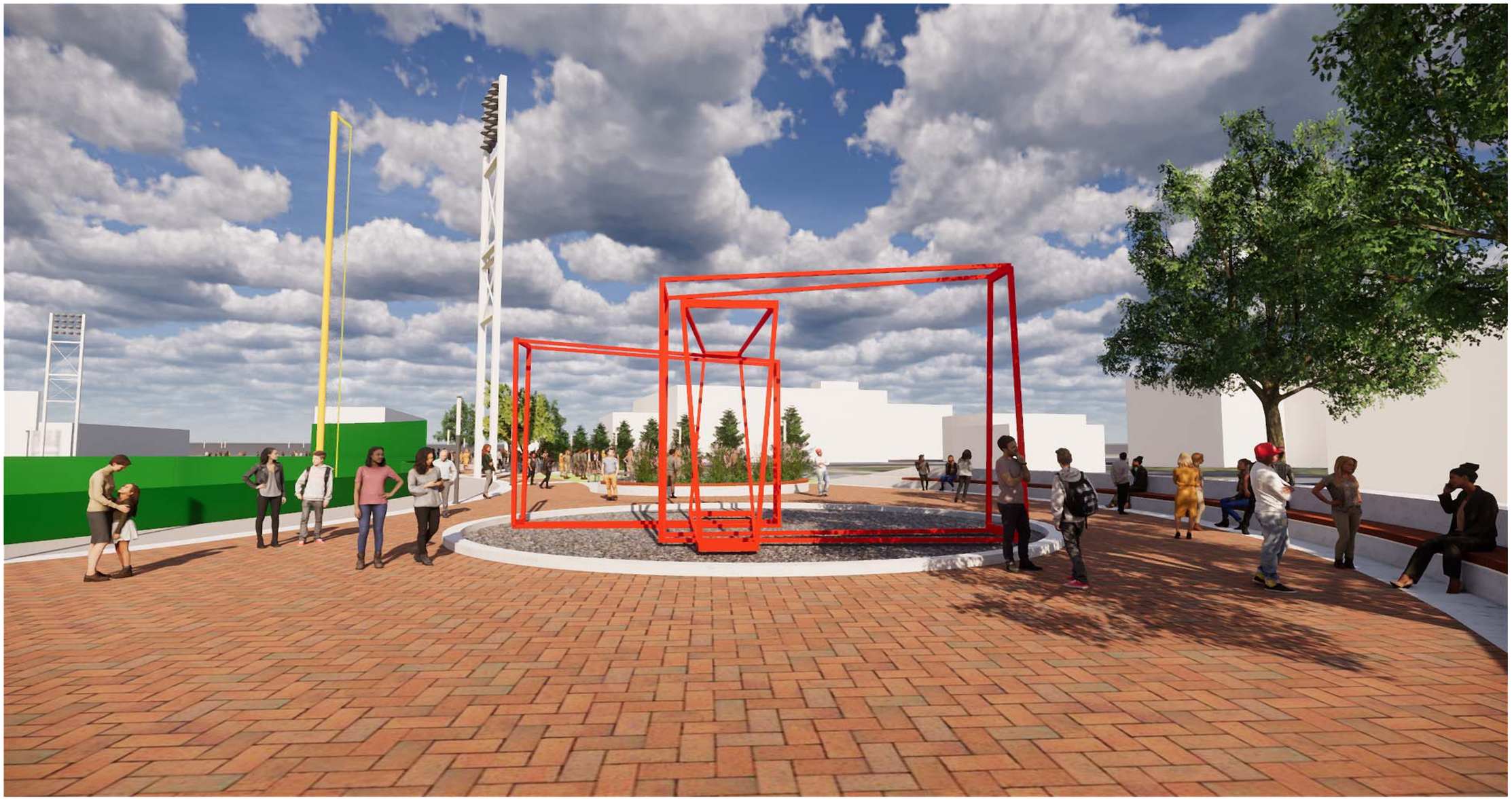
0 8 16 32



3B SECTION

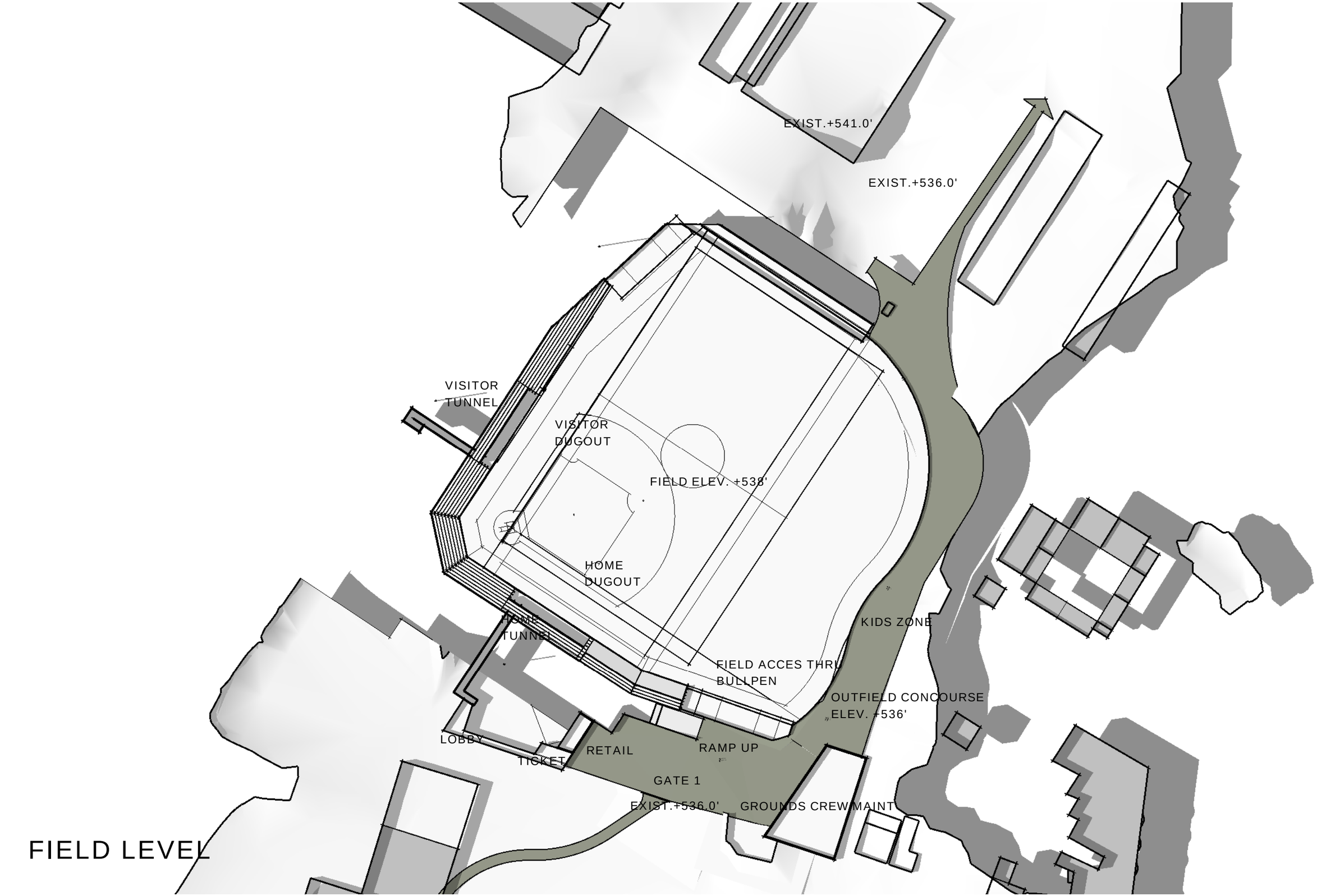
0 8 16 32

SECTIONS



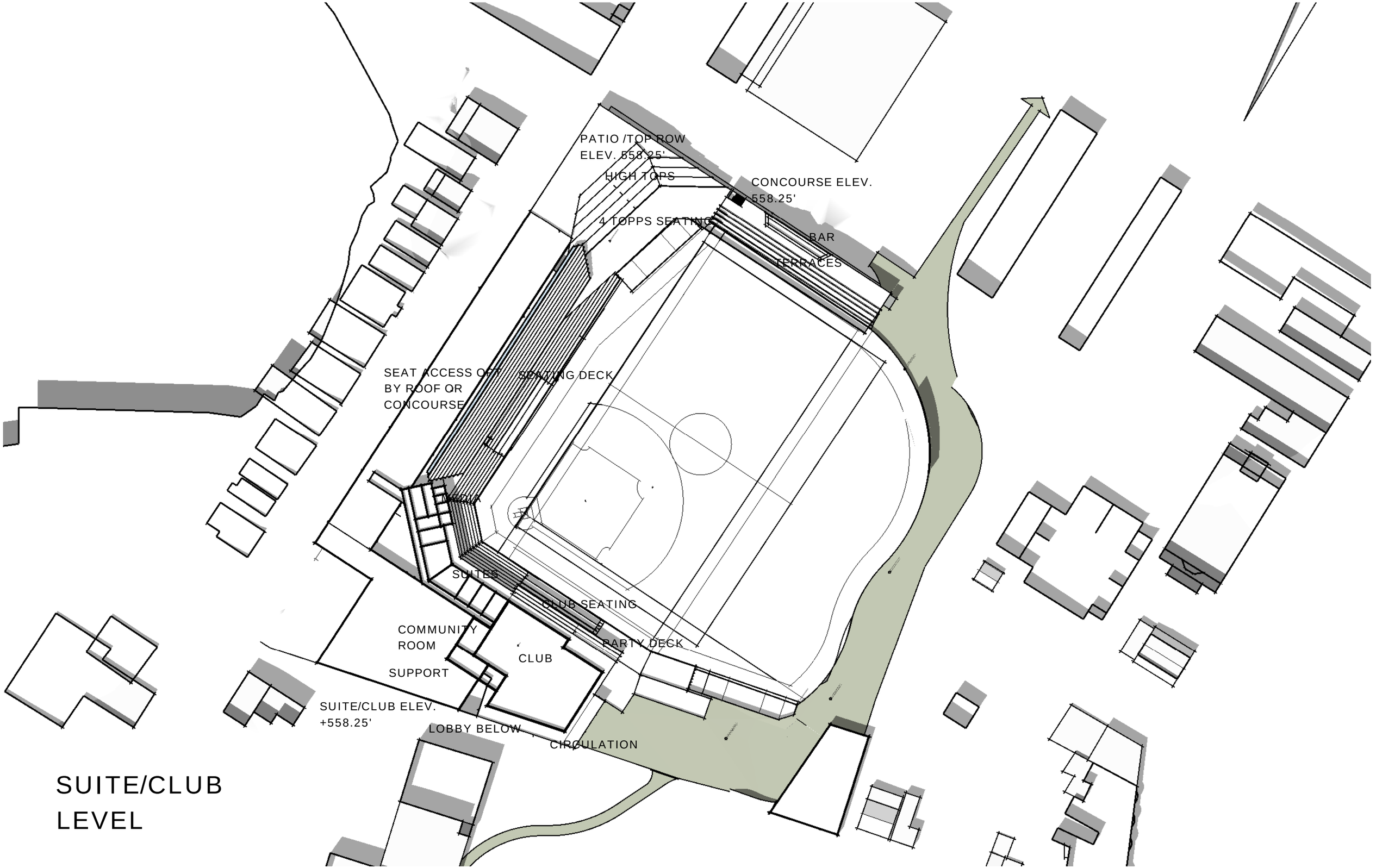
HAGERSTOWN MULTI-PURPOSE SPORTS AND EVENTS FACILITY

CONCEPT THREE

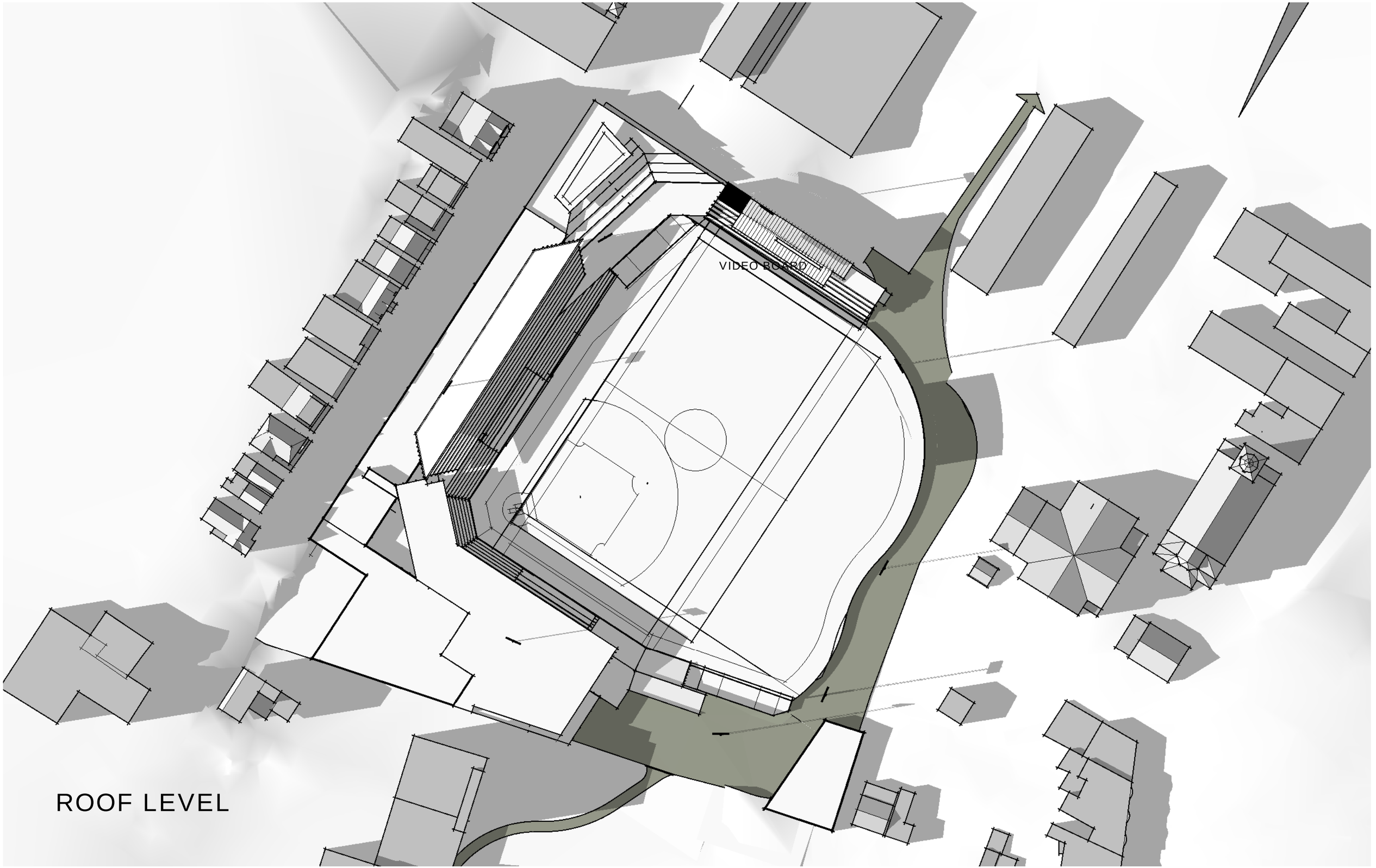

EXIST.+541.0'
EXIST.+536.0'
VISITOR
TUNNEL
VISITOR
DUGOUT
FIELD ELEV. +538'
HOME
DUGOUT
HOME
TUNNEL
KIDS ZONE
FIELD ACCES THRU
BULLPEN
OUTFIELD CONCOURSE
ELEV. +536'
LOBBY
TICKET
RETAIL
RAMP UP
GATE 1
EXIST.+536.0'
GROUNDS CREW MAINT

FIELD LEVEL

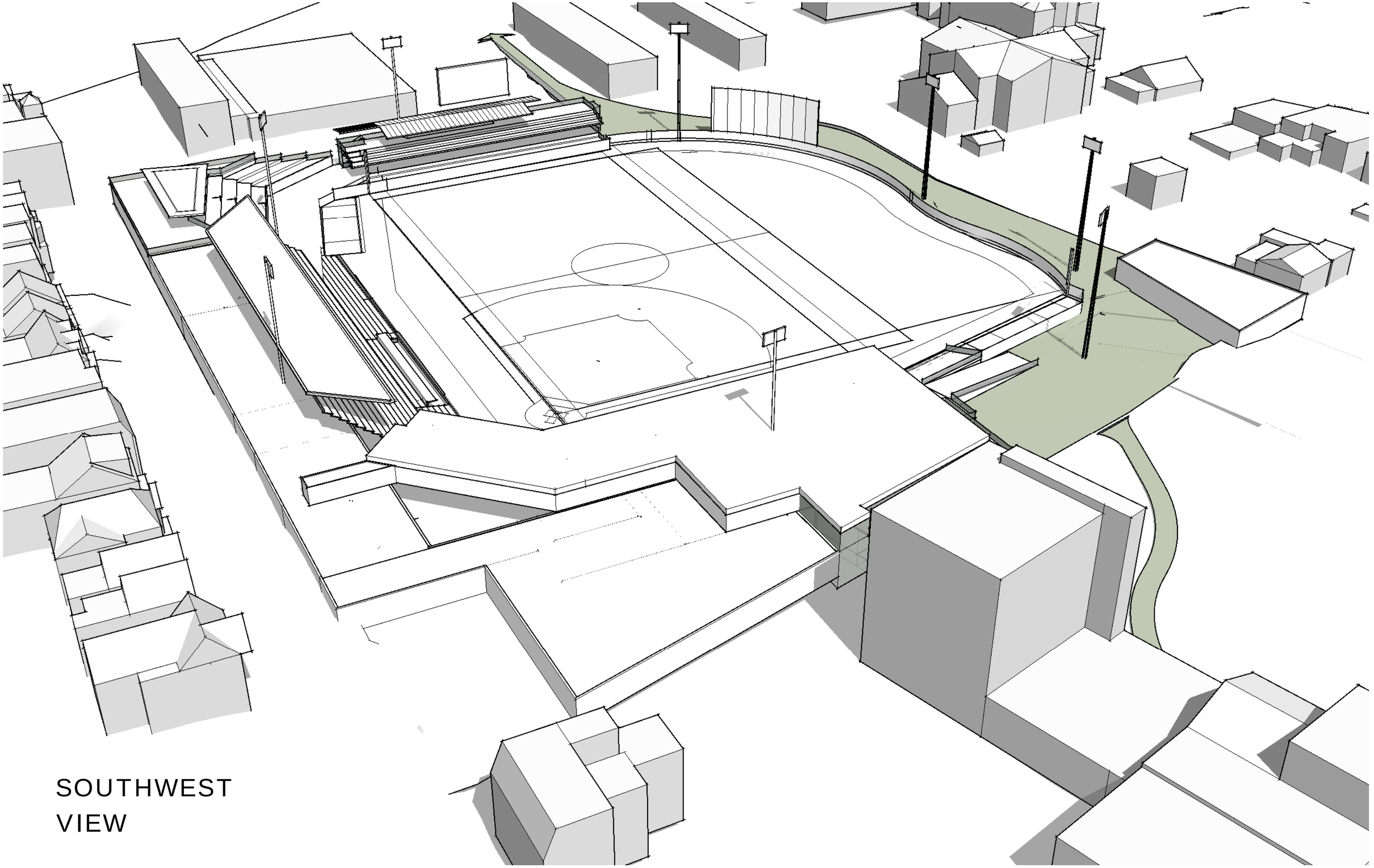
MAIN CONCOURSE LEVEL



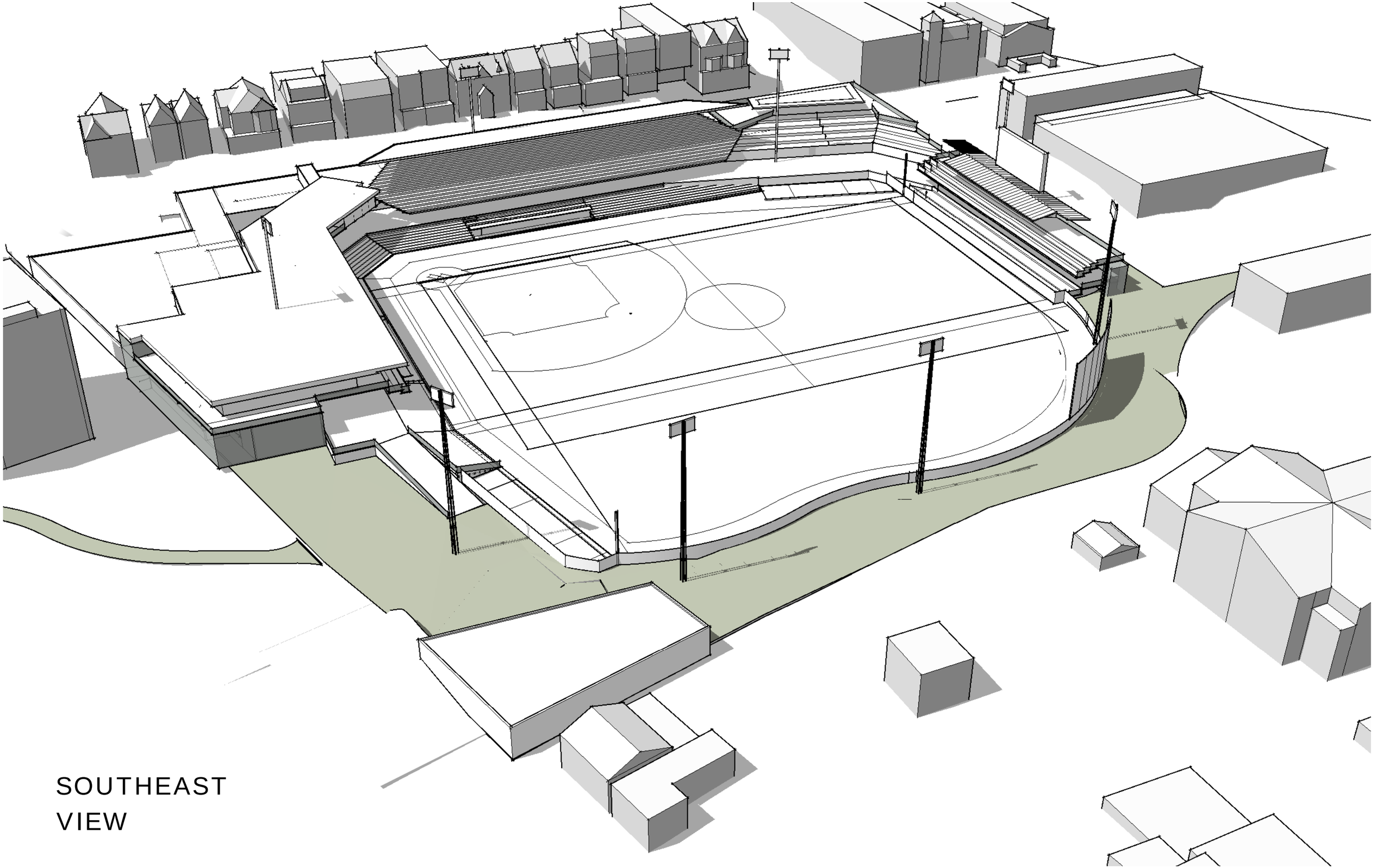
SUITE/CLUB LEVEL



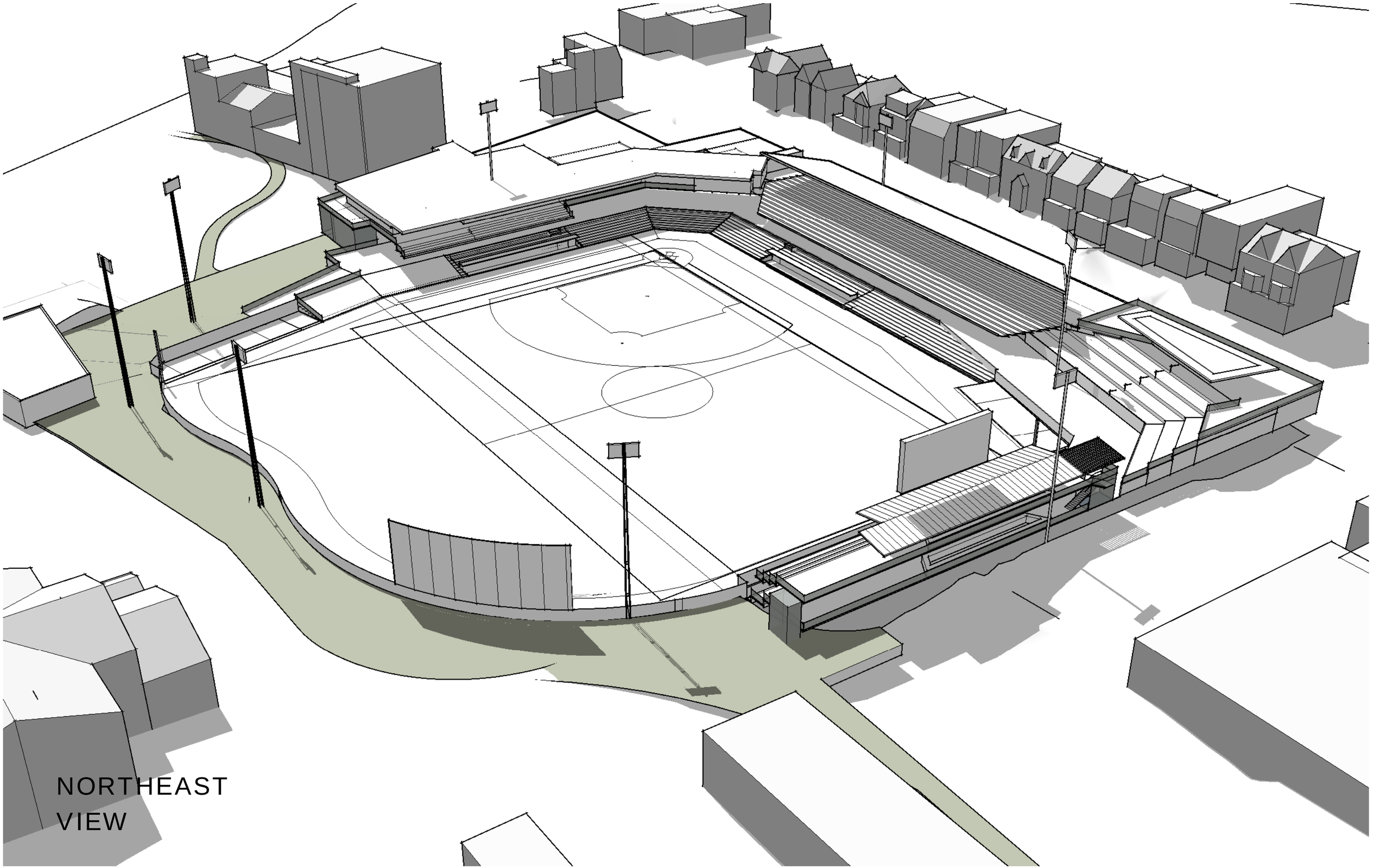
ROOF LEVEL



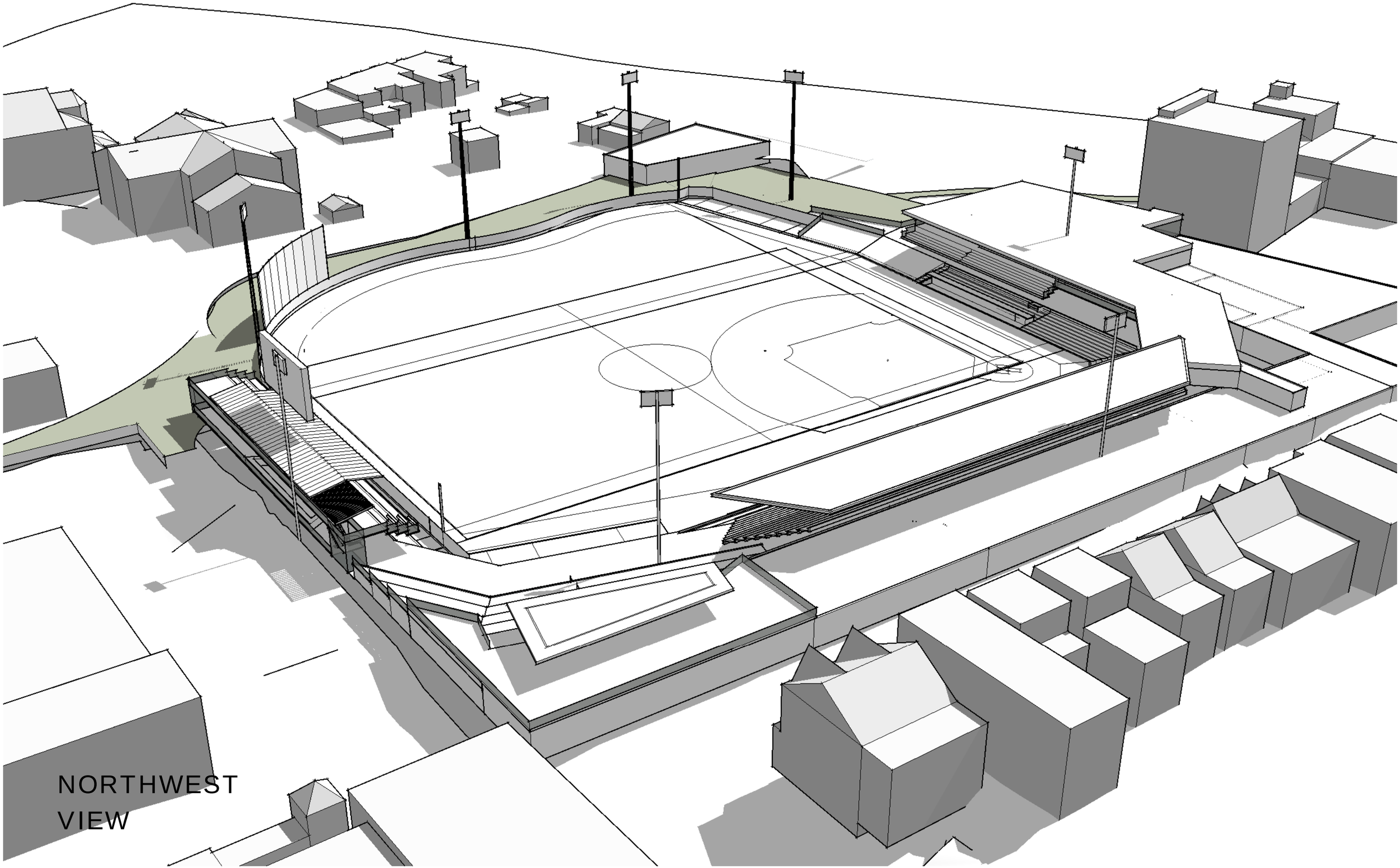
SOUTHWEST
VIEW



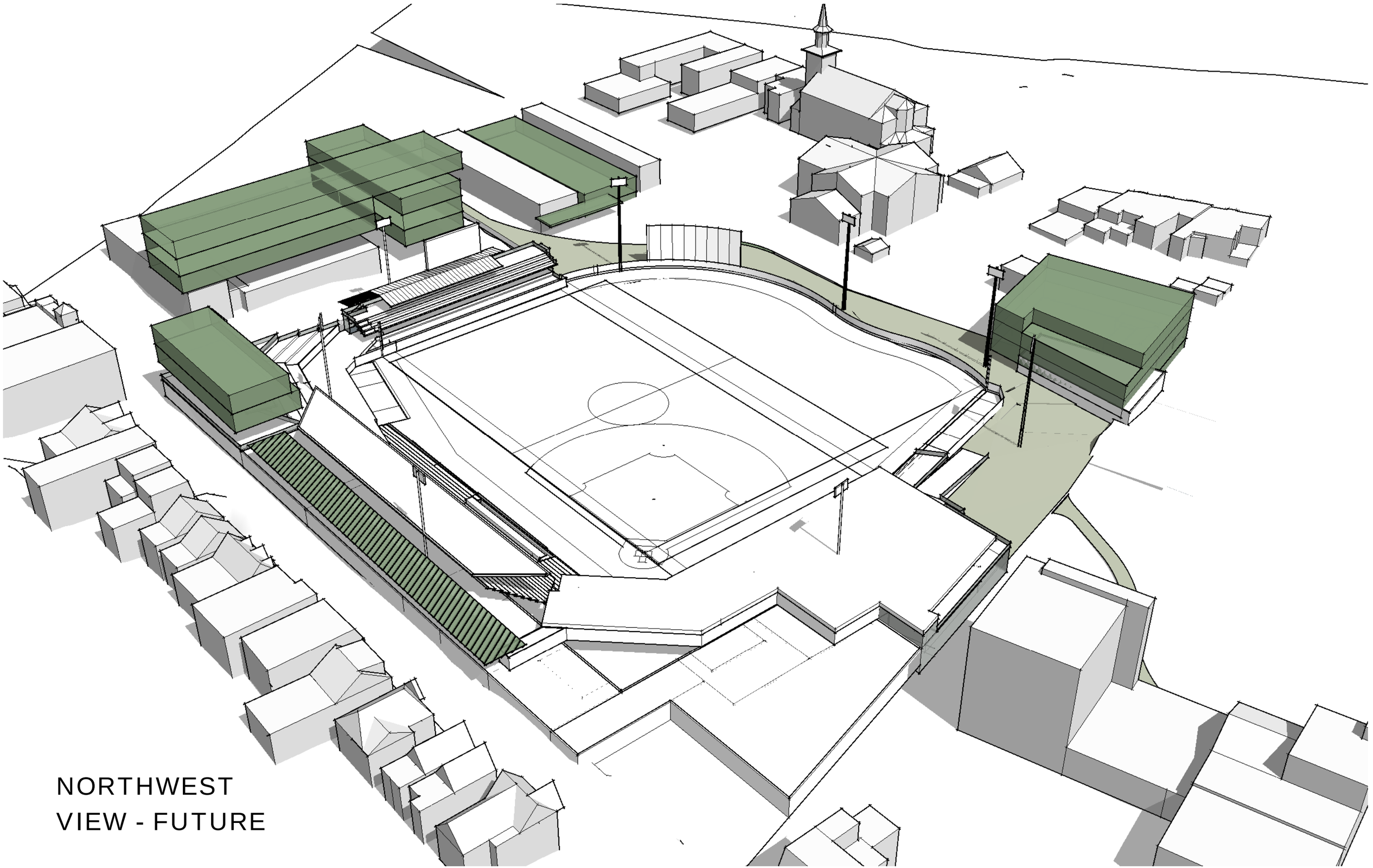
SOUTHEAST
VIEW



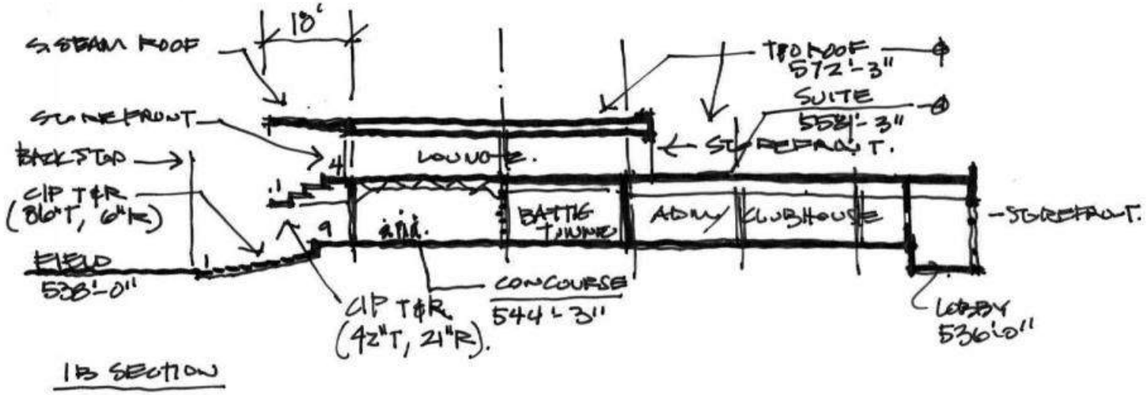
NORTHEAST
VIEW



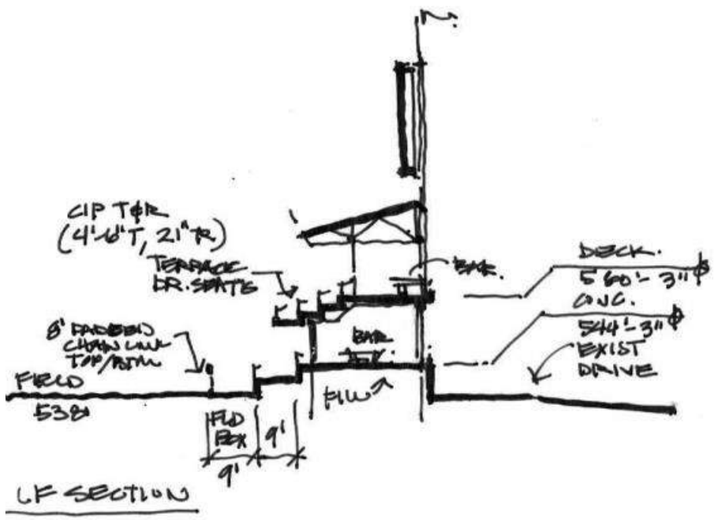
NORTHWEST
VIEW



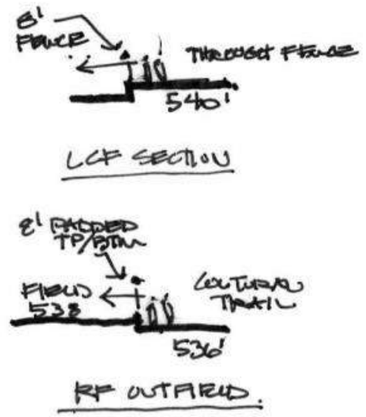
NORTHWEST
VIEW - FUTURE



1B SECTION

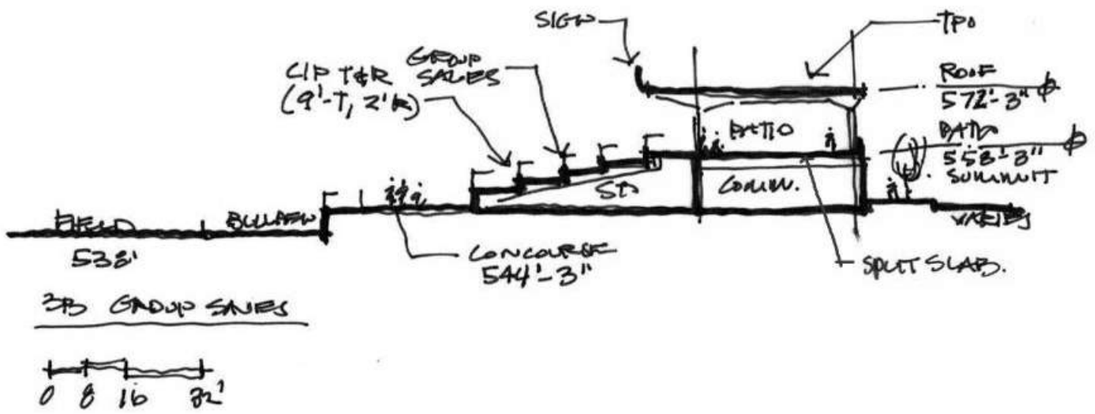


LF SECTION



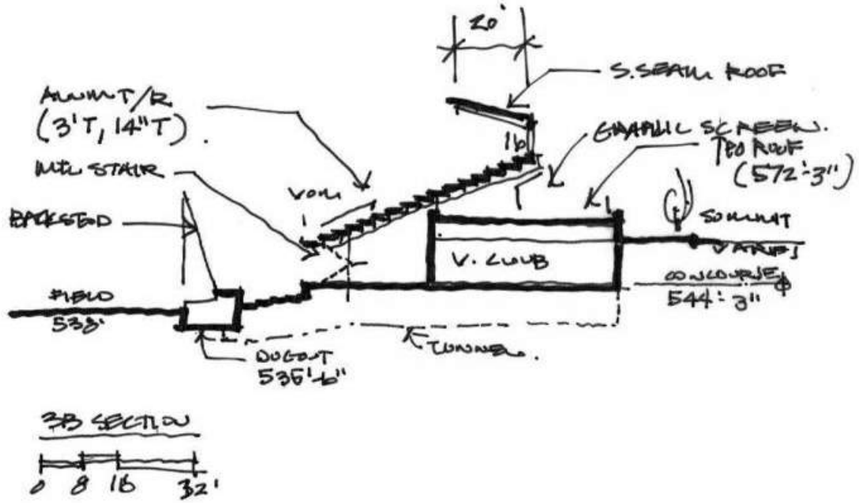
LCF SECTION

RF OUTFIELD.



3B GROUP SALES

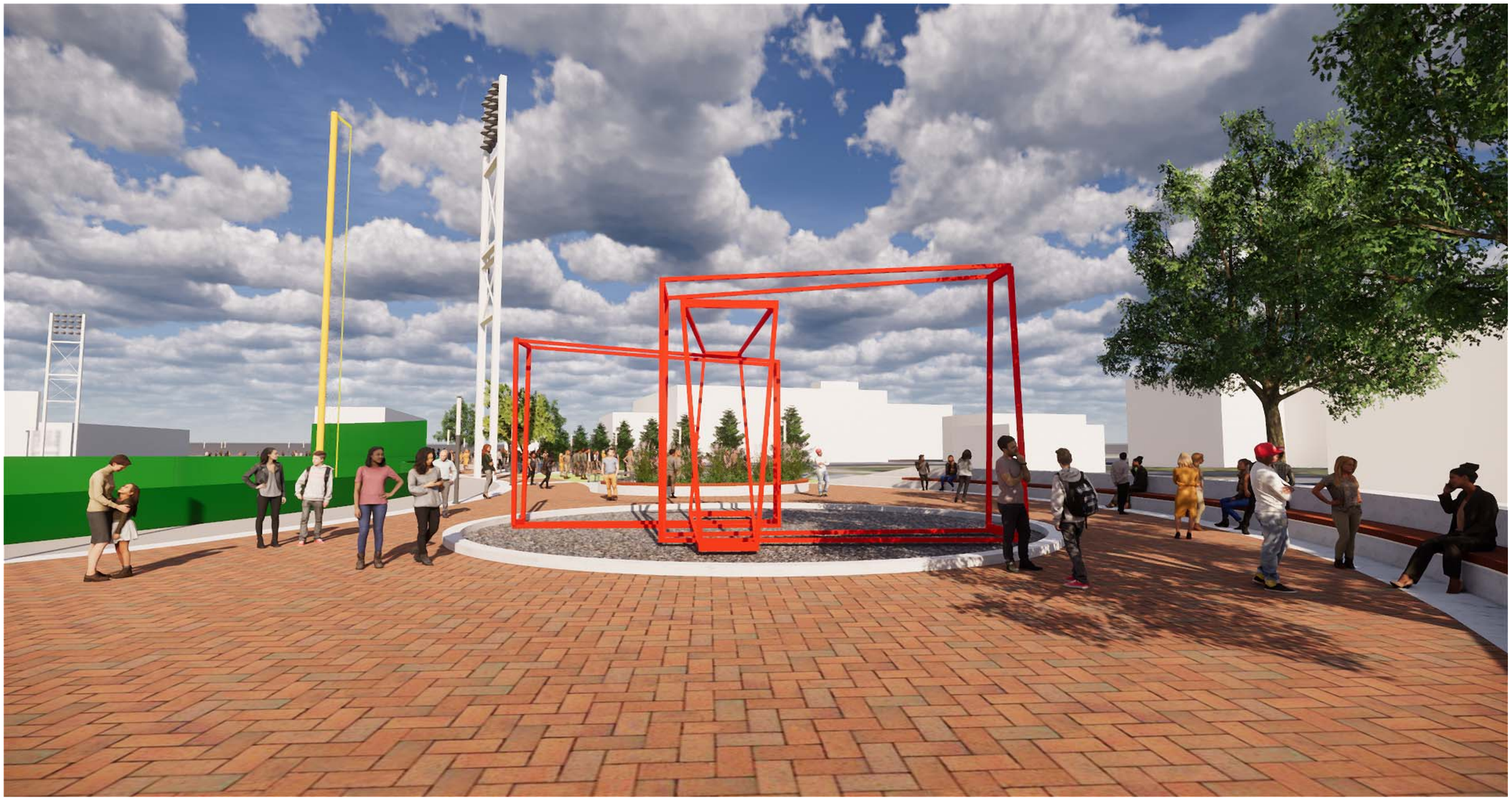
0 8 16 32'



3B SECTION

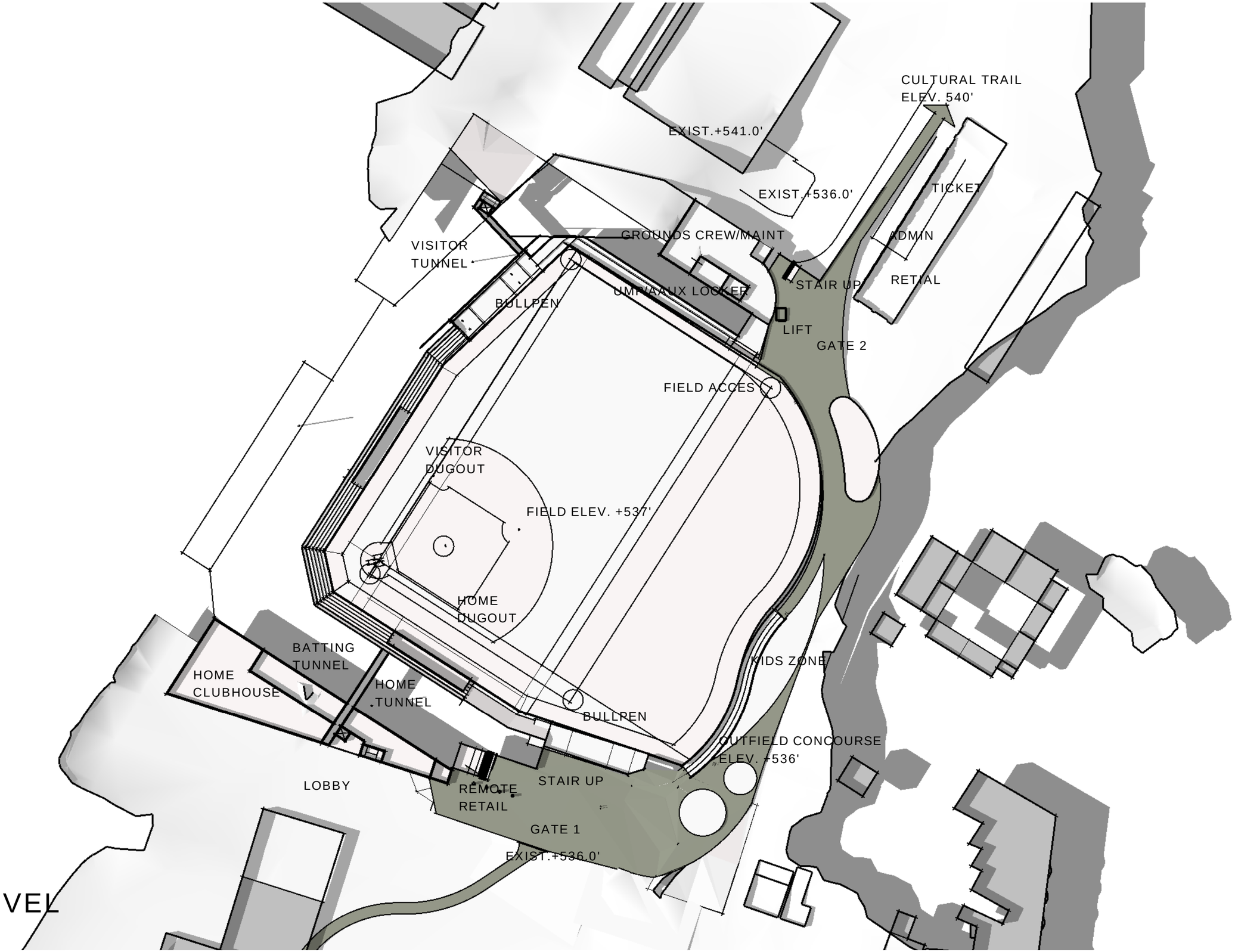
0 8 16 32'

SECTIONS

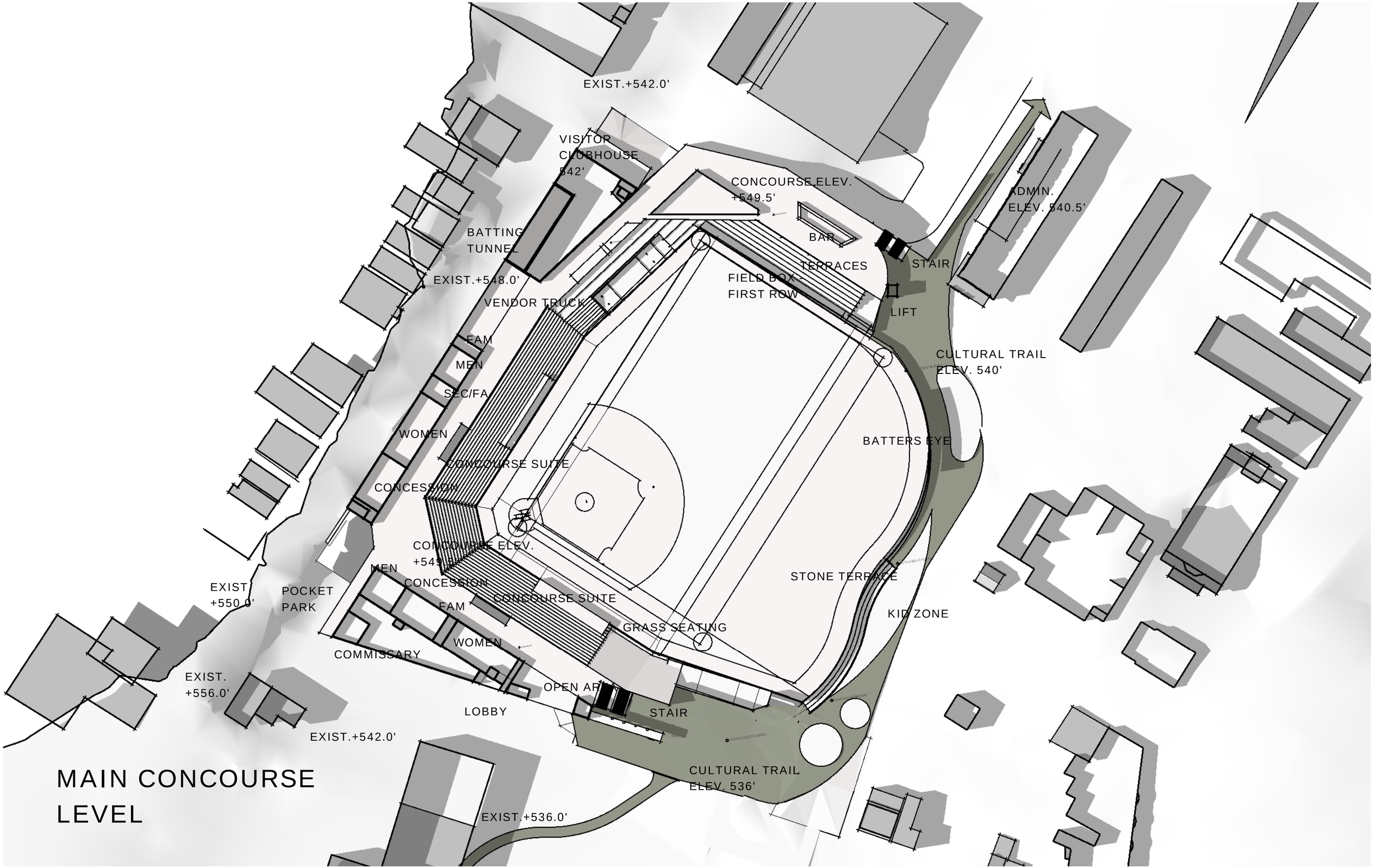


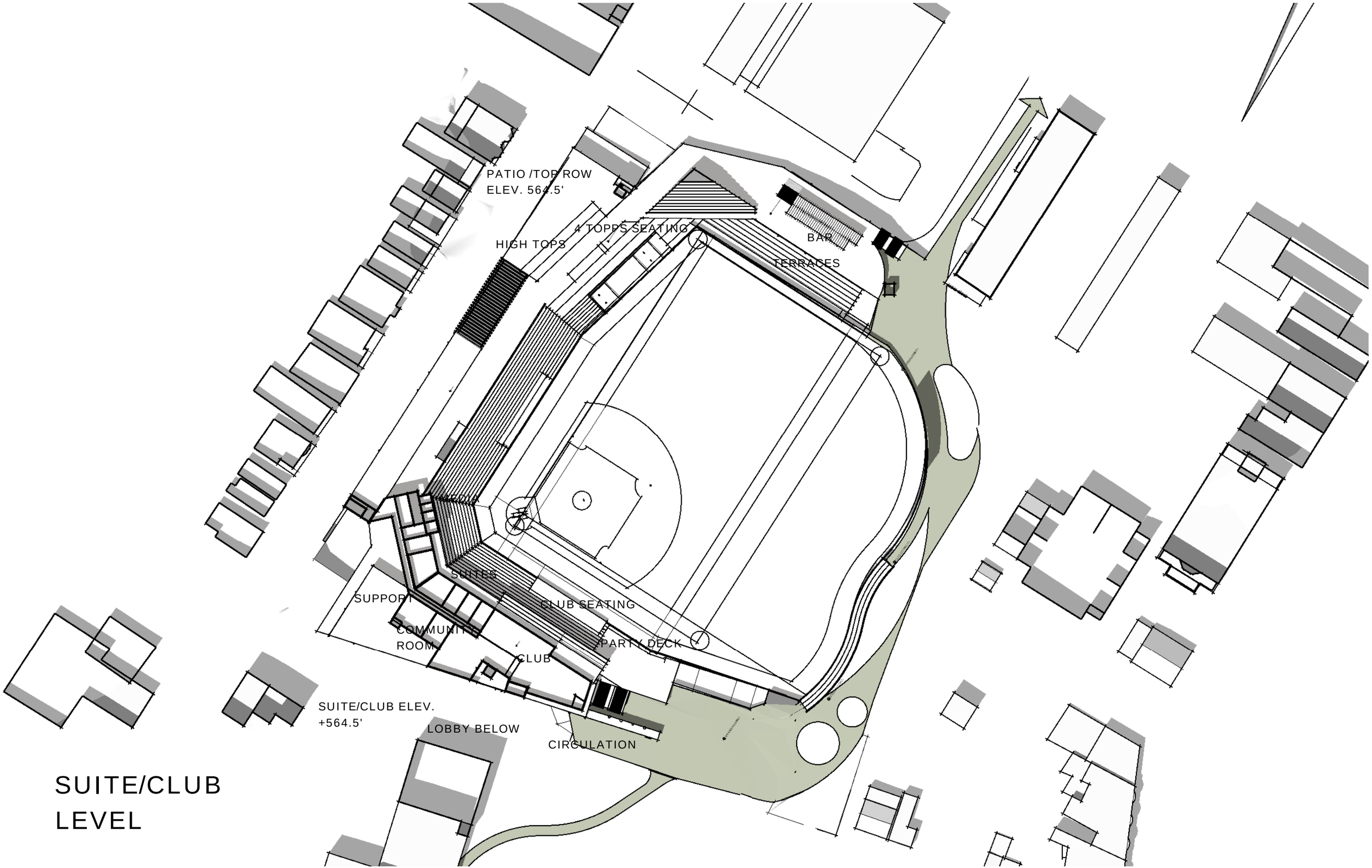
HAGERSTOWN MULTI-PURPOSE SPORTS AND EVENTS FACILITY

CONCEPT FOUR

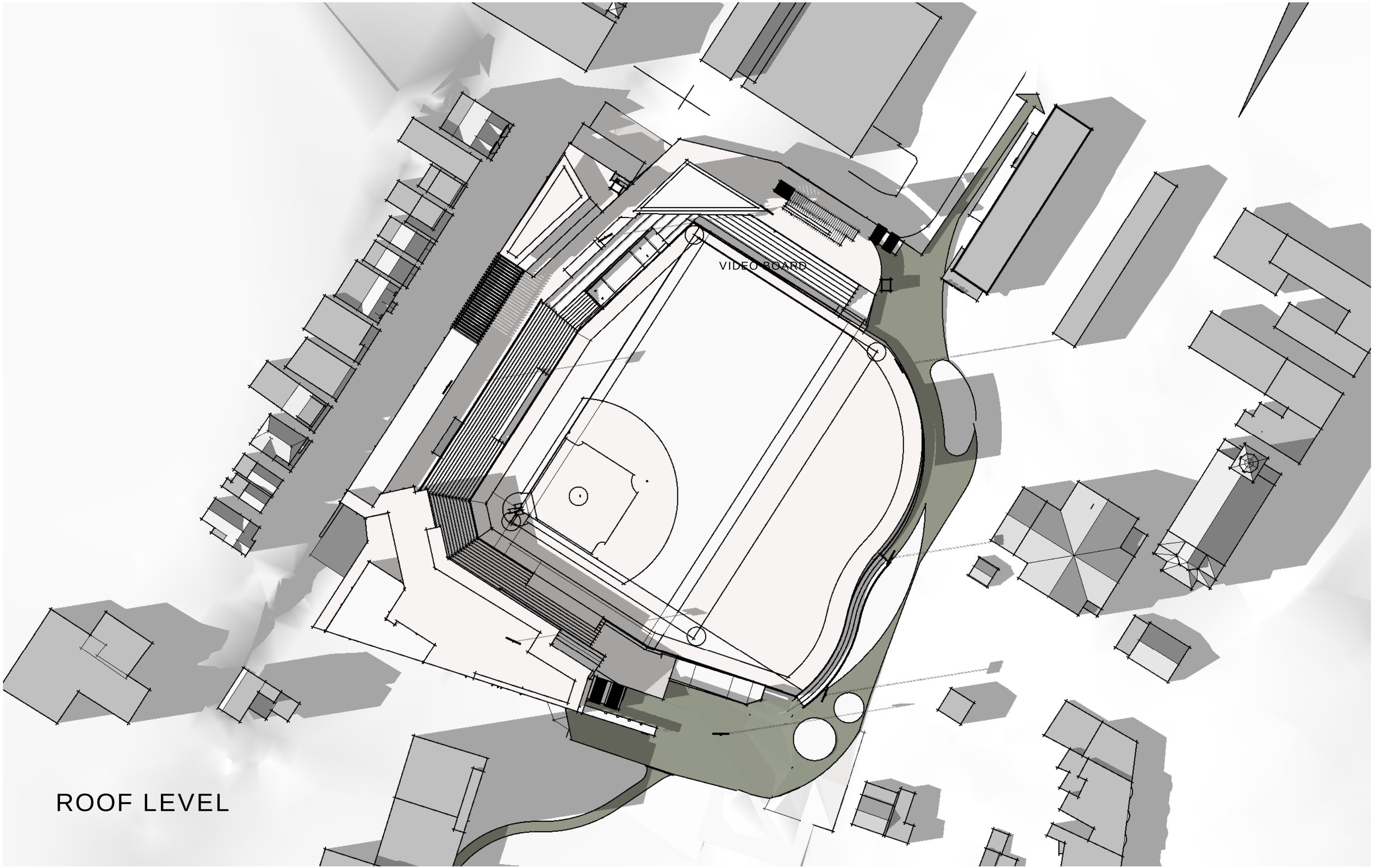

CULTURAL TRAIL
ELEV. 540'
EXIST.+541.0'
EXIST.+536.0'
TICKET
ADMIN
RETIAL
GROUNDS CREW/MAINT
VISITOR
TUNNEL
UMP/AAUX LOCKER
STAIR UP
BULLPEN
LIFT
GATE 2
FIELD ACCES
VISITOR
DUGOUT
FIELD ELEV. +537'
HOME
DUGOUT
BATTING
TUNNEL
KIDS ZONE
HOME
CLUBHOUSE
HOME
TUNNEL
BULLPEN
OUTFIELD CONCOURSE
ELEV. +536'
LOBBY
REMOTE
RETAIL
STAIR UP
GATE 1
EXIST.+536.0'

FIELD LEVEL

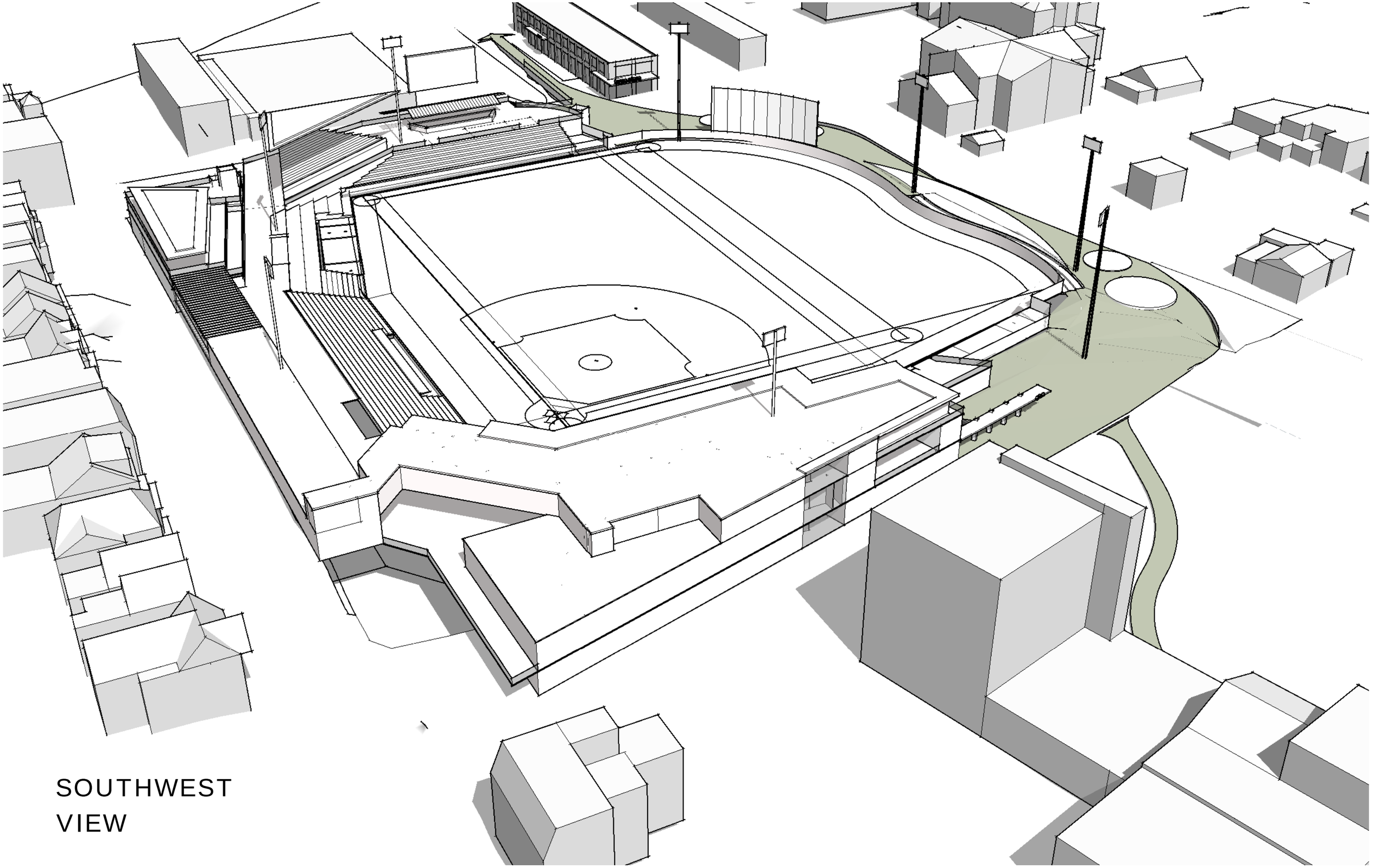

EXIST.+542.0'
VISITOR
CLUBHOUSE
542'
CONCOURSE ELEV.
+549.5'
ADMIN.
ELEV. 540.5'
BATTING
TUNNEL
BAR
TERRACES
STAIR
EXIST.+548.0'
FIELD BOX
FIRST ROW
VENDOR TRUCK
LIFT
FAM
MEN
SEC/FA
CULTURAL TRAIL
ELEV. 540'
WOMEN
BATTERS EYE
CONCOURSE SUITE
CONCESSION
CONCOURSE ELEV.
+549.5'
MEN
STONE TERRACE
EXIST.
+550.0'
POCKET
PARK
CONCESSION
CONCOURSE SUITE
FAM
KID ZONE
GRASS SEATING
WOMEN
COMMISSARY
EXIST.
+556.0'
OPEN AIR
LOBBY
STAIR
EXIST.+542.0'
CULTURAL TRAIL
ELEV. 536'
EXIST.+536.0'
MAIN CONCOURSE
LEVEL



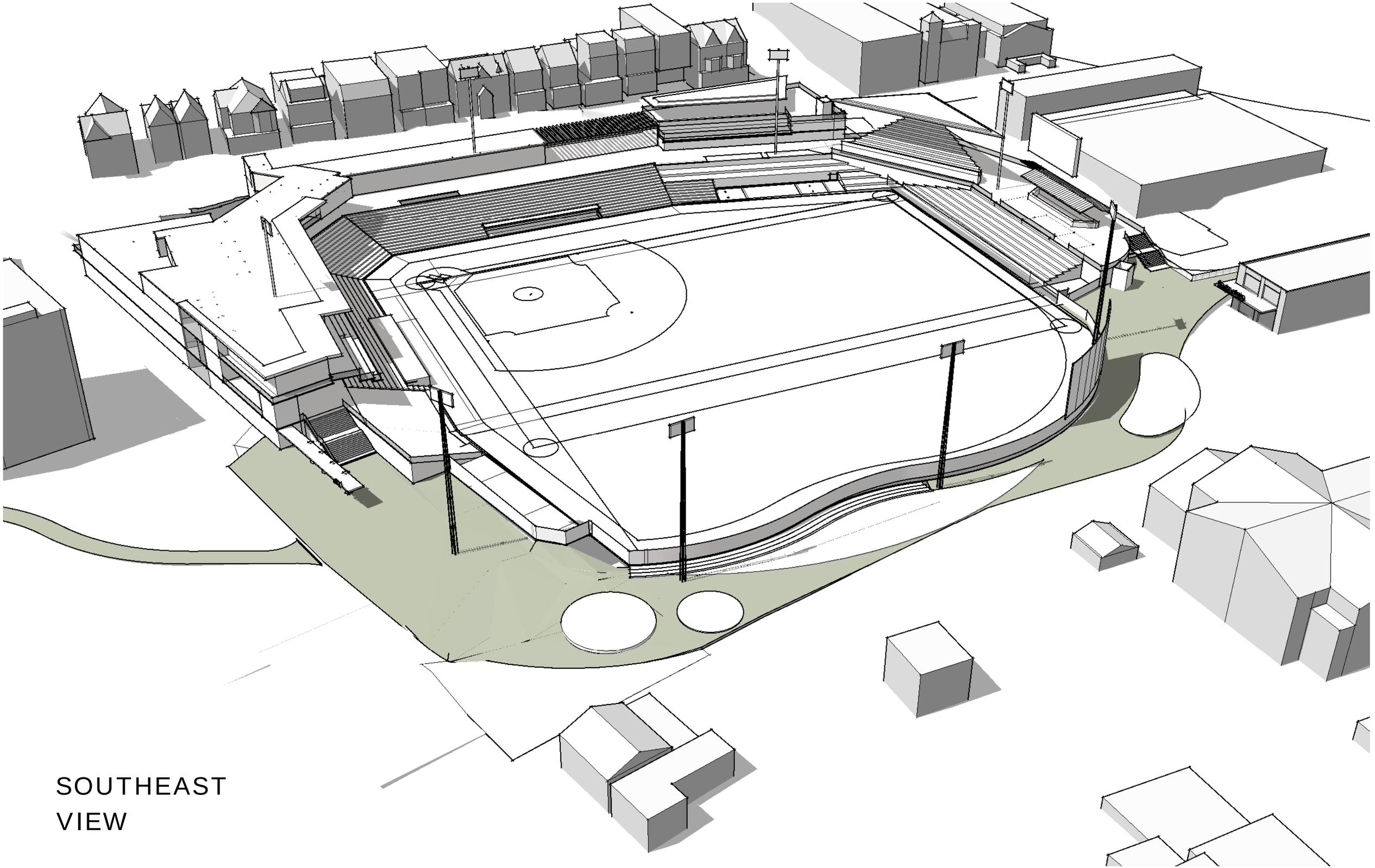
SUITE/CLUB LEVEL



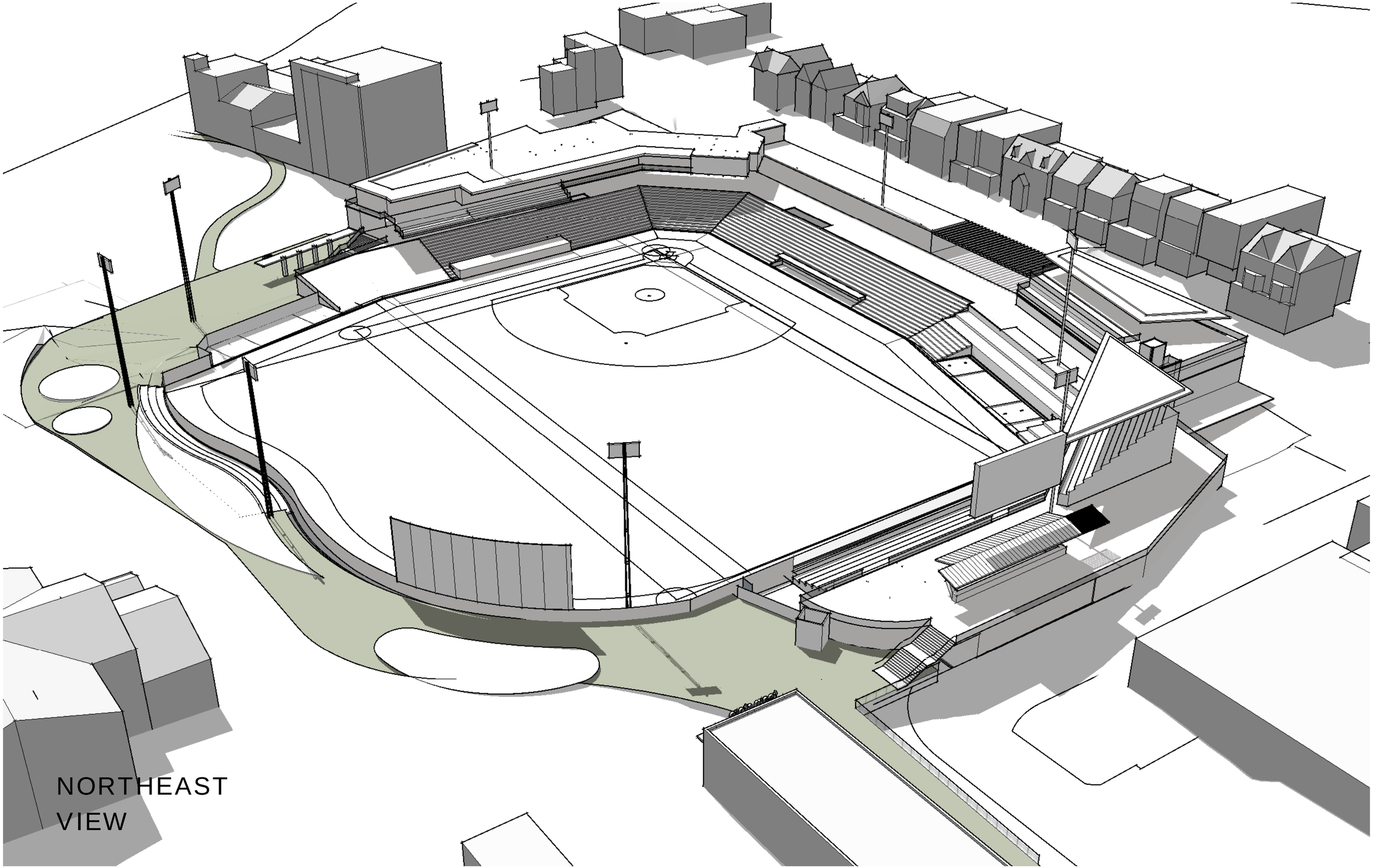
ROOF LEVEL



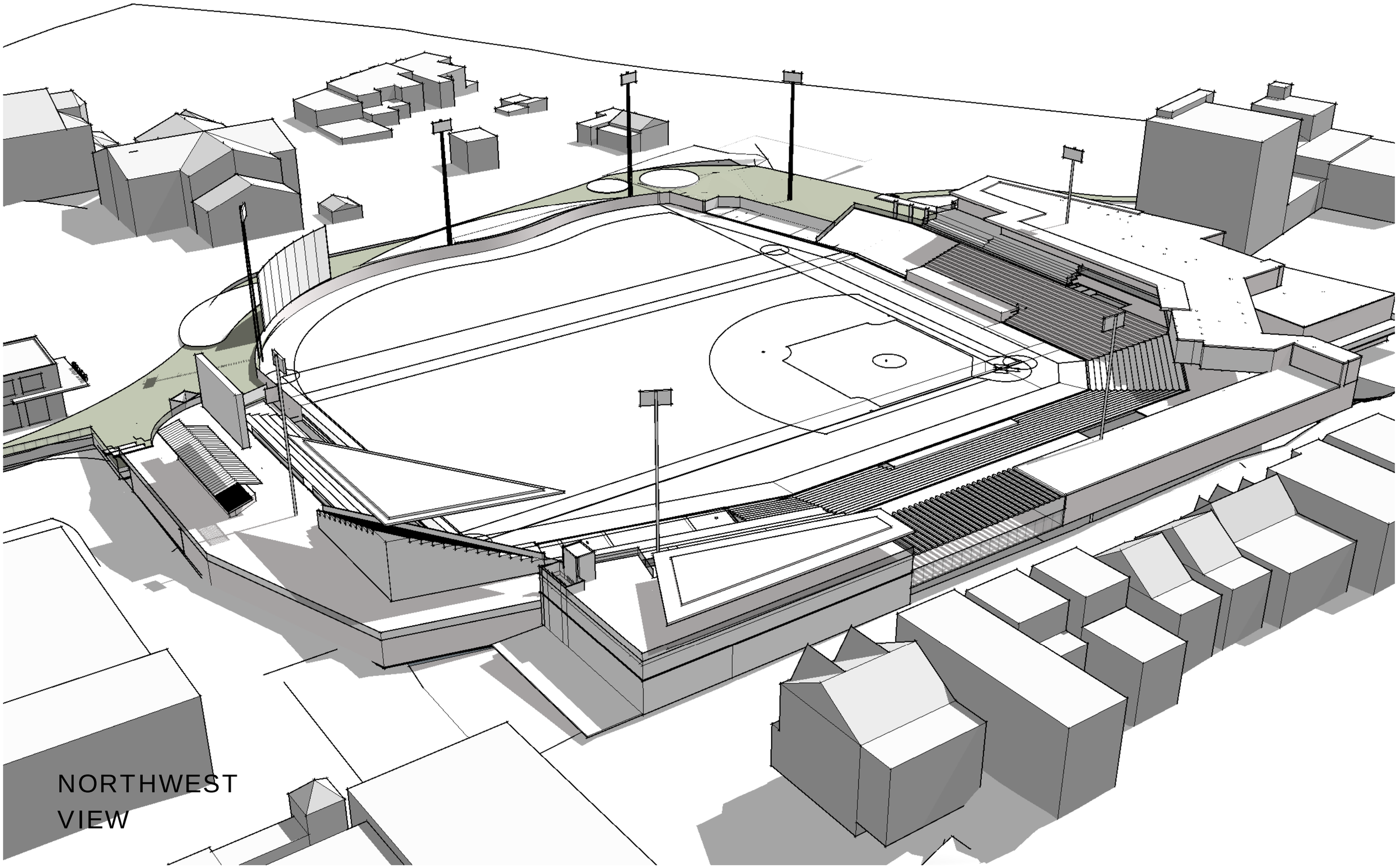
SOUTHWEST
VIEW



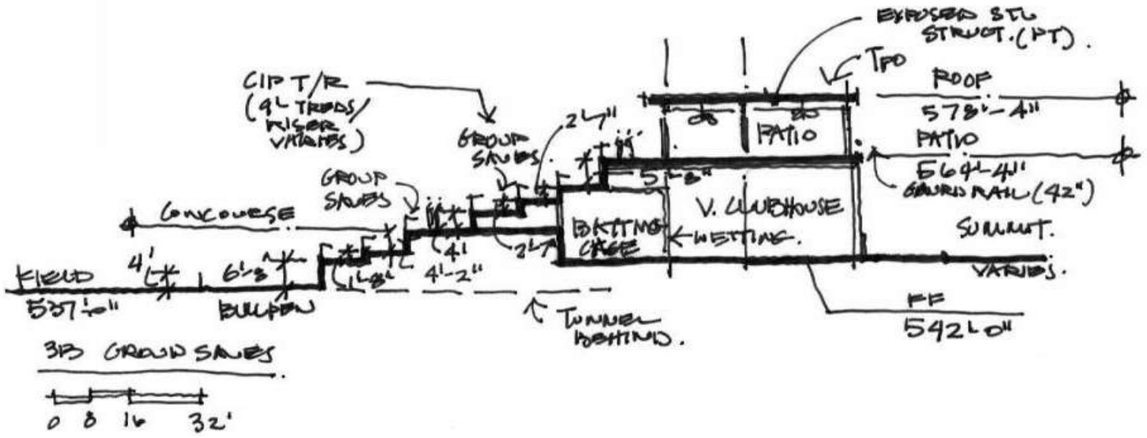
SOUTHEAST
VIEW

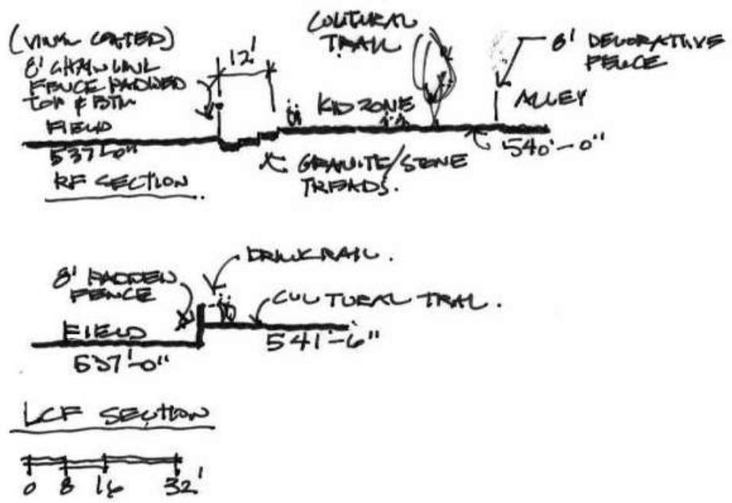


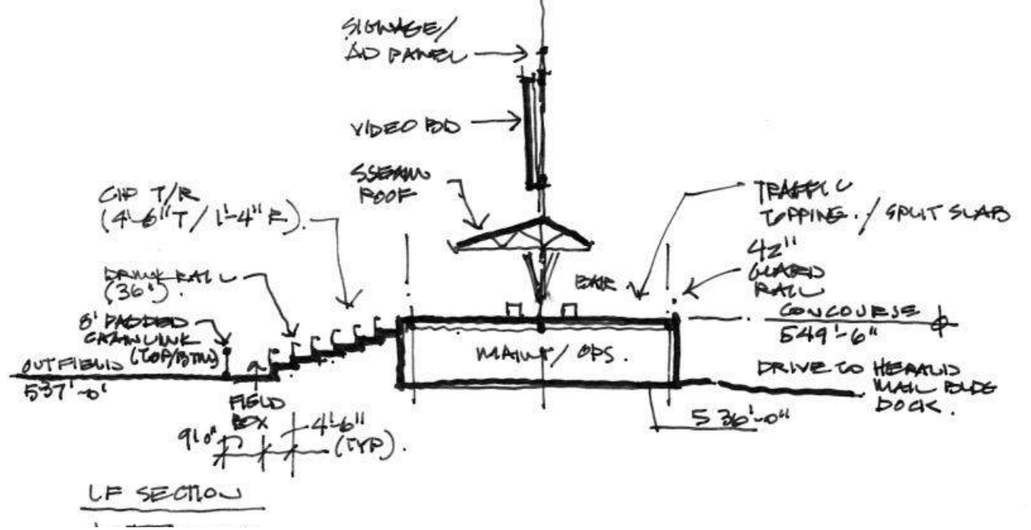
NORTHEAST
VIEW

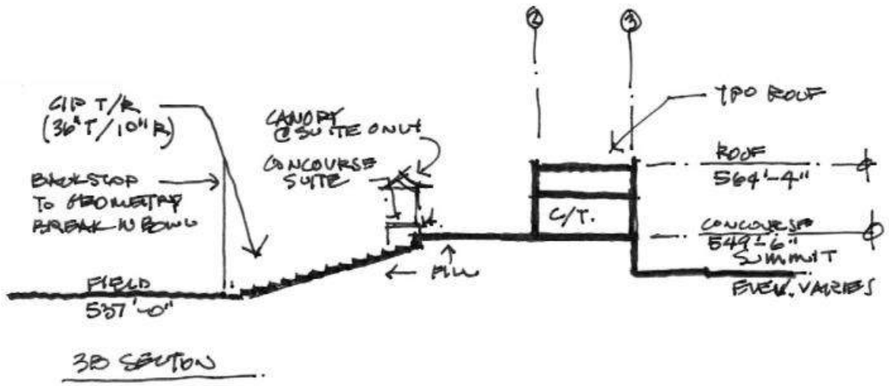


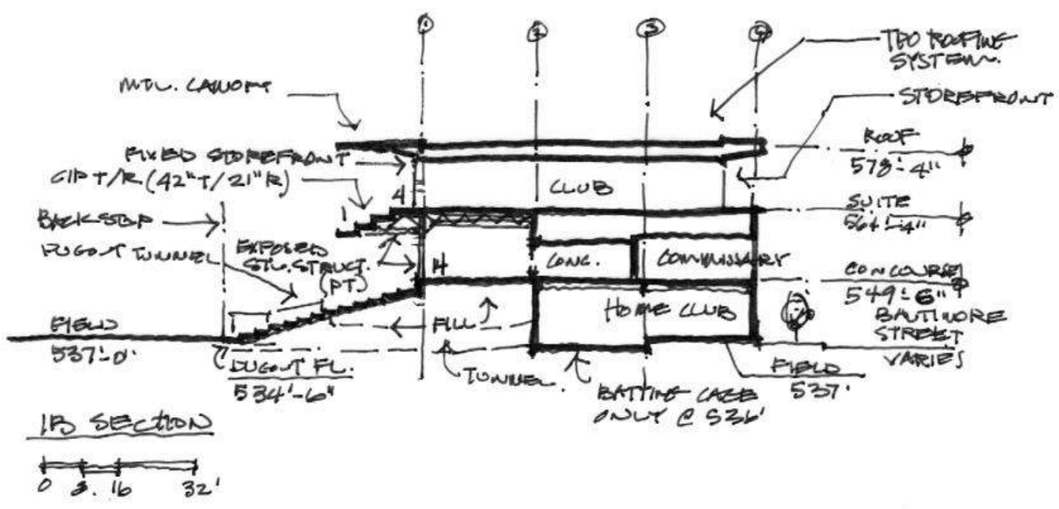
NORTHWEST
VIEW


CIP T/R (9" TREADS/ RISER VARIES)
GROUP SEATS
GROUP SEATS
CONCOURSE
FIELD 537'-1"
BULLPEN
4'
6'-3"
4'-2"
4'
2'-4"
2'-4"
BATTING CAGE
V. CLUBHOUSE
MEETING.
TUNNEL BEHIND.
EXPOSED STL STRUCT. (PT).
TPO ROOF 578'-4"
PATIO
PATIO 564'-4"
GUARD RAIL (42")
SUMMIT.
VARIES.
FF 542'-0"
3B GROUP SEATS
0 8 16 32'


(VINYL COATED) 8' CHAIN LINK FENCE PADDED TOP & BOTH
12'
CULTURAL TRAIL
8' DECORATIVE FENCE
KID ZONE 4'
ALLEY
FIELD 537'-0"
RF SECTION
GRANITE/STONE TREADS.
540'-0"
8' PADDED FENCE
DRINK RAIL.
CULTURAL TRAIL.
FIELD 537'-0"
541'-6"
LCF SECTION
0 8 16 32'


SIGNAGE/ LED PANEL
VIDEO PDD
SSEAMS ROOF
CIP T/R (4'-6"T / 1'-4" R).
DRINK RAIL (36").
8' PADDED CHAIN LINK (TOP/BTM)
OUTFIELD 537'-0"
FIELD BOX
4'-6" (TYP).
910'
TRAFFIC TOPPING / SPLIT SLAB
42" GUARD RAIL
BAR
CONCOURSE 549'-6"
MAIN / OPS.
DRIVE TO HEARLD MAIL BLDG DOCK.
536'-0"
LF SECTION


CIP T/R (36"T/10" R)
BACKSTOP TO GROUNDTOP BREAK IN BOWL
CANOPY @ SUITE ONLY
CONCOURSE SUITE
FIELD 537'-0"
FILL
C/T.
TPO ROOF
ROOF 564'-4"
CONCOURSE 549'-6"
SUMMIT
EVEN. VARIES
3B SECTION

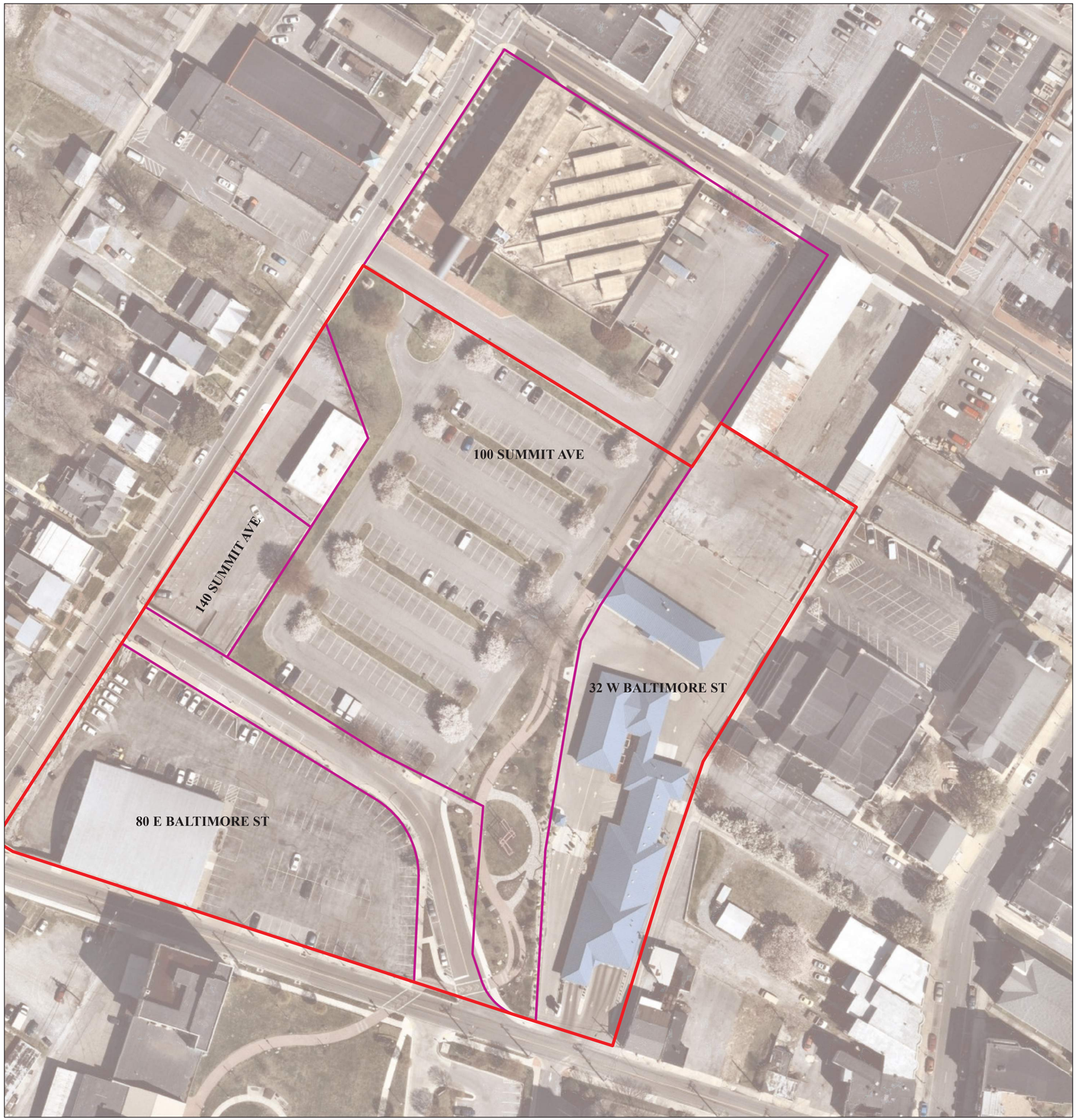

MTL. CANOPY
FIXED STOREFRONT
CIP T/R (42"T/21"R)
BACKSTOP
DUGOUT TUNNEL
EXPOSED STL. STRUCT. (PT)
FIELD 537'-0"
DUGOUT FL. 534'-6"
FILL
TUNNEL
CLUB
LONG.
COMMISSARY
HOME CLUB
BATTING CAGE ONLY @ 536'
FIELD 537'
TPO ROOFING SYSTEM.
STOREFRONT
ROOF 578'-4"
SUITE 564'-4"
CONCOURSE 549'-6"
BALTIMORE STREET VARIES
1B SECTION
0 8 16 32'

SECTIONS

NORTHWEST
VIEW - FUTURE

Appendix B
Real Estate Acquisition Plan

Real Estate Exhibit



Property Address	Owner	Acquisition Type	Affected Section	Relocation Estimate*	Acquisition Range
140 Summit Avenue Hagerstown, MD 21740	Sweeney Bros Properties, LLC	Full	--	TBD	TBD
100 Summit Avenue Hagerstown, MD 21740	Gatehouse Media Maryland Holdings Inc.	Partial	Southern Lot	TBD	TBD
32 W Baltimore Street Hagerstown, MD 21740	WLR Residential Properties Inc.	Full	--	TBD	TBD
80 E Baltimore Street Hagerstown, MD 21740	Washing County Commissioners	Full	--	TBD	TBD
0 Hood Street Hagerstown, MD 21740	City of Hagerstown	None	--	TBD	TBD
			Total:	$950,000-$1,800,000	$4,650,000-$8,100,000

* Based on Exterior Inspection Only.

Legend

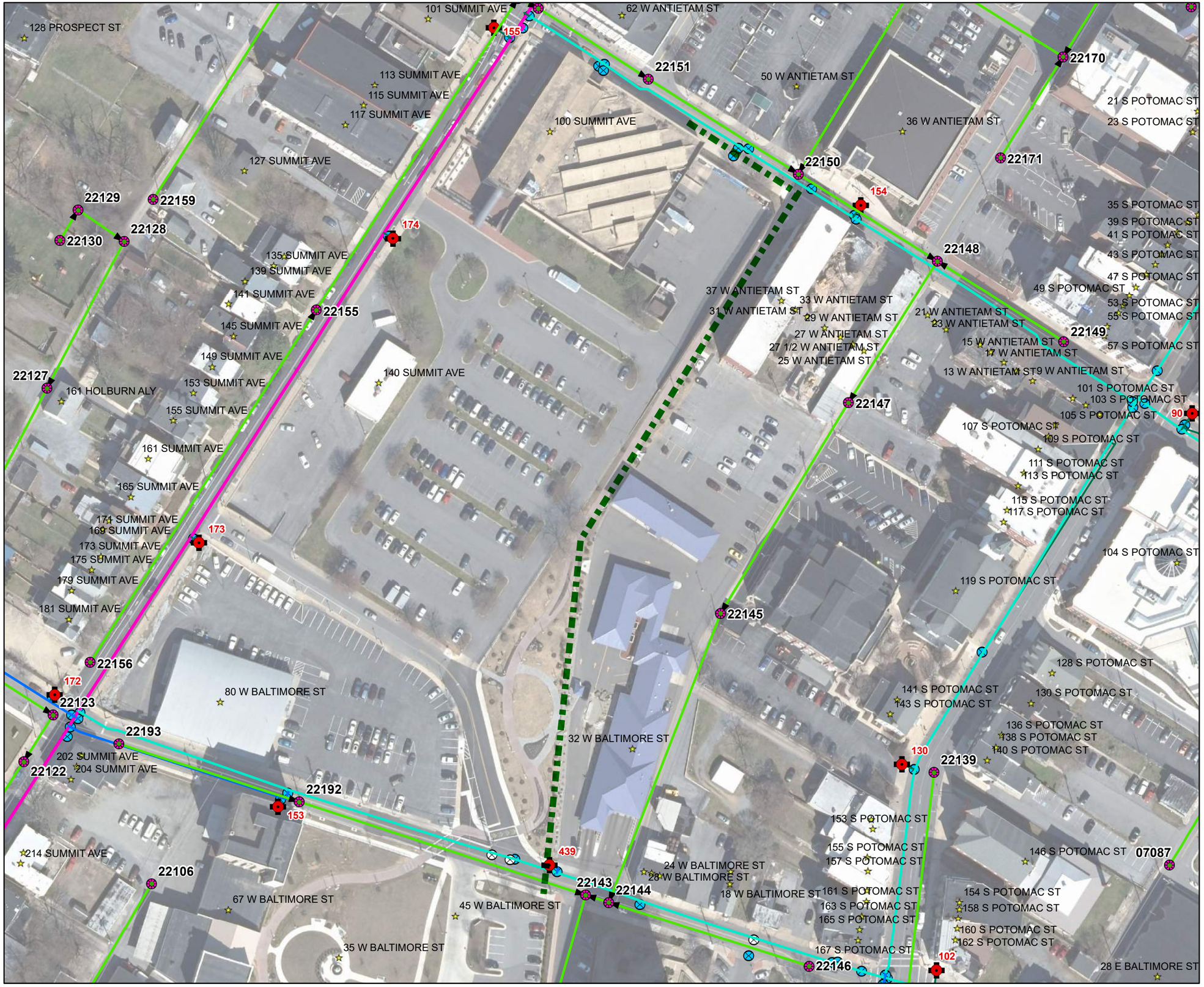
- Project Site
- Parcels

0 25 50 100 150 200 Feet

1 inch = 50 feet

Date: 4/28/2021

Appendix C
Utility Availability Maps



N

Herald Mail Area

Water & Sewer Utilities

- Hydrant

Water MainLine Size

- <all other values>

Diameter

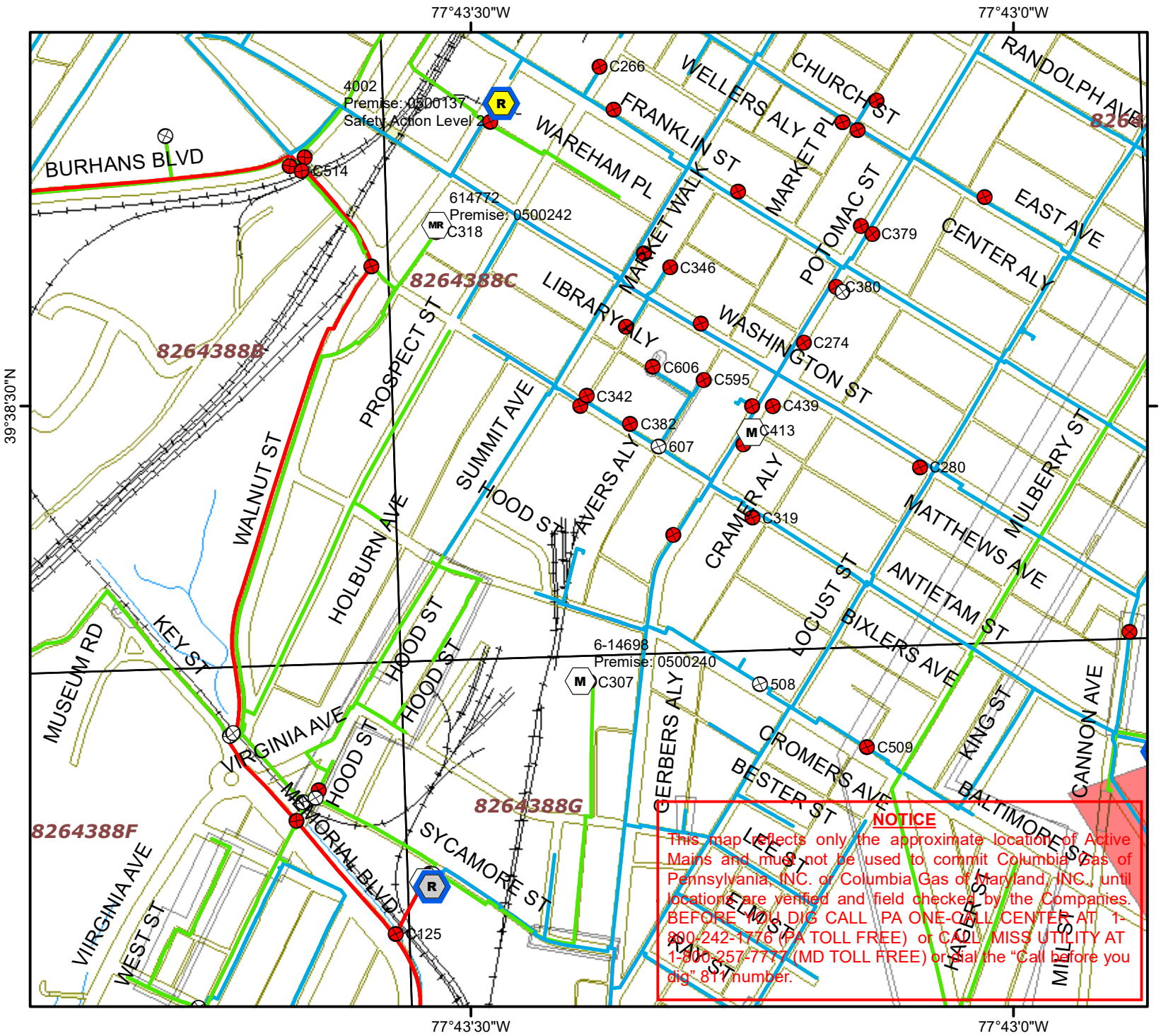
- 1 1/2 inch
- 2 inch
- 10 inch
- 12 inch
- 16 inch
- 18 inch
- 20 inch
- 24 inch
- 30 inch
- 36 inch
- 4 inch
- 6 inch
- 8 inch
- Sanitary Sewer Manhole
- Force Sewer Line
- Gravity Sewer Line
- Low Pressure Sewer Line
- 3'x5' Storm Drain Culvert

1 in = 100 ft

Date: 9/11/2020

*** NOTE: THIS DRAWING IS ONLY A SHEMATIC ***

*** WATER LINES ARE VERY APPROXIMATE ***



NOTICE

This map reflects only the approximate location of Active Mains and must not be used to commit Columbia Gas of Pennsylvania, INC. or Columbia Gas of Maryland, INC., until locations are verified and field checked by the Companies. BEFORE YOU DIG CALL PA ONE-CALL CENTER AT 1-800-242-1776 (PA TOLL FREE) or CALL MISS UTILITY AT 1-800-257-7777 (MD TOLL FREE) or dial the "Call before you dig" 811 number.

Columbia Gas of Pennsylvania

Columbia Gas of Maryland

NiSource Companies

Legend:

Gas Valve
- Closed - Critical
- Closed - Not Critical
- Open - Critical
- Open - Not Critical
- Unknown value

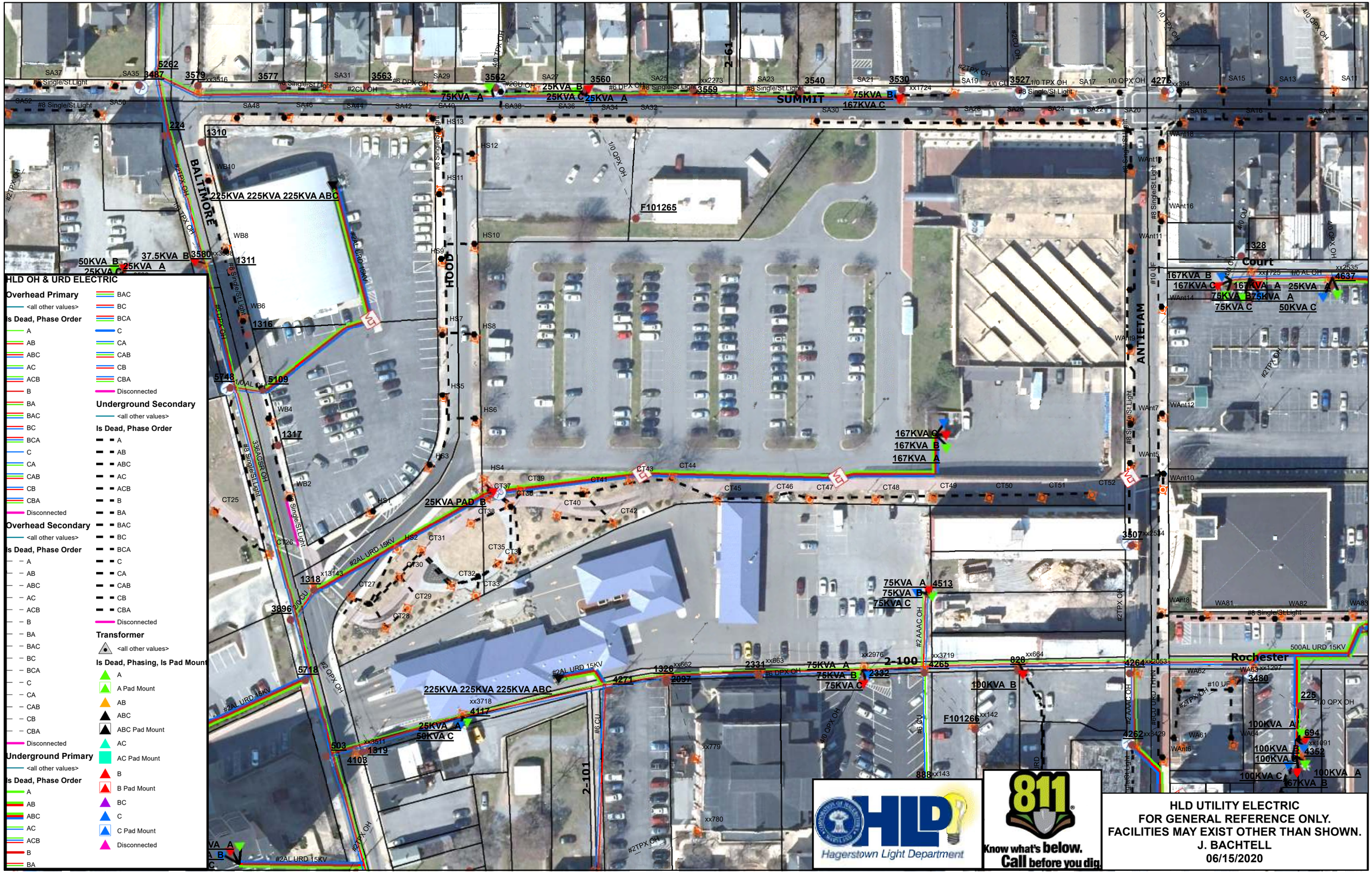
Gas Main by Pressure
- HP (> 60 psig)
- MP (< 10 - 60 psig)
- IP (1 - 10 psig)
- LP (< 1 psig)
- All other values
- Unknown Pressure

Gas Service
- Steel
- Plastic
- Cast Iron
- Wrought Iron
- Fittings
- Other
- All other values

Historic Map

Prepared by:	
Date:	

Coordinates:
GCS (Lat/Long)
in DMS. Datum: WGS84


HLD OH & URD ELECTRIC
Overhead Primary
<all other values>
Is Dead, Phase Order
A
AB
ABC
AC
ACB
B
BA
BAC
BC
BCA
C
CA
CAB
CB
CBA
Disconnected
Underground Secondary
<all other values>
Is Dead, Phase Order
A
AB
ABC
AC
ACB
B
BA
BAC
BC
BCA
C
CA
CAB
CB
CBA
Disconnected
Overhead Secondary
<all other values>
Is Dead, Phase Order
A
AB
ABC
AC
ACB
B
BA
BAC
BC
BCA
C
CA
CAB
CB
CBA
Disconnected
Transformer
<all other values>
Is Dead, Phasing, Is Pad Mount
A
A Pad Mount
AB
ABC
ABC Pad Mount
AC
AC Pad Mount
B
B Pad Mount
BC
C
C Pad Mount
Disconnected
BALTIMORE
HOOD
SUMMIT
ANTIETAM
Court
Rochester
F101265
F101266
225KVA 225KVA 225KVA ABC
25KVA PAD B
75KVA A
75KVA B
75KVA C
167KVA A
167KVA B
167KVA C
25KVA A
25KVA B
25KVA C
50KVA A
50KVA B
50KVA C
100KVA A
100KVA B
100KVA C
37.5KVA B
2-61
2-100
2-101
#2AL URD 15KV
#2TPX OH
#8 Single/St.Light
#6 DPX OH
#2CU OH
#4/0 TPX OH
#1/0 TPX OH
#1/0 QPX OH
#4/0 QPX OH
#2 QPX OH
#10 TPX OH
#10 QPX OH
#2 AAAC OH
#6 CU
#4/0 CU
#10 UF
#6CU URD THHN
500AL URD 15KV
#1/0 AL OH
336ACSR OH
#2TPX OH
#2 AAAC OH
#2AL URD 15KV
#6 CU
#8 Single/St.Light

Appendix D
Parking & Traffic Map

PARKING AND TRAFFIC LEVEL OF SERVICE EXHIBIT

Date: 9/18/2020

N
W E
S

Future LOS During Weekday Evening Games

- LOS A-D
- LOS E
- LOS F
- Private Potential Lot
- Public Pay to Park Lot
- Private Pay to Park Lot
- Travel Distance
- Project Site

0 175 350 700 1,050 1,400 Feet

1 inch = 350 feet

Appendix E
Archeological Investigation Report

A PHASE IA INVESTIGATION
OF THE
HAGERSTOWN MULTI-USE SPORTS AND EVENTS FACILITY PROPERTY

HAGERSTOWN, WASHINGTON COUNTY, MARYLAND

Prepared For

RK&K Engineering
700 East Pratt Street, Suite 500
Baltimore, MD 21202

Applied Archaeology and History Associates, Inc.
615 Fairglen Lane
Annapolis, Maryland 21401
(410) 224-3402
FAX (410) 224-3470

June 2020

A PHASE IA INVESTIGATION OF THE HAGERSTOWN MULTI-USE SPORTS AND EVENTS FACILITY PROPERTY

HAGERSTOWN, WASHINGTON COUNTY, MARYLAND

By
W. Brett Arnold, RPA
Mandy Melton, RPA
Celia Engel
Patrick Walters

Jeanne A. Ward, RPA – Principal Investigator

Prepared For

RK&K Engineering
700 East Pratt Street, Suite 500
Baltimore, MD 21202

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615 Fairglen Lane
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June 2020

ABSTRACT

From February to May 2020, Applied Archaeology and Historic Associates, Inc. (AAHA) conducted a Phase IA archaeological assessment of the Hagerstown Multi-Use Sports and Events Facility property in Hagerstown, Washington County, Maryland. The Maryland Stadium Authority and City of Hagerstown are working under a Memorandum of Understanding for MSA to provide architectural/engineering services related to the potential development of the facility at the ca. 6.25-acre Baltimore Street site (Study Area) in Hagerstown, Washington County, Maryland. The overall objectives of the archaeological assessment were to identify previously recorded archaeological sites and architectural properties in the vicinity of the Study Area that may be significant to regional and national cultural heritage, and to determine the effects of future activities on those properties. The Phase IA archaeological assessment included an intensive background investigation to provide a determination of archaeological probability for the property.

The Study Area is located southeast of historic downtown Hagerstown, just outside the Hagerstown Historic District (WA-HAG-158) and Hagerstown Commercial Core District (WA-HAG-143). It is bounded by West Antietam Street, Summit Avenue, West Baltimore Street, and Ayers Alley, and is currently occupied by commercial buildings and parking lots. Both neighboring historic districts are listed on the National Register of Historic Places (NRHP). Although there are no documented historic properties located within the Study Area, the Baltimore and Ohio (B&O) railroad depot servicing Hagerstown was once located at the corner of West Antietam Street and Summit Avenue just outside the Study Area's north corner. It is located in Maryland Archaeological Research Unit 19, the Antietam Creek and Conococheague Creek Drainages

Three archaeological sites with precontact components and two with historic components have been identified within one mile of the Study Area, along with 123 documented historic properties within one quarter mile of it. The Study Area is located near the heart of historic Hagerstown and served a vital function as a freight yard that fostered its economic growth and industry during the nineteenth and early twentieth centuries. Historic maps and records document extensive industrial and transportation infrastructure on the property, but also extensive twentieth-century construction disturbance.

Precontact sites tend to contain perishable materials that do not survive the kind of extensive disturbance created by large construction episodes. Historic features tend to be more durable and may have survived the twentieth-century construction. While modern demolition and construction may have further disturbed archaeological resources in the center of the property, there is a moderate probability that intact archaeological resources exist in the corners of the property where clusters of structures are depicted on late nineteenth and early twentieth century historic maps. Traditional hand excavation methods of archaeological survey are unlikely to be effective in this environment, however, carefully conducted mechanical trenching under the close supervision of an archaeologist has been successful in identifying intact contexts in urban environments such as the Study Area. As such, mechanical trenching is recommended in the northeast, northwest, and southeast corners of the property to document possible in situ cultural

features and contexts. In addition, mechanical trenching is recommended in the center of the property to assess the degree to which construction activity related to the railroad impacted that portion of the Study Area.

The cemetery associated with St. John's Evangelical Lutheran Church is generally shown on historic maps outside the Study Area and multiple records indicate that it was moved, however no records could be found of the number of individuals who were originally buried there or disinterred. It is possible that burials might be present along the southeastern boundary of the Study Area where it borders the St. John's Evangelical Lutheran Church property. Archaeological monitoring is recommended in that area to assure that human remains are not disturbed by the proposed ground disturbing activity.

Finally, it is recommended that a viewshed analysis be conducted by a qualified architectural historian once the final concept plan of the facility is adopted in order to evaluate potential adverse effects to the surrounding historic districts and numerous individual historic structures in the vicinity.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

From February to May 2020, Applied Archaeology and History Associates, Inc. (AAHA) conducted a Phase IA archaeological assessment of the Hagerstown Multi-Use Sports and Events Facility property in Hagerstown, Washington County, Maryland. The Maryland Stadium Authority (MSA) and the City of Hagerstown (City) are working under a Memorandum of Understanding for MSA to provide architectural/engineering services related to the potential development of the facility at the ca. 6.25-acre Baltimore Street site (Study Area). The overall objectives of the archaeological assessment were to identify previously recorded archaeological sites and architectural properties in the vicinity of the Study Area that may be significant to regional and national cultural heritage, and to determine the effects of future activities on those properties. The Phase IA archaeological assessment included an intensive background investigation to provide a determination of archaeological probability for the property.

The investigation consisted of archival, literature, and background research, as well as ongoing consultation with the MSA and City. All work was conducted in accordance with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and the Maryland Historical Trust (MHT) *Standards and Guidelines for Archaeological Investigations in Maryland* (Shaffer and Cole 1994) and where appropriate, *Technical Update Number 1* (Revised 2005). Fulfillment of this study complied with the Maryland Environmental Policy Act, the Maryland Archeological Resources Act, and Section 106 of the National Historic Preservation Act of 1966, as amended and implemented in 36 CFR Part 800. The background research was conducted by W. Brett Arnold, RPA with the assistance of Celia Engel and Mandy Melton, RPA. Jeanne A. Ward served a principal investigator and Patrick Walters served as project manager.

The Study Area is located southeast of historic downtown Hagerstown, just outside the Hagerstown Historic District (WA-HAG-158) and Hagerstown Commercial Core District (WA-HAG-143) (Figure 1-3). It is bounded by West Antietam Street, Summit Avenue, West Baltimore Street, and Ayers Alley, and is currently occupied by commercial buildings and parking lots. Both neighboring historic districts are listed on the National Register of Historic Places (NRHP). Although there are no documented historic properties located within the Study Area, the Baltimore and Ohio (B&O) railroad depot servicing Hagerstown was once located at the corner of West Antietam Street and Summit Avenue just outside the Study Area's north corner. This depot directly influenced the placement of the Antietam Fire Hall (WA-HAG-195) and Former Post Office (WA-HAG-196) across the street. It is located in Maryland Archaeological Research Unit 19, the Antietam Creek and Conococheague Creek Drainages (Figure 4).

This report presents four (4) chapters and a list of references cited. Following this introduction, which includes a brief description of the project, Chapter 2 provides an overview of the environmental conditions. Chapter 3 discusses the cultural context and previous research within the Study Area, as well as the results of the background investigation. Chapter 4 summarizes the findings and provides recommendations. References cited are followed by appendices presenting the Chain of Title (Appendix A) and Qualifications of the Investigators (Appendix B).

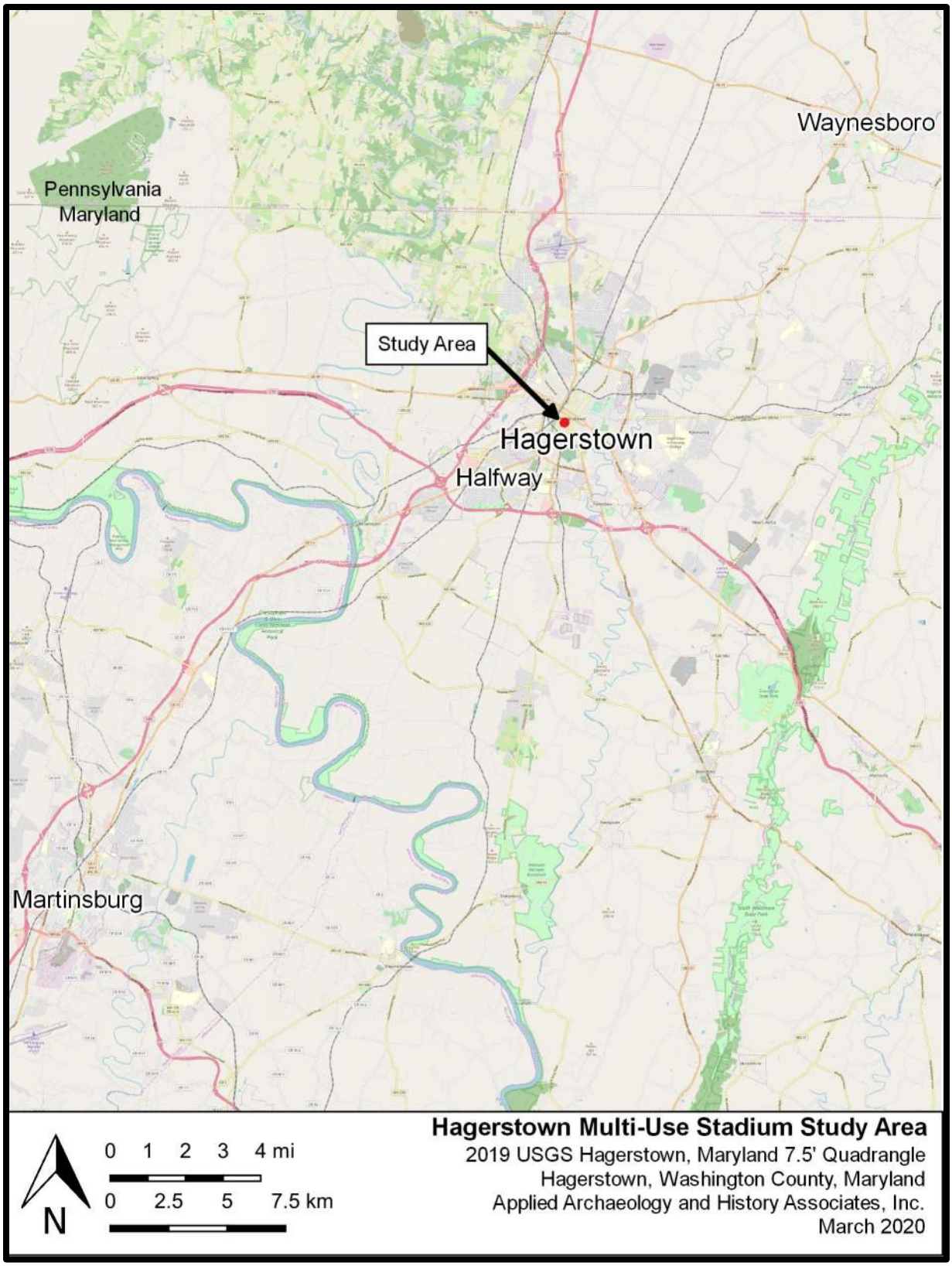

Figure 1. Location of the Study Area in Hagerstown, Maryland on the 2016 Open Street Map basemap.

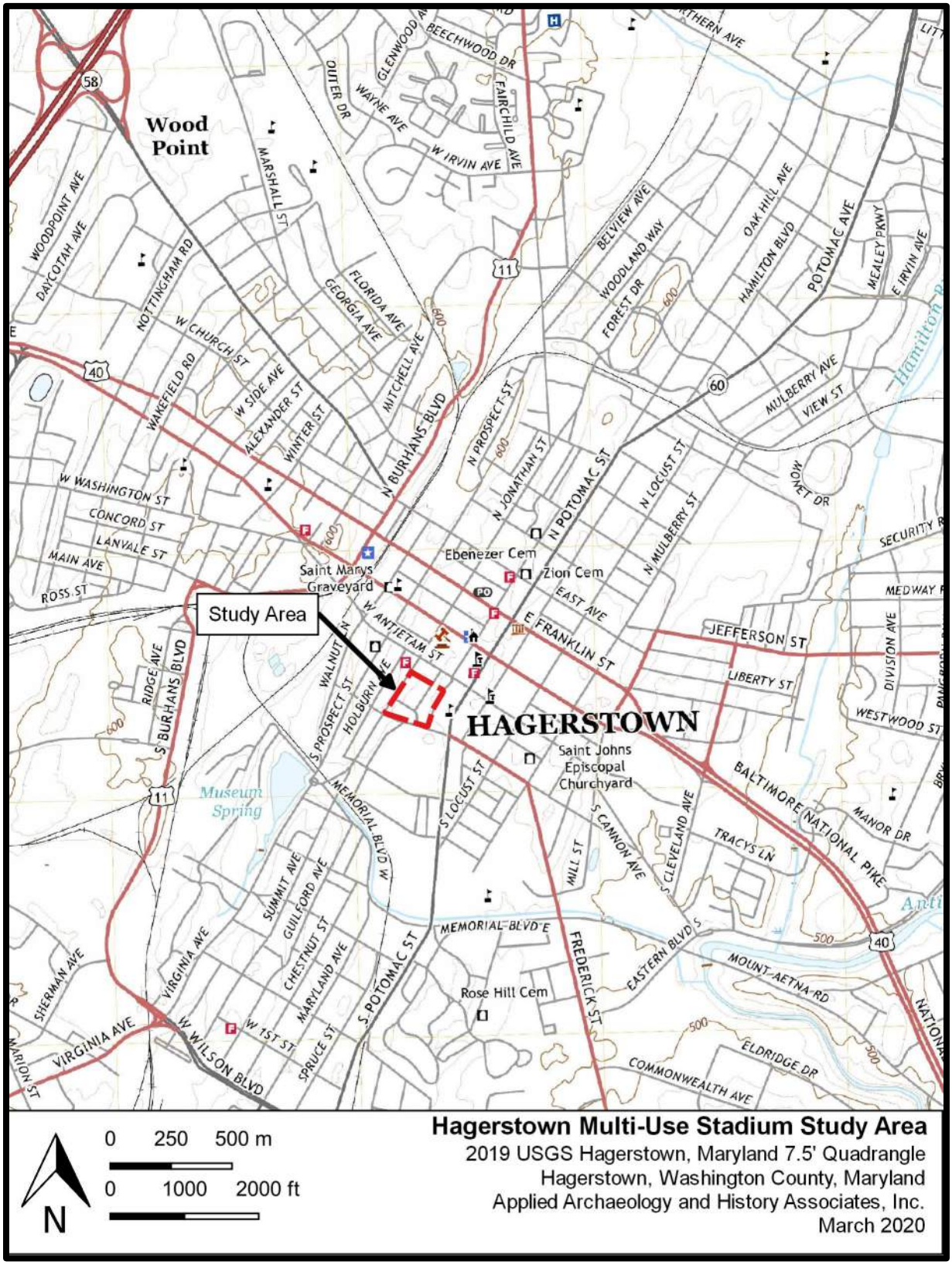

Figure 2. Location of the Study Area in Hagerstown, Maryland on the 2019 USGS *Hagerstown, Maryland* 7.5-minute quadrangle (USGS 2019).

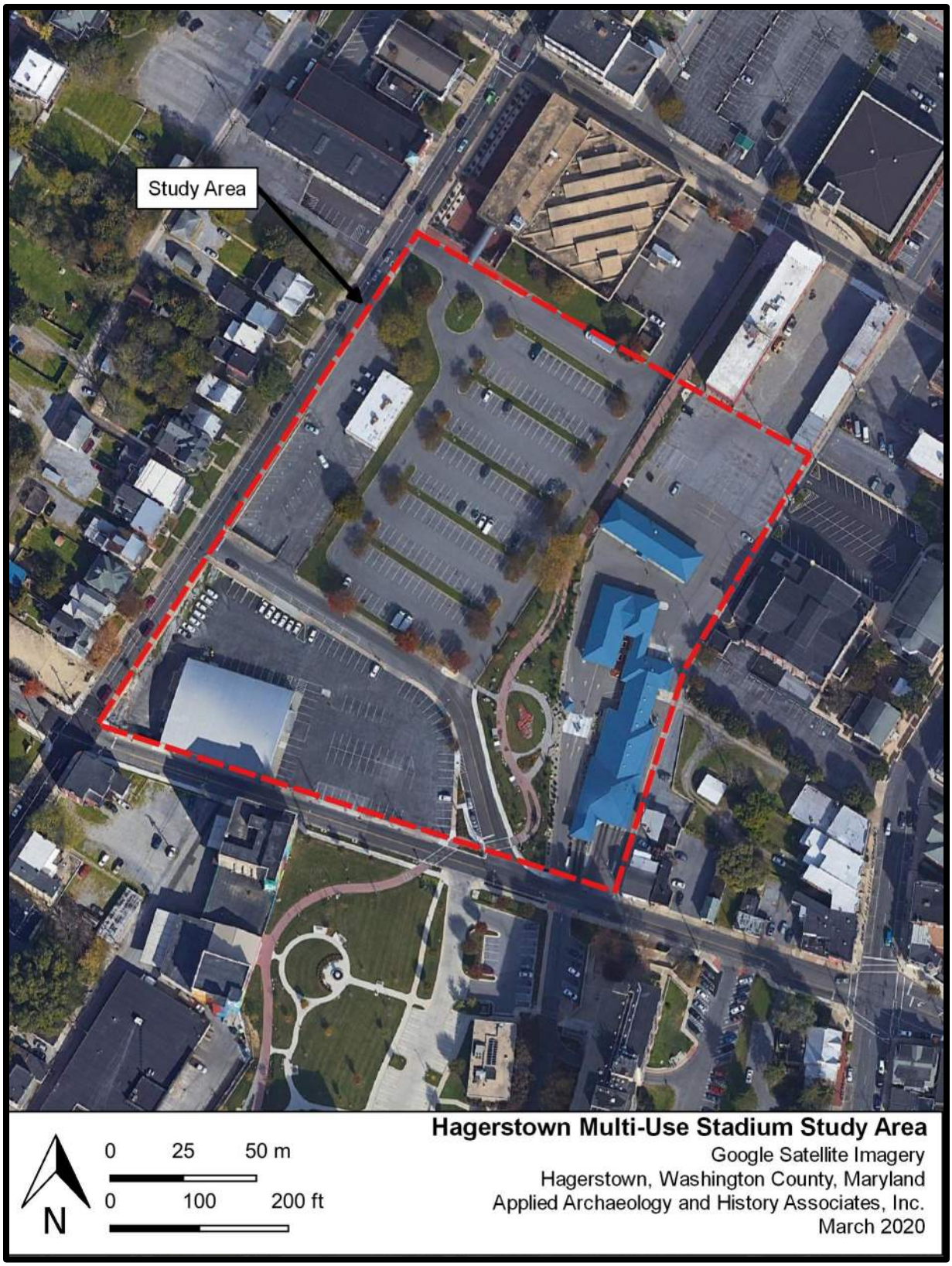

Figure 3. Aerial photograph showing current conditions in the Study Area.

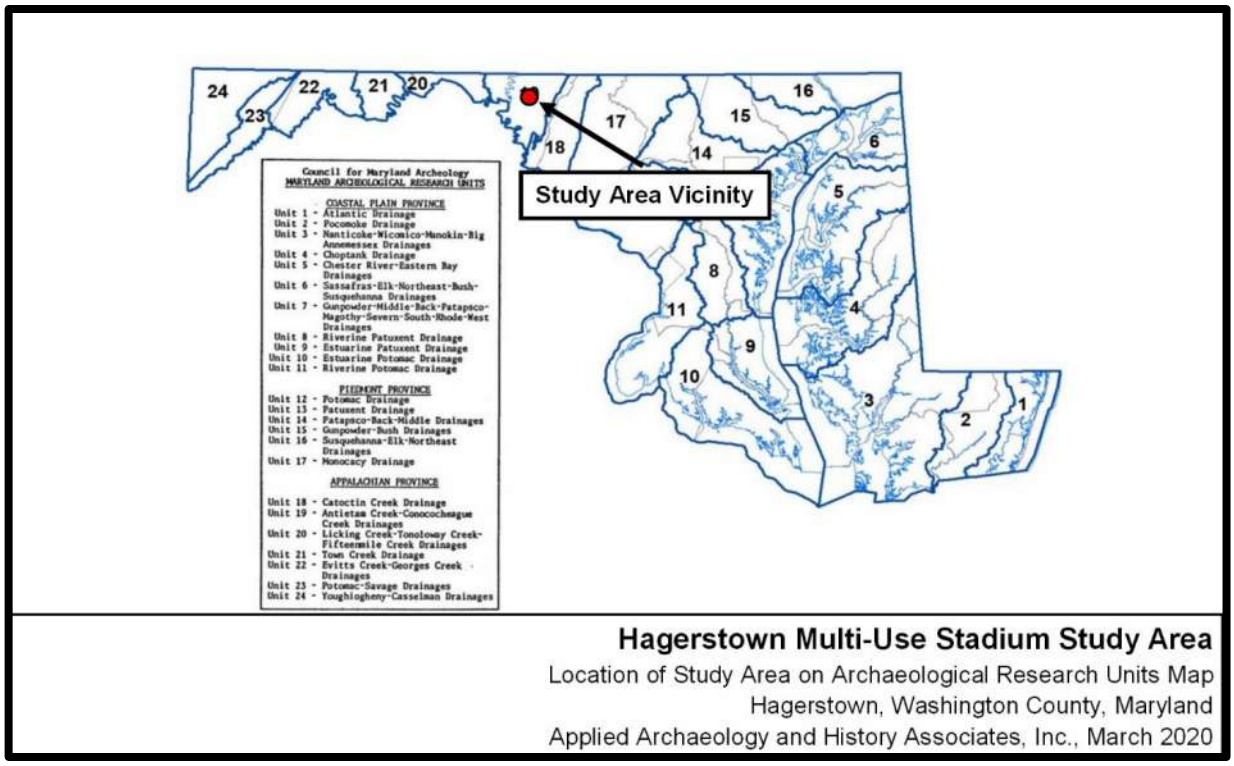

Figure 4. Map of Maryland Archaeological Research Units showing the Study Area in Unit 19, the Antietam Creek-Conococheague Creek Drainages.

2. ENVIRONMENTAL CONTEXT

The Study Area is located on a ca. 6.25-acre property bounded by Summit Avenue to the west, West Baltimore Street to the south, and Ayers Alley to the east. It is crosscut by Hood Street in the southwest quadrant of the property, extending from Summit Avenue to West Baltimore Street. The property is almost entirely covered by parking lots, walkways, landscaping, and commercial or civic buildings, including the Washington County Zoning Appeals, D&P Coin Op Laundromat, and the Hagerstown Auto Spa.

Physiography and Geology

The Study Area is located in the Great Valley subprovince of the Valley and Ridge Physiographic Province (Figure 5). The Great Valley is a relatively flat, agriculturally rich region, characterized by complexly folded and faulted Cambrian and Ordovician shale (Lessing 1996). The Study Area is relatively flat with an elevation of about 164 meters (m) (538 feet [ft]) above mean sean level (amsl). Geological strata underlying the Study Area are included within the Stonehenge Limestone Formation. Stonehenge Limestone formations are composed of light to dark gray, fine-grained limestone containing sandy laminae. These deposits date to the Ordovician period. The region contains local outcrops of high-quality cryptocrystalline lithic materials such as jasper, chalcedony, and chert. The deposits in the project region are of particular interest as they provided lithic source material for the manufacture of stone tools during the precontact period. (Cleaves et al. 1968).

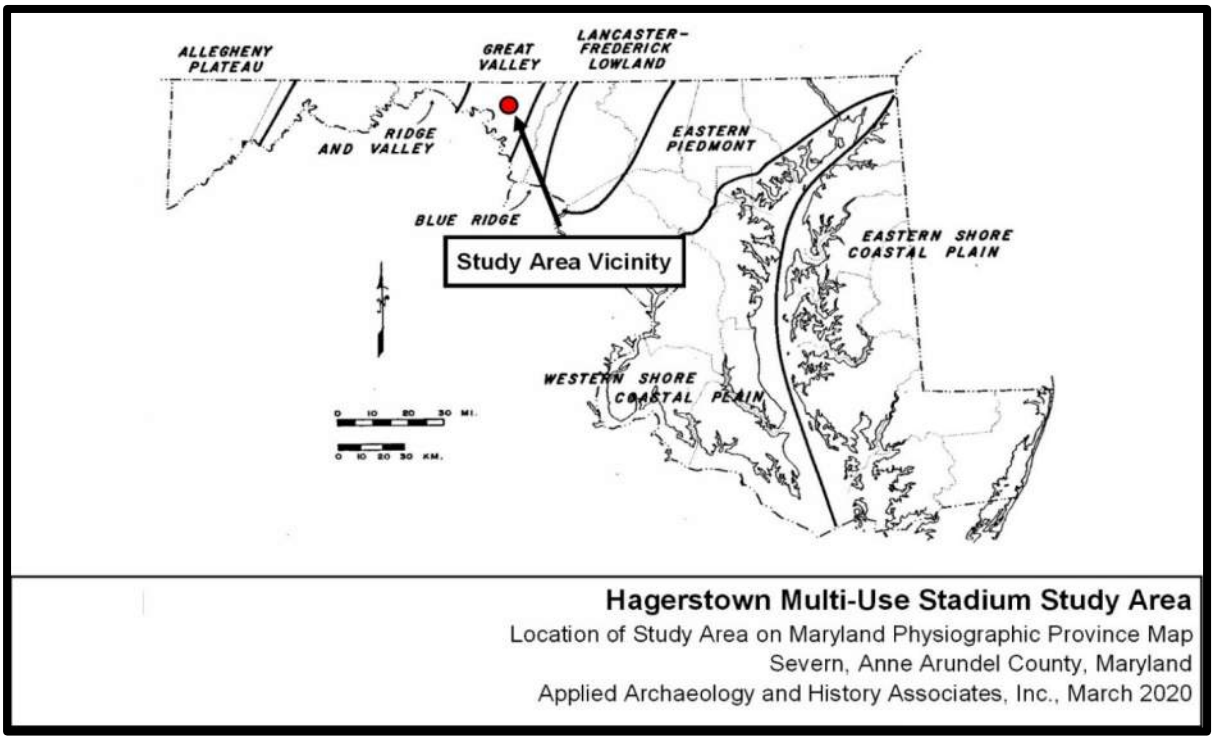

Figure 5. Map of physiographic provinces in Maryland showing the Study Area vicinity in the Great Valley subprovince of the Valley and Ridge Physiographic Province.

The Ridge and Valley Physiographic Province in Maryland is characterized by high ridges of faulted sedimentary rocks cut by the Great Valley, which contains large sources of limestone and dolomite (Maryland Geological Survey 2020). There is an abundance of quartz, quartzite, and rhyolite in this area, all of which were highly utilized as toolmaking materials on local precontact sites. Rhyolite is a preferred material, both for its material properties and widespread availability. In the Ridge and Valley Physiographic Province, large rhyolite quarries have been identified within the stream cuts and gaps leading out from interior portions of the Blue Ridge (Stewart 1989). Rhyolite could have also been sourced in western Maryland by waterways extending from the Potomac River, and traded from quarries located in south-central Pennsylvania (Dent 1995). Flint-like materials, such as cherts and jaspers, are also not uncommon.

Soils

Soil analysis utilized the USDA Web Soil Survey (WSS) as seen in Figure 6. Soils in the Study Area consist entirely of Urban land (Ub). Urban land has been disturbed by urban development and rarely maintains subsurface integrity. It may have been cut and/or filled to reach its current ground surface level. Urban land is often impervious to water and has a very high runoff classification. It can include a mix of textural constituents, but is most often clay. Urban land is typically compacted and often contains gravel inclusions. Slopes in the Study Area range from 0-8%. Although the likelihood for encountering intact natural surfaces is relatively low, the fill deposits in Urban land is not necessarily modern and may preserve significant historic resources related to the development of the Study Area in the nineteenth or early twentieth centuries.

Paleoenvironment

The more than 11,000 years of human occupation of the region are divided into two broad climatic periods. The earlier, before 8,000 BC, is the Pleistocene. The period after 8,000 BC is referred to as the Holocene. The seasons of the Pleistocene produced a mosaic vegetation pattern which is a species-diverse, patchy arrangement of plant and animal communities. Pleistocene conditions ended in most areas of the world around 11,000 BC (Delcourt and Delcourt 1983, 1985; Watts 1979, 1980); however, due to the wasting of the Laurentide ice sheet, near ice-age conditions reappeared in the Northeast (Broecker and Denton 1990; Fitting 1974). The grandest of these cold episodes followed 9000 BC, when runoff from the melting glacier suddenly shifted from the Mississippi River to the St. Lawrence River (Broecker and Denton 1988). The rush of cold water from the St. Lawrence River disrupted the Gulf Stream's warm northward current, returning the North Atlantic basin to ice age-like conditions for about 700 years. During the Holocene, the glacier retreated and finally disappeared.

Describing the past environments of the region is based on limited paleoenvironmental work in the region over the past four decades. Reconstruction of late glacial- and post-glacial-period environments is based on pollen core evidence from a number of sites (Carbone 1974; Delcourt 1979; Delcourt and Delcourt 1981) including Buckles Bog near Meadow Mountain in Garrett County, Maryland (Maxwell and Davis 1972). Pollen evidence from Buckles Bog documents the presence of tundra adapted plant species between 19,000 and 12,700 BP *Cyperaceae* (sedge)

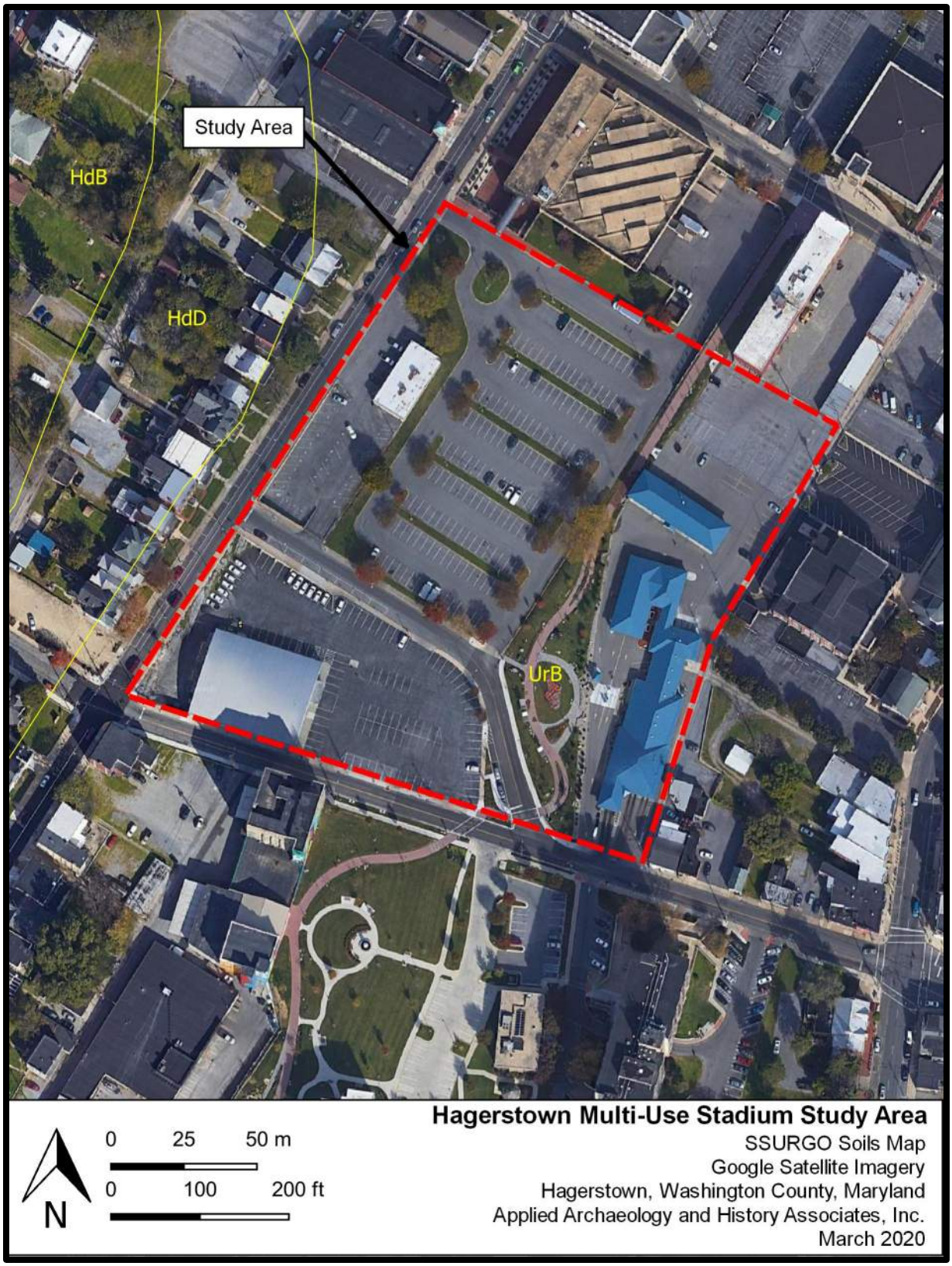

Figure 6. Aerial photograph showing soils and soil complexes in the Study Area.

and grasses predominate in the pollen record with lower percentage values of spruce and pine (Maxwell and Davis 1972:515). Species represented in the late-glacial-period zone from Buckles Bog are similar to those from early herb assemblages at sites on glaciated terrain and pollen influx values are similar to measurements of contemporary pollen rain in arctic tundra (Maxwell and Davis 1972:516). A significant change in flora is evident in zone BB-2 at Buckles Bog. Dated at 12,700 BP, the zone shows a sharp increase in tree pollen counts marking a change from tundra to boreal woodland.

The Holocene once was thought to be a period of relatively uniform climate; however, current research indicates that the Holocene was composed of global climatic episodes (e.g., mid-postglacial xerothermic) that translated into local climates of some duration. The definition of these episodes has to be refined for each region, as the translation from global conditions to local can be quite complex. Empirical evidence to provide at least a rough outline of Holocene episodes has been accumulating in the Mid-Atlantic for some time (Carbone 1974). Overlapping the Middle Holocene (ca. 8200–5000 BP), a mesic period characterized by hemlock and oak appeared in the mountains, and xeric conditions may have prevailed on the Coastal Plain (Carbone 1974; Watts 1979, 1980).

Modern Climate

Modern climate in Hagerstown, Maryland experiences an average of 39.46 inches (in) of precipitation per year. Snowfall averages 16 in. Average daily maximum temperature is 66 degrees Fahrenheit and the average daily minimum temperature is 45 degrees Fahrenheit (USClimateData 2020). The growing season lasts for an average of 228 days (WeatherSpark 2016).

Flora and Fauna

Animal life along the Chesapeake Bay region reported by early explorers at the time of contact included deer, squirrels, badgers, opossums, rabbits, bears, beavers, otters, foxes, martins, minks, weasels, and numerous fish and bird species (Hughes 1980:66). At present, the region is characterized by three different habitats: terrestrial, wetland, and aquatic. Wildlife commonly found in the terrestrial habitats includes songbirds, red fox, white-tailed deer, woodchuck, raccoon, gray squirrel, eastern chipmunk, Virginia opossum, and black rat snake. The aquatic and wetland habitats are home to a variety of birds (great blue heron, mallard, wood duck, red-winged black bird), muskrat, bullfrog, common musk turtle, and northern water snake. Freshwater streams provide a spawning environment for migratory fish species such as white and yellow perch, herring, and alewife. Resident species include largemouth bass, chain pickerel, and blue spotted sunfish. Seasonally abundant species such as migratory waterfowl were also common.

3. BACKGROUND RESEARCH

Cultural Context

Precontact Context

The precontact chronology of the Middle Atlantic region is commonly divided into three chronological periods: Paleoindian (circa 13,000 to 7,500 BC), Archaic (7,500 to 1000 BC), and Woodland (1000 BC to AD 1600). These periods are also commonly subdivided into Early, Middle, and Late subperiods: Early Archaic (7,500 to 6,000 BC), Middle Archaic (6,000 to 4,000 BC), Late Archaic (4,000 to 1,000 BC), Early Woodland (1,000 to 300 BC), Middle Woodland (300 BC to AD 900), and Late Woodland (AD 900 to 1607). The periods mark cultural development from largely nomadic hunter-gatherers during the Paleoindian period to fairly sedentary villagers in the Late Woodland period.

Paleoindian Period (13,000-7500 B.C.)

During the latter part of the last glacial period, known as the Wisconsin, ending about 14,000 BC, most of northern North America was deeply buried beneath thick sheets of ice. The vast amounts of water contained in these continental glaciers lowered ocean levels by as much as 130 m. Large expanses of the currently submerged continental shelf were exposed, with dry land extending for many kilometers beyond the present shorelines. The glaciers did not flow as far south as present-day Maryland, and the Chesapeake Bay of today existed only as the ancestral Susquehanna River Valley. The Wisconsin Ice Sheet stopped about 300 kilometers north of Western Maryland.

Glacial recession 11,000 years ago (ca. 9,000 BC) raised the sea level and inundated the ancestral river valleys. By 3,000 years ago, the Chesapeake Bay and the inundated portion of the Potomac River reached their present limits and modern climactic and biotic regimes developed to their present state. Oysters and a variety of benthic and pelagic fishes occupied newly created niches in what is now one of the richest estuarine environments in the world. In Western Maryland tundra vegetation covered much of the Appalachian Plateau until after approximately 10,700 BC, when the vegetation began shifting to boreal woodland (Wall 1981).

Diagnostic Paleoindian artifacts include the fluted, lanceolate Clovis point, manufactured from a wide variety of cryptocrystalline lithic material such as jasper, chalcedony, and chert. A projectile point chronology for the Upper Ohio Valley begins with Clovis and changes to unfluted or minimally fluted points and ends with Dalton points. A fairly standardized tool kit including gravers, endscrapers, denticulates, spokeshaves, perforators, knives, pièces ésquillées, and unifacial flake tools is also associated with the Paleoindian period. Most of the evidence of Paleoindian occupation in the Middle Atlantic region comes from isolated surface finds. Overall population density during the Paleoindian period may have been relatively low, as shown by the infrequent occurrence of sites, the typically low numbers of artifacts, and the general lack of stylistic variation in projectile point styles (Wall 1981; 2013).

The Paleoindian settlement model, based on Gardner's (1974; 1977) research in the Ridge and Valley physiographic province of Virginia, is applicable to the upper Potomac Region. His model

consists primarily of five functionally related site types: quarries, quarry reduction areas, quarry-related base camps, base camp maintenance stations, and outlying hunting sites (Wall 1981: 17; Wall 2013). Paleoindians occupied a broad range of upland and lowland settings, invariably close to a water source (Dent 1995; Custer 1989). Paleoindian site types in the central Appalachian region include base camps near high-quality lithic sources and hunting camps located in diverse habitats (Wall 1981; 2013). Paleoindian settlement in the upper Potomac Valley also includes base camps located on well drained upland surfaces near the river and its tributaries and in upland settings near high quality lithic sources. In this region, high quality Shriver cherts are common (Wall 2013).

Paleoindian fluted points in western Maryland are evidenced by isolated finds, including one found at the Barton Site (18AG13), located south of the project area. Another fluted point is reported to have been found near Oldtown. Fluted points have also been found in western Maryland along the upper Youghiogheny near Oakland, Maryland, on Pleistocene terraces of the Youghiogheny near Friendsville, Maryland, and near the Glades, an upland swamp and peat bog in the headwaters of the Casselman River (Wall 1981; 2013). Excavations at the Barton Site, just over two miles south of the project area, have revealed deeply buried Holocene occupation layers beneath an Early Archaic occupation; no diagnostic projectile points have yet been identified within those strata (Child et al. 2001; Wall 2013; Wall and Kollman 2009). In eastern Maryland, however, stratified Paleo and Early Archaic components have been identified. The Maryland State Highway Administration has excavated a Paleoindian component at the deeply stratified Higgins site (18AN489) in Anne Arundel County (Ebright 1992). The site is located along a small drainage that appears to have shifted its course and overflowed its banks many times. Waterborne silts and drifting dunes covered the Paleoindian component. The Higgins site is exceptional in its preservation of Paleoindian and Early Archaic components.

The Paleoindian period in the greater region is best represented by Meadowcroft rockshelter located southwest of Pittsburgh, Pennsylvania. Meadowcroft contains some of the earliest radiocarbon dated occupation layers in North America and a Paleoindian occupation layer contained an unfluted, lanceolate projectile point and a collection of other stone tools, although there was little evidence of tool manufacturing (Wall 1981; 2013). Meadowcroft's location lends itself to comparison with the western Maryland Paleoindian period; however, the Flint Run complex sites located in the Shenandoah Valley may provide a better point of comparison and model for mid-Atlantic Paleoindian settlement (Wall 1981:17).

Archaic Period (7500 B.C. - 1000 B.C.)

The Archaic period is marked by the gradually rising temperatures and sea levels of the Holocene. The Archaic period is divided into the Early, Middle, and Late Archaic. During the Middle Archaic, the environment reached modern conditions. Megafauna were replaced by browsers including deer, elk, and moose (Sarudy et al. 2001).

The Early Archaic is marked by continuity in the tool kit with the Paleoindian period, except for projectile points. Early Archaic Indians began producing notched and stemmed base points, rather than the fluted points associated with the Paleoindians (Sarudy et al. 2001; Wall 1981). This is

attributed to the shift from hand thrown spears to the spear thrower. The Early Archaic projectile point sequence draws on the results from the excavation of stratified sites in North Carolina (Coe 1964), the Kanawha River in West Virginia (Broyles 1971), and in the Shenandoah Valley of Virginia (Gardner 1974) and begins with Palmer and continues with Charleston, Amos, Kirk, Hardaway, Kessel, and Warren types (Wall 1981:17; Wall 2013). Additions to the Early Archaic toolkit include ground stone tools and chipped stone axes (Dent 1995).

Raw material preferences continue to include high-quality chert, but expand to include local chert. Exploitation of rhyolite, a lithic resource of the Blue Ridge province, is first seen in the Early Archaic. In Western Maryland, the rhyolite sources utilized were secondary deposits from streams draining from the Blue Ridge (Wall 1981; 2013).

Early Archaic settlement continues to reflect Paleoindian settlement patterns: they organized into small bands that set off on hunting and foraging trips from base camps located near critical natural resources. Early Archaic peoples made extensive use of uplands and even Appalachian summit areas, while also utilizing floodplains of major rivers and their tributaries (Wall 1981; 2013).

According to site information for the Ridge and Valley province, settlement during the first part of the Early Archaic focused on river terraces of high order streams and upland swamp edges, particularly rich environmental areas. Later in the Early Archaic settlement patterns shifted to focus more exclusively on uplands (Wall 2013).

The Middle Archaic period (6,000 to 4,000 BC) was marked by a warming trend. The Middle Holocene was warmer and wetter than the Early Holocene. The climate contributed to the increased diversification of the subsistence patterns of Middle Archaic peoples; they began exploiting new and greater numbers of seasonal resources during this period (Custer 1989).

The transition from the Early to Middle Archaic was marked by the shift from notched to stemmed projectile points (Custer 1989; Wall 2013). Some argue, however, that the early Middle Archaic is defined by diagnostic bifurcate projectile points (Gardner 1977; Wall 2013). Common projectile point styles throughout the Middle Archaic include: Stanly Stemmed, Morrow Mountain I and II, Guilford, and Halifax/Vernon (Wall 2013). The lithic materials utilized during the Middle Archaic were similar to those used during the Early Archaic, although there was a decreasing reliance of cryptocrystalline lithic resources. Rhyolite became more common along the Potomac Valley and non-local Blue Ridge sources for the rhyolite more commonly exploited (Wall 1981; 2013).

Middle Archaic settlement patterns reflect the increasing diversification of subsistence resources. Middle Archaic peoples made increasing use of smaller stream environments in many more upland settings. Site types generally fall into five categories: quarry sites, quarry reduction areas, base camps, hunting/exploitative camps, and individual hunting sites/isolated finds; sites are found in major and minor floodplains, swamp margins, and open valleys. Floodplains along the Potomac River contain numerous Middle Archaic projectile point finds; those floodplains, and especially those at confluences, would have been ideal for base camps (Gardner 1987; Wall 1981; 2013).

The Late Archaic Period (4,000 to 1,000 BC) marked a significant increase in the population as indicated by an increase in identified sites of all kinds, an increase in site size, and an increase in the utilization of more ephemeral environments. These changes are likely the result of full adaptation of a broad range of diverse subsistence strategies and exploitation of seasonal variations. The Late Archaic was marked by warmer, drier climatic conditions and the full transition from a boreal to deciduous climate (Wall 2013).

The Late Archaic period is characterized by a variety of stemmed and notched projectile points that maintain many similarities over wide regions. They include Bare Island and Buffalo stemmed points, broad blades including Savannah River, Susquehanna, and Perkiomen, and Orient fishtail and Dry Brook points. The tool kit also includes grinding implements, polished stone tools, scrapers, stone adzes and celts, net sinkers, anvil stones, and carved steatite stone bowls. Late Archaic peoples made more use of local lithic resources: quartz, quartzite, and rhyolite. By the terminal Archaic much of the rhyolite came from South Mountain (the Blue Ridge) (Wall 2013).

Settlement during the Late Archaic concentrated on riverine settings. Late Archaic communities exploited areas along streams, rivers, and estuaries more intensively than in the past. Base camps are located with lower order streams or floodplain swamps, for example the Buffalo site in West Virginia and in the Shenandoah Valley. Upland zones were also critical for the Late Archaic settlement and subsistence patterns, which were more broad-based than in the past. Late Archaic peoples made periodic and increased use of higher order stream environments and the mountain zones in the Ridge and Valley province were more populated in the Late Archaic than ever before (Wall 1981, 2013).

Woodland Period (1000 B.C. – A.D. 1600)

The Early Woodland period in the Middle Atlantic Region, between 1,000 BC and 300 BC, is characterized by a continuation of many of the cultural traditions and subsistence and settlement patterns established in the Late Archaic (Gardner 1982). There was a pronounced decline in trade and exchange networks with fewer exotic materials being found on sites of this period relative to those of earlier periods, although Ohio cherts appear on Early and Middle Woodland sites in the region. Based on the limited evidence available, it is inferred that subsistence/settlement systems for the Early Woodland period in the region involved a concentration on seasonally available resources, with a settlement focus on floodplain locations. A number of these Early Woodland period open camps and shelter sites have been recorded in eastern Kentucky (Adovasio 1982). Limited horticulture has been demonstrated for Early Woodland occupations in the Ohio Valley and evidence from Meadowcroft Rockshelter demonstrates the use of Cucurbita and 16 row zea mays yielding radiocarbon dates of 870 ±75 B.C. to 705 ±120 B.C. for the former and 375 to 340 ± 90 B.C. for the latter (Adovasio and Johnson 1981). It is possible, however, that these cultigens may not have been as intensively utilized in more marginal upland regions of the Appalachians until much later. There is presently no evidence of cultigens used in western Maryland at such an early date. It is assumed that Early Woodland populations subsisted mainly by hunting, gathering, and fishing, in a manner not unlike their Late Archaic period predecessors.

Western Maryland is located between two Early Woodland cultural manifestations: the Adena to the west in the area of the Ohio Valley and Meadowood to the north in western and central New York. Adena mound complexes are found just west of Garrett County; there is some evidence of mound building in the South Branch of the Potomac River in Moorefield, West Virginia and small earthen and stone mounds are reported along the Monongahela River, including Pollack's Hill, Linn Mound, and the Cheat River. Meadowood exhibits some Adena influences and is characterized by individual burial pits located on knolls (Wall 1981; 2013).

Generally, there is still limited settlement data regarding the Early Woodland period in western Maryland. Adena and Meadowood artifacts have been recovered from western Maryland, primarily from rockshelters and as isolated finds. Early Woodland period settlement in western Maryland appears to be focused on riverine floodplains (Wall 1981; 2013). The practice of limited horticulture has been recovered from Early Woodland occupations in the Ohio Valley and from Meadowcroft Rockshelter, but no such evidence has been recovered yet in western Maryland.

The Early Woodland period is marked by the development of ceramics. Western Maryland Early Woodland period ceramics include both the "thick" wares common in the Ohio Valley and the steatite-tempered pottery more common to the east. Examples of the "thick" wares have been recovered from the Hagerstown Valley and include Vinette I-like ceramics from Chickadee Rock Shelter and Bushey's Cavern and from Ridge and Valley province sites in Pennsylvania. Vinette I pottery, a crushed quartz ceramic, has been recovered from 18AG240, part of the Barton Business Park sites just over two miles south of the project area (Maymon and Child 2003; Wall, 1981; 2013). A variant of Adena Fayette thick ceramic type has also been found on some western Maryland sites (Wall 1981). Marcey Creek, a steatite-tempered pottery, is more uncommon in western Maryland. Marcey Creek ceramics are molded (as opposed to coiled) and they are tempered with crushed steatite. Pot forms imitate steatite vessel forms of the terminal Late Archaic. They are undecorated and usually lack lug handles. Examples of Marcey Creek ceramics are found on sites throughout the Delaware and Susquehanna River valleys and in the Coastal Plain and Piedmont provinces of Maryland and Virginia, with some occurring in New York State. Selden Island wares also are found in association with Marcey Creek ceramics. They have thinner walls, steatite tempering, and cord marking on exterior surfaces. Marcey Creek has been recovered from the Barton Site (18AG3) (Wall 2013). Projectile points from this phase are the Holmes/Bare Island, Claggett, Dry Brook, and Orient Fishtail points, all of which made their first appearance in the terminal Late Archaic.

The Middle Woodland period (300 BC to AD 900) in western Maryland is not well understood in comparison to regions in the Ohio Valley, Hagerstown Valley, New York, and to the east. In the Ohio Valley, the Middle Woodland is characterized by the Hopewell manifestations, which represent the further elaboration of the Adena. Earthworks increased in size, quantity, and complexity. Material culture changes included the introduction of the platform pipe and the bow and arrow. Trade networks intensified to include mica, obsidian, galena crystals, and marine shells as well as cache blades and gorgets. These items were regularly exchanged in western Maryland. There is no evidence of burial mounds or earth works in western Maryland (Wall 1981, 2013).

Evidence from the Hagerstown Valley indicates that, while there was little change in subsistence settlement patterns from the Early Woodland, there was an intensification in the exploitation of certain environmental zones. Generally, there appears to be a decrease in the number of hearths in Middle Woodland base camps and the locations of those base camps shift to the edges of backwater swamps. Overall, the Middle Woodland period represents a shift to the exploitation of floodplain zones, likely related to intensification of horticulture practices, and potentially, a decrease in the use of mountain environmental zones (Wall 1981).

In western Maryland and its adjacent regions, the Middle Woodland is characterized by Jacks Reef and Chesser projectile points and Watson and other variant cord marked ceramics with high percentages of crushed rock temper. Such crushed-rock tempered ceramics have been recovered from stratified deposits at the Barton site (Wall 2013).

The Late Woodland period (AD 900-1600) in western Maryland is similar to other regions: represented by cord marked ceramics and triangular points and an incipient horticultural economy supplemented by hunting and gathering. Western Maryland Late Woodland period sites are located in upland rockshelters and open alluvial floodplain and terrace settings (Wall 2013). The Late Woodland in western Maryland and the Upper Potomac Valley differs from elsewhere in the state by virtue of its location at the intersection of several differing regional traditions (Maymon and Child 2003). The predominate influences during the Late Woodland in western Maryland were Fort Ancient, from the central Ohio Valley and spreading east into the West Virginia panhandle, and the Monongahela, centered in southwestern Pennsylvania near the junction of the Monongahela and Youghiogheny Rivers (Wall 1981).

In western Maryland, the Late Woodland period brought changes in material culture: locally sourced lithic material is chosen to the exclusion of non-local materials, an elaboration of bone-tool industry, and the introduction of shell-tempered, decorated ceramics (Wall 2013). Ceramics recovered in western Maryland and the Upper Potomac Valley during the first part of Late Woodland period are typically limestone-tempered Page ware with smaller amounts of crushed rock tempered Clemson Island ware. As the Late Woodland progressed, the types of ceramics recovered shifted to include mostly shell-tempered Keyser ware (Maymon and Child 2003: 20-21). Projectile points recovered from Late Woodland occupations in the Upper Potomac and western Maryland include the typical Late Woodland points: Madison, Levanna, and other triangular points (Maymon and Child 2003: 20).

Evidence of the Late Woodland period in western Maryland generally comes from multicomponent sites located on floodplains or terraces. Late Woodland period settlement, focused on these floodplains and terraces, likely reflects the growing reliance of horticulture, deemphasis of hunting and gathering, and a sedentary way of life (Wall 2013). Maize horticulture was established throughout eastern North America by AD 1300. There is, however, little evidence of this cultural development in western Maryland. These is, however, evidence of villages located along the North Branch of the Potomac River. The Cresaptown Site (18AG119) is a multicomponent site located 0.75 miles to the east of the project area along the North Branch of the Potomac River (Wall 1989, 1997a). While cultural materials dating from the Early Archaic through Late Woodland were identified over a larger area associated with the site, an un-palisaded Late Woodland village

site consisting of numerous structures, hearths, and burials was also identified. The ceramics recovered were overwhelmingly limestone-tempered and the lithics were nearly all locally-sourced gray chert and chert-like siltstone. Two palisaded villages in the region are the Moore Village (18AG43), located along the North Branch of the Potomac River near Oldtown, and the Barton Site (18AG3), located just over two miles southeast of the project area along the North Branch (Pousson 1983; Wall 1997b; Wall and Kollman 2009).

Historic Context

Although European exploration in the Chesapeake region began as early as the sixteenth century, forays further inland remained limited until the eighteenth century. European settlement of Maryland was initially focused on the Chesapeake Bay shorelines and spread along coastal tributaries and rivers in the late seventeenth and early eighteenth century. It was not until over a century later that European colonists established their first settlements in Western Maryland.

Originally part of Prince George's county then later Frederick County, Washington County was established in 1776. Prior to permanent settlement, the fur trade played the primary role of European involvement in the region. One of the first permanent settlements in Western Maryland is believed to be a trading post and inn established by Thomas Cresap, a Captain in the Maryland Militia, who originally patented land in the mid-1730's (Papenfuse and Patterson 2009; Franz and Bodor 2017:16). Colonists, many of them of German, Scottish or English descent, pressed westward in search of productive farmland and what would become Washington County experienced an initial period of growth during the late 1730's (Kraft 2003; Franz and Bodor 2017:16). Many of these immigrants entered the colonies from Philadelphia and moved westward following the Great Valley Road along the Appalachians into Maryland (Franz and Bodor 2017:16). These immigrants retained much of their cultural backgrounds, influencing architecture, industry and culture in the region. From 1750 to 1754, and again from 1760 to 1764, Washington County experienced peaks, over 200, in the number of land patents followed by decreases below 100 (McDermott 2009). These fluctuations are likely related to the French and Indian War, and tensions between Native American groups and the colonists in the region.

Like other frontier areas in the colonies, the draw to the region, and more specifically the Hagerstown region, was the availability of land despite the dangers of being isolated in territory contested over by Native Americans, the French, and the English. In 1756, Fort Frederick was constructed on the north side of the Potomac River. The fort was used throughout the century as protection for colonists in the area during the French and Indian War (1754-1763), Pontiac's Rebellion (1763), and as a prison camp during the American Revolution (1775-1783).

In 1762, Johnathan Hager founded Elizabethtown, now Hagerstown, named in honor of his wife. In 1787, Williamsport was created and would become the second of the County's commercial centers just six miles southwest of Hagerstown (MIHP Form WA-HAG-158; Franz and Bodor 2017:16). Both towns grew due to their proximity to water and land transportation, especially their locations along the Great Wagon Road, which connected the Pennsylvania Piedmont to points points as far south as North Carolina and Georgia (Franz and Bodor 2017:16). From 1800, both towns were important commercial centers in the region (Kraft 2003: 15).

Elizabethtown was officially renamed Hagerstown in 1776, and was originally located on the west bank of Antietam Creek. Hager divided the town into 520 lots and strategically placed it over the intersections of well-traveled roads and water-powered mills. The location enabled easy processing and transport of the county's agricultural produce which primarily consisted of grain (MIHP Form WA-HAG-158). Soils in the region well suited to farming (Kraft 2003:18) Unlike planters in Southern Maryland counties, farmers in Washington County were faster to develop a diversified agricultural economy, including various grains, orchard fruits, and livestock (Steiner 1902:6). As focus on grain agriculture increased, Washington County transitioned from a frontier to a community reliant on commercial milling and agricultural production.

The nutrient-rich soils of the valley continued to fuel the agricultural development of Washington county and the commercial success of Hagerstown during the second half of the eighteenth century (Kraft 2003:18). Grist and flour mills processed locally grown grains, and the location of Hagerstown in proximity to both water and developed roads leading to the large port cities of Baltimore and Philadelphia further encouraged economic development (MIHP Form WA-HAG-158). In the same year Washington County was formally established (1776), Hagerstown became the county seat of government in addition to its main commercial center.

In most respects, Washington County remained rural, and its economy continued to be primarily agriculturally based throughout the nineteenth and twentieth centuries. By the early 1800s, Hagerstown served as a distribution hub of local agricultural products (grains, apples, honey) and goods (ceramics and clothing) (MIHP Form WA-HAG-158; Kraft 2003:15). A boom in the development of turnpikes provided additional regional access to Hagerstown through Baltimore and Cumberland (Klein and Mejewski 2008; MIHP Form WA-HAG-158). Scharf (1882) identified a wide range of professions in Hagerstown during this period, the most common being merchants and tavern/inn keepers.

The first half of the nineteenth century brought multiple population increases; however, the number of land patents remained stable as westward movement increased (McDermott 2009). By the mid-nineteenth century, a number of railroads had connected to Hagerstown. The first was the Cumberland Valley Railroad in 1841, followed by the Baltimore and Ohio (1867), the Western Maryland (1872), and the Norfolk and Western (1880s) (MIHP Form WA-HAG-158). The importance of the growth of railroads in relationship to the increasing urbanization of Washington County and Hagerstown during the nineteenth century is relative, however, the presence of the railroads in such close proximity to Hagerstown undoubtedly increased the town's economic success.

Although Washington County's agricultural economy was less reliant on slavery, enslaved African Americans were present in the region. At the close of the eighteenth century 1,286 slaves were recorded in the census for Washington County (WHILBR:xvi). Historians suggest the lower number of enslaved people in Western Maryland compared with the rest of the state may be a reflection of a reliance on lower maintenance crops such as grains, and the religious beliefs of its large German population (Wallace 2003:13, WHILBR:xi). Grain agriculture was far less labor intensive than growing tobacco and slave labor was less economically advantageous than hiring seasonal labor (WHILBR:xi). Additionally, a more diverse economy meant that those who were

enslaved were more likely to learn a trade skill and could earn extra money that could later be used to purchase freedom (WHILBR:xi).

A large proportion of western Maryland colonists were of German descent belonging to religious groups that denounced slavery (Wallace 2003:14). Some members of these churches are reported to have purchased slaves with the intent to free them. David Long and Samuel Mumma Sr., members of the Church of the Brethren, both purchased slaves at auction and then made provisions for their freedom (Wallace 2003:15). It seems likely that a combination of religious practice and extra income earned from trades contributed to the relatively low numbers of enslaved peoples.

Despite the broad abolitionist population, by 1820, the number of enslaved African Americans in Washington County had more than doubled, bringing the total to 3,201. While the county accounted for only 2.5% of the entire state's enslaved population, it is notable that four slave markets existed there, two of which were located in Hagerstown in the mid- 1800's. Its geographic location created a tense dynamic with the free state of Pennsylvania to the north, and the slave state of Virginia to the south.

The narrow geographic borders of Washington County provided an ideal route for fugitive slaves headed north to free states. Five routes on the Underground Railroad ran through Washington County two of which connected Hagerstown to Cumberland and to Chambersburg, Pennsylvania (WHILBR: xii; Switala 2004: 100-104). As with other aspects of Washington County's success, the intersection of numerous railroads and roads also encouraged travel through the area.

Free African Americans also contributed to the development Washington County. In 1790, there were just 64 free African Americans recorded in the county. By 1860, the population of free African Americans was higher than those who were enslaved (1,435 vs. 1,677) (WHILBR:xvi).

Washington County and Hagerstown were key locations in Western Maryland during the Civil War. Several important railroads converged near the city and played an important role in access to supplies and transportation of troops during the Civil War. The Battle of Antietam was fought in Sharpsburg, Washington County, in 1862 and had a profound impact on the local economy and society. Crops, livestock, and property were destroyed throughout the County, while barns, houses, and any other available structures were often used as makeshift hospitals (Washington County Library n.d.:5). In July of 1863, as Confederate Gen. Robert E. Lee retreated from Gettysburg, his forces skirmished United States troops through the streets of Hagerstown and met again west of the town at the Battle of Hagerstown (also called the Battle of Falling Waters or the Battle of Williamsport) (Hagerstown Newspaper Index:5). Throughout the Civil War, Hagerstown was occupied and/or invaded several times, including by Confederate forces led by Lt. Gen. James Longstreet in 1862 and Union forces led by Maj. Gen. Robert Patterson in 1861.

The turn of the twentieth century saw the population of Hagerstown increase by roughly 10,000 in just 30 years between 1880 and 1910. Merely a decade later, population had increased to 28,064 (Bruchey 1974:431, WA-HAG-158). The rapid population growth was a result of Hagerstown's role as an increasingly industrial city. By the end of the nineteenth century and the

first half of the twentieth century, Hagerstown was home to railroad repair shops, mills, furniture, and textile production (WA-HAG-158). In addition, Hagerstown was a produced farm equipment, bicycles, organs, and automobiles into the first half of the twentieth century (Frye 2010).

The Industrial Era was the most lucrative and influential period in the development of Hagerstown and as the twentieth century progressed the town's commercial success diminished. During the second half of the twentieth century railroads merged and failed, and factories moved production elsewhere. By the 1960s, three of the four major railroads which once served Hagerstown had shut down or been bought out by other companies.

Hagerstown Multi-Use Sports and Events Facility Baltimore Avenue Property

Land Records

The Study Area is located at the edge of historic Hagerstown, originally created by Jonathan Hager out of three parcels in the eighteenth century and called "Elizabeth Town" in honor of his late wife. The three patents included "Hager's Choice" in 1739, and "The Land of Prospect" and "New Work" in 1765. "Elizabeth Town" consisted of 520 lots that were 82 feet wide by 240 feet long and the first lots were sold by Hager in 1768. In 1773, Hager sold four non-contiguous tracts to John Rohrer, a farmer from Pennsylvania, including 30 acres of "New Work" (Frederick County Land Record [FC Land Rec] S:137). Two days later, John Rohrer sold 476 acres of property to his brother Jacob Rohrer for 650 pounds (FC Land Rec S:143). It is unclear if this is how Jacob Rohrer acquired the property later known as "Rohrer's Addition to Hagerstown," where the Study Area is located. Rohrer and Hager were both Pennsylvania Germans, representative of the largely German population moving through the Great Valley into Maryland, Virginia, and North Carolina.

The chain of title can be traced back to properties owned by Samuel Finley and Melcher Beltzhoover, a butcher, both of whom acquired their property from Jacob Rhorer or Jonathan Hager. The deed conveying four acres from Hager to Finley could not be located. Beltzhoover acquired his property in three separate deeds, one from Hager in 1774 (FC Land Rec V:625), one from Rhorer in 1774 (FC Land Rec V:420), and the final property from Rhorer in 1777 (Washington County Land Records [WC Land Rec] A:125). It is unclear what the land was used for during the early nineteenth century. One lot just east of the Study Area contained St. John's Lutheran Church and its schoolhouse. The first hose company of Hagerstown was also located on the property of the Lutheran Church, as seen in 1865 Martenet Map of Maryland (see below).

The parcels belonging to Beltzhoover and Finley were divided and sold multiple times throughout the early nineteenth century until the bulk of the property, extending south from the corner of Summit Avenue and West Antietam Street to Hood Street, was acquired by the Washington County Railroad Company between 1867 and 1891 (Table 1). The Washington County Railroad Company leased the property to the B&O Railroad in the late nineteenth century as part of the Western County Branch, connecting Hagerstown and Weverton. The property was primarily used as a freight and stock yard, with one passenger station located at the corner of Summit Avenue and West Antietam Street. The Western Maryland Railroad Company also had a freight depot within the Study Area, located on a parcel that was leased from the Vogeler family.

TABLE 1. LAND GRANTS IN THE STUDY AREA TO THE WASHINGTON COUNTY RAILROAD COMPANY

Grantor	Year	Reference
Presbyterian Church of Hagerstown	1867	I.N. 18:702
Susan Firey	1867	I.N. 18:702
Church Council of the Evangelical Lutheran Congregation	1867	I.N. 18:705
Alpheus R. Appleman	1867	W. McKK 1:26
Robert Fowler	1868	W. McKK 1:29
William T. Hamilton	1868	W. McKK 1:31
Presbyterian Church of Hagerstown	1871	W. McKK 4:295
Samuel H. Miller	1889	92:612
Church Council of the Evangelical Lutheran Congregation	1891	81:522

By the late nineteenth century, most of the properties within the Study Area not used by the railroad appear to have been used primarily for industrial purposes, likely encouraged by the freight yard's proximity. In the 1880s, Jacob C. Dayhoff acquired property adjacent to the railroad from the St. John's Lutheran Church and A. R. Hemmeburger and opened a lumber yard on the property (WC Land Rec 82:564; 96:295). The Dayhoff Lumber Yard is noted on the Sanborn maps from 1887, 1892, and 1897 (see below). The remainder of the properties east of the railroad yard are divided among multiple owners and were also used for industrial purposes. By 1892, the property appears to have been occupied by a lumber storage yard, a printing company, and the Shuyler Electric Light Company. A synagogue is also noted in 1892 Sanborn map within the Study Area. Whether this synagogue is related to the B'nai Abraham synagogue, which was established along Baltimore Street in 1892 and lies outside the Study Area, is unclear, but the B'nai Abraham synagogue is the only historically documented synagogue in this portion of Washington County. There was only one residential property within the Study Area, at the corner of Summit Avenue and West Baltimore Street, which was owned by the Firey family from 1821 until 1943 (WC Land Rec II:345, WC Land Rec 223:614).

The railroad stopped transporting passengers in 1949 and, by 1976, the Washington County Railroad Company had sold the bulk of their property to the Herald Mail Company (WC Land Rec 5564:179). The Herald Mail Company building was erected where the B&O passenger station formerly stood. It is unclear what methods were used to remove the railroad tracks. In 1941, the Antietam Paper Company acquired the northern half of Dayhoff's property, fronting Antietam Street, which it retains to the present (WC Land Rec EO 214:537). The southwest portion of the Study Area has been owned by the Board of County Commissioners of Washington County since 2000 (WC Land Rec 1601:481).

Historic Maps

The earliest maps of Maryland focused on the towns directly adjacent to the Chesapeake Bay, and Washington County is not depicted on these maps. Although the Study Area is not shown in detail, the 1794 Dennis Griffith map shows the location of Hagerstown, then known Elizabethtown, and the Study Area would have been located in the southwest part of the town (Figure 7). The Study Area is visible in the 1849 map of Hagerstown within a city block bounded by Jonathan Street to the west, Antietam Street to the north, and South Potomac Street to the east (Figure 8). The Study Area fronts on South Jonathan Street and separated from other public roads by a total of 14 parcels. It is unclear if these parcels contained structures. A small alleyway or footpath is shown along the eastern extent of the Study Area, connecting to Antietam Street behind the parcels fronting South Potomac Street.

Simon Martenet's 1865 Map of Hagerstown depicts the Study Area and surrounding areas in greater detail and shows four labelled structures within the city block, but the size of the buildings is unclear (Figure 9). An iron foundry is the only structure within the Study Area, located in the northwest corner. Three other labelled structures are shown directly outside of the Study Area, including a Lutheran Church and a "Hose Company" (an early private fire department) fronting South Potomac Street and a proposed depot for the Washington County Railroad north of the Study Area. The parcels from the 1849 map of Hagerstown are now depicted with definite structures, however their function remains unclear.

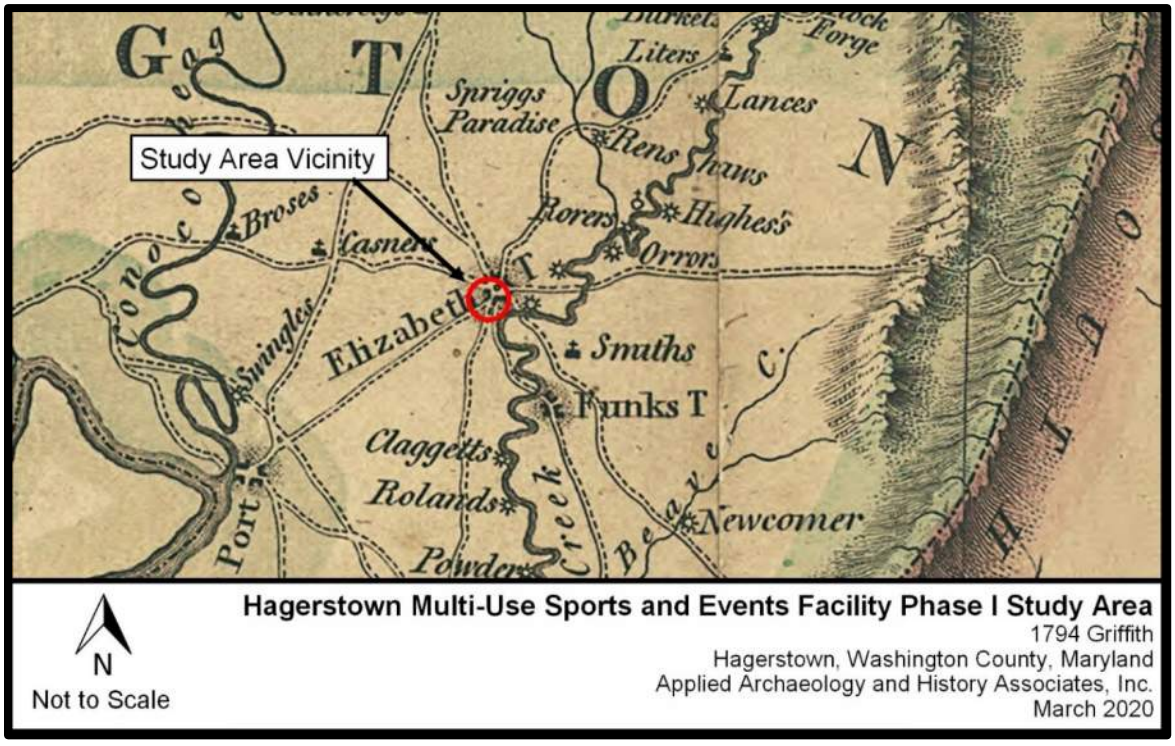

Figure 7. Location of the Study Area Vicinity on a detail of Dennis Griffith's 1794 Map.

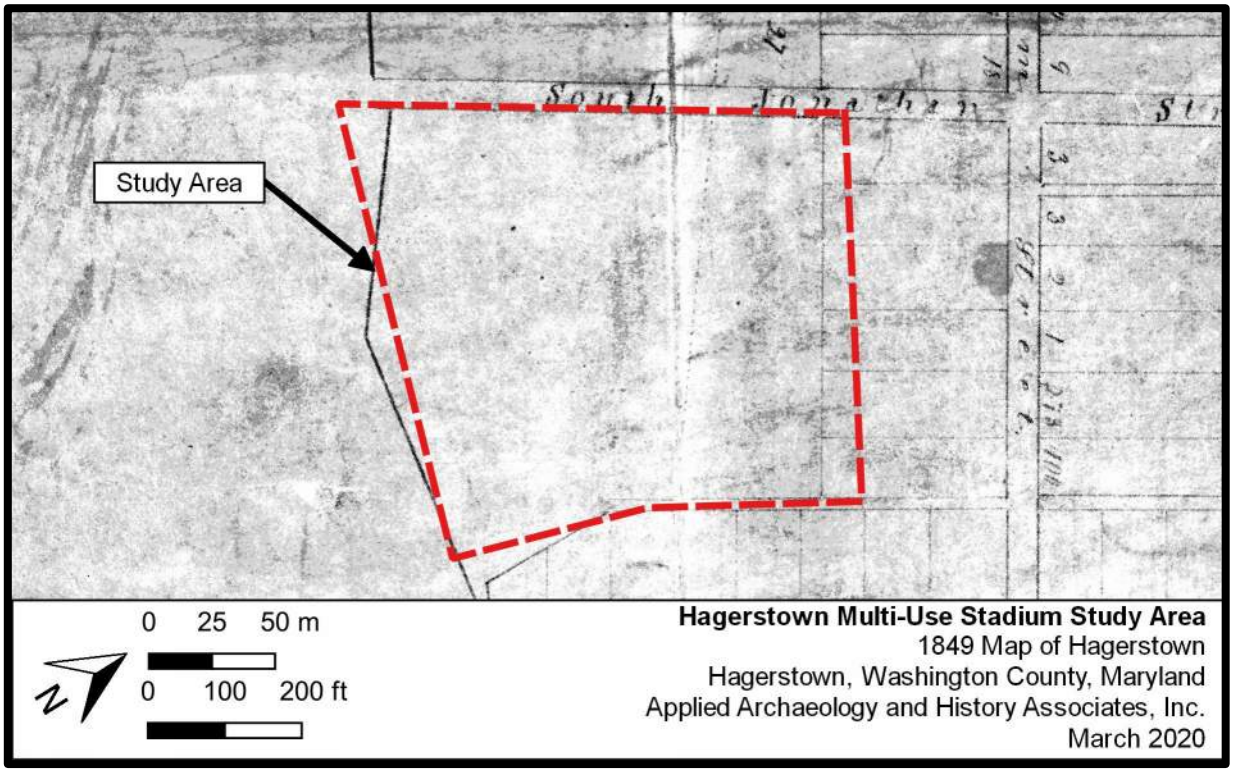

Figure 8. Location of the Study Area on a detail of the 1849 Map of Hagerstown.

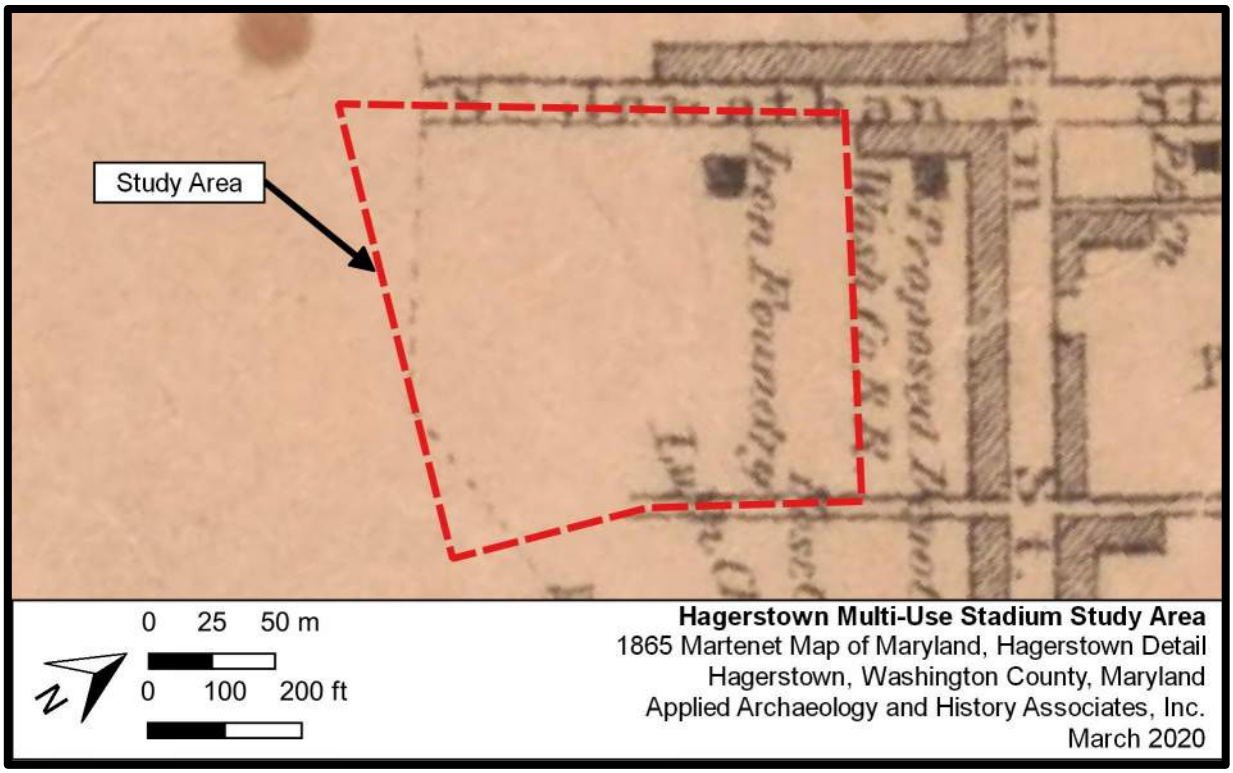

Figure 9. Location of the Study Area on a Hagerstown detail of the 1865 Martenet Map of Maryland.

The 1873 map of Hagerstown, Annapolis, and Frederick shows a massive spike in development, with the city expanding outward in nearly every direction between 1865 and 1873. The Study Area was impacted by this development with the addition of West Baltimore Street bounding the Study Area to the South (Figure 10). An addition to the alley/footpath seen on earlier maps cuts through the city block and connects West Baltimore Street to Antietam Street. The proposed depot for the Washington County Railroad was constructed as planned on the northwest corner of the city block. The Washington County Railroad is shown terminating at the newly constructed railroad depot and continued south from the Study Area out of Hagerstown.

Major alterations to the Study Area and surrounding area occurred between the next two years, as depicted in the 1875 hand drawn map of surveys made by S.S. Downin (Figure 11). Many of the structures fronting Antietam Street and South Jonathan Street were demolished, most likely to create space for the Washington County Railroad Depot and freight yard, which, by 1875, encompassed about half of the Study Area. The Study Area is shown extending across four parcels, including an unmarked parcel in the northeast corner, a parcel on the corner of Antietam Street and West Baltimore Street marked “Mrs. Fivey”, and the Washington County Railroad Depot in the northwest corner.

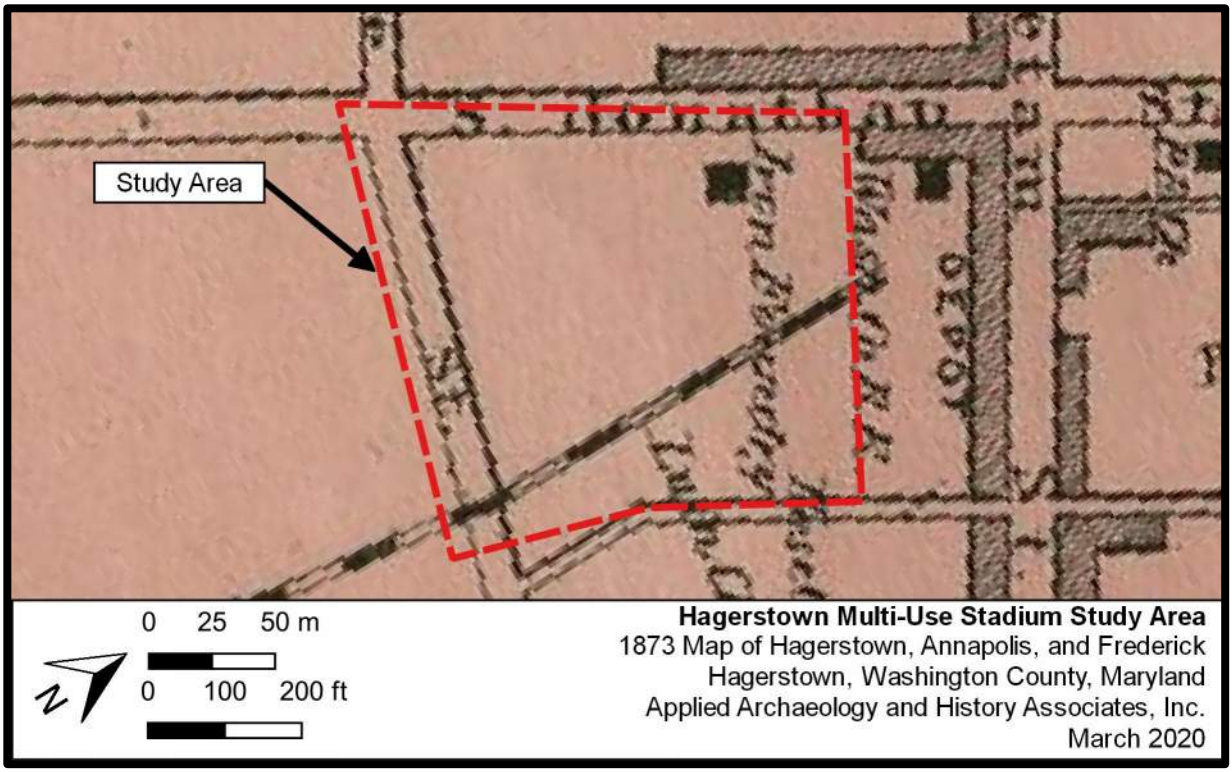

Figure 10. Location of the Study Area on a detail of the 1876 Map of Hagerstown, Annapolis, and Frederick.

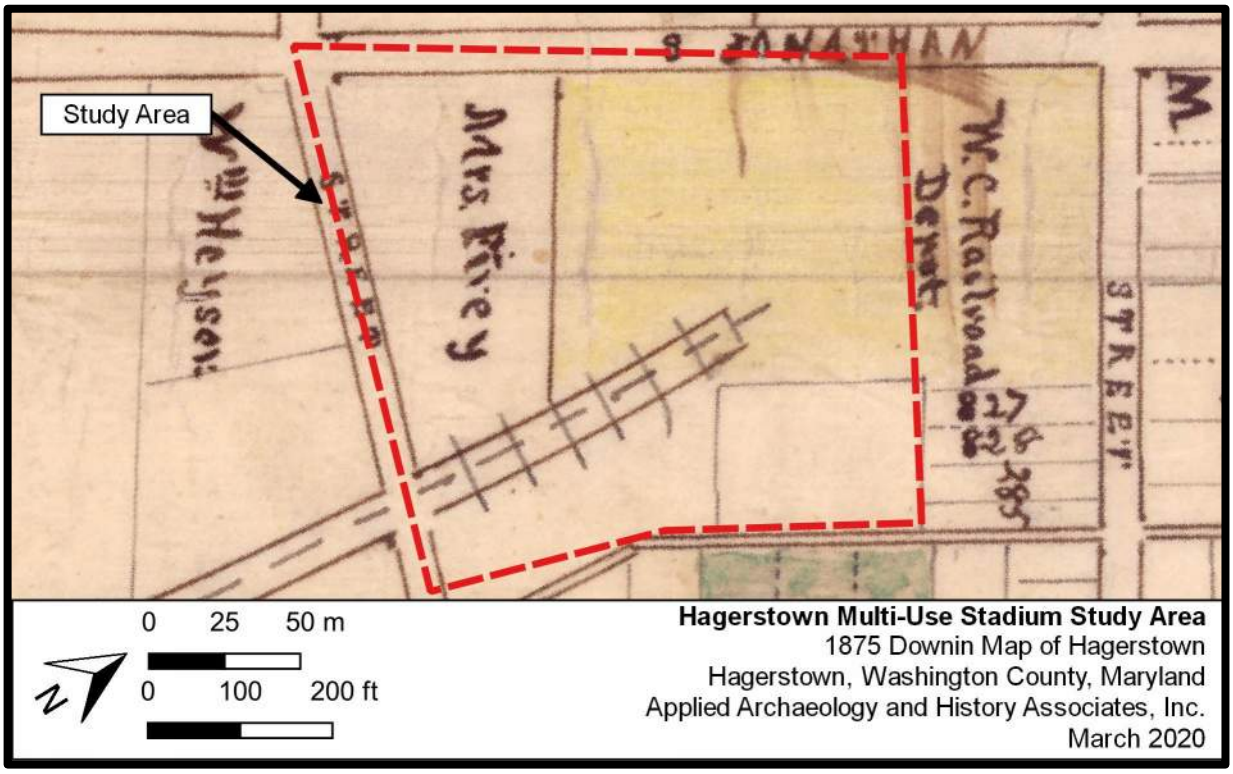

Figure 11. Location of the Study Area on a detail of the 1875 Downin Map of Hagerstown.

Detailed depictions of urban features become more apparent in the Sanborn Fire Insurance Maps of the late nineteenth and early twentieth centuries. Comparing the 1875 Downin map with the 1887 Sanborn Fire Insurance map, an increase in commercial and industrial development related to the railroad can be seen throughout the Study Area (Figure 12). The northwest portion of the Study Area contained structures associated with the B&O Railroad. There were nine structures on the railroad property, one of which was a dwelling. The northeast portion of the Study Area contained structures associated with the J.C. Dayhoff Lumber Yard. There were five defined structures in this area, two of which are labelled as sheds. The only other building with a labelled function is the carpenter's building in the far northeast corner of the Study Area.

The southeast portion of the Study Area contained six buildings, four of which are clearly labelled. Fronting West Baltimore Street in the Study Area's southeast corner was a complex containing a book bindery and a hand printing building with a skating rink, marked "not used," behind them. Adjacent to these buildings to the West was a dwelling and an unmarked outbuilding. Continuing to the West was another structure, but its purpose is unclear. Continuing west into the southwest quadrant of the Study Area, a new railroad spur was constructed for the Western Maryland Railroad (WMRR). The freight depot for this railroad was constructed fronting West Baltimore Street. Hood Street is now depicted coming extending to the WMMR freight depot from South Jonathan Street, cutting off the residential area on the corner of South Jonathan Street and West Baltimore Street from the rest of the block. This area, labeled Mrs. Fivey in the 1875 Downin map, contained seven structures. Only the structure that fronts South Jonathan Street on the corner of South Jonathan Street and West Baltimore Street is clearly marked as a dwelling.

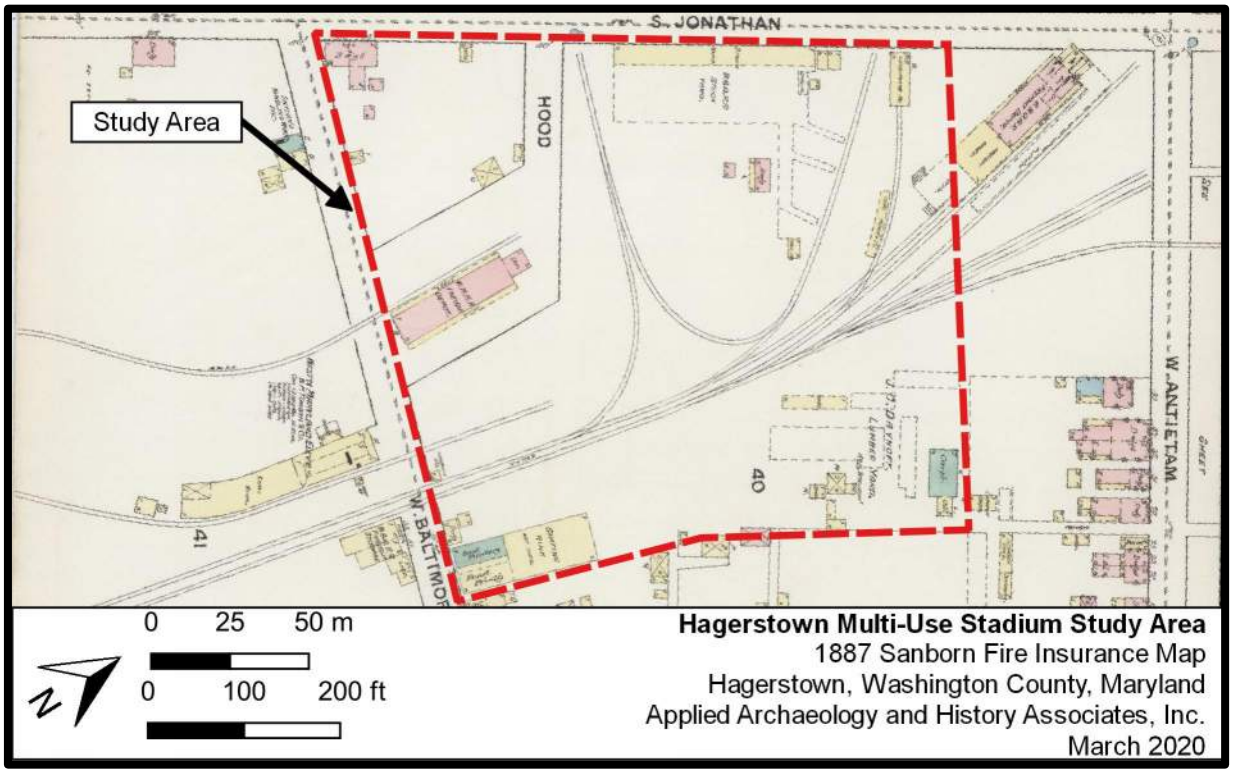

Figure 12. Location of Study Area on a detail of the 1887 Sanborn Fire Insurance Map.

Alterations to the Study Area between 1887 and 1892 were mainly made to the railroad and associated buildings, the lumberyard, and the commercial buildings in the southeast corner (Figure 13). Many of the structures associated with the railroad in the northwest appear to have been demolished, including the residential dwelling, to make room for an expansion of the railroad yard and construction of a new passenger depot. The total number of structures in this area by 1892 was five. Lumber yard operations are shown to have expanded by 1892 and were no longer confined to the northeast corner of the Study Area. The previous carpenter's building received several additions by 1892 and was relabeled as J.C. Dahoff & Co. Saw and Planing Mill. The saw and planing mill yards extended from the northeast corner of the Study Area to the commercial structures fronting West Baltimore Street. What was previously depicted as an ice rink on the 1887 Sanborn map was converted into a lumber storage building for the saw and planing mill by 1892. Both commercial buildings were converted as well. The hand printing building was converted into another, illegible commercial building and the book binding operation was converted into a synagogue. Both the dwelling and possible related outbuilding adjacent to the 1887 book binding building remained through 1892. The Schuyler Electric Light Company building was the only other addition to this area and was constructed beside the lumber storage building. The only alteration that occurred in the southwest quadrant of the Study Area appears to have been the eastward expansion of Hood Street and the lot associated with the Western Maryland Railroad.

Another noteworthy feature appearing on the Sanborn Fire Insurance Maps is the St. John's Lutheran Church cemetery, depicted in an open space along the eastern boundary of the Study

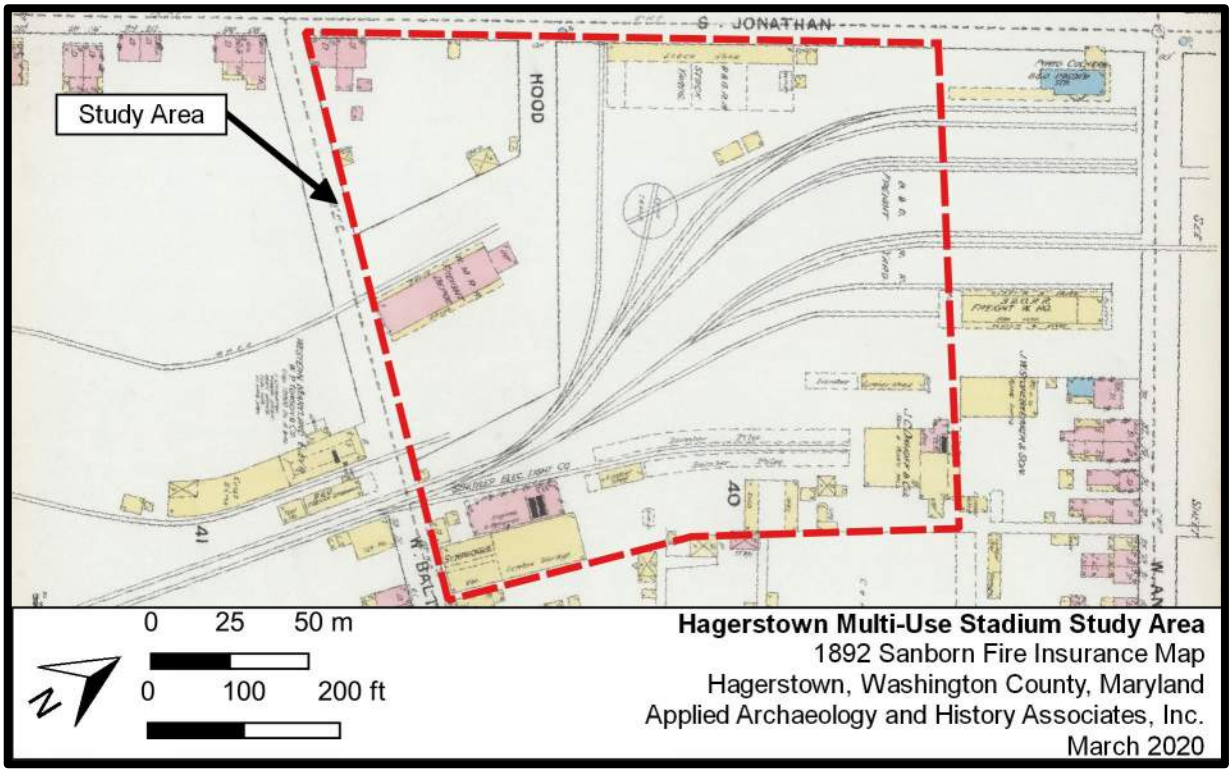

Figure 13. Location of the Study Area on a detail of the 1892 Sanborn Fire Insurance Map.

Area. The cemetery was separated from the Study Area by what appears to be a private alley accessing the lumber yard from West Antietam Street, and church records indicate that it was the original parish burial ground, filled by 1836 (St. John's Evangelical Lutheran Church n.d.:14). At that point, the church purchased additional lots on Baltimore Street and new burials were interred there. The cemetery is not labeled in the 1887 Sanborn map, but undoubtedly existed at that time, and is labeled in later maps. In 1922, the extant brick educational building was constructed in the former location of the cemetery, which had been "removed" to make room for it (MIHP Form WA-HAG-079). Church records indicate that the headstones were moved to Rose Hill Cemetery, but says nothing about the final dispositions of the bodies (St. John's Evangelical Lutheran Church n.d.:14). Because both historic maps and church records associate the cemetery with the extant education building, it is unlikely that the Lutheran church's burials extended into the Study Area.

By 1897, the B&O Railroad stock yards and stock shed that ran along South Jonathan Street had been demolished (Figure 14). Three of the smaller stock buildings remained, and one additional building had been constructed. In the northeast quadrant of the Study Area, two small buildings had been demolished, and two lumber sheds had been converted into horse sheds. The lumber shed in the southeast quadrant was either demolished or converted into a basket weaving house. The lumber storage, synagogue, and illegible third business were demolished, leaving only the Schuyler Electric Light Company building and the small structure that was previously a dwelling in the Southeast quadrant. The dwellings next to Hood Street and the Western Maryland Railroad Depot remained unchanged. USGS maps were consulted but show the Study Area in comparatively little detail (Figure 15-16).

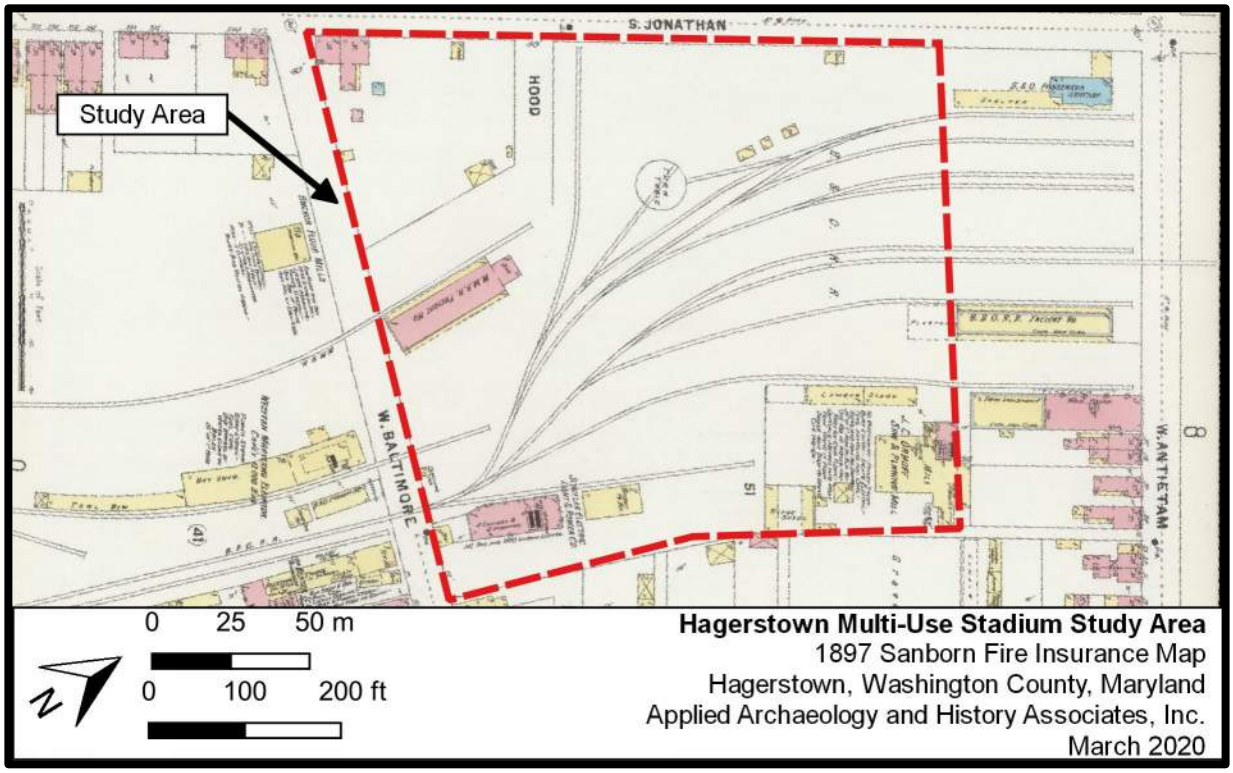

Figure 14. Location of the Study Area on a detail of the 1897 Sanborn Fire Insurance Map.

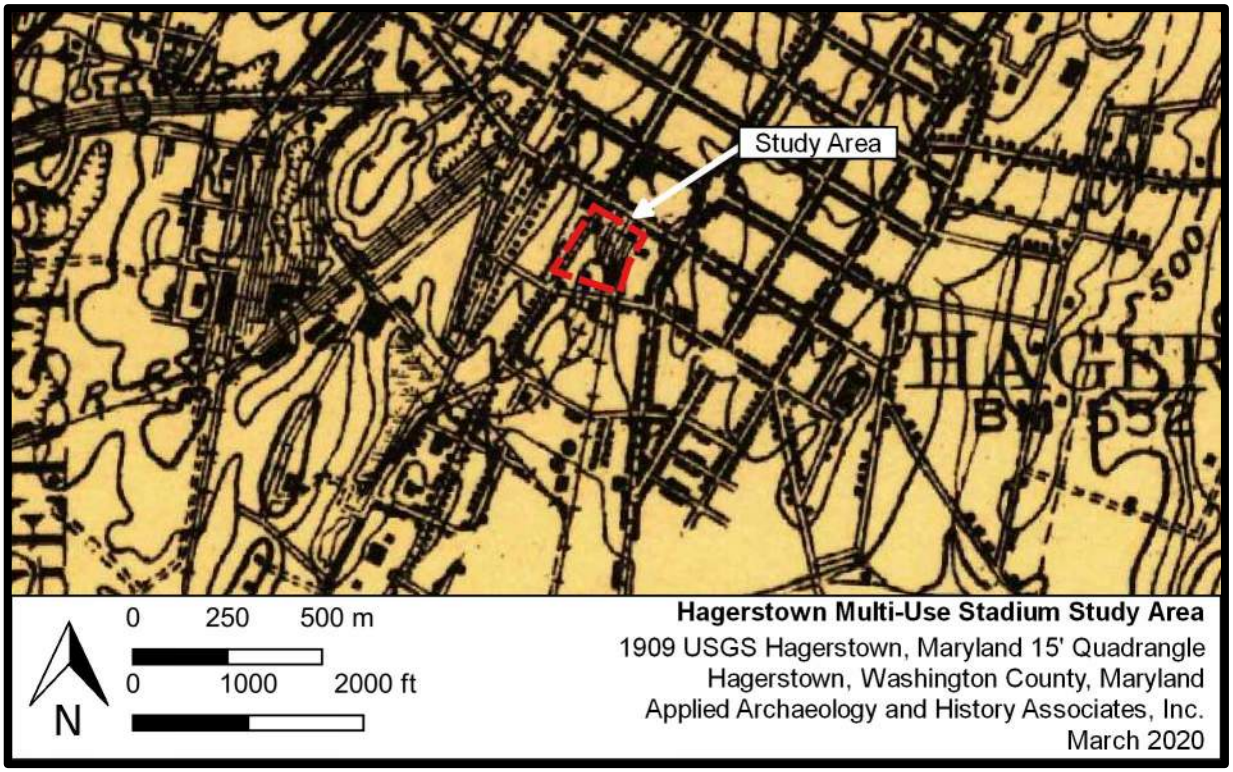

Figure 15. Location of the Study Area on a detail of the 1909 USGS Hagerstown 15-minute quadrangle (USGS 1909).

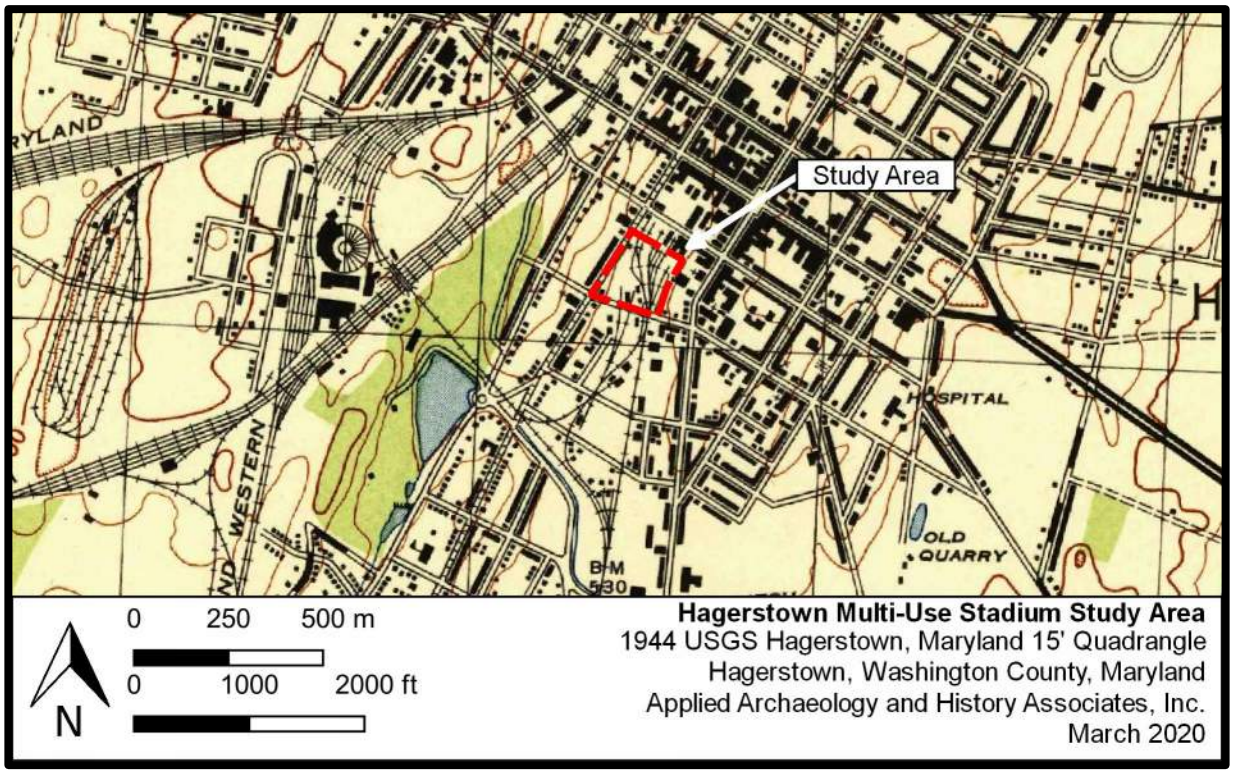

Figure 16. Location of the Study Area on a detail of the 1944 USGS Hagerstown 15-minute quadrangle (USGS 1944).

Previous Research and Recorded Sites

Five archaeological investigations have been conducted within 0.5 miles of the Study Area (Table 2). None of the surveys were conducted within or in the immediate vicinity of the Study Area. Four of the five surveys were conducted within Hagerstown City Park, located 0.16 miles from the Study Area. The first two surveys were conducted from 1992 to 1993 by Shepard College. These surveys included a Phase I and a Phase II investigation for the Fine Arts Museum Expansion project. The Phase I incorporated a shovel test survey which identified one historic archaeological site (18WA451) with four activity areas (MHT Call #: WA43). The historic components ranged in dates from 1760-1930. Of the activity areas identified, Area A was considered potentially significant due to its spatial and temporal relation to the adjacent Hager House Site (18WA16). Area A was focus of the subsequent Phase II investigation which incorporated a systematic surface collection and test unit excavations (MHT Call #: WA58). The survey ultimately found that the stratigraphic integrity of the site was severely compromised with all of the artifacts recovered from disturbed fill horizons. As such, the site was deemed ineligible for the NRHP.

In 1994 Frostburg State University sponsored a field school at the Hager House Site (18WA16), which represents the archaeological resources associated with a circa 1739 house (MHT Call #: WA64). The investigation incorporated test unit excavations designed to identify the site boundaries and to assess the site's integrity. The study encountered intact subsurface stratigraphy as well as various historic and prehistoric features. As such, the site was determined to be eligible for listing in the NRHP.

TABLE 2. ARCHAEOLOGICAL SURVEYS WITHIN ONE HALF MILE OF THE STUDY AREA.

MHT Call #:	Title	Author, Year	Company	Survey Type
WA43	A Phase I Archaeological Survey of the Washington County Fine Arts Museum Expansion Project, Hagerstown, Maryland	Hulse, Charles A., 1993	Department of Social Sciences, Shepherd College	Phase I
WA58	A Phase II Archaeological Investigation of 18WA451, Washington County Museum of Fine Arts Expansion Project, Hagerstown, MD	Hulse, Charles A., 1993	Department of Social Sciences, Shepherd College	Phase II
WA64	Preliminary Archaeological Investigations at Hager's Fancy (18WA16), Washington County, Maryland	Hulse, Charles A., 1994	Frostburg State University	Phase I
WA67	City Park, Hagerstown, Maryland Phase I Archeological Survey	Weber, Carmen, Susan M. Travis, and Janet Friedman, 1995	Dames & Moore Cultural Resource Services	Phase I
WA102	Archeological Monitoring for the Hagerstown Streetscape Project, Hagerstown, Washington County, Maryland. SHA Archeological Report No. 214	Fehr, April L., Ellen Saint Onge, and Carol Ebright, 2000	R. Christopher Goodwin & Assoc. Inc.	Monitoring

The following year, the entire City Park underwent a Phase I survey by Dames and Moore, Inc. Cultural Resources Services (MHT Call #: WA67). The investigation incorporated a shovel test survey which identified three new archaeological sites (18WA458, 18WA459, and 18WA460) and further expanded the boundaries of the Hager House Site (18WA16). The newly identified sites ranged temporally from 2500 B.C. to the 1920's. All of the sites ultimately were deemed potentially eligible for listing in the NRHP.

The final investigation was conducted in 2000 by R. Christopher Goodwin and Associates. This project involved archaeological monitoring for the Hagerstown Streetscape Project located approximately 0.23 miles northeast of the Study Area (MHT Call #: WA102). This investigation monitored various roadway improvement activities including milling and resurfacing, drainage improvements, and sidewalk replacement and repair. During the investigation three nineteenth-century brick arch drain features were identified. The features were all functioning aspects of the city's drainage system and were documented and remained intact or were repaired as necessary.

Three archaeological sites are previously recorded within one half mile of the Study Area (Table 3). None of the sites are situated within the Study Area. All of the sites exhibit precontact components while two exhibit historic components.

Site 18WA458 consists of a large precontact artifact scatter within an intact buried A horizon identified 20-30 cmbs. The sites artifact assemblage includes mostly rhyolite debitage as well as one quartz tempered non-diagnostic pottery sherd and one possible Late Archaic projectile point. Jasper, chert, and quartz debitage also was recovered. The initial Phase I survey of the site concluded that the site likely represents a transitional Archaic to Woodland site based on the surrounding environment and artifact assemblage (Weber 1995; MHT Call #:67). No additional archaeological investigations have occurred at the site.

Site 18WA451 mostly represents a historic domestic artifact scatter dating between 1760-1850. The prehistoric component is reflected by a full-grooved groundstone axe that was found by city maintenance workers. The site underwent a Phase I and Phase II investigation which ultimately concluded that the entire site was extensively disturbed with topsoil having been removed, mixed with subsoil, and redeposited (MHT Call#: 43, 58). The investigation further suggested that the soil may have been imported fill considering archival research indicated that no structures were present at the location. Nevertheless, due to the lack of intact soil, features, and evidence of structures at the location, the site was determined unlikely to yield valuable historic archaeological data.

TABLE 3. PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN ONE HALF MILE OF THE STUDY AREA

Site #	Site Name	Site Type	Topographical Setting	Investigation Summary	NRHP Status
18WA16	Hagers Fancy	Middle-Late Archaic small base camp,18th-20th century standing house	Hillslope	Phase I, II close-interval shovel testing and test units	
18WA451	Area A	19th century possible structure, Prehistoric isolate artifact	High Terrace	Phase I shovel testing; Phase II test units and surface collection	
18WA458	City Park I	Late Archaic, Early Woodland lithic scatter	Low Terrace	Phase I systematic shovel testing	Not evaluated

Site 18WA16 represents archaeological remnants of a farmstead surrounding the original location of the ca. 1740 Hager House, a NRHP listed property. Excavations at the site identified excellent stratigraphic integrity including well-defined historic strata underlain by a significant prehistoric component. Historic and precontact features were encountered including multiple historic postholes, a historic sheet midden, and a precontact firepit and ash deposits.

There are 123 historic properties listed on the Maryland Inventory of Historic Properties (MIHP) within one quarter mile of the Study Area (Table 4). Most are properties contributing to the Hagerstown Commercial Core Historic District (MIHP WA-HAG-143), the Hagerstown Historic District (MIHP WA-HAG-158), and the Potomac-Broadway Historic District (MIHP WA-HAG-159). These three districts include much of Hagerstown, representing both the town as a whole and individual parts of the town that developed at different points in the town's history. Contributing properties include 76 commercial or commercial/residential buildings, 17 individual dwellings, four religious buildings, one industrial building, and government or service buildings including firehouses, a post office, and the former site of Hagerstown's demolished town hall. This rich array of structures was constructed between the eighteenth and twentieth centuries and reflects the unique development of Hagerstown as an industrial and transportation center.

TABLE 4. DOCUMENTED MIHP PROPERTIES WITHIN ONE QUARTER MILE OF THE STUDY AREA.

MIHP #	Site Name	Date	Type	NRHP Status
WA-HAG-038	111 North Potomac Street	19th century	Commercial	Not evaluated
WA-HAG-080	128 South Potomac Street	Ca. 1810	Dwelling	Not evaluated
WA-HAG-016	D. Ramaciotti Building	19th century	Commercial	Not evaluated
WA-HAG-186	121 East Franklin Street	Ca. 1890	Dwelling	Not evaluated
WA_HAG-012	125-127 North Locust Street	19th century	Dwelling	Not evaluated
WA-HAG-049	138-140 North Potomac Street	20th century	Commercial	Not evaluated
WA-HAG-052	Albert Building	Mid-19th to mid-20th century	Commercial	Eligible
WA-HAG-108	Washington County Office Building	Ca. 1936	Commerce	Not evaluated
WA-HAG-106	Kohler Building	Ca. 1900	Commercial	Not evaluated
WA-HAG-103	Eyerly Building	20th century	Commercial	Not evaluated
WA-HAG-028	36-40 North Potomac Street	Mid 19th century	Commercial	Not evaluated
WA-HAG-035	106-108 North Potomac Street	Early 19th century	Commercial	Not evaluated
WA-HAG-228	Church of the Brethren	No Data	No Data	Not evaluated
WA-HAG-089	Alexander Inn	Early 20th century	Commercial	Not evaluated

MIHP #	Site Name	Date	Type	NRHP Status
WA-HAG-025	29-33 North Potomac Street	Ca. 1820	Civic (Demolished)	Not evaluated
WA-HAG-069	38-40 South Potomac Street	Ca. 1890s	No Data	Not evaluated
WA-HAG-072	Hager Hotel	20th century	Commercial	Eligible
WA-HAG-226	Otterbein United Methodist Church	No Data	No Data	Not evaluated
WA-HAG-178	Washington County Almshouse	19th century	Social/Humanitarian	Not evaluated
WA-HAG-116	Earles Building	Ca. 1926	Commercial	Not evaluated
WA-HAG-104	21-23-25 West Washington Street	Late 19th century	Commercial	Not evaluated
WA-HAG-020	11-15 North Potomac Street	Ca. 1910	Commercial	Not evaluated
WA-HAG-055	210-212 North Potomac Street	19th century	Dwelling	Not evaluated
WA-HAG-005	The Roslyn	Ca. 1880s	Commercial/Dwelling	Not evaluated
WA-HAG-076	Sekula Property	Ca. 1820s or 1830s	Commercial	Eligible
WA-HAG-110	Updegraff Building	Ca. 1882	Commercial	Not evaluated
WA-HAG-001	Award Beauty School	19th century	Industrial	Not evaluated
WA-HAG-150	Fleisher Building	Mid 19th to early 20th century	Commercial	Eligible
WA-HAG-034	Junior No.3 Firehouse	19th century	Firehouse	Not evaluated
WA-HAG-158	Hagerstown Historic District	18th century to 20th century	District	Listed
WA-HAG-161	Colonial Theater	Late 18th century to early 19th century	Dwelling	Not evaluated
WA-HAG-074	Heist Building	Late 1880s	Commercial	Not evaluated
WA-HAG-006	Samuel A. Suter Double House	19th t0 20th century	Dwelling	Not evaluated
WA-HAG-118	Maryland National Bank Building	Ca. 1900	Commercial	Not evaluated
WA-HAG-007	55 East Franklin Street	Mid 19th century	Dwelling	Not evaluated
WA-HAG-039	114-116 North Potomac Street	Ca. 1870s	Commercial	Not evaluated
WA-HAG-189	128-130 East Franklin Street	Ca. 1890	Dwelling	Not evaluated
WA-HAG-078	Odd Fellows Temple	No Data	No Data	Not evaluated
WA-HAG-018	5-9 North Potomac Street	Ca. 1908	Commercial	Not evaluated

MIHP #	Site Name	Date	Type	NRHP Status
WA-HAG-240	Hagerstown Bus Terminal	20th century	Commercial	Not evaluated
WA-HAG-045	130-132 North Potomac Street	Ca. early 19th century	No Data	Not evaluated
WA-HAG-056	Trinity Lutheran Church	20th century	Religion	Not evaluated
WA-HAG-023	24-28 North Potomac Street	Ca. 1883-1884	Commercial	Not evaluated
WA-HAG-029	41-45 North Potomac Street	Early to mid 19th century	Commercial	Not evaluated
WA-HAG-112	Farmers and Merchants Bank Building	Ca. 1915-1920	Commercial	Not evaluated
WA-HAG-075	Masonic Temple	Late 19th century	Social/Humanitarian	Not evaluated
WA-HAG-063	Maryland Theatre	Early 20th century	Entertainment	Listed
WA-HAG-229	First Brethren Church	No Data	No Data	Not evaluated
WA-HAG-187	117 East Franklin Street	Ca. 1890	Dwelling	Not evaluated
WA-HAG-113	60-62 West Washington Street	Ca. 1938	Commercial	Not evaluated
WA-HAG-109	Updegraff's Hat, Glove, and Fur Manufactory	19th century	Commercial	Not evaluated
WA-HAG-100	14-16 West Washington Street	Ca. 1936	Commercial	Not evaluated
WA-HAG-024	25-27 North Potomac Street	Ca. 1919	Commercial	Not evaluated
WA-HAG-030	44-46 North Potomac Street	Ca. mid 20th century	Commercial	Not evaluated
WA-HAG-051	142-144 North Potomac Street	Ca. Late 1870s	Dwelling	Not evaluated
WA-HAG-017	2-4 North Potomac Street	Ca. 1830s to 1840s	Commercial	Not evaluated
WA-HAG-180	Foltz Manufacturing & Supply Company	19th to 20th century	Commercial/Industry	Not evaluated
WA-HAG-239	Hagerstown's Market House	20th century	Commercial	Not evaluated
WA-HAG-050	Albert-Kraiss House	Ca. 1894	Social/Humanitarian	Not evaluated
WA-HAG-117	Hagerstown Trust Company Building	Ca. 1890s	Commercial	Not evaluated
WA-HAG-066	32-36 South Potomac Street	Early to Mid 19th century	Commercial	Not evaluated
WA-HAG-070	Majestic Restaurant & Union Hall	Ca. 1920s	Commercial	Eligible
WA-HAG-064	25-29 South Potomac Street	Ca. 1870s to 1880	Commercial	Not evaluated
WA-HAG-033	Hotel Patterson	19th century	Commercial	Not evaluated

MIHP #	Site Name	Date	Type	NRHP Status
WA-HAG-115	Katz/Jewelers/Twig Shop	Ca. 1820s	Commercial	Not evaluated
WA-HAG-079	St. John's Evangelical Lutheran Church	18th and 19th century	Religion	Not evaluated
WA-HAG-019	6-12 North Potomac Street	Mid 20th century	Commercial	Not evaluated
WA-HAG-022	17-19 North Potomac Street	Mid 20th century	Commercial	Not evaluated
WA-HAG-004	City Hall	1939-1940	Government	Not evaluated
WA-HAG-052	146-148 North Potomac Street	19th century	Commercial/Dwelling	Not evaluated
WA-HAG-101	15 West Washington Street	Late 19th century	Commercial	Not evaluated
WA-HAG-041	119 North Potomac Street	Early to mid 19th century	Commercial	Eligible
WA-HAG-185	Homestead Apartment Building	18th century to 20th century	Domestic	Not evaluated
WA-HAG-114	Farmers and Merchants Bank Annex	1975	Commercial	Not evaluated
WA-HAG-059	Moose Lodge	Early to mid 19th century	Entertainment	Not evaluated
WA-HAG-008	Knights of Pythias Castle	1907	Commercial	Not evaluated
WA-HAG-048	135 North Potomac Street	1885	Commercial/Apartments	Not evaluated
WA-HAG-159	Potomac-Broadway Historic District	19th to 20th century	District	Listed
WA-HAG-071	Modern Shoe Building	19th century	Commercial	Eligible
WA-HAG-077	Colonial Hotel	Early 20th century	Commercial	Not evaluated
WA-HAG-223	Pioneer Hook & Ladder Company	No Data	No Data	Not evaluated
WA-HAG-042	120 North Potomac Street	19th century	Commercial	Not evaluated
WA-HAG-011	111-123 North Locust Street	19th century	Townscape	Not evaluated
WA-HAG-143	Hagerstown Commercial Core Historic District	Late 19th century	District	Listed
WA-HAG-154	13-15 West Franklin Street	Ca. 1890	Commercial/Dwelling	Eligible
WA-HAG-224	Trinity Bible Church	No Data	No Data	Not evaluated
WA-HAG-047	134-136 North Potomac Street	Ca. 1820s to 1830s	Dwelling	Not evaluated
WA-HAG-060	7-11 South Potomac Street	Ca. 1904	Commercial	Not evaluated

MIHP #	Site Name	Date	Type	NRHP Status
WA-HAG-026	32-34 North Potomac Street	Late 19th century	Commercial	Not evaluated
WA-HAG-090	10 Public Square	19th century	Commercial	Not evaluated
WA-HAG-027	35-39 North Potomac Street	Ca. 1890s	Commercial	Not evaluated
WA-HAG-107	Routzahn Building, Baldwin House, and Warehouse	Late 19th to early 20th century	Commercial	Eligible
WA-HAG-044	John Wesley United Methodist Church	Late 19th century	Religious	Not evaluated
WA-HAG-062	Edison Apartments	20th century	Commercial	Not evaluated
WA-HAG-193	51 East Antietam Street	Late 19th to early 20th century	Dwelling	Not evaluated
WA-HAG-157	U.S. Post Office	Mid 20th century	Government	Not evaluated
WA-HAG-188	113-115 East Franklin Street	Ca. 1890	Dwelling	Not evaluated
WA-HAG-033	46-48 East Street	Ca. 1880s	Townscape	Not evaluated
WA-HAG-111	McCrory Building	Mid to late 20th century	Commercial	Not evaluated
WA-HAG-102	Glick's Shoe Store Building	Ca. 1924	Commercial	Not evaluated
WA-HAG-031	Max Simon Building	Ca. 1915	Commercial	Eligible
WA-HAG-099	4-6 West Washington Street	Late 19th century	Commercial	Not evaluated
WA-HAG-091	12-16 Public Square	Ca. 1880s	Commercial	Not evaluated
WA-HAG-036	109 North Potomac Street	Ca. 1914-1915	Commercial	Not evaluated
WA-HAG-046	John Wesley United Methodist Church Parsonage	Early 20th century	Commercial	Not evaluated
WA-HAG-119	Hamilton Hotel	Mid 1880s	Commercial	Eligible
WA-HAG-065	28 South Potomac Street	Ca. 1916	Commercial	Not evaluated
WA-HAG-142	Hagerstown Charity School	19th century	Nursery	On National Register
WA-HAG-037	110-112 North Potomac Street	Ca. 1890	Commercial	Not evaluated
WA-HAG-068	First Hose Fire Company	19th century	Firehouse	Not evaluated
WA-HAG-081	130 South Potomac Street	19th century	Dwelling	Not evaluated
WA-HAG-013	135-137 North Locust Street	19th century	Dwelling	Not evaluated
WA-HAG-040	115 North Potomac Street	Ca. 1870s	Commercial/Offices	Eligible

MIHP #	Site Name	Date	Type	NRHP Status
WA-HAG-021	16 North Potomac Street	Ca. 1781	Dwelling	Not evaluated
WA-HAG-043	W.O.W. Building	Ca. 1921	Commercial/Offices	Not evaluated
WA-HAG-057	Professional Arts Building	Early 20th century	Commercial	Not evaluated
WA-HAG-105	Hays Building	Ca. 1905	Commercial	Not evaluated
WA-HAG-032	51-53 North Potomac Street	Ca. 1820s to 1830s	Commercial	Not evaluated
WA-HAG-054	Zion Evangelical and Reformed Church	19th century	Religious	Not evaluated
WA-HAG-088	Peoples Drug Store	Ca. 1958	Commercial	Not evaluated
WA-HAG-073	Moss Building	Late 19th century	Commercial	Not evaluated
WA-HAG-058	2-4 South Potomac Street	Ca. 1870s	Commercial	Not evaluated
WA-HAG-053	YMCA Building	Ca. 1920	Educational/Entertainment/Religious	Not evaluated

4. SUMMARY AND RECOMMENDATIONS

Summary

From February to May 2020, AAHA conducted a Phase IA archaeological assessment of the proposed Hagerstown Multi-Use Sports and Events Facility property in Hagerstown, Washington County, Maryland. The MSA and City are working under a Memorandum of Understanding for MSA to provide architectural/engineering services related to the potential development of the facility at the ca. 6.25-acre Baltimore Street site in Hagerstown, Washington County, Maryland. The overall objectives of the archaeological assessment were to identify previously recorded archaeological sites and architectural properties in the vicinity of the Study Area that may be significant to regional and national cultural heritage, and to determine the effects of future activities on those properties. The Phase IA archaeological assessment included an intensive background investigation to provide a determination of archaeological probability for the property. All work was conducted in accordance with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and the Maryland Historical Trust (MHT) *Standards and Guidelines for Archaeological Investigations in Maryland* (Shaffer and Cole 1994) and where appropriate, *Technical Update Number 1* (Revised 2005).

The Study Area is located southeast of historic downtown Hagerstown, just outside the Hagerstown Historic District (WA-HAG-158) and Hagerstown Commercial Core District (WA-HAG-143). It is bounded by West Antietam Street, Summit Avenue, West Baltimore Street, and Ayers Alley, and is currently occupied by commercial buildings and parking lots. Both neighboring historic districts are listed on the National Register of Historic Places (NRHP). Although there are no documented historic properties located within the Study Area, the Baltimore and Ohio (B&O) railroad depot servicing Hagerstown was once located at the corner of West Antietam Street and Summit Avenue just outside the Study Area's north corner. This depot directly influenced the placement of the standing Antietam Fire Hall (WA-HAG-195) and Former Post Office (WA-HAG-196) across the street.

Archaeological Potential of the Study Area

Three archaeological sites with precontact components have been identified within one mile of the Study Area. Although it has been modified, the Study Area originally would have occupied a flat space near an unnamed tributary of Antietam Creek that would have provided access to both terrestrial and riverine food resources. The Great Wagon Road, a vital historic transportation corridor through the Great Valley, runs through Hagerstown and was built over an existing Native American trail system. Due to these factors, the Study Area would normally have a high potential for precontact archaeological resources; however, the classification of this area as Urban land indicates that Precontact archaeological resources would likely not retain sufficient integrity or would have been removed altogether as a result of the extensive historic development.

Two archaeological sites with precontact components have been identified within one mile of the Study Area and 123 documented MIHP properties are located within one quarter mile of it. The

Study Area is located near the heart of historic Hagerstown and served a vital function as a freight yard that fostered its economic growth and industry during the nineteenth and early twentieth centuries. Industrial, commercial, and residential activity is documented within and adjacent to the Study Area, all of which may have left imprints in the archaeological record. A cemetery associated with St. John's Evangelical Lutheran Church was located along the eastern edge of the Study Area. The Study Area is currently occupied by commercial structures and parking lots and classified as Urban land, but the degree to which these historic resources remain intact beneath the modern development is unknown.

Recommendations

Historic maps and records document extensive construction disturbance within the Study Area beginning in the early twentieth century and continuing to the construction of the extant commercial buildings and parking lots. This included grading and track-laying for the railroad and freight yard, as well as its eventual decommissioning, which would have severely impacted site integrity in the center of the Study Area. Precontact sites tend to contain perishable materials that do not survive the kind of extensive disturbance created by large construction episodes. Historic features, on the other hand, tend to be more durable and may have survived the twentieth-century construction. While modern demolition and construction may have further disturbed archaeological resources in the center of the property, there is a moderate probability that intact archaeological resources exist in the corners of the property where clusters of structures are mapped on late nineteenth and early twentieth century historic maps. Traditional hand excavation methods of archaeological survey are unlikely to be effective in this environment, but carefully conducted mechanical trenching under the close supervision of an archaeologist has been successful in identifying intact contexts in comparable urban environments. As such, mechanical trenching is recommended in the northeast, northwest, and southeast corners of the property to document possible in situ cultural features and contexts. In addition, mechanical trenching is recommended in the center of the property to assess the degree to which construction activity related to the railroad impacted that portion of the Study Area.

The cemetery associated with St. John's Evangelical Lutheran Church is generally shown on historic maps outside the Study Area and multiple records indicate that it was moved, however no records could be found of the number of individuals who were originally buried there or disinterred. It is possible that burials might be present along the southeastern boundary of the Study Area where it borders the St. John's Evangelical Lutheran Church property. Archaeological monitoring is recommended in that area to assure that human remains are not disturbed by the proposed ground disturbing activity.

Finally, it is recommended that a viewshed analysis be conducted by a qualified architectural historian once the final concept plan of the facility is adopted in order to evaluate potential adverse effects to the surrounding historic districts and numerous individual historic structures in the vicinity.

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APPENDIX A

CHAIN OF TITLE

Parcel A

1601:481 Deed **October 2, 2000**
Grantee: Board of County Commissioners of Washington County, Maryland
Grantor: Farmers & Merchants Bank and Trust
Consideration of $1,125,000. The property is bounded by Summit Avenue to the west, Hood Street to the north, and W Baltimore Street to the south. Being all the same land described in a deed from H. L. Mills Incorporated to Farmers & Merchants Bank and Trust dated 1995 (1203:955). The property contains 1.458 acres.

1203:955 Deed **March 20, 1995**
Grantee: Farmers & Merchants Bank and Trust
Grantor: H. L. Mills Incorporated
Consideration of $340,000. The property is bounded by Summit Avenue to the west, Hood Street to the north, and W Baltimore Street to the south. The property is a combined circumference of two properties, one being all the same land conveyed from Herman L. Mills and Alice K. Mills, his wife, to H. L. Mills Incorporated in 1957 (324:604) and the other being the residual portion of Parcel II left after the establishment of Hood Street, conveyed in a deed from Western Maryland Railway Company to H. L. Mills, Inc., in 1965 (427:420) [Parcel A1].

Parcel A1
427:420 Deed **August 5, 1965**
Grantee: H. L. Mills, Inc.
Grantor: Western Maryland Railway Company
Nominal consideration. The land consists of two parcels. Parcel I, which is not included in the Study Area, consists of 4.1 acres. Parcel II contains 1.1 acres and is described as being on the north marginal side of Baltimore Street, 252.7 feet from the intersection of Baltimore Street and Summit Avenue (formerly Jonathan Street), and is bounded in the east by the “right of way of the Baltimore and Ohio Railroad (*now Hood Street).* Reserving unto the grantor, for purpose of maintaining and operating 2 existing railroad tracks. Being the same parcel of land known as Lot No. 4 conveyed by deed dated 1909 from Safe Deposit and Trust Company of Baltimore to the Western Railway Company (133:103).

133:103 Deed **December 15, 1909**
Grantee: Western Maryland Railway Company
Grantor: Safe Deposit and Trust Company of Baltimore, trustee, H. Elise Buck, formerly H. Elise Vogeler, Walter H. Buck, her husband, and Charles G. W. Vogeler all of Baltimore City.
The Grantor is the owner of the revisionary interest in four lots, as trustee by virtue of two deeds of trust. The first deed was made by H. Elise Buck, formerly H. Elise Vogeler, from 1909 (116:172), conveying an undivided half interest in the property, and the other being the deed of Charles G. W. Vogeler, conveying the other undivided half interest in 1904 (120:65). The property being conveyed has been held by the Western Maryland Railroad Company under the terms of a lease from Minnie A. Vogeler, from 1884 (86:110), and an agreement of said lease from 1899 (111:138). With the consent of H. Elise Buck and Charles A. W. Vogeler, the trustees are conveying four lots of ground to the railroad company for $30,000. The lot within the Study Area is Lot 4, described as being on the north marginal line of Baltimore Street and contains one acre and 23 perches.

116:172 Deed of Trust **June 26, 1902**
Grantee: the Safe Deposit and Trust Company
Grantor: H. Elise Vogeler of Baltimore City
Nominal consideration. The Grantee is conveying the rights to her estate to the Safe Deposit and Trust Company. The deed includes multiple parcels of land in Baltimore City and Washington County. The property in question consists of Elise Vogeler's right, title, and interest in four lots of ground in Washington County which are particularly described in the deed of partition between William H. Vogeler and others and H. Elise Vogeler in 1902 (116:34).

120:65 Deed **April 14, 1904**
Grantee: Safe Deposit and Trust Company of Baltimore, trustee
Grantor: Charles A. W. Vogeler of Baltimore City
Nominal consideration. The Grantee is conveying the rights to his estate to the Safe Deposit and Trust Company. The deed includes multiple properties in Maryland and Washington, D.C. The property in question consists of Charles A. W. Vogeler's right, title, and interest in four lots of ground in Washington County which are particularly described in the deed of partition between William H. Vogeler and others and H. Elise Vogeler in 1902 (116:34).

116:34 Deed of Partition **April 17, 1902**
Grantee: Minnie D. Bruce, formerly Minnie D. Vogeler and Luther Bruce, her husband of the second part, H. Elise Vogeler of the third part and Charles A. W. Vogeler of the fourth part
Grantor: William H. Vogeler
Nominal consideration. The said parties have agreed upon a division of the property that they own as tenants in common. The parties of the second part grant unto H. Elise Vogeler and Charles A. W. Vogeler all the right, title, and interest of the said William H. Vogeler and Minnie Bisu, the following four lots of ground. The property in question is lot No. 4 which is begins on the north marginal line of Baltimore Street, about 230 feet southeast of the intersection of Baltimore Street and Jonathan Street. The property follows the boundary of Baltimore Street to the intersection with Hood Street, then follows Hood Street to the intersection of Jonathan Street and then follows Jonathan Street to the property of B. F. Firey. Being the same property described in a lease from Minnie A. Vogeler to the Western Maryland Railroad Company in 1884 (86:110) and an agreement of said lease from 1899 (111:138).

111:138 Agreement **June 30, 1899**
Grantee: Minnie A. Devries, formerly Minnie A. Vogeler, and Charles A. W. Vogeler of the third part
Grantor: Western Maryland Railroad Company
The Railroad company is indebted to Minnie A. Devries, guardian of Charles A. W. Vogeler, William J. Vogeler, Caroline M. Vogeler, H. Elise Vogeler and Minnie Vogeler in the sum of $30,000 loaned to said company by Minnie A. Vogeler (now Minnie A. Devries) under an order of the Orphans Court of Baltimore County, which loan is secured by a certain ground rent accounting to $1,650 per year, payable semi-annually, under a lease from 1884 (86:110). This agreement is extending the period of payment of the loan a further 15 years.

86:110 Lease **June 30, 1884**

Grantee: The Western Maryland Railroad Company
Grantor: Minnie A. Vogeler of Baltimore County
Consideration of $30,000. Four lots are being conveyed in this lease with lot No. 4 being the property in question. The lot contains 1 acre and 23 perches and has the same bounds as the other deeds above. Being the same parcels of land that were conveyed to Minnie A. Vogeler by John M. Hood and wife. For the next 15 years the railroad company must pay a rent of $1,650 to Minnie and her heirs.

86:107 Deed **June 30, 1884**
Grantee: Charles A. W. Vogeler, William J. Vogeler, Caroline M. Vogeler, H. Elise Vogeler, and Minnie Vogeler
Grantor: Minnie A. Vogeler of Baltimore County
Consideration of $30,000 and in pursuance of an order of the Orphans Court of Baltimore County, the said Minnie A. Vogeler doth grant and convey unto the parties of the second part as tenants in common, the four parcels of land in Washington County. The parcel in question is Lot No. 4. Being the same parcels of ground which by deed dated 1884 was devised and leased by Minnie A. Vogeler to the Western Maryland Railroad Company for the term of 15 years at the yearly rate of $1650 payable half yearly.

86:104 Deed **June 27, 1884**
Grantee: Minnie A. Vogeler of Baltimore County
Grantor: John M. hood and Florence E. Hood, his wife of Baltimore City
Consideration of $30,000. This property was conveyed to Minnie A. Vogeler by an order of the Orphans Court of Baltimore County passed on June 24, 1884. Minnie A. Vogeler will lease the property to the Western Maryland Railroad Company for the term of fifteen years reserving an annual rent to her of $1,650 payable semi annually in equal payment of $825 and the usual convenants contained in such leases. Being the same tracts of land conveyed to John M. Hood to B. F. Firey and wife in 1883 (85:57) [A1.1] and 1884 (85:381) [A1.2].

A1.1
85:57 Deed **December 3, 1883**
Grantee: John W. Hood of Baltimore County
Grantor: Benjamin F. Firey and Ann S. Firey, his wife, Laura E. Firey, Helen V. Firey, and Mary S. Firey
Consideration of $2,000. This deed consists of two parcels which were conveyed to the grantors by Jacob H. Firey in 1879 (78:491). These parcels contain about 165 perches

A1.2
85:381 Deed **April 16, 1884**
Grantee: John W. Hood
Grantor: Benjamin F. Firey and Ann S. Firey, his wife, Laura E. Firey, Helen V. Firey, and Mary S. Firey
Consideration of $650. This property is bounded by Jonathan Road to the west and the east by Parcel A1.1. Being part of the same land conveyed by Jacob H. Firey to the grantors by deed dated 1879 (78.491).

78:491 Deed **September 13, 1879**

Grantee: Ann Sophia Firey, for her life, and to Laura Ellen Firey, Mary Susan Firey and Helen Virginia Susan, in her death
Grantor: Jacob H. Firey
Nominal consideration. Jacob is conveying the property to his mother Ann Sophia for the duration of her life and to his sisters Laura, Mary and Helen in her death. The property is bounded on the west by South Jonathan Street (*now Summit Avenue)*, in the south by West Baltimore Street, and in the east by the property of the Washington County Railroad and contains a large, two-story brick dwelling house. The property contains 2 acres and 40 perches. Being part of the property conveyed to Jacob Fiery and Benjamin F. Fiery, trustees, by deed dated 1874 (WMcKK 6:355). *See Parcel A2*

Parcel A2

324:604 Deed **June 28, 1957**
Grantee: H. L. Mills, Incorporated
Grantor: Herman L. Mills and Alice K. Mills, of Washington County
Nominal consideration. The property is bounded on the west by Summit Avenue and on the south by West Baltimore Street. Unclear how large the property is. Being the same parcel of land which was conveyed to Herman L. Mills by Charles W. Hoffman and others by deed dated 1950 (254:690).

254:690 Deed **January 5, 1950**
Grantee: Herman L. Mills
Grantor: Charles W. Hoffman and Elizabeth M. Hoffman, his wife, and Leonard G. Mathias and Mildred J. Mathias, his wife of Washington County
Nominal consideration. The property is bounded by Summit Avenue to the west and West Baltimore Street to the south. Being the same parcel of land conveyed to Charles W. Hoffman and Leonard F. Mathias, as tenants in common, by Helen Virginia Firey, unmarried, by deed dated 1943 (223:614).

223:614 Deed **August 26, 1943**
Grantee: Charles W. Hoffman and Leonard G. Mathias
Grantor: Helen Virginia Firey, unmarried, of Hagerstown
Nominal consideration. Helen is conveying the property to Hoffman and Mathias as tenants in common. The property is bounded by Summit Avenue to the west and West Baltimore Street to the South. There is a brick dwelling on the property. Being a part of that parcel of land which was conveyed to Ann Sophia Fiery, mother of the grantor, for her life and at her death to Laura Ellen Fiery, Mary Susan Fiery and the said Helen Virginia Fiery by Jacob H. Fiery by deed dated September 13, 1879 (78:491). Helen is the sole survivor and heir and acquired the entire interest in the property after Ann Sophia's death.

78:491 Deed **September 13, 1879**
Grantee: Ann Sophia Firey, for her life, and to Laura Ellen Firey, Mary Susan Firey and Helen Virginia Susan, in her death
Grantor: Jacob H. Firey
Nominal consideration. Jacob is conveying the property to his mother Ann Sophia for the duration of her life and to his sisters Laura, Mary and Helen in her death. The property is bounded on the west by South Jonathan Street (*now Summit Avenue)*, in the south by West

Baltimore Street, and in the east by the property of the Washington County Railroad and contains a large, two-story brick dwelling house. The property contains 2 acres and 40 perches. Being part of the property conveyed to Jacob Fiery and Benjamin F. Fiery, trustees, by deed dated 1874 (WMcKK 6:355).

WMcKK 6:355 Deed **March 17, 1874**

Grantee: Jacob Firey

Grantor: Jacob Firey and Benjamin F. Firey, trustees, of Washington County

Consideration of $3,000. Jacob and Benjamin were appointed trustees in a circuit court cause of Jacob Fiery and wife and other vs. William Swigley and wife and other No. 2443, in order to sell the real estate of the late Susan Firey. Being the property on which Susan Firey died, seized and possessed. The property contains 2 acres and 44/100 acres. There is a brick dwelling on the property, now occupied by Benjamin Firey. The property begins at the intersection of South Jonathan Street and the newly opened West Baltimore Street, crosses West Baltimore Street and extends south. The property contains 2.44 acres of land.

Parcel B and C

5890:35 **December 17, 2018**
Grantee: Sweeney Bros. Properties, LLC
Grantor: D&P Properties
In consideration of $284,000. The address of the property is 140 Summit Avenue. The property is bounded by Summit Avenue (formerly Jonathan Street) to the west and Hood Street to the south. Being the same property conveyed unto D&P Properties by Confirmatory Deed from Donald W. Baker, G. Philip Mummert and Nancy M. Mummert in 2014 (4744:51).

4744:51 **April 15, 2014**
Grantee: D&P Properties
Grantor: Donald W. Baker, G. Philip Mummert, and Nancy M. Mummert all of Washington County, the “Confirming Grantors”
No consideration. Donald Baker and G. Philip Mummert are the only partners of a general partnership named D&P Properties since 1984, each owning an equal share of the partnership property. When they acquired this property in 1991 from H. L. Mills, Inc. (995:999), they mistakenly named the spouse of G. Philip Mummert, Nancy M. Mummert, as a tenant by the entirety of a one-half interest in the property. This deed is to confirm that Nancy M. Mummert is not a partner and has no ownership interest in this property.

995:999 **May 31, 1991**
Grantee: Donald W. Baker, G. Philip Mummert, and Nancy M. Mummert, his wife
Grantor: H. L. Mills, Inc.
Consideration of $200,000. H. L. Mills, Inc. is conveying a ½ interest unto Donald W. Baker and a ½ interest to the Mummerts. The two ½ interests are to be held as tenants in common. Being the same lands and property, which were conveyed unto H. L. Mills, Inc. by Ludwig Motor Service, Inc. by confirmatory deed in 1958 (340:249).

340:249 Confirmatory Deed **October 1, 1958**
Grantee: H. L. Mills, Inc.
Grantor: Ludwig Motor Service, Inc.
Consideration of $40,000. Ludwig Motor Service, Inc. and H. L. Mills, Inc. have executed Articaled of Sale and Transfer dated September 22, 1958, and filed for approval with the State Tax Commission of Maryland. Articles of Sale and Transfer were filed for approval with the State Tax Commission on September 25 and have been so duly approved. Being the same property conveyed to the grantor by Mary E. Sherley, widow, et al in 1940 (212:265).

212:265 Deed **May 9, 1940**
Grantee: Ludwig Motor Service, Inc.
Grantor: Mary E. Sherley, widow, Vivian A. Sherley Kuhn and John F. Kuhn, her husband, all of Washington County, Maryland
Nominal consideration and the assumption by the grantees of a mortgage on the property given to the Home Builders Savings and Loan Association of Hagerstown, Washington County, Maryland, on which there is an unpaid balance of $11,000, with interest (207:701). The property

is bounded by Summit Avenue to the west, the lands now or formerly owned by Susan Firey to the north, and Hood Street to the south.. Being the same property conveyed in a deed from John W. Mysers, et al to Owen D. Sherley in 1919 (155:452). Owen D. Sherley died intestate and the property descended to Mary E. Sherley, his widow, and Vivian A. Sherley, his daughter.

155:452 **August 1, 1919**

Grantee: Owen D. Sherley
Grantor: John W. Myers and Carrie C. Myers, his wife, Noah W. Myers and Nora M. Myers, his wife, of Washington County
Consideration of $8,000. The property is bounded by Summit Avenue to the west, the lands now or formerly owned by Susan Firey to the north, and Hood Street to the south. Being the same lands which were conveyed to John W. Myers and Noah W. Myers, partners trading as J. W. Myers & Co. in 1916 (151:211).

151:211 **November 7, 1917**

Grantee: John W. Myers and Noah W. Myers, partners, trading as H. W. Myers & Company
Grantor: The Washington County Railroad Company
Consideration of $8,000. The property is bounded by Summit Avenue to the west, the lands now or formerly owned by Susan Firey to the north, and Hood Street to the south. Being parts of the same land which were conveyed to The Washington County Railroad Company by Robert Fowler et ux in 1969 (W. McK.K. No 1:29) and by Alpheus E. Appleman et ux in 1967 (W. McK. K. No 1: 26). [*Parcel D2].*

Parcel D

5918:156 Special Warranty Deed **January 31, 2019**
Grantee: Gatehouse Media Maryland Holdings, Inc.
Grantor: The Herald-Mail Company
Consideration of $3,312,000. The property has the address of 100 Summit Avenue, Hagerstown, MD 21740. The property is bounded by Summit Avenue to the west and Antietam Street to the north. The property contains 4.77 acres of land. Saving and excepting therefrom all that property conveyed by Donation Agreement (5207:174 WC Land Rec), and deed (5207:187, 5207:198 WC Land Rec), as confirmed by deed (5564:179 WC Land Rec).

5564:179 Quitclaim Deed **August 3, 2017**
Grantee: The City of Hagerstown
Grantor: The Herald Mail Company
No consideration. The Herald Mail Company is the owner of certain property in Washington Maryland (704:26 WC Land Rec) and the grantor did grant, convey, release, quitclaim, and surrender unto the grantee a portion of the grantors property more particularly described in a Quit Claim Deed from 2016 (5207:198 WC Land Rec). The grantor desires to execute this Quitclaim deed for the purposes of confirming and extending the area quitclaimed and otherwise conveyed to the grantee. 7 square feet of land are being conveyed in this deed.

704:26 Deed of Correction **July 23, 1980**
Grantee: The Herald Mail Company
Grantor: The Washington County Railroad Company
Whereas, by deed dated May 13, 1976 (614:480 WC Land Rec). The grantor conveyed to the grantee one parcel of land containing 4.77 acres, more or less, in Hagerstown, which deed contains among other provisions, the following covenant: “excepting and reserving unto grantor, Grantor’s successors and assigns, the ownership in Track T-D24 (2) and three turrnouts located within the parcel herein conveyed, and the right to remove same upon cessation of use, together with a non-exclusive easement for said track and turnouts and the right to operate and maintain same over and across parcel of land, as well as use same for team track operation; said easement area located parallel, adjacent and long the easterly boundary line, containing 22,400 square of .5 of an acre, more or less, as shown on Grantor’s Drawing no. RE&IDD-289, which is made a part hereof by record and the right to remove said track and facilities upon cessation of use.” The covenant is being amended as follows: “ Excepting and reserving unto Grantor, Grantor’s successors and assigns, the ownership in Track T-D24(2) where now located within the parcel herin conveyed and the right to remove same upon cessation of use, together with a non-exclusive easement for said track the right to operate and maintain same over and across parcel of land; said easement being parallel to or concentric with and generally eight and one half feet distant from either side of the centerline of said track, containing 11,570 square feet, or .27 acres as shows on grantor’s drawing RE&IDD-289, revised June 1980, which is made a part hereof and the right to remove said track and facilities upon cessation of use.”

614:480 Deed **May 13, 1976**
Grantee: The Herald Mail Company
Grantor: Washington County Railroad Company

Consideration of $450,000. The property is bounded by Summit Avenue to the west and West Antietam Street in the north. The property contains 4.77 acres. Grantor retains the right to .51 acre of the property, ownership of Track T-D24(2) and three turnouts located on the property as well as the right to operate and maintain the track and turnouts and the right to remove them upon cessation of use.
Being all or a portion of the property acquired by the grantor from the following conveyances

1. I.N. 18:702 1867 from Susan Firey
2. W. McKK. 1:26 1867 from Alpheus R. Appleman
3. 92:612 1889 from Samuel H. Miller
4. 81:522 1891 from the Church Council of the Evangelical Luthern Congregation
5. I.N. 18:705 1867 from the Church Council of the Evangelical Luthern Congregation
6. W.McKK 1:29 1868 from Robert Fowler
7. W. McKK 1:31 1868 from William T. Hamilton
8. W. McKK 4:295 1871 from Presbyterian Church of Hagerstown
9. I.N. 18:702 1867 from Presbyterian Church of Hagerstown

Parcel D1

18:702 Deed **May 8, 1807**

Grantee: The Washington County Railroad Company
Grantor: Susan Firey of Washington County
Consideration of $2,000. The roadbed of the Washington Country Railroad Company is extending through the property of Susan Firey. The amount of property being conveyed to the Railroad Company is calculated as 33 feet in each direction at right angles to the centerline of the roadbed, and extending in addition thereto, one foot and a half horizontally for every one vertical foot of any embankment and one foot horizontally for every vertical foot of any cut through the said land.

Parcel D2.

WMcKK 1:26 **November 25, 1867**

Grantee: Washington County Railroad Company
Grantor: Alpheus R. Appleman
Consideration of $3,000. Situated on the Hagerstown and Williamsport Turnkpike Road and adjoining the lot of ground owned by Robert Fowler, on the north by said Turnpike Road or Jonathan Street in Hagerstown in the west and the property owned or occupied by Mrs. Firey on the south and being the same parcel that was conveyed to Alpheus R. Appleman by John G. Brendel and Susan W. Brendel, his wife in 1866 (LBN 1:383 WC Land Rec)

LBN 1:353 **February 16, 1866**

Grantee: Alpheus R. Appleman
Grantor: John G. Brendel and Susan M. Brendel, his wife of Baltimore County, and William A. Minnick and Maria A. Minnick his wife
Consideration of $1,800. The property is bounded in the north by the property of Robert Fowler, in the west by Jonathan Street and in the south by the property owned or occupied by Mrs. Firey, being the same property now occupied by George Parkhouse containing about 1 acre of land more or less improved upon by a small brick dwelling house, stable and other buildings. John G. and Maria Minnick were the only two children of John Brendel and inherited this

property from their grandfather George Brendel who owned many properties and houses in Hagerstown and devised this specific property to them in his will

HH:655 Deed **November 2, 1825**
Grantee: George Brendel
Grantor: Frederick Stover, Jacob Stover, etc.
Consideration of $375. Property is within Elizabethtown and is part of lot 284.

Parcel D3.
GBO 92:612 **January 8, 1889**
Grantee: Washington County Railroad Company
Grantor: Samuel Miller and Sarah A. Miller, his wife of Washington County
Nominal consideration. Being the same land that was conveyed to Samuel and Sarah by the Presbyterian Church of Hagerstown by deed dated 1881 (81:135 WC Land Rec)

81:135 Lease **May 3, 1881**
Grantee: Samuel H. Miller
Grantor: The Presbyterian Church of Hagerstown
The church is leasing the property to Samuel Miller for the term of 99 years and then to be complete and ended. The property is bounded in the east by the lots owned by Samuel H. Miller and a certain David Wolf, on the south by a lot owned by the said Samuel H. Miller, on the west by the lands of the Washington County Railroad Company and on the north by the lot belonging to the Lutheran Church or Congregation. Being part of the same lot or parcel of land devised to the Presbyterian Church or Congregation by Hugh Kennedy in his last will and testament, (D:163 WC Land Rec) and part of the lot of land conveyed to the said Hugh Kennedy by David G. Yost, Trustee of the heirs of Jacob Schull, deceased (O.O:785 WC Land Rec)

O.O:785 Deed **February 6, 1834**
Grantee: David G. Yost of Washington County
Grantor: Hugh Kennedy of Washington County
Nominal consideration. By a decree at a court of equity hearing on July 29, 1833, David G. Yost was appointed trustee and authorized to sell a portion of the real estate of Jacob Sholl, late, of Washington County for the purpose of distributing the proceeds among the heirs. The property was sold to Jacob Scholl on April 2, 1810 by Jonathan Hager (W:77 WC Land Rec). The property being conveyed consists of two lots.

W:77 Deed **April 2, 1810**
Grantee: Jacob Sholl of Washington County
Grantor: Jonathan Hager of Washington County
Consideration of $1,000. The property being conveyed is part of a larger lot or portion of ground conveyed by Jonathan Hager, deceased, to Samuel Finley, deceased, in 1774. The property is described as being at the southeast corner of the schoolhouse lot belonging to the Lutheran Congregation in Elizabethtown.

Parcel D4.
81:521 Deed **September 21, 1881**
Grantee: Washington County Railroad Company

Grantor: The Church Council of the Evangelical Lutheran Congregation of Hagerstown
Consideration of $250. The church is conveying 18 square perches to the Washington County Railroad Company. Being part of the land conveyed to the Grantor by Samuel Steele and Rachel McCurdy, executors of the estate of John McCurdy (IN 4:591 WC Land Rec).

IN 4:591 Deed **May 16, 1849**
Grantee: Church Council of the Evangelical Lutheran Congregation of St. John's Church in Hagerstown
Grantor: Samuel Steele and Rachel McCurdy, executors of the estate of John M. McCurdy
Consideration of $288. Conveying a lot or parcel of ground being part of the land conveyed to the said John McCurdy by James Belt by deed dated 1827 (II:652 WC Land Rec) it being part of lot number 285 in Hagerstown as numbered on the original plan thereof and also lot number 4 of Rohrers Addition to Hagerstowrn. Beginning at the northwest corner of lot No. 132 of the lots in the general plan of Hagerstown, it being one of the lots on which the Lutheran Church is built and running thence with part of said lots conveyed by Samuel Steele and Rachel McCurdy to William Brazier by deed dayed March 31, 1843 (OHW 1:6) Bounded by Kellers lots to the west along West Antietam Street. Also bounded by a property formerly owned by Sholls heirs, now owned by the Presbyterian Parsonage. Estimated to be about 1 ¼ acres.

II:650 **October 11, 1827**
Grantee: John McCurdy of Washington County
Grantor: James Belt of Prince George's County
Consideration of $300. Being the same land devised to James Belt by his brother Thomas Belt, late, of Washington County in his will dated September 26, 1822. The property is described as being on the southwest side of Antietam Street, bounding on the properties of Peter Figely, Jacob Sholl's heirs, the Lutheran Schoolhouse, the southern church lot, and Catherine Stover. The property contains 2 acres an 10 perches of land.

EE:378 Deed **February2, 1820**
Grantee: Thomas Belt of Washington County
Grantor: Otho Hollands Williams of Washington County
Consideration of $6,000. The property is described as lots number 4 and 5 in Rohrer's Addition to Hagerstown and part of lot number 285 in Hagerstown. The property is along the southwest side of Antietam Street and contains 2 acres and 10 perches.

BB:207 **April 3, 1816**
Grantee: Otho H. Williams
Grantor: David Harry
Consideration of $6,000. Being in and adjoining Hagerstown, being lots number 4 and 5 in Rohrer's Addition to Hagerstown and a part of lot number 285 in Hagerstown. The property is along the southwest side of Antietam Street and contains 2 acres and 10 perches.

T:428 Deed **July 7, 1809**
Grantee: David Harry
Grantor: George Belzhoover
Consideration of $600. Beginning at the northeast corner of lot number 285 as known and distinguished in the general plan of Elizabethtown. The property is bounded by the street,

Jonathan Hager's lot in Rohrer's Addition to Elizabethtown, the German Lutheran Schoohouse Lot, and the lots of George Brendel and David Harry.

P:785 Deed **May 6, 1804**
Grantee: George Beltzhoover of Elizabeth Town
Grantor: Melcher Beltzhoover, of St. Clair Township in Allegheny and Commonwealth of PA
Consideration of $1,000. The property consists of five numbered lots in a general plan of lots, sold by Jacob Rhorer, No. 4, 5, 6, 7, and 8. Being the same five lots which were conveyed to Melcher Beltzhoover from Jacob Rohrer in 1774 (V:420 FC Land Rec). The Grantor is also conveying the land beginning at the southeast corner of the aforesaid five lots and running by the southwest street of said town 164 to the other street of said town. Being the same three lots conveyed to Melcher Beltzhoover by Jacob Rohrer in 1777 (A:124 WC Land Rec). The Grantor is also conveying lot No. 258, numbered in the new general plan of the towsn. Being the same lot conveyed to Melcher Beltzhoover from Jonathan Hager in 1774 (V:625 FC Land Rec).

A:124 Deed **December 26, 1777**
Grantee: Melcher Beltzhoover
Grantor: Jacob Roaror
Consideration of ten pounds and the yearly ground rent of nine shillings. The property being conveyed consists of lots No. 18, 19, and 27, numbered in the general plan kept by Jacob Rhorer for his land being called Addition to Elizabethtown.

V:420 Deed (Frederick County) **April 23, 1774**
Grantee: Melcher Beltzhoover
Grantor: Jacob Roaror
Consideration of 69 pounds. All that portion of land in five lots adjoining Jonathan Hager's lines of his town. Being part of a tract of land where on Jacob Rhorer lives and numbered in a general plan by him the said Jacob Rohrer, kept for numbering the lots adjoining Elizabethtown, being lots No. 4, 5, 6, 7, and 8.

V:625 Deed (Frederick County) **May 23, 1774**
Grantee: Melcher Beltzhoover, butcher
Grantor: Jonathan Hagar, gentleman
Consideration of 10 pounds and a yearly ground rent of 4 shillings. All that portion of land adjoining the northwest end of the Lutheran Church lots in Elizabethtown, numbered in the new general plan as lot No. 285.

S:143 (Frederick County) Deed **April 12, 1773**
Grantee: Jacob Rhorer, of Frederick County
Grantor: John Rhorer of Lancaster County, Pennsylvania, farmer
Consideration of 650 pounds. John Rhorer is conveying parts of four different tracts of land, including "Rushia Corner", "Exchange", "Found It Out", and "Hager's Fancy".

S:137 (Frederick County) Deed **April 10, 1773**
Grantee: John Rohrer of Pennsylvania, farmer
Grantor: Jonathan Hagar of Frederick County

Consideration of 230 pounds. Jonathan Hager is conveying part of four different tracts of land, including “Hager’s Delight”, “Found It Out”, “Exchange”, and “Stoney Batter Addition to Stoney Batter P. Dickson’s Meadows”, which is now called “New Work”. The property contains over 175 acres.

MSA S1197-3377 **May 11, 1765**
New Work 714 acres
Jonathan Hagar
Supposedly the land that he created Elizabethtown out of.
To resurvey the following tracts or parcels of Land, Stoney Batter _____ on he 20th of March 1762 granted him for 118 acres under Red A Addition ____ Stoney Batter originally on the 9th day of March 1763. Granted him for 82 acres, Discksons Meadow originally on 4th day of June 1759

MSA S1197-1508 **May 20, 1763**
Found it out 62 acres
Jonathan Hagar

MSA S1197-1949 **August 10, 1753**
Heger’s Delight 1780 acres
Jonathan Hager
Resurvey three tracts of land, Hickinbottom’s Exchange originally laif out for 100 acres, Dickson’s Rest laif out for 100 acres, of Dickson’s Fatiguing Joutney laid out for 100 acres.

Parcel D5.
18:705 Deed **June 28, 1867**
Grantee: Washington County Railroad Company
Grantor: Church Council of the Evangelical Lutheran Congregation of Hagerstown
Consideration of $115. The amount of property being conveyed to the Railroad Company is calculated as 23 feet in each direction at right angles to the centerline of the roadbed, and extending in addition thereto, one foot and a half horizontally for every one vertical foot of any embankment.

6.
WMcKK 1:29 Deed **January 6, 1868**
Grantee: Washington County Railroad Company
Grantor: Robert Fowler and Susan Fowler his wife of Baltimore County
Consideration of $7,000. Conveying all the lots of ground lying in “Rohrer’s Addition to Hagerstown”. Beginning at the southeastern corner of West Antietam Street and south Jonathan Street. Being the same lots or parts of lots conveyed by William F. Hamilton and George W. Smith, trustees to sell the real estate in cause No. 406 in the equity docket of the Circuit Court of Washington County to Robert Fowler by deed from 1853 (INN 8:483).

IN 8:483 Deed of Trust **November 16, 1853**
Grantee: Robert Fowler
Grantor: William T. Hamilton and George W. Smith of Washington County

Nominal consideration. Whereas by a decree of the circuit court for Washington County, sitting as a court of equity in the state of Maryland, passed April 9, 1852 in a cause between John Beaver, executor of John Beaver, deceased, and other complainants, and Philip Keller and other defendants, being in cause No. 706. The property is at the corner of West Antietam Street and Jonathan Street and is bounded by the property of George Brendel, now in possession of Paul Deetor as tenant to the said George, and the property of the Lutheran Parsonage grounds.

Y:331 Deed **May 1, 1812**
Grantee: Philip Keller of Elizabeth Town
Grantor: Nathaniel Rochester
Consideration of $400. Rochester is conveying the property in "Rohrer's Addition to Elizabethtown". The property is bounded by the property of Samuel Rohrer and David Harry.

7.
WMcKK 1:31 Deed **April 7, 1868**
Grantee: Washington County Railroad Company
Grantor: William F. Hamilton, trustee
Consideration of $1,005. Whereas by a decree of the circuit court, Hamilton was appointed trustee to sell the property situated on West Antietam Street. The property is bounded by the property of the Washington County Railroad Company, the Council of the Evangelical Lutheran Congregation of St. John's Church of Hagerstown, and a 12-foot alleyway. Being the same lot of ground conveyed to George W. Hemmeburger to the Church Council of the Evangelical Lutheran Congregation of St. John Church of Hagerstown in 1850 (IN 4:673 WC Land Rec).

IN4:673 Deed **January 4, 1850**
Grantee: George M. Hemmeberger
Grantor: The Council of the Evangelical Lutheran Congregation of St. John's Church in Hagerstown
Consideration of $162. Conveying all that lot of ground situated on West Antietam Street. The property is bounded by the property of Philip Keller, the property of the grantor, and a 12-foot alleyway. The grantor reserves the use of the 12-foot alleyway. Being part of the same lot of ground conveyed by Samuel Steele and Rachel McCurdy, executors, in 1847 (IN 4:591).

IN 4:591 Deed **May 16, 1849**
Grantee: Church Council of the Evangelical Lutheran Congregation of St. John's Church in Hagerstown
Grantor: Samuel Steele and Rachel McCurdy, executors of the estate of John M. McCurdy
Consideration of $288. Being part of the land conveyed to the said John McCurdy by James Belt in 1827, being part of a lot No. 285 in Hagerstown as numbered on the original plan thereof and also lot No. 4 of Rohrer's Addition to Hagerstown. The property contains about 1 ¼ acres. See Parcel D4.

Parcel D8.1
WMcKK4:294 Inquisition Proceeding **January 9, 1872**
To Joseph A. Skinner, a Justice of the Peace of the State of Maryland in Washington County The Washington County Railroad as now located is to pass through and over a certain tract of land adjoining the land of said Washington County Railroad Company and the lands devised to

the officers and congregation of the Presbyterian Church of Hagerstown by Hugh Kennedy, late. A certain part of said land is required by the Railroad Company for the making and construction or repair of said railroad and for depot purposes. An application is hereby made to Joseph N. Skinner Esquire, a justice of the peace to issue a warrant to value the damages which the owners will sustain.

Parcel D8.2

IN18:702 Deed **June 21, 1867**

Grantee: Washington County Railroad Company
Grantor: Trustees of Presbyterian Church of Hagerstown
Consideration of $300. The amount of property being conveyed to the Railroad Company is calculated as 23 feet in each direction at right angles to the centerline of the roadbed, and extending in addition thereto, one foot horizontally for every one vertical foot of any embankment and one foot horizontally for every vertical foot of any cut through the said land.

IN15:688 Deed **September 18, 1861**

Grantee: Trustees of the Presbyterian Church of Hagerstown
Grantor: J. Dixon Roman, trustee
Consideration of $1,700. J. Dixon Roman was appointed trustee in the case of J. Dixon Roman, guardian of Nancy H. and Lydia H. Kennedy, vs. the First Presbyterian Congregation of Hagerstown, and others. Said cause being No. 1424 in the docket. The property is situate on South Potomac Street, opposite the Presbyterian Church, adjoining the Lutheran Parsonage house on the north and an alley separating it from the lands of George W. Smith on the south.A two-story brick dwelling is located on the property. The property is affronting 82 feet on South Potomac Street and runs back 241 feet. Being the same lot which was conveyed to Hugh Kennedy in 1934 (OO:785 WC Land Rec).

O.O.:785 Deed **February 6, 1834**

Grantee: Hugh Kennedy of Washington County
Grantor: David G. Yost of Washington County
Nominal consideration. By a decree at a court of equity hearing on July 29, 1833, David G. Yost was appointed trustee and authorized to sell a portion of the real estate of Jacob Sholl, late, for the purpose of distributing the proceeds among his heirs. Being the property conveyed to Jacob Sholl by Jonathan Hager in 1810 (W:77 WC Land Rec).

W:77 Deed **April 2, 1810**

Grantee: Jacob Sholl of Washington County
Grantor: Jonathan Hager of Washington County
Consideration of $1,000. Hager is conveying “all that lot number one being part of a larger lot or portion of ground conveyed by Jonathan Hager deceased to Samuel Finley deceased by deed bearing date May 23, 1774. Beginning at the southeast corner of the school house lot belonging to the Lutheran Congregation in Elizabethtown, running thence north 59 degrees west 240 feet, south 8.5 degrees west 82 feet, south 59 degrees east 240 feet then north 8.5 degrees east 82 feet to the beginning.

Parcel E

5564:179 Quit Claim Deed **August 3, 2017**
Grantee: The City of Hagerstown
Grantor: The Herald Mail Company
No consideration. The grantor is the owner of a certain property in Washington County (704:26). Whereas, the grantor did grant, convey, release, quitclaim and surrender unto the grantee a portion of the grantor's property as more particularly described in a quit claim deed dated 2016 (5207:198). The grantor desires to execute this quit claim deed for the purposes of confirming and extending the area quitclaimed and otherwise conveyed to the grantee. The property being conveyed contains 7 square feet.

704:26 Deed of Correction **July 23, 1980**
Grantee: The Herald Mail Company
Grantor: The Washington County Railroad Company
Whereas, by deed dated May 13, 1976 (614:480). The grantor conveyed to the grantee one parcel of land containing 4.77 acres, more or less, in Hagerstown, which deed contains among other provisions, the following covenant: "excepting and reserving unto grantor, Grantor's successors and assigns, the ownership in Track T-D24 (2) and three turrnouts located within the parcel herein conveyed, and the right to remove same upon cessation of use, together with a non-exclusive easement for said track and turnouts and the right to operate and maintain same over and across parcel of land, as well as use same for team track operation; said easement area located parallel, adjacent and long the easterly boundary line, containing 22,400 square of .5 of an acre, more or less, as shown on Grantor's Drawing no. RE&IDD-289, which is made a part hereof by record and the right to remove said track and facilities upon cessation of use." The covenant is being amended as follows: " Excepting and reserving unto Grantor, Grantor's successors and assigns, the ownership in Track T-D24(2) where now located within the parcel herin conveyed and the right to remove same upon cessation of use, together with a non-exclusive easement for said track the right to operate and maintain same over and across parcel of land; said easement being parallel to or concentric with and generally eight and one half feet distant from either side of the centerline of said track, containing 11,570 square feet, or .27 acres as shows on grantor's drawing RE&IDD-289, revised June 1980, which is made a part hereof and the right to remove said track and facilities upon cessation of use."

614:480 Deed **May 13, 1976**
Grantee: The Herald Mail Company
Grantor: Washington County Railroad Company
Consideration of $450,000. The property is bounded by Summit Avenue to the west and West Antietam Street in the north. The property contains 4.77 acres. Grantor retains the right to .51 acre of the property, ownership of Track T-D24(2) and three turnouts located on the property as well as the right to operate and maintain the track and turnouts and the right to remove them upon cessation of use.
Being all or a portion of the property acquired by the grantor from the following conveyances

1. I.N. 18:702 1867 from Susan Firey
2. W. McKK. 1:26 1867 from Alpheus R. Appleman

3. 92:612 1889 from Samuel H. Miller
4. 81:522 1991 from the Church Council of the Evangelical Luthern Congregation
5. I.N. 18:705 1867 from the Church Council of the Evangelical Luthern Congregation
6. W.McKK 1:29 1868 from Robert Fowler
7. W. McKK 1:31 1868 from William T. Hamilton
8. W. McKK 4:295 1871 from Presbyterian Church of Hagerstown
9. I.N. 18:702 1867 from Presbyterian Church of Hagerstown

See Parcel D

Parcel F

5600:202 Deed **September 28, 2017**
Grantee: Antietam Paper Building, LLC
Grantor: Hager5, LLC
Consideration of $365,000. The property is bounded by West Antietam Street to the north, the property owned by the Loyal Order of the Moose to the east, and the property owned by the Baltimore and Ohio Railroad Co. to the west. Parcel A containing 15,564 square feet of land. Property is benefited by an easement for vehicular and pedestrian ingress and egress as more particularly shown and described in a quit claim deed by and between the City of Hagerstown and the grantor dated 2016 (5278:49) and by quit claim deed from grantor to the city of Hagerstown from 2017 (5564:172). Being the same property conveyed to the grantor by Blue Heron Ventures, Inc. in 2006 (2913:147).

5564:172 Quit Claim Deed **August 4, 2017**
Grantee: The City of Hagerstown
Grantor: Antietam Paper Building, LLC
No consideration. The grantor owns a certain property in Washington County. The grantor did quit claim and surrender unto grantee a portion of the property described in a quit claim deed from 2016 (5278:49). The grantors desires to execute this quit claim deed to confirm and extend the area quit claimed to the grantee. The property conveyed contains 7 square feet.

5278:49 Quit Claim Deed **June 16, 2016**
Grantee: The City of Hagerstown
Grantor: Antietam Paper Building, LLC
Nominal consideration. The property conveyed is south of West Antietam Street in Hagerstown. The property is fronting on West Antietam Street about 12 feet 1 inch and extending back about the same width 186 feet 7 inches, being bounded on the east by the property of the grantor, and bounded on the west by the Herald Mail Company, Inc. The property is to be used as and remain a public walking trail, public park, or used for passive recreation purposes, to be enjoyed by the public generally. If the grantee fails to use the property as such the property will revert to and re-vest in the grantor. If the grantee shall abandon or relocate the public walking trail the grantee shall be solely responsible for the cost and expense to restore the property. Saving and excepting therefrom an easement for the benefit of the grantor for vehicular ingress and egress from the south side of “Parcel B” to its existing loading docks, and pedestrian ingress and egress to the stairway and building entrance as more fully described in Exhibit A

2913:147 Deed **January 25, 2006**
Grantee: Antietam Paper Building, LLC
Grantor: Blue Heron Ventures, Inc. (formerly known as Antietam Paper Co. and Antietam Paper Company, Inc.
Consideration of $510,000. The property is on the south side of West Antietam Street, fronting on West Antietam Street about 37 feet 2 inches and extending back the same width about 187 feet and 6 inches to the property of the Ayers Bros., being bounded on the east by the property owned by Loyal Order of the Moose and on the west by the property of the Baltimore and Ohio

Railroad Co. Being all the same property granted to Antietam Paper Co., Inc. by deed from John E. Stonebraker and Ella B. Stonebraker, his wife, in 1941 (EO214:537)

EO 214:537 Deed **February 21, 1941**

Grantee: Antietam Paper Co., Inc.
Grantor: John E. Stonebraker and Ella B. Stonebraker, his wife, of Hagerstown
Nominal consideration. The property is on the south side of West Antietam Street, fronting on West Antietam Street about 37 feet 2 inches, and extending back the same width about 187 feet and 6 inches to the property of the Ayers Bros., being bounded on the east by the property owned by the Loyal Order of the Moose, and on the west by the property of the Baltimore and Ohio Railroad Co. Being the same property which was conveyed to J. Ellsworth Stonebraker by Jacob C. Dayhoff and Emma S. Dayhoff, his wife, by deed dated March 23, 1891 (96:581). J. Ellsworth Stonebraker died intestate and the property thereby vesting in the said John E. Stonebraker as the only son and heir.

96:581 Deed **March 23, 1891**

Grantee: J. Ellsworth Stonebraker, of Washington County
Grantor: Jacob C. Dayhoff and Emma S. Dayhoff, his wife, both of Washington County
Consideration of $3,500. A two-story brick dwelling house is on the property. The property is on the south side of West Antietam Street in Hagerstown, fronting on West Antietam Street about 37 feet and 2 inches, and extending back about 187 feet and 6 inches to the property of Jacob C. Dayhoff. Being bounded on the east by the property of John R. Spielman and on the west by the property of Jacob C. Dayhoff conveyed to him by St. John Lutheran Church. Being the same property conveyed to Dayhoff by A. R. Hemmeburger in 1890 (96:292 WC Land Rec).

96:292 Deed **November 16, 1890**

Grantee: Jacob C. Dayhoff
Grantor: A. R. Hemmeburger ?
Consideration of $3,000. A two-story brick dwelling house is on the property. The property is on the south side of West Antietam Street in Hagerstown, fronting on West Antietam Street about 37 feet and 2 inches, and extending back about 187 feet and 6 inches to the property of Jacob C. Dayhoff. Being bounded on the east by the property of John R. Spielman and on the west by the property of Jacob C. Dayhoff conveyed to him by St. John Lutheran Church, being the same property which was conveyed to William Brazier by John McCurdy's execution, by deed dated March 31, 1843 (O.H.W. 1:6). The property being conveyed is the same property that William Brazier devised to A. R. Hemmeburger in his will (E.570 WC Land Rec).

OHW 1:6 Deed **March 31, 1843**

Grantee: William Brazier of Washington County
Grantor: Samuel Steele and Rachel McCurdy, executors of the estate of John McCurdy
Nominal consideration. Being a part of a tract of land conveyed by James Belt to John McCurdy in 1827. See Parcel D7

Parcel G

5940:397 No Consideration Deed **January 1, 2019**
Grantee: WLR Residential Properties, Inc.
Grantor: WLR Holding Company, Inc.
No consideration. This conveyance is exempt from Recordation and Transfer Taxes since it is a transfer of title to real property from a subsidiary business entity to its parent business entity for no consideration where the business entity acquires the ownership interest of a subsidiary business entitle which ahs been in existence and has owned the real property for a period of 2 years. This particular conveyance is referred to as “Exhibit G” in the deed. The property consists of 56,746 square feet as shown on a plat of subdivision entitled “Simplified Plat of Subdivision for Parcel “A”, Schindle Enterprises-Baltimore Street Limited Partnership” and recorded among the Land Records of Washington County, Maryland in Plat folios 8149 and 8150. The property is known as 32 West Baltimore Street, Hagerstown, Maryland 21740. Being all the same land conveyed unto WLR Holding Company, Inc, A Maryland Corporation, by a deed from Car Wash Real Estate, LLC, a Maryland limited liability company, dated May 29, 2014 (4765:353).

4765:353 Deed **May 29, 2014**
Grantee: WLR Holding Company, Inc.
Grantor: Car Wash Real Estate, LLC
Consideration of $1,000,000. The property is known as “Remaining Area” containing 56,746 square feet as shown on a plat of subdivision entitled “Simplified Plat of Subdivision for Parcel “A”, Schindle Enterprises-Baltimore Street Limited Partnership” and recorded among the Land Records of Washington County, Maryland in Plat folios 8149 and 8150. Being all the same real estate which was conveyed unto Car Wash Real Estate, LLC, by a deed from Schindel Enterprises – Baltimore Street Limited Partnership, from 2006 (2913:142).

2913:142 Deed **January 25, 2006**
Grantee: Car Wash Real Estate, LLC
Grantor: Schindel Enterprises – Baltimore Street Limited Partnership
Consideration of $1,810,000. The property is known as “Remaining Area” containing 56,746 square feet as shown on a plat of subdivision entitled “Simplified Plat of Subdivision for Parcel “A”, Schindle Enterprises-Baltimore Street Limited Partnership” and recorded among the Land Records of Washington County, Maryland in Plat folios 8149 and 8150. Being a part of the same real estate conveyed unto Schindel Enterprises – Baltimore Street Limited Partnership, by a deed from Antietam Paper Company, Inc. dated 1990 (964:702).

964:702 Deed **July 19, 1990**
Grantee: Schindel Enterprises – Baltimore Street Limited Partnership
Grantor: Antietam Paper Company, Inc.
Consideration of $140,000. The property contains 1.66 acres of land. Being a portion of the land conveyed by the Presbyterian Church of Hagerstown unto the Antietam Paper Company, Inc. by deed dated 1980 (711:547). With reservation for the grantor and its successors and assigns, for the benefit of the owner of the Antietam Paper Company parcel situated in Hagerstown, and more particularly described ay Liber 214 folio 537 in, a non exclusive, perpetual appurtenant easement for access, ingress and egress, by pedestrian and vehicular traffic, to and from the

Paper Company Parcel over the conveyed property. Said easement shall benefit the Paper Company Parcel and shall burden the conveyed property. The owner of the conveyed property shall have the right to relocate said easement with the prior written consent of the Owner of the Paper Company Parcel, which consent shall not be unreasonably withheld.

711:547 Quit Claim Deed **December 30, 1980**

Grantee: Antietam Paper Company, Inc
Grantor: The Presbyterian Church of Hagerstown
No consideration. Pursuant to that Decree of the Circuit Court for Washington County in Equity No. 33,750 dated December 30, 1980, the grantor does hereby quitclaim and transfer the right to the following property. The property is bounded by West Baltimore Street and the property of the Baltimore and Ohio Railroad Company. Being all the same property which was conveyed to the grantee by Leota E. Ayers, Norman H. Ayers and Gladys C. Ayers, by deed dated 1975 (604:644), excepting that strip of land now constituting the public alley running between West Baltimore Street and West Antietam Street, as conveyed by J. Henry Avers, Jr. et al to the City of Hagerstown by deed dated 1967 (450:692).

604:644 Deed **October 24, 1975**

Grantee: Antietam Paper Company, Inc.
Grantor: Leota E. Ayers, Norman H. Ayers and Gladys C. Ayers, as joint tenants, all of Washington County
Nominal consideration. The property is on the north side of West Baltimore Street and is next to the property of the Baltimore Ohio Railroad Company. Being all the property which was conveyed to the Grantors by Paul Ottinger, Trustee, by deed dated 1971 (525:81). Excepting therefrom the alley which was conveyed to the City of Hagerstown by deed dated 1967 (450:692).

525:81 Deed **June 16, 1971**

Grantee: Leota E. Ayers and Norman H. Ayers and Gradys C. Ayers, his wife
Grantor: Paul Ottinger, trustee
Nominal consideration. Ottinger is the trustee for the sole purpose of reconveying the property to the grantees as joint tenants and not as tenants in common. The property is east of the property of the Baltimore and Ohio Railroad Company, between West Antietam Street and West Baltimore Street and consists of 3 parcels

Parcel No 1. Having a frontage on the north side of West Baltimore Street and is bounded by the Baltimore and Ohio Railroad Company to the west and the property of the St. John's Lutheran Church to the east.

Parcel No. 2. Adjoining parcel 1 on the north, bounded by the northwest corner of the property of the St. John's Lutheran Church, the east marginal line of the 12 foot alley which extends southward from West Antietam Street about 240 feet, and the east boundary of the property og the Baltimore and Ohio Railroad Company

Parcel No. 3 – Described in a plat recorded at Liber 283 folio 43.

Saving and excepting therefrom the alley which was conveyed to the City of Hagerstown in 1966. Being all the property which was conveyed to the Grantor in the deed immediately preceding this one. Parcels 1 and 2 being the same property which was conveyed to the

Grantees by Edward Oswald, Jr., Assignee by deed dated 1937 (205:460). Parcel three was conveyed to the Ayers by deed of exchange dated 1954 (283:42)

525:79 Deed **June 17, 1971**

Grantee: Paul Ottinger
Grantor: Noman H. Ayers and Leota E. Ayers
Nominal consideration. Norman and Leota are conveying the property to Paul Ottinger as trustee for the sole purpose of re-conveying the same to Leota E. Ayers and Norman H. Ayers and Gladys C. Ayers, his wife, as joint tenants and not as tenants in common. The property consists of 3 parcels described in the more modern deed above. Saving and excepting therefrom the alley which was conveyed to the City of Hagerstown in 1966. Being all the property which was conveyed to J. Henry Ayers, Jr. who died in Washington County, Maryland, on November 19, 1969, and Norman H. Ayers and Leota E. Ayers, except for the aforesaid conveyance to the City of Hagerstown, by Paul Ottinger, Trustee, by deed dated May 13, 1957 (323:115).

323:115 Deed **May 13, 1857**

Grantee: J. Henry Ayers, Hr. and Norman H. Ayers and Leota E. Ayers
Grantor: Paul Ottinger, Trustee
Nominal consideration. In the deed immediately preceding this deed, J. Henry Ayers and Norman H. Ayers conveyed this property to Paul Ottinger as trustee for the sole purpose of re-conveying the property to J. Henry Ayers, Jr. and Norman H. Ayers and Leota E. Ayers as joint tenants and not as tenants in common. The property consists of 3 parcels. Being all of the same property which was conveyed to the grantor in the deed immediately preceding this deed. The aforesaid conveyance is subject to an easement granted unto the aforesaid St. John's Evangelical Church of Hagerstown by the said J. Henry Ayers, Jr. and Norman H. Ayers in the Deed of exchange dated June 21st 1954 (282:42).

323:112 Deed **May 13, 1957**

Grantee: Paul Ottinger, Trustee
Grantor: J. Henry Ayers, Jr. and Norman H. Ayers
Nominal consideration. J. Henry Ayers, Jr. and Norman H. Ayers are conveying the property to Paul Ottinger, trustee, for the sole purpose of re-conveying the property to J. Henry Ayers, Jr. and Norman H. Ayers and Leota E. Ayers as joint tenants and not as tenants in common. The property consists of three parcels situated in Hagerstown, east of the property of the Baltimore and Ohio Railroad Company, between West Antietam Street and West Baltimore Street. Being the same property which was conveyed to the grantors by a deed of exchange dated 1954 between St. John's Evangelical Luteran Church of Hagerstown and the grantors (283:42). The aforesaid conveyance is subject to an easement granted unto the aforesaid St. John's Evangelical Lutheran Church of Hagerstown by the said J. Henry Ayers, Jr. and Norman H. Ayers in the deed of exchange.

283:42 Deed of Exchange **June 21, 1954**

Grantee: J. Henry Ayers, Jr. and Leota G. Ayers, his wife, Norman H. Ayers and Gladys C. Ayers, his wife,
Grantor: St. John's Evangelical Lutheran Church of Hagerstown
Nominal consideration. The Church is the owner of a parcel of land on the west side of South Potomac Street between West Antietam Street and West Baltimore Street and the grantees are

the owners as joint tenants of a parcel of land lying immediately west of the property owned by the Church. The parties would like to straighten the boundary line by having the Church convey unto the Ayers a portion of their property and thereafter to create a right-of-way or easement for the benefit of the Church over the property so owned by the Ayers along the entire west boundary line of said Church property.

205:460 Deed **November 27, 1937**

Grantee: J. Henry Ayers, Jr. and Norman H. Ayers
Grantor: Edward Oswald, Jr., assignee
Consideration of $15,900. At a public sale on October 26, 1937, by Edward Oswald, Jr., assignee, under the power of sale contained in a certain mortgage from John B. Fleming, Anna N. Fleming, his wife, and Lewis L. Bowers to Norman B. Scott, Jr. dated May 1920 (158:25), which said sale was made after default had occurred in said mortgage. After bond had been duly filed and approved in Equity Case No. 13582 in the Circuit Court for Washington County, the parcels of real estate were sold unto Herman L. Mills, who was then the highest bidder for the sum of $15,900. By an order of the aforesaid court passed in the above mentioned equity cause on November 20, 1937, J. Henry Ayers, Jr. and Norman H. Ayers were substituted as the purchasers of said parcels of real estate, as joint tenants. The property consists of two parcels
Parcel 1: Having a frontage on the north side of West Baltimore Street, bounded by the Baltimore and Ohio Railroad to the west and the property of St. John's Lutheran Church to the east.
Parcel 2: Property of Baltimore and Ohio Railroad to the west, Parcel 1 to the south and St. John Lutheran Church to the east.
The property is a part and practically all of the same property which was conveyed from Norman B. Scott, Jr. to the said John B. Fleming and Lewis L. Bowers by deed dated 1920 (158:24). And shown on the Plat of "Property East of the Baltimore and Ohio R.R. between Antietam and Baltimore Streets, Hagerstown, Maryland"

158:24 Deed **May 1, 1920**

Grantee: John B. Fleming and Lewis L. Bowers
Grantor: Norman B. Scott, Jr.
Nominal consideration. The property is between West Antietam Street and West Baltimore Street and made up of several contiguous parcels of land. Containing about 1 ¾ acres including an alley fronting 12 feet on the south side of West Antietam Street and running back therefrom a distance of 186 feet just west of and along the property of J. Elsworth Stonebraker and being between said property and that of the Washington Rail Road. The property is bounded on the north by the property of Ellen Boward, Charles B. Rauth, Elmer Cornerman, J. E. Stonebraker and said West Antietam Street. On the west by the land of the Washington County Railroad, on the south by West Baltimore Street and on the east by the properties of O. Scott Snook of D. Ramaciotti and St. John's Lutheran Church, the said parcel going to make up real estate particularly described in a deed from George C. Snyder and wife to Norman B. Scott, Jr. dated 1906 (125:29) and is the same real estate mentioned in a deed from Alexander Armstrong, assignee, to Norman B. Scott, Jr. dated 1917 (152:437). The aforesaid alleyway being conveyed subject to terms and conditions of an agreement, or an alleged agreement, made with reference thereto by J. C. Dayhoff and wife, J. E. Stonebraker and the Washington County Railroad said agreement being referred to in the aforesaid deed from Snyder and wife to Noman B. Scott. The said grantors do also hereby grant to the said grantees as tenants in common, the

alleyway about 12 feet wide and running from West Antietam Street between the properties of Ellen Boward on the west and Mary Danzer, the order of Odd Fellows and E. A. Firey on the east to connect with the real estate. Said alleyway being the same mentioned in a deed from James C. Ingram and wife and others to Norman B. Scott, Jr. dated 1917 (150:621). Said alleyway is subject to the right of way of over it of E. A. Firey his heirs and assigns, Francis H. Miller, his heirs and assigns, Mary Danzer, her heirs and assigns, and Ellen Boward, her heirs and assigns.

152:437 Deed **November 30, 1917**

Grantee: Norman H. Scott, Jr.
Grantor: Alexander Armstrong, Assignee
Sale of the property occurred on February 15, 1916, in pursuance of the special power and authority vested in him, as assignee, in and by a certain mortgage from Norman B. Scott, Jr. to John D. Keller, dated August 21, 1906 (120:31). Sale was made after default had occurred under said mortgage and after bond had been duly filed in the Circuit Court for Washington County in a proceeding No. 7,771 on the Equity Docket of the Court. Norman B. Scott, Jr. was the highest bidder at $15,000. The property is between West Antietam Street and West Baltimore Street, consisting of 5 contiguous parcels and containing about 1 ¼ acres and including an alley fronting twelve feet on the south side of West Antietam Street and running back therefrom a distance of 186 feet just west of and along the property of J. Elsworth Stonebraker. The property is bounded in the north by the property of Noman B. Scott, Jr., of Charles W. Rauth, of the Order of Eagles, of J. E. Stonebraker, and by West Antietam Street, on the west by the lands of the Weshington County Railroad Company, on the south by West Baltimore Street, and on the east by an alley and the properties of D. Ramacciotti and St. John. Lutheran Church and is the same land described in a deed from George C. Snyder and wife to Norman B. Scott, Jr. dated 1906 (125:29).

125:29 Deed **August 21, 1906**

Grantee: Norman H. Scott, Jr.
Grantor: George C. Snyder and Catherine R. Snyder, his wife, of Washington County
Consideration of $19,000.
Parcel No 1. Being situated east of the property of the Washington County Railroad Company and adoined in the east property of St. John's Evangelical Luteran Church and beginning for the others thereof at the northwest corner of the Lot No. 13 on the map of Hagerstown and at the southern corner of a lot now owned by Emma S. Dayhoff and running thence north 57.5 degrees west 148 feet to the southwest courner of a lot now owned by J. Ellsworth Stonebraker thence with the west side therof south 34.5 degrees east 186 feet and the south side of West Antietam Street thence with the south side of said street 57 degrees west 12 feet south 34.5 degrees west 186 feet south 33.5 degrees west 153 feet thence south 53.5 degrees east 167 feet tto the land of the said Lutheran Church, nprth 31 degrees east 158 feet more or less to the place of beginning. Containing 94 square perches of land. The entrance to the West Antietam Street is the 12 foot wide, 186 deep alleyway that fronts the street. Alleyway use subject to agreement in a deed from the Church to George A. Hammeberger (IN 4:673)..

Parcel No. 2: Being all that lot of land situate south of and adjoining parcel no. 1 beginnging for the outlinces thereof at the end of the fiftieth on the south thirty three and one half degree west one158 feet line of parcel No. 1 on of the deed from the Church to Jacob C. Dayhoff dated

December 12, 1881 (82:564) and running thence with the south line of said deed south 56.5 degrees east 109 feet thence in a straight line 60 feet to the lands formerly belonging to H. H. Miller ro a point 109 feet thence in a straight line 60 feet to the lands formerly belonging to C. H H. Miller to a point 109 feet east of the land of the Washington County Railroad Compancy, thence with the northwen boundary line of the land formerly belonging to said Miller and in a line parallel with the first line of this parcel north 56.5 degress west to the line of the land of the said Railroad Company, thence with the same boundary line of the said Railroad Company property 60 feet to the place of beginning. Together with a right-of-way ober ad upon a 12 foot alley from West Antieta, Street to the property above described and hebery conveyed the for all the use and purposes pertaining to the above two parcels of land hereby conveyed the said alley being along the east side of the lot now owned and occupied by the said Emma S. Dayhoff. Together with all the rights ways easements and privileges thereto. Being the same land conveyed to the said George C. Snyder by J. C. Dayhoff and Emma S. Dayhoff, his wife, by deed dated March 15 1899 (110:98).

Parcel No. 3: Being all that lot on the northside of West Baltimore Street in Hagerstown and fronting the said street 53 feet and extending back therefrom northerly about the same about 136.5 feet to the south marhinal line of the parcel described in the deed as Parcel No. 4 it being bounded on the east by the property og Lillie V. Miller and on the west by the property formerly belonging to the Old Elecric Light Company and ___ in connection with this parcel the alleyway ten feet wide leading from this parcel to the property of the Washington County Railtoad. Said alleyway being _____n north of the said property formerly owned by said Old Electric Light Company.

Parcel No. 4: Being all the interest of the grantor hein and to all that lot on Parcel of land situate east of and adjoining the property of the Washington County Railroad Company and beginning for the same at a corner formed by the east marginal line of the property of said Railroad Company and the north marginal line of this alleywayconeveyed as part of Partcel No. 3 and running thence south 58.5 degrees east 121 feet thence north 27.25 degrees east 156.25 feet thence north 56 degrees west 61.5 feet thence north 34 degrees and 27 feet thence north 51.5 degrees west 168.5 feet to the east marginal line of the place of the beginning. Being the same land cpnveyed to George C. Snyder by H. H. miller and Lillie E. Miller his wife on Mar 3, 1899 (110:525)

Parcel No. 5: Being all that lot of land situate on the north side of West Baltimore Street having a frontage theron of 25 feet and running back therefrom on the west side 156.5 feet and on the east side 139 feet 7 inchees. The width of the said lot of the north side thereo having 68.5 feet. Said lot being bounded on the east and north by a lot was formerly the Miller propeery and on the west by the lands of the Railroad Company, it being the same land conveyed to the said George C. Snyder by Christian M. Lynch (?) and others by deed dated April 1, 1905 (121:655) and also by deed from said Christian M. Lynch and others dated January 1906 (123:203)

Parcel G1

110:98 Deed **March 1, 1899**

Grantee: George C. Snyder

Grantor: Jacob C. Dayhoff and Emma S. Dayhoff, his wife

Consideration of $10,250. The Dayhoffs are conveying several parcels to Snyder. The land is called “Dayhoff Factory or Planning Mill Property”. Being all that tract of land situate on the east side of the Washington County Railroad and adjoined on the east by the property of the St. John’s Evangelical Lutheran Church. Being part if the same land conveyed to Emma S. Dayhoff by Robert Bridges and wife in 1895 (103:32 WC Land Rec) and being the same which is fully descried in a deed from the St. John’s Evangelical Lutheran Church to the said J. C. Dayhoff in 1881 (82:564 WC Land Rec). The property contains 94 perches. Parcel G2 is also conveyed in this deed.

82:564 Deed **May 12, 1882**
Grantee: Jacob C. Dayhoff
Grantor: St. John’s Evangelical Lutheran Church of Hagerstown
Consideration of $561. Being part of the land conveyed to the church by Samuel C. Steele and Rachel McCurdy, executors of the estate of John McCurdy, deceased (I.N. 4:591 WC Land Rec). The property contains 94 perches

IN 4:591 Deed **May 16, 1849**
Grantee: Members of the Church Council of the Evangelical Congregation of St. John’s Church in Hagerstown
Grantor: Samuel Steele, Executor of the estate of John McCurdy of Washington County and Rachel McCurdy, executor of the estate of John McCurdy
Consideration of $288. Being part of the same land conveyed to John McCurdy by James Bely in 1827 (II:650 WC Land Rec), being part of lot No. 285 in Hagerstown, numbered on the original plan. See Parcel D4

Parcel G2
110:98 Deed **March 1, 1899**
Grantee: George C. Snyder
Grantor: Jacob C. Dayhoff and Emma S. Dayhoff
Consideration of $10,250. The Dayhoffs are conveying several parcels to Snyder. The land is called “Dayhoff Facroty or Planning Mill Property”. Being all that lot of land situated south of and adjoining parcel No. 1 and being adjoined in the south by the property of H. H. Miller, on the west by that of the Washington County Railroad Company and on the east by St. John’s Church. Being part of the land conveyed to the said Emma S. Dayhoff by Robert Bridges and wife and the same land which was conveyed to the said J. C. Dayhoff by the Church. Being the same which is fully described in a deed from St. John’s Evangelical Church of Hagerstown to the said J. C. Dayhoff in 1881 (82:564 WC Land Rec).

82:564 Deed **May 12, 1882**
Grantee: Jacob C. Dayhoff
Grantor: St. John’s Evangelical Lutheran Church of Hagerstown
Consideration of $561. Being part of the land conveyed to the church by Samuel C. Steele and Rachel McCurdy, executors of the estate of John McCurdy, deceased (I.N. 4:591 WC Land Rec). The property contains 94 perches

IN 4:591 Deed **May 16, 1849**
Grantee: Members of the Church Council of the Evangelical Congregation of St. John’s Church in Hagerstown

Grantor: Samuel Steele, Executor of the estate of John McCurdy of Washington County and Rachel McCurdy, executor of the estate of John McCurdy
Consideration of $288. Being part of the same land conveyed to John McCurdy by James Bely in 1827 (II:650 WC Land Rec), being part of lot No. 285 in Hagerstown, numbered on the original plan. See Parcel D4

Parcel G4

110:525 Deed **May 3, 1899**

Grantee: George C. Snyder
Grantor: Hamilton H. Miller and Lillie E. Miller
Consideration of $5,000. The property is situated on the north side of West Baltimore Street, fronting on said street 53 feet and extending back about the same about 136.5 feet. Being bounded on the east by the property of Lille E. Miller and in the west by the Old Elextric Light Plat. Also being bounded by the alleyway leading from the east to the Washington County Railroad Company being immediately north of said Electric Light Plat. Being the same property conveyed to the said Lille E. Miller by Hamilton H. Miller in 1898 (107:592 WC Land Rec).

Parcel G4.1

107:345 Deed **November 11, 1897**

Grantee: Lillie E. Miller
Grantor: Hamilton H. Miller
Consideration of $2,900. The property is on the north side of West Baltimore Street, fronting said street about 66 feet and extending back 148 feet to the property of the heirs of Samuel H. Miller, deceased. Being the same property which was conveyed to the said Hamilton H. Miller by Samuel H. miller and wife in 1886 (88:361 WC Land Rec).

88:361 Deed **January 1, 1886**

Grantee: Hamilton H. Miller
Grantee: Samuel H. Miller and Sarah A. Miller, his wife
The property is north of West Baltimore Street, fronting on said street for 99 feet and extending back north 148 feet to the old Presbyterian Church lot. Being a part of the same property which was conveyed to the said Samuel H. Miller by George W. Smith, Jr., executor in 1878 (77:182 WC Land Rec).

77:182 Deed **March 29, 1878**

Grantee: Samuel H. Miller
Grantor: George W. Smith, Jr., executor of the estate of George W. Smith
Consideration of $2,500. The property is on the west side of Potomac Street with a two-story dwelling house with a back building. Being lot No. 214 on Downin Map of Hagerstown and fronting about 82 feet on said South Potomac Street and running back about 240 feet. Being the same property which was conveyed by William Walker and wife to the said George W. Smith, deceased, in 1845 (OHW 2:874 WC Land Rec), also all that parcel of land along the southwest corner of the above described lot and fronting about 99 feet on West Baltimore Street. Also all that alleyway leading the Washington County Railroad to the east, conveyed by W. W. Walker and others to Smith in 1870 (WMcKK 2:538 WC Land Rec)

WMcKK 2:538 Deed **April 18, 1870**

Grantee: George W. Smith
Grantor: William W. Walker and Annie M. Walker his wife, Thomas J. Mill and Elizabeth J. Mill, his wife, George W. Walker and Margaret Walker, his wife, of Washington County
Consideration of $80. The property extends from the lot now owned by George W. smith and purchased by heirs from Mrs. Firey to the Washington County Railroad, along the south line of the lot belonging to the Presbyterian Church, being 10 feet in width, forming an alleyway.

Parcel G4.2

107:592 Deed **January 24, 1898**

Grantee: Lille E. Miller
Grantor: Hamilton H. Miller, executor of the last will of Samuel H. Miller
Consideration of $1,500. As the executor of the estate, at a public sale, Hamilton sold the property to his wife Lille E. Miller. The land is east of and adjoining the property of the Washington County Railroad and lies north of Baltimore Street. Being the same property which was conveyed to Samuel H. Miller in 1881 (81:135 WC Land Rec).

81:135 Lease **May 3, 1881**

Grantee: Samuel H. Miller
Grantor: The Presbyterian Church of Hagerstown
The church is leasing to Samuel Miller for the term of 99 years. The property is bounded in the east by the lots of Samuel H. Miller and a certain David Wolf, on the south by a lot owned by the said Miller, on the west by the lands of the Washington County Railroad Company and in the north by the lot belonging to the Lutheran Church. Being part of the same lot devised to the Presbyterian Church by Hugh Kennedy in his last will and testament recorded in will book D at folio 163 and part of the lot of land conveyed to Kennedy by David G. Yost, trustee of the heirs of Jacob Sholl, deceased (OO:785 WC Land Rec). See Parcel D3.

Parcel G5

121:655 Deed **April 1, 1904**

Grantee: George C. Snyder
Grantor: Christian W. Lynch and Caroline B. Lynch, his wife, William Jenning and Belle West Jennings, his wife of Harrisburg Pennsylvania
Consideration of $2,000. The parcel being conveyed is on the north side of West Baltimore Street, having a frontage of 25 feet and running back on the west side 156 feet and on the east side 139 feet. The property is bounded by the property of the Washington County Railroad and the property formerly owned by Samuel Miller. Being the same land conveyed to Christian W. Lynch and William Jennings by Powell Evans in 1898 (108:97 WC Land Rec).

108:97 Deed **February 28, 1898**

Grantee: C. Lynch and William Jennings
Grantor: Powell Evans of the City of Philadeplphia and by H. Hughes
Nominal consideration. Being the land conveyed to the grantors (104:162 WC Land Rec).

104:162 Deed **November 18, 1895**

Grantee: Powell Evans of the City of Philadelphia
Grantor: Schuyler Electric Company

Consideration of $100. Being bounded in the north by Samuel Miller and on the west by the Washington County Branch of the Baltimore and Ohio Railroad Company. Being the same lot conveyed to the grantor by John M. Stonebraker and wife in 1889 (101:36).

101:39 Deed **April 3, 1889**

Grantee: Schuyler Electric Company
Grantor: John M. Stonebraker and Laura L. Stonebraker his wife of Washington County
Consideration of $1000. Property is at the northeast corner of the intersection of West Baltimore Street and the Washington County Railroad in Hagerstown. Having a frontage of about 25 feet along the north side of West Baltimore Street and extending north along the east side of the Railroad 156 feet and being bounded on the north by the property of Samuel H. Miller and on the east by the property of Hamilton Miller being the same property which was conveyed by Jacob C. Dayhoff in 1885 (92:44), being the same premises upon which the electric light plant is now located.

92:44 Deed **December 12, 1885**

Grantee: Jason M. Stonebraker
Grantor: Jacob C. Dayhoff and Emma S. Dayhoff his wife of Washington County
Consideration of $1,000. Being on the north side of West Baltimore Street, having a frontage of 25 feet and running back on the west side of the lot 156 feet and on the east side of the lot 139 feet and the width at the north end of the lot is 68 feet. Being bounded on the east and north by the lands of Samuel Miller and on the west by the lands of the Washington Branch of the Baltimore and Ohio Railroad Company a. Being the same lot conveyed to Dayhoff by Thomas E. Mittag executor in 1885 (87:632).

87:632 Trustees Deed **July 14, 1885**

Grantee: Jacob C. Dayhoff
Grantor: Thomas E. Mittag, executor of the will of Mary Coney
The will of Mary Coney is recorded in Liber Y Folio 343

APPENDIX B

QUALIFICATIONS OF INVESTIGATORS

W. Brett Arnold, M.S., R.P.A.
RPA 28887637
APPLIED ARCHAEOLOGY AND HISTORY ASSOCIATES, INC.
615 FAIRGLEN LANE
ANNAPOLIS, MD 21401
410.224.3402

Mr. W. Brett Arnold serves as a project archaeologist at Applied Archaeology and History Associates, Inc. (AAHA). He received his B.A. in Archaeology and German Studies from the College of Wooster, graduating cum laude. He received his M.S. in Anthropology from the University of Wisconsin—Milwaukee, where he studied under European prehistorian Dr. Bettina Arnold. Mr. Arnold has experience conducting archaeological compliance and research projects for a variety of agencies, with duties including overseeing Phase I and II cultural resources surveys, construction monitoring, GIS and total station survey, and testing buried soil horizons in urban environments. He also has experience with burial excavation and recovery at historic cemeteries. Mr. Arnold's professional qualifications meet all U.S. Department of the Interior criteria for archaeologists and historians (36 CFR 61) and he is a member of the Register of Professional Archaeologists.

EDUCATION

Master of Science in Anthropology
2011 - 2014 University of Wisconsin, Milwaukee, Milwaukee, WI.

Bachelor of Arts in Archaeology and German Studies
2007 - 2011 College of Wooster, Wooster, OH.

ARCHAEOLOGICAL FIELD EXPERIENCE AND EMPLOYMENT

2018-Present	PROJECT ARCHAEOLOGIST, Applied Archaeology and History Associates, Inc., Annapolis, Maryland, USA
2016-2018	PROJECT ARCHAEOLOGIST, Commonwealth Heritage Group, Inc., Alexandria, Virginia, USA
2014-2016	RESEARCH ARCHAEOLOGIST, Lost Towns Project/Anne Arundel County, Annapolis, Maryland, USA
2013-2014	FIELD TECHNICIAN, Applied Archaeology and History Associates, Inc., Annapolis, Maryland, USA
2013	FIELD TECHNICIAN, Historic Resources Management Service, Milwaukee, Wisconsin, USA
2011-2013	PAID INTERN/FIELD TECHNICIAN, Commonwealth Cultural Resources Group, Inc., Milwaukee, Wisconsin, USA
2011	LAB TECHNICIAN, Great Lakes Archaeological Research Center, Milwaukee, Wisconsin, USA

PROFESSIONAL MEMBERSHIPS
Register of Professional Archaeologists – 28887637

MANDY MELTON, M.A., R.P.A.
APPLIED ARCHAEOLOGY AND HISTORY ASSOCIATES, INC.
31 OLD SOLOMONS ISLAND ROAD
ANNAPOLIS, MD 21401
410.224.3402

Mandy Melton is an archaeologist for Applied Archaeology and History Associates, Inc. (AAHA). Melton has six years of professional archaeological experience and has received her M.A. in Archaeology and Heritage from the University of Leicester and holds a B.S. in Sociology and Anthropology from Towson University. She has extensive experience in prehistoric and historic archaeological site identification, evaluation, and data recovery in the Mid-Atlantic region. As a former independent archaeological consultant, she has piloted and contributed to research projects funded by numerous local, state and federal organizations including the Maryland State Highway Administration, the National Park Service, and the Maryland Historical Trust. Her work has involved, in addition to archaeological surveys, public engagement, mentoring volunteers and interns, architectural documentation and survey, magnetometer surveys, and managing/coordinating small-medium scale projects. In the compliance sector, Melton has been involved in numerous monitoring, field surveys, and mitigation projects for pipelines and superfund sites across the Mid-Atlantic and portions of the northeast region. She is also experienced in using GPS, total station data, and GIS in archaeological contexts. Melton meets the professional qualifications of the U.S. Department of the Interior criteria for archaeologists and historians and she is a member of the Register of Professional Archaeologists.

EDUCATION

2014 M.A. IN ARCHAEOLOGY AND HERITAGE, University of Leicester, Leicester, U.K.
2011 B.S. IN SOCIOLOGY, ANTHROPOLOGY, AND CRIMINOLOGY, Towson University, Towson, MD.

ARCHAEOLOGICAL FIELD EXPERIENCE AND EMPLOYMENT

2019 - Present PROJECT ARCHAEOLOGIST, Applied Archaeology and History Associates, Inc. Annapolis, MD.
2017 - 2019 ASSISTANT PROJECT MANAGER, R. Christopher Goodwin & Associates, Inc. Frederick, MD.
2016 - 2017 FIELD TECHNICIAN (INDIVIDUAL SURVEYS), TRC Environmental. Lanham, MD.
2016 FIELD TECHNICIAN (INDIVIDUAL SURVEYS), Commonwealth Heritage Group, Inc. Alexandria, VA.
2013 - 2017 INDEPENDENT ARCHAEOLOGICAL CONSULTANT, Anne Arundel County's Lost Towns Project. Annapolis, MD.

SELECTED CULTURAL RESOURCES PROJECTS

Archaeological Assessment of the National Institute of Standards and Technology (NIST) Gaithersburg Campus, Gaithersburg, Maryland. Submitted to Metropolitan Architects & Planners (2019).

Archaeological Monitoring for the Parking Lot Installation at St. Paul's Episcopal Church, Point of Rocks, Frederick County, Maryland. Submitted to Vestry of St. Paul's Parish (2018).

Phase I Archaeological Survey for the Proposed Whitewood Farm Mitigation Bank, The Plains, Fauquier County, Virginia. Submitted to Mogensen Mitigation, Inc (2018).

Excavations at the Aldridge Site (18AN1500). Emergency Excavation and Documentation of Five Endangered Archaeological Sites in Anne Arundel County, Maryland. Submitted to the Maryland Historical Trust (2017).

Anne Arundel County's Historic Beach Destinations: Report for the Learn S'Mores History Project: A Heritage Research and Public Outreach Initiative, focusing on Anne Arundel County's early 20th Century Beach Resorts and Communities. Submitted to the Anne Arundel County Trust for Preservation (2016).

JEANNE A. WARD, RPA
APPLIED ARCHAEOLOGY AND HISTORY ASSOCIATES, INC.
615 FAIRGLEN LANE
ANNAPOLIS, MD 21401
410.224.3402

Ms. Jeanne A. Ward, RPA, a cultural resources management consultant with over 40 years of professional experience, is President of Applied Archaeology and History Associates, Inc. (AAHA). Ms. Ward's academic credentials include a BA in anthropology from the University of Georgia and an MA in anthropology from the University of Tennessee, Knoxville. Her experience encompasses both historic and prehistoric archaeology and historic structure identification and evaluation. Projects have ranged from cultural resource sensitivity studies, through location/identification surveys, evaluations of significance, National Register of Historic Places nominations, and large-scale data recovery excavations. Ms. Ward's professional qualifications exceed all U. S. Department of the Interior criteria for archaeologists and historians (36 CFR 61). In addition, she is a Registered Professional Archaeologist (RPA), a national evaluation and certification of professional qualifications. Ms. Ward is the author, co-author, or contributor to over 350 cultural resources management reports and has presented numerous papers at professional conferences.

EDUCATION

1985 **M.A. IN ANTHROPOLOGY,** University of Tennessee, Knoxville, TN.
1978 **B.A. IN ANTHROPOLOGY,** University of Georgia, Athens, GA.
Cum Laude

ARCHAEOLOGICAL FIELD EXPERIENCE AND EMPLOYMENT

2000 - Present	PRESIDENT, Applied Archaeology and History Associates, Inc. Annapolis, MD.
1998 – 1999	SOLE PROPRIETOR, Applied Archaeology and History Associates, Annapolis, MD
1995 – 1998	SENIOR ARCHAEOLOGIST/HISTORIAN/WETLANDS SCIENTIST, IMA Consulting, Inc., Minneapolis, MN.
1994 - 1995	PRESIDENT, Jeanne A. Ward, Inc. Consultant, Stony Creek Mills, Reading, PA.
1991 - 1993	SOLE PROPRIETOR, Archaeologist and Cultural Resources Consultant, in Private Practice, Stony Creek Mills, Reading, PA.
1989 - 1991	PROJECT ARCHAEOLOGIST, John Milner Associates, Inc., West Chester, PA.
1986 - 1989	ASSISTANT ARCHAEOLOGIST, John Milner Associates, Inc., West Chester, PA.
1984 - 1986	EDITORIAL ASSISTANT, Institute for Community and Area Development, University of Georgia, Athens, GA.
1982 - 1984	FIELD DIRECTOR, University of Florida, Gainesville, FL.
1982 - 1983	FIELD ARCHAEOLOGIST, Jeffrey Brown Institute of Archaeology, University of Tennessee, Chattanooga, TN.
1979 - 1981	LABORATORY TECHNICIAN, University of Tennessee, Knoxville, TN.
1977 - 1980	FIELD ARCHAEOLOGIST,

PROFESSIONAL MEMBERSHIPS

Society for Historical Archaeology
Council for Maryland Archaeology (Secretary – 2000 to 2004)
Council for Northeast Historical Archaeology
Preservation Maryland
Civil War Trust
American Cultural Resources Association (Board of Directors – 2001 – 2007, Executive Board 2008 - 2012)

Appendix F
Environmental Impact Study

Draft Environmental Document Review

Hagerstown Multi-Use Sports and Events Facility
100 Summit Avenue, 140 Summit Avenue, 80 West Baltimore Street, 32 West Baltimore Street, and 37 West Antietam Street
Hagerstown, Maryland 21740

Prepared For:

RK&K
700 East Pratt Street, Suite 500
Baltimore, Maryland 21202

September 2020

1476 Reynolds Street, Suite 100 I Baltimore, Maryland 21230
410-244-7215 I www.ugenv.com

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1.0 INTRODUCTION

On behalf of RK&K, Urban Green Environmental, LLC (Urban Green) has prepared this Environmental Document Review report for the property located at 100 Summit Avenue, 140 Summit Avenue, 80 West Baltimore Street, 32 West Baltimore Street, and 37 West Antietam Street in Hagerstown, Maryland (Site).

This document was prepared to assist with the potential development of a multi-use sports and events facility at the Site. The purpose of the report is to review and summarize all client provided documentation, identify data gaps in the existing due diligence efforts and potential remedial actions, evaluate potential regulatory oversight strategies, and to provide recommendations for next steps

Phase I and Phase II Environmental Site Assessments (ESAs) completed at the Site in 2012 and 2013 identified several environmental issues at the Site parcels. The Phase I ESA identified four *recognized environmental conditions (RECs)* related to historic Site operations: the historic use of the Site as a railroad yard, automotive repair, and printing facility; evidence of three prior gasoline filling stations across the Site; the presence of an out-of-use 1,000-gallon heating oil underground storage tank (UST); and the presence of a former dry cleaner. Further, vent and fill pipes, indicative of the presence of potential heating oil tanks, were identified on the exterior of two Site buildings, but those buildings could not be inspected, so the presence of tanks could not be confirmed.

A Phase II ESA was conducted to evaluate the potential for the RECs to have impacted the environmental condition of the Site. In total, 26 soil borings were advanced across the Site and 22 soil samples and three groundwater samples were collected from those soil borings and three temporary wells. Samples were analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbons diesel range organics and gasoline range organics (TPH DRO/GRO), semi-volatile organic compounds (SVOCs), priority pollutant list (PPL) metals, and polychlorinated biphenyls (PCBs). Concentrations of arsenic and TPH DRO/GRO were identified in the soils above the Maryland Department of the Environment (MDE) Non-Residential Cleanup Standards, and concentrations of arsenic, benzene, beryllium, chromium, lead, mercury, naphthalene, nickel, 1,3,5-trimethylbenzene, and TPH DRO/GRO were detected above the MDE cleanup standards for groundwater. In addition, the Phase II report identified four areas of the property where additional study would be prudent due to the laboratory results and the elevated levels of VOCs identified using field screening equipment during the investigation.

This report was prepared for RK&K by Urban Green Environmental, LLC and is based in part on third party information not within the control of RK&K or Urban Green Environmental, LLC. While it is believed that the third-party information contained herein will be reliable under the conditions and subject to the limitations set forth herein, neither RK&K nor Urban Green Environmental, LLC guarantee the accuracy thereof.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location and Description

As described in the prior investigations, the approximately 7.5-acre Site consists of the parcels located at 140 Summit Avenue, 80 West Baltimore Street, 32 West Baltimore Street, and 37 West Antietam Street, and a portion of the 100 Summit Avenue property, in Hagerstown, Maryland. The Site is zoned as City Center-Mixed Use. At the time of the most recent environmental report completed in 2013, the Site contained the following improvements:

- 100 Summit Avenue: Herald Mail Company parking area
- 140 Summit Avenue: D&P Coin op Laundry
- 80 West Baltimore Street: Washington County Commissioners
- 32 West Baltimore Street: Baltimore Street Station Car Wash
- 37 West Antietam Street: Antietam Paper Company

According to online records, the Site is serviced by municipal water provided by the City of Hagerstown Water Division, sewer provided by the Hagerstown Wastewater Division, electric service by the City of Hagerstown Light Department and natural gas provided by Columbia Gas of Maryland.

The Site is accessed by Summit Avenue, which adjoins the Site to the west, West Antietam Street, which adjoins the Site to the north and West Baltimore Street which adjoins the Site to the south.

A Site plan is presented as Figure 1.

2.2 Environmental Setting

2.2.1 Topography

As noted in the Phase I ESA (ECS 2012) as determined from the 7.5-minute USGS Topographic Map of the Hagerstown, MD/PA Quadrangle dated 1953 and photorevised in 1985, Site elevation is approximately 564 feet above mean sea level. The Site was noted to slope from the west to the east, and surface drainage on the Site appears to be directed to storm drains located on West Antietam Street, Summit Avenue, and West Baltimore Street.

As observed on Google Earth Pro, the nearest surface water body, an unnamed tributary of Antietam Creek, is located approximately 1,400 feet south of the Site.

2.2.2 Geology

As noted in the 2013 Phase II (Triad 2013), and according to the Geologic Map of Washington County, Maryland (1978), the Site lies within the Hagerstown Valley of the Valley and Ridge physiographic province and is underlain by the Stonehenge Limestone Formation. The general lithology of the Stonehenge Limestone Formation is described as gray, thin-bedded, coarse grained to conglometric oolitic calcarenite, with some dolomite. The lower layer is described as gray, thickbedded, fine grained algal limestone.

2.2.3 Lithology / Hydrogeology

Based on field observations made during the 2013 Phase II investigation, soil lithology at the Site consisted primarily of fill materials (coal dust, gravel) to depths of one to 6.5 feet below grade. Below the fill was generally silty clay and clay underlain by limestone. Drilling refusal on limestone was encountered between two and 24 feet below grade. Perched overburden groundwater was encountered in five of the soil borings advanced at the Site between seven and 16 feet below grade.

No information regarding groundwater flow was identified within the 2013 Phase II investigation report. It is noteworthy, that given the observed limestone bedrock, groundwater flow at the Site is anticipated to be complex and dictated by the karst aquifer system which would be anticipated to be highly connected to any nearby surface waters, affected by hydrological cycles, and as voids and channels within the limestone bedrock solubilizes, may change over time.

2.3 Site History

Based on a review of historic records included in the Phase I ESA, the majority of the Site was owned and operated by the Washington County Railroad Company from 1967 through 1980. Historic fire insurance maps showed the property contained numerous gas and oil tanks, railroad spurs and industrial use. According to online records maintained by the State Department of Assessment and Taxation, the southwestern Site building located at 80 West Baltimore Street (Washington County Commissioners) was constructed in 1950, the western Site building addressed as 140 Summit Avenue (D&P Coin Op Laundry) and northeastern Site building addressed as 37 West Antietam Street (Antietam Paper Company) were constructed in 1900, and the southeastern Site building, addressed as 32 West Baltimore Street (Baltimore Street Station Car Wash) was constructed in 1990.

2.4 Prior Environmental Investigations

2.4.1 Phase I ESA (2012)

In July 2012, ECS Mid-Atlantic, LLC completed a Phase I ESA (ECS 2012) at the Site. The scope of work of the Phase I ESA included a visual site survey, historic records review, and regulatory records review. As identified within the Phase I ESA, ECS identified four RECs, one *historic recognized environmental condition (HREC),* and three Business Environmental Risks, as follows:

RECs:

- ***Historic Site Use:*** The majority of the Site was historically owned and operated by the Washington County Railroad Company from 1867 to 1980. The historic Sanborn fire insurance maps also revealed a history of numerous gas and oil tanks, railroad spurs (including a turntable), and industrial use. Railroad tracks are noted to often be associated with creosote timbers, herbicide applications, and possible fuel spills as part of the railroad operation. The historic use of the Site as a railroad yard, automotive repair, and printing (37 West Antietam Street) was considered to be a REC.

- ***Historic Filling Stations:*** Three filling stations were observed on the northwestern (Herald Mail Building), western (near D&P Coin Op), and southeastern portion of the subject on the 1951 Sanborn map. Historic gas stations operated with little, if any, regulation and are commonly associated with some degree of petroleum contamination.

- ***Underground Storage Tank:*** One 1,000-gallon heating oil UST was listed as out of use at the 140 Summit Avenue property (Coin-Op Laundry) and was recommended for removal.

- ***Former Dry Cleaner:*** A former dry cleaner operated at 140 Summit Avenue from prior to 1978 until approximately 2000.

HRECs:

- ***Prior Leaking Underground Storage Tanks (LUSTs):*** Two Site addresses were listed in the LUST database. The 100 Summit Avenue property (case number 96-0561WA) was identified with a case closed listing. Further, ECS noted that the MDE frequently closes cases with low levels of petroleum contamination present that are not a risk to human health or the environment. Future development grading activities and/or excavations may encounter petroleum contaminated material at the former tank location. If so, impacted material should be properly handled and disposed.

  The 80 West Baltimore Street property (case number 95-2029WA) was listed as closed by MDE with no release or cleanup noted.

Business Environmental Risks:

- ***Fill and Vent Pipes:*** Fill and vent pipes were observed along the exterior walls of 25 and 37 West Antietam Street. Fill and vent pipes are commonly associated with heating oil aboveground storage tanks (ASTs) located in the basement of the structures. ECS was not

granted access to the buildings and could not assess the conditions of the tanks. ECS recommended assessing the AST conditions prior to redevelopment activities at the Site.

- ***Age of Site Structures:*** Given the age of construction of some onsite structures (buildings constructed prior to 1978), asbestos-containing materials and lead-based paint are possible. ECS recommended an asbestos and lead-paint survey for the subject prior to any demolition or renovation.

- ***Radon:*** The property is located in an EPA radon Zone 1, which means the area has a predicted average indoor radon screening level greater than 4 picocuries per liter (pCi/L). A level above 4 pCi/L is considered an environmental concern. ECS recommended mitigation be incorporated into future development plans.

Based on the identified RECs, ECS recommended a Phase II ESA consisting of soil and groundwater sampling within areas of concern at the Site. In general, Urban Green concurs with the results of the ECS Phase I ESA. However, in addition to the recommendations provided, it is noteworthy, that in accordance with the Code of Maryland Regulations (COMAR) Section 26.10, Urban Green would have recommended that any inactive UST present at the Site should be evaluated and closed in accordance with local, state, and federal requirements.

2.4.2 Phase II ESA (2013)

In March 2013, Triad Engineering, Inc., completed a Phase II ESA (Triad 2013) at the Site to further evaluate the RECs identified in the Phase I ESA. The scope of the investigation consisted of the advancement of 26 soil borings (B-1 through B-26) to depths up to 24 feet below grade and the collection of 22 soil samples and three groundwater samples from across the Site. The soil borings were biased towards areas of the historic Site uses, suspected ASTs, the UST, and across the Site to provide general Site characterization.

Select soil samples were collected from 22 soil borings and submitted for fixed laboratory analysis of volatile organic compounds (VOCs), total petroleum hydrocarbons diesel range organics and gasoline range organics (TPH DRO/GRO), semi-volatile organic compounds (SVOCs), priority pollutant list (PPL) metals, and/or polychlorinated biphenyls (PCBs). Three grab groundwater samples were collected from the temporary groundwater monitoring wells and submitted for fixed laboratory analysis of VOCs, TPH DRO/GRO, SVOCs, PPL metals and/or PCBs.

Grab soil samples were collected from each soil boring and field screened for total VOCs using a photo ionization detector (PID). Elevated PID readings were observed in soil borings B-1, B-3, B-4, B-5, B-8, B-9, B-10, B-13, B-15, B-16, B-25, and B-26, ranging from 11 parts per million volume (ppmv) to 3,613 ppmv. One soil sample was collected from 22 of the 26 soil borings (no samples were collected from borings B-2, B-4, B-5, or B-11). Samples sent for fixed laboratory analysis were selected by

choosing the depth interval exhibiting the highest PID reading or the soil sample at the depth of refusal.

Following the collection of soil samples, soil borings B-8, B-9 and B-25 were completed as temporary groundwater monitoring wells at depths of 10, 13 and 18.5 feet below grade, respectively.

Results of the investigation identified concentrations of arsenic, mercury, TPH DRO, and TPH (C06-C10) in the soils above the 2018 MDE Cleanup Standards for Non-Residential Soil or the anticipated typical concentration (ATC). Arsenic was detected in concentrations in excess of the MDE Cleanup Standard for Non-Residential Soil of 3 milligrams per kilogram (mg/kg) in all 10 samples that were analyzed for PPL metals. Concentrations ranged from 6.6 mg/kg in sample B-9 10 to 29.0 mg/kg in sample B25. Mercury was detected at a concentration in excess of the ATC of 0.51 mg/kg in one of the 10 samples that were analyzed for PPL metals. Mercury was detected at 1 mg/kg in sample B-14.

TPH DRO was detected in concentrations in excess of the MDE Cleanup Standard of 620 mg/kg in three of the 21 samples that were analyzed for TPH DRO. TPH DRO exceeded the cleanup standard in samples B-7 3.5 (652 mg/kg), B-8 5 (663 mg/kg), and B-9 10 (875 mg/kg). Further, concentrations of TPH (C06-C10) were detected in concentrations in excess of the MDE Cleanup Standard for Non-Residential Soil of 620 mg/kg in two of the 21 samples that were analyzed for TPH (C06-C10). TPH (C06-C10) exceeded the cleanup standard in samples B-9 10 (692 mg/kg) and B-15 (650 mg/kg).

Concentrations of PPL metals, TPH, and VOCs were detected above their respective 2018 MDE Cleanup Standard for Groundwater. Specifically:

- Arsenic was detected at concentrations above the MDE Cleanup Standard for Groundwater of 10 micrograms per liter (ug/L) in both groundwater samples analyzed for metals, at concentrations of 62.7 ug/L (B-9 GW) and 626 ug/L (GW-25).
- Benzene was detected at concentrations above the MDE Cleanup Standard for Groundwater of 5 ug/L in two of the three groundwater samples at concentrations of 160 ug/L (B-8 GW) and 120 ug/L (B-9 GW).
- Beryllium was detected at concentrations above the MDE Cleanup Standard for Groundwater of 4 ug/L in both groundwater samples analyzed for metals, at concentrations of 5.9 ug/L (B-9 GW) and 54.2 ug/L (GW-25).
- Chromium was detected at concentrations above the MDE Cleanup Standard for Groundwater of 100 ug/L in both groundwater samples analyzed for metals, at concentrations of 176 ug/L (B-9 GW) and 1,190 ug/L (GW-25).
- Lead was detected at concentrations above the MDE Cleanup Standard for Groundwater of 15 ug/L in both groundwater samples analyzed for metals, at concentrations of 283 ug/L (B-9 GW) and 1,220 ug/L (GW-25).

- Mercury was detected at a concentration of 4 ug/L in sample GW-25, which exceeds the MDE Cleanup Standard for Groundwater of 2 ug/L.
- Naphthalene was detected at a concentration of 3.9 ug/L in sample B-8 GW and 0.98 ug/L in sample B-9 GW, both of which exceed the MDE Cleanup Standard for Groundwater of 0.17 ug/L.
- Nickel was detected at concentrations above the MDE Cleanup Standard for Groundwater of 73 ug/L in both groundwater samples analyzed for metals, at concentrations of 130 ug/L (B-9 GW) and 800 ug/L (GW-25).
- TPH DRO was detected in all three groundwater samples at concentrations of 1,900 ug/L (B-8 GW), 1,000 ug/L (B-9 GW) and 45,500 ug/L, respectively, which exceed the MDE Cleanup Standard for Groundwater of 47 ug/L.
- TPH (C06-C10) was detected in all three groundwater samples at concentrations of 2,500 ug/L (B-8 GW), 1,570 ug/L (B-9 GW) and 15,200 ug/L, respectively, which exceed the MDE Cleanup Standard for Groundwater of 47 ug/L.
- 1,3,5-Trimethylbenzene was detected at a concentration of 8.6 ug/L in sample B-8 GW and 9.4 ug/L in sample B-9 GW, both of which exceed the MDE Cleanup Standard for Groundwater of 6 ug/L.
- Zinc was detected at a concentration of 2,110 ug/L in sample GW-25, which exceeds the MDE Cleanup Standard for Groundwater of 600 ug/L.

Triad concluded that four areas of the Site may require environmental attention and cleanup based on the PID readings and laboratory analytical testing data. Triad then provided an estimated footprint of those four areas and provided a cost range to remove the soil in those areas. While Urban Green concurs that additional attention should be paid to those areas, there are substantial data gaps that prevent a more comprehensive understanding of the potential environmental concerns/subsurface impacts present at the Site and the associated bearing on project cost and schedule to address these impacts during future development activities.

2.5 Data Gaps

Given the results of the Phase I and Phase II investigations, several data gaps exist that present challenges for evaluating the costs and schedule implications associated with the above environmental concerns during redevelopment of the Site.

2.5.1 Petroleum-Impacted Soil Excavation, Handling and Disposal

The Phase I ESA noted the presence of an out-of-use, 1,000-gallon heating oil UST at the 140 Summit Avenue (D&P Coin-Op Laundry) property. A review of online *Facility Summary* maintained by the MDE Oil Control Program (OCP) indicates that three USTs, presumably the 1,000-gallon tank

identified in the Phase I and two 500-gallon USTs with unknown contents, were removed from the property in April 2018. An OCP *Case Information Report* retrieved from the OCP online database indicates that a case file related to the tanks was opened in January 2017 and closed in August 2018. A release was noted in the file, but no information is provided regarding a cleanup. While the case closed status typically indicates that no additional action or investigation is required for the facility, the possibility exists that residual contamination remains from the tanks and could be encountered if excavations are performed in that area of the Site. Copies of the MDE OCP Facility Summary and Case Information Report are included in Attachment A.

In the conclusions presented with its Phase II report, Triad identified four areas that might require environmental attention and cleanup based on PID readings taken during field screening efforts and as a result of the laboratory analytical testing. According to the Triad report, the four areas identified total approximately 24,916 square feet and are shown on Figure 1. Based upon the average overburden depth of 12 feet within the areas identified, Triad estimated the quantity of soil requiring remedial excavation could be approximately 298,992 cubic feet (11,073 cubic yards). At the time of their analysis, Triad estimated the cost to dispose of the excavated contaminated material within these areas would be approximately $290,000 to $320,000. This estimate was solely for soil disposal and did not include the excavation, transportation, backfilling, environmental oversight, and sampling that would be required to complete the remedial excavations. Additionally, it was noted that if the laboratory testing required for by the soil disposal facilities identified that the material for disposal was determined to be hazardous the cost for disposal could double.

Since the soil data used to generate the cost estimates provided in the report is now approximately eight years old, it is unlikely that a potential disposal facility would rely upon the old information. An assessment of current soil conditions would be required, and the data collection would need to be tailored to a specific facility's testing requirements. Examples of testing requirements from Clean Earth, both for their facility in Hagerstown, Maryland as well as their facility in New Castle, Delaware are provided in Attachment B.

2.5.2 Petroleum-Impacted Groundwater

Elevated concentrations of petroleum, and petroleum-related compounds, were identified in the groundwater samples collected at the Site. However, there is no indication in the Triad report if light non-aqueous phase liquid (LNAPL), commonly referred to as free product, was observed or not. Given the elevated concentrations of petroleum identified, this is important information to know, as if LNAPL is present, under COMAR 26.10, notification would be required to the Maryland Department of the Environment (MDE) Oil Control Program (OCP) and additional action would be required.

2.5.3 Potential For Co-Mingled Contaminants in Soil and Co-Mingled Waste Characterization

Another data gap pertaining to soil removal potentially relates to the Site history as a railyard or the historic import of fill. The soil boring logs presented in the Phase II report indicate that coal dust was

identified in at least half of the soil borings; however, it appears that none of the samples for laboratory analysis were collected from within the layers of coal dust. Coal dust often contains high levels of metals and SVOCs that can limit options for offsite disposal to local petroleum-impacted soil disposal facilities. For instance, most Maryland-permitted petroleum-impacted soil disposal facilities cannot receive soils containing elevated levels of metals or SVOCs, thus requiring disposal as a co-mingled waste at out-of-state facilities in Delaware or Pennsylvania. Figure 1 illustrates the estimated extent of onsite areas of presumed coal ash placement based upon the information presented in the Triad Phase II.

2.5.4 Vapor Intrusion Conditions

In accordance with the current ASTM standard for the performance of a Phase I ESA (E1527-13), the presence of an on-Site gasoline filling station, dry cleaner and storage tanks would be identified as a vapor intrusion condition in addition to be identified as a recognized environmental condition. However, the scope of work for the Phase II did not include a soil gas survey or evaluate for the potential for vapor intrusion at the property. It is also noteworthy, that given the karst conditions likely at the Site, a soil gas survey would be prudent to include testing over multiple seasons to evaluate potential seasonal changes in Site conditions.

Given the elevated levels of petroleum products identified in soil and groundwater at the Site and in the absence of soil gas data, a vapor intrusion risk should be assumed to exist at the Site and a vapor mitigation strategy should be incorporated into future development plans to ensure the adequate protection for human health and the environment. It is noteworthy, that vapor mitigation strategies would also likely address the concern raised in the Phase I ESA regarding potential radon infiltration.

3.0 PRELIMINARY REMEDIAL STRATEGIES

At this time, it is anticipated that the Site will be redeveloped with a multi-use sports and events facility, with associated landscaped areas, sidewalks, and limited parking.

While additional action or investigations may be prudent to refine the remedial strategy for the Site, at a minimum it would be anticipated that during construction, several remedial strategies, including soil removal, the installation of a containment remedy (environmental cap), and vapor mitigation, would be required. Typically the following strategies would be developed as part of Environmental Management Plan for the Site.

3.1 Soil Removal

During the excavations for the future Site redevelopment, if the Site grading is not balanced (excess soil), if geotechnically unsuitable soils are present, and/or petroleum-saturated soils are identified, soil removal and off-site disposal may be required. Based on the existing soil data, additional soil characterization sampling must be completed to meet the requirements of the selected soil disposal facilities prior to offsite disposal.

Where possible, options should be explored to keep soils excavated during Site redevelopment activities onsite and under the environmental cap as outlined in Section 3.2. By limiting soil removals, remedial costs can be effectively minimized.

Excess soils designated for offsite disposal would need to be placed in designated stockpile area(s) of the Site and/or live-loaded for transport to an appropriately permitted facility or MDE-approved property. The nearest permitted facility to the Site is operated by Clean Earth in Hagerstown.

Designated stockpiled soil should be placed on plastic or impervious surface, covered completely with 6-mil plastic, so that the entire stockpile is encapsulated, and anchored to prevent the elements from affecting the integrity of the plastic containment. As required by an appropriate disposal facility, composite soil samples would be required for profiling/waste characterization. It is anticipated that at a minimum, each composite sample would be submitted to a fixed laboratory for the following analyses: TPH DRO/GRO, SVOCs, PPL Metals and any additional analysis required by the selected disposal facility and/or MDE.

All excess rubble or debris excavated from the Site should be disposed in accordance with applicable local, State, and federal laws and regulations.

Please note that the Maryland Department of the Environment (MDE) Land Restoration Program (LRP) has published guidance and standards if soils were to be considered for transport and re-use

at another redevelopment property. This guidance should be strictly adhered to for any soils moved off-Site for re-use.

In addition to the above, it is noteworthy, that the MDE LRP also provides guidance regarding the re-use of concrete and masonry materials at properties. Specifically, inspection and/or testing is typically required if concrete and masonry materials are proposed to be crushed and re-used as fill at a property.

3.2 Containment Remedy (Cap)

In the experience of Urban Green, where remediation of a Site media (e.g. soil, groundwater, soil gas) to the MDE Cleanup Standard is not feasible, alternatives are implemented to eliminate exposure pathways. A commonly approved method would be capping or a containment remedy. It is noteworthy, that containment remedies do not reduce the toxicity and volume of the contaminants. Continued maintenance of the containment remedy would be required (annual inspections and repairs) to ensure long term effectiveness and limit the mobility of Site contaminants in the future.

The containment remedy presented here would provide a pathway for eliminating the exposure pathway from the media of concern at the Site (surface and subsurface soil, groundwater, potential soil gas) to the potential receptors (future onsite commercial workers and visitors). Health and safety protocols should be implemented during the construction phase of the redevelopment to ensure construction workers are not exposed to an unacceptable risk.

Containment remedies are intended to minimize the threat to human health and the environment by eliminating potential contact with the impacted soil and groundwater. This containment remedy would consist of one or more of the following capping techniques across the entire Site:

- Concrete covered areas (future building foundations/sidewalks) (see Figure 2):
    - Repair (including application of new concrete cover) to ensure that concrete paved areas consists of a minimum 4- to 5-inch concrete slab and are in good condition or
    - Placement of a minimum 4- to 5-inch concrete slab-on-grade
- Asphalt paved areas (existing and future exterior) (see Figure 2):
    - Repair (including application of new asphalt cover) to ensure that asphalt paved areas consists of a minimum 8-inch combination of road base and asphalt and are in good condition or
    - Placement of minimum of 8-inch combination of clean fill and/or road base and asphalt.
- Landscaped areas (see Figure 3):
    - Placement of a minimum two-foot combination clean fill and/or topsoil over an MDE approved geotextile fabric material/marker fabric material.

The following report sections provide additional details regarding the construction and types of containment remedies.

3.2.1 Existing Concrete Covered Areas

If during redevelopment portions of remnant concrete building slabs need to be restored and/or resurfaced, the following general procedures would need to be implemented within these areas:

- Inspection of the existing concrete covered areas.
- Repair (e.g. sealing or pouring new concrete) to ensure the existing concrete surface is competent and a minimum 4-inch to 5-inch in thickness.

3.2.2 Existing Pavement Covered Areas

If during redevelopment portions of existing asphalt paved areas may need to be restored and/or resurfaced, the following general procedures would need to be implemented within these areas:

- Inspection of the existing asphalt paved areas.
- Repair (including application of a new asphalt cover) to ensure that asphalt paved areas consist of a competent and continuous cap of a minimum 8-inch combination of road base and asphalt.

Cross sections detailing the proposed composition of the impervious surface layers for existing asphalt paved and concrete covered areas are presented on Figure 2.

3.2.3 New Paved and Concrete Covered Areas

During redevelopment, certain areas of the Site will likely be paved with new asphalt or concrete. These areas would need to be paved in accordance with the following procedures:

- Regrade the Site as needed.
- Placement of an 8-inch total thickness asphalt pavement and clean fill sub-base, or placement of a 4- to 5-inch thick concrete slab.

Cross sections detailing the proposed composition of the impervious surface layers for new asphalt paved and concrete covered areas are presented on Figure 2.

3.2.4 Landscaped Areas

During redevelopment of the Site, landscaped areas may be created. In these areas, construction would need to adhere to the following protocols:

- Regrade the Site as needed.
- Placement of an MDE-approved non-woven geotextile fabric with a minimum weight of four ounces per square yard.

- Placement of a two-foot clean fill layer.
- No current Site soils should be used as clean fill without an evaluation demonstrating that the materials meet appropriate MDE cleanup criteria.

A cross section detailing the proposed composition of the landscaped areas is presented on Figure 3. Landscape plants should be limited to those with root systems which will not penetrate the geotextile/marker barrier.

3.3 Vapor Mitigation

Given the petroleum impacts observed in soil and groundwater at the Site during the previous Phase II investigation, in the absence of additional Site data, the design and construction of any future buildings on the property should include the installation of a vapor mitigation system that will protect occupants of the buildings from exposure to vapors from underlying soils or groundwater. Should a soil gas survey indicate that a vapor mitigation remedy is recommended for the Site, it should be designed to minimize the potential for complete exposure pathways that could result in an unacceptable risk to future receptors (i.e. visitors and workers) by preventing the migration of soil vapors into indoor air. The most common remedies approved by the MDE that can be integrated into the design of a building include the placement of an engineered vapor barrier and a passive sub-slab depressurization system (excluding open air structures or mechanically vented parking garages).

This potential vapor mitigation system typically consist of two components:

1. Placement of an engineered vapor barrier beneath all areas of future buildings, as well as beneath stairwells, elevator shafts and mechanical rooms; and,
2. Installation of a sub-slab depressurization system beneath first floor areas with an intended occupied use.

3.3.1 Engineered Vapor Barrier

In the experience of Urban Green, engineered vapor barriers can vary widely; an engineered vapor barrier (such as Stego® Wrap 15-Mil or VAPORBLOCK® PLUS™, 20 mil) would be recommended to be installed beneath all portions of the onsite building where occupied spaces are constructed at grade. The selected vapor barrier materials should be designed for the mitigation of VOCs. General design specifications include the following:

- The vapor barrier should maintain a permeance of less than 0.01.
- Penetrations (utilities, pipes, cables, conduits, etc.) must be sealed in accordance with the construction specifications and the manufacturer's recommendations.
- The vapor barrier should be sealed to the foundation components in accordance with the manufacturer's specifications.
- The vapor barrier should extend below any pits or sumps, if present.
- Lap seams should be taped in accordance with manufacturer's specifications.

- Smoke testing should be performed following installation of the vapor barrier to check for potential leaks. Any area where leaks are identified will be corrected per the manufacturer's specification.

3.3.2 Sub-Slab Depressurization System

The purpose of a passive SSDS/under-slab venting system is to create a negative pressure field directly beneath the future building and on the outside of the future building foundation. VOCs, if present, will be caught within this negative pressure field and collected via below grade perforated piping and piped to ambient discharge points (roof vents).

If required, the SSDS should be installed beneath the entire structure. VOCs caught within this negative pressure field are collected and piped to ambient discharge point(s). A typical passive venting system design includes either: a) the installation of an open-ended polyvinyl chloride (PVC) pipe system in a layer of sub-slab gravel/stone beneath the concrete slab-on-grade; or b) the installation of a modular prefabricated gas venting layer. A vapor barrier should then be placed above the selected vapor collection system, as applicable (see above Section) and a vertical riser PVC vent pipe. Specifically, installation shall include:

- Placement of a uniform, layer of clean aggregate/stone as sub-slab material; permeable sub-slab material thickness shall be a minimum of 4 inches.
- A vapor collection system, consisting of either:
    - A minimum two-inch diameter perforated PVC piping system embedded horizontally into the sub-slab aggregate before the slab is poured. The two-inch diameter perforated piping shall be placed on a minimum of 30-foot centers running across the footprint of the select building foundation areas, or,
    - A modular prefabricated gas venting layer (GeoVent) installed directly on the subgrade.
- Placement of an engineered vapor barrier in areas of potential ground-floor occupancy.
- Fresh air intakes.
- Vents to the roof; the vents shall be a minimum of 25 feet from air intakes, windows and doors.

Any penetrations and entryways through the slab must be sealed against vapor intrusion; further, the passive SSDS system should be designed such that it can be upgraded to an active (blower assisted) system if necessary.

4.0 POTENTIAL REGULATORY OVERSIGHT

To date, no federally-defined hazardous materials have been identified at the Site. As a result, the remedial strategies discussed in Section 3.0 can be self-implemented without oversight from a regulatory program, presuming adherence with all applicable federal, state and local regulations, as well as the requirements of any facility receiving soils from the property. However, prior to the commencement of redevelopment activities, it is prudent to consider regulatory oversight. Oftentimes lenders or other fiduciary partners, business entities or future operators of a property require, or strongly prefer, that properties achieve closure through a State regulatory program prior to proceeding with development. In addition, conditions may be identified during the redevelopment process, such as the presence of free product in soil or groundwater, which would require a notification to the MDE.

Therefore, consideration should be given to enrolling the Site in an MDE-overseen regulatory program.

The two programs most likely to apply to this property both fall under the jurisdiction of the MDE Land Restoration Program (LRP): the Voluntary Cleanup Program (VCP) or the Controlled Hazardous Substances (CHS) Program. Both programs apply identical MDE-established, risk-based cleanup standards to ensure that environmental conditions are adequately protective of future Site workers, visitors and occupants. At the time of application, each program would require the submission of a current Phase I ESA or Phase I ESA Update (conducted within 360 days of application) and for this property, a current Phase II ESA (conducted within one year of the date of application).

Upon review of the documentation, each program may require additional delineation of the petroleum impacts at the property and the development of a comprehensive corrective action/response action plan that would be implemented during the redevelopment process, but each program also provides flexibility for reaching project completion. Upon completion of a corrective action, each program would also likely require the preparation and recordation of an environmental covenant that will codify land use restrictions placed upon the Site to ensure the continued protection of human health and the environment as well as the maintenance of the environmental remedies implemented in perpetuity. Copies of programmatic flow charts illustrating the VCP and CHS processes are included in Attachment C.

4.1 Voluntary Cleanup Program

The VCP was created by legislation passed in 1997, and amended in 2004, for the purpose of encouraging the investigation, cleanup, and redevelopment of eligible properties with known or perceived contamination from controlled hazardous substances or oil or petroleum. The statute requires that the VCP protect public health and the environment, accelerate cleanup of properties, and provide liability releases and finality to Site cleanup.

To receive the maximum benefit from the program, an applicant must be established as an inculpable person, defined as a person (or entity) who, at the time of application for participation in the VCP, has no prior or current ownership interest in the property and has not caused or contributed to contamination at the eligible property. Once the MDE designates a participant as an inculpable person, the person is not liable for existing contamination identified in the submitted application at the Site. The inculpable person is only liable for new contamination or the exacerbation of the existing contamination. If the property is owned or operated by a State, county, or municipal government or other political subdivision of the State, the property is subject to similar liability protection as an inculpable person except in the case of gross negligence or willful misconduct.

To enroll in the VCP, an application must be submitted to MDE, along with a $6,000 application fee. The VCP also requires public notification, and a sign would have to be posted at the property for 30 days announcing the application and inviting public comment. MDE has 45 days to review the application, and upon completion of the review, MDE may determine that the application is incomplete and request additional information; approve the application and issue a No Further Requirements Determination (NFRD) stating that there are no further requirements related to the investigation of controlled hazardous substances (CHS) or petroleum (oil) at the eligible property; or approve the application and advise the applicant that a Response Action Plan (RAP) must be developed to address contaminants of concern at the property. At the time of approval of an application, the Department will also confirm the participant status as an inculpable or responsible person.

Given the contamination identified at the property, it is likely that a RAP would be required, and per program guidance, the RAP must be submitted within 18 months of acceptance into the VCP. Upon submittal of the proposed RAP, a public informational meeting is required to provide the public with an opportunity to learn about the proposed RAP and submit comments. The public participation and review process can take a maximum of 75 days; upon completion of the review, MDE may approve the RAP or request modifications. MDE has an additional 30 days to review subsequent modifications to the RAP.

Once a RAP is approved and a bond or other security is submitted, the RAP implementation can begin. Throughout the RAP implementation process, the Site will be subject to oversight from its VCP project manager, and the participant's environmental consultant is required to submit regular project status reports. Upon completion of RAP activities, the environmental consultant must prepare a Response Action Completion Report for review and approval by MDE. When the VCP determines that the RAP was completed to its satisfaction, a Certificate of Completion (COC) is issued, most likely with the requirement for the recordation of an environmental covenant as described above. VCP also requires the payment of a $2,000 fee upon issuance of the COC.

Following receipt of the COC, if the participant is a tax paying entity and received inculpable status, the property would be eligible for a Brownfields tax credit. Washington County implemented its Brownfields Property Tax Credit Ordinance in August 2020, and the credit can be for up to 70 percent of the incremental increase in the property tax assessment following cleanup for up to 10 years, depending upon the cost of the remedial activities or if the property is located within an Enterprise Zone. According to the June 2012 Hagerstown/Washington County Enterprise Zone Map, the property appears to be located within the Enterprise Zone.

4.2 Controlled Hazardous Substances Program

As an alternative to the VCP, the owner of a contaminated property can request oversight from the LRP CHS Enforcement Division by submitting a written request and agreeing to cost recovery for the time spent on providing the technical assistance. As with the VCP, CHS oversight would include Departmental review and comment of environmental assessment reports, work plans, and/or proposed investigation/remediation strategies.

Properties receiving oversight from the CHS enforcement division are not subject to the public participation requirements or regulatory review timelines required by the VCP. As a result, document reviews can be completed more quickly, usually within two to four weeks. As described above, CHS would also likely require a remedial plan to be developed; in this case a Corrective Action Plan (CAP) would be developed and submitted for review. Implementation of the CAP would also require oversight by the project manager and the submission of progress reports and a Completion Report by the environmental consultant. Following a review of the Completion Report, and presuming the Department's satisfaction with its findings, a No Further Action (NFA) letter would be issued. In this instance, the NFA would also likely contain a requirement to record an environmental covenant and the ongoing inspection and maintenance of the environmental remedies employed at the Site. The CHS employs cost recovery for its oversight and bills the participant on a semi-annual schedule for its review time, at rates ranging from approximately $40 to $70 per hour.

Oversight from the CHS program does not provide the liability protections of the VCP, nor would it provide eligibility for the tax credit upon completion.

5.0 NEXT STEPS

A review of the existing environmental reports for the Site indicates that there are environmental issues that are recommended to be addressed prior to and during the proposed redevelopment of the property. Since the Phase I ESA is more than eight years old, an updated Report is recommended to examine current Site conditions and review any new environmental documentation, such as the records of the onsite UST removals conducted in 2018.

In addition, there are several other data gaps at present; however, these data gaps may be best addressed following a review of proposed Site plans. An optimal remediation strategy would limit the amount of soil to be disturbed or requiring offsite disposal. With a careful review of future Site plans and areas of proposed cut and fill across the Site, an appropriate work plan could be developed to carefully define the limits of disturbance and minimize the amount of soil characterization sampling required.

Further, prior to the construction of new structures at the Site, in the absence of a multi-seasonal soil gas sampling investigation, vapor mitigation should be included in the development plans. The soil and groundwater data collected in 2012 indicates the presence of petroleum-related compounds in soil and groundwater across the property. These compounds can create a vapor intrusion risk, and it is much more cost effective to design a vapor mitigation strategy prior to construction rather than trying to retrofit a building upon its completion.

The project management team should determine with its stakeholders if oversight from MDE is needed during the construction process. While the contaminants identified during the previous investigation may not require state regulatory involvement, there can be value to the project by enrolling the Site into an MDE-overseen program. The decision should be based upon the project's ownership structure, financial partners, tenant expectations and project timing.

If oversight from MDE is deemed desirable, the first step should be to request a pre-application or pre-development meeting where the initial findings can be presented, and a discussion started regarding plans for additional investigations that would be required by the Department. MDE can provide valuable, informal technical guidance during these preliminary meetings. Although no guidance would be considered official until the property is formally enrolled in one of its programs, pre-application meetings tend to serve as a valuable litmus test to judge if development plans will match well with MDE expectations. It is also important to note that MDE would expect an updated Phase I be submitted at the time of any program enrollment.

With or without MDE oversight, final construction documents should include a formal remediation plan that addresses the appropriate handling and disposal of soil and groundwater on the property. The plan should also address vapor mitigation, if necessary, and outline any steps necessary to protect the health and safety of construction workers during the redevelopment process.

6.0 REFERENCES

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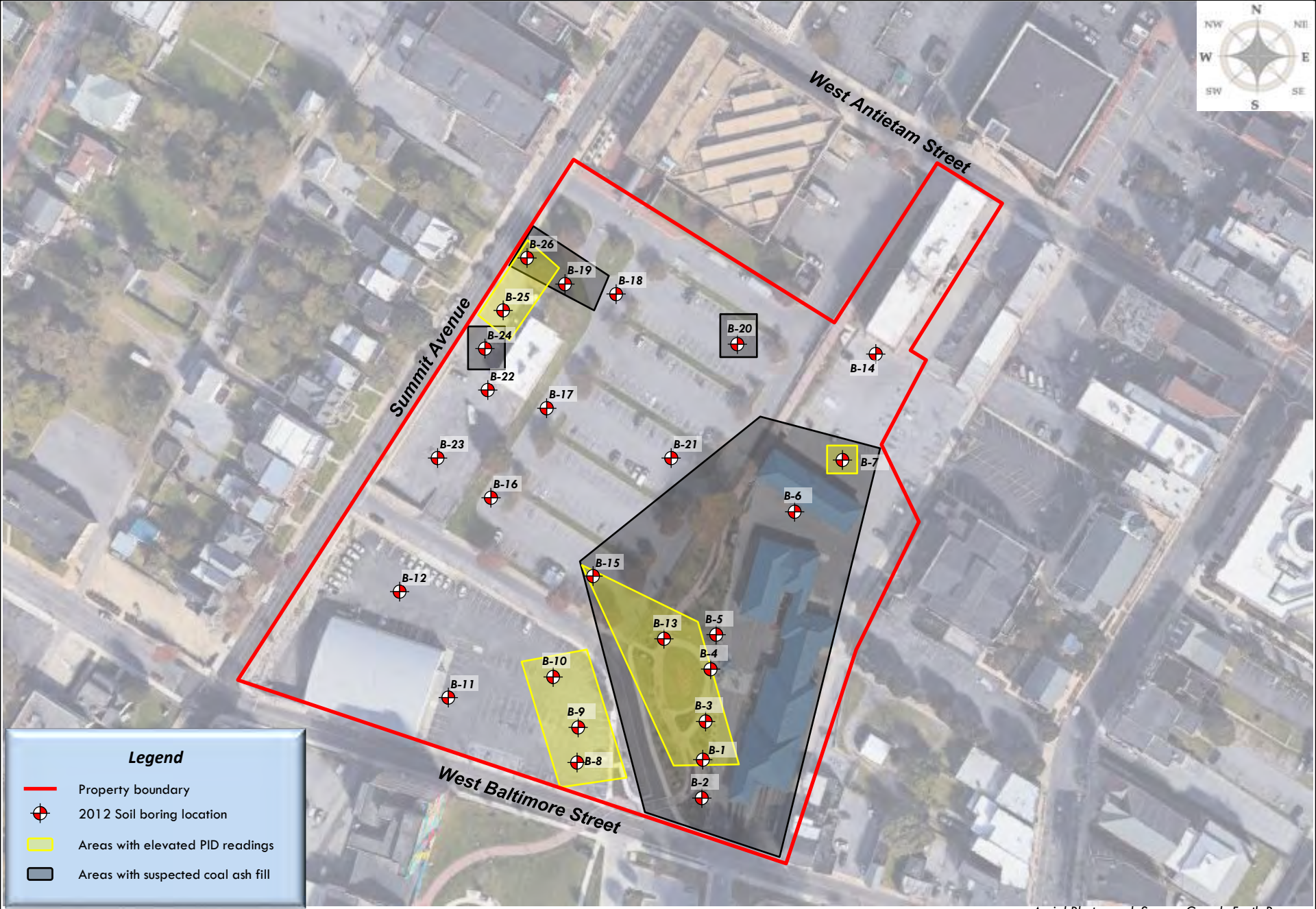
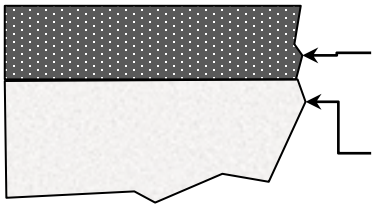


Aerial Photograph Source: Google Earth Pro

URBANGREEN ENVIRONMENTAL	RK&K	Figure 1 Prior Soil and Groundwater Sample Locations Hagerstown Multi-Use Sports and Events Facility Hagerstown, Maryland	Date: September 2020 Approximate Scale: Not to Scale	Figure: 1 Project Number: 305-001-20

EXISTING PAVING SECTION DETAIL – RESTORE (AS NEEDED)

NOT TO SCALE



NEW PAVING SECTION DETAIL

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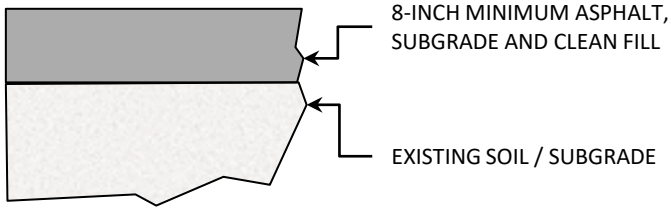
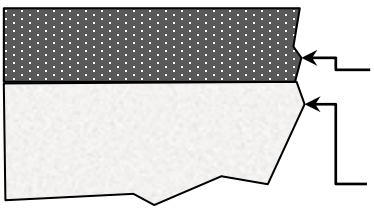


NOTES:

1. DETAIL NOT FOR CONSTRUCTION
2. DETAIL ADDRESSES ENVIRONMENTAL CONCERNS AND DOES NOT ADDRESS CIVIL OR GEOTECHNICAL CONCERNS. ENGINEER SHOULD EVALUATE FOR CONSTRUCTION PURPOSES.
3. PAVEMENT SECTION: IMPERVIOUS

EXISTING CONCRETE SECTION DETAIL – RESTORE (AS NEEDED)

NOT TO SCALE



NEW CONCRETE SECTION DETAIL

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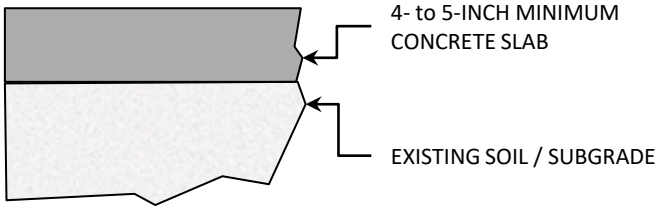
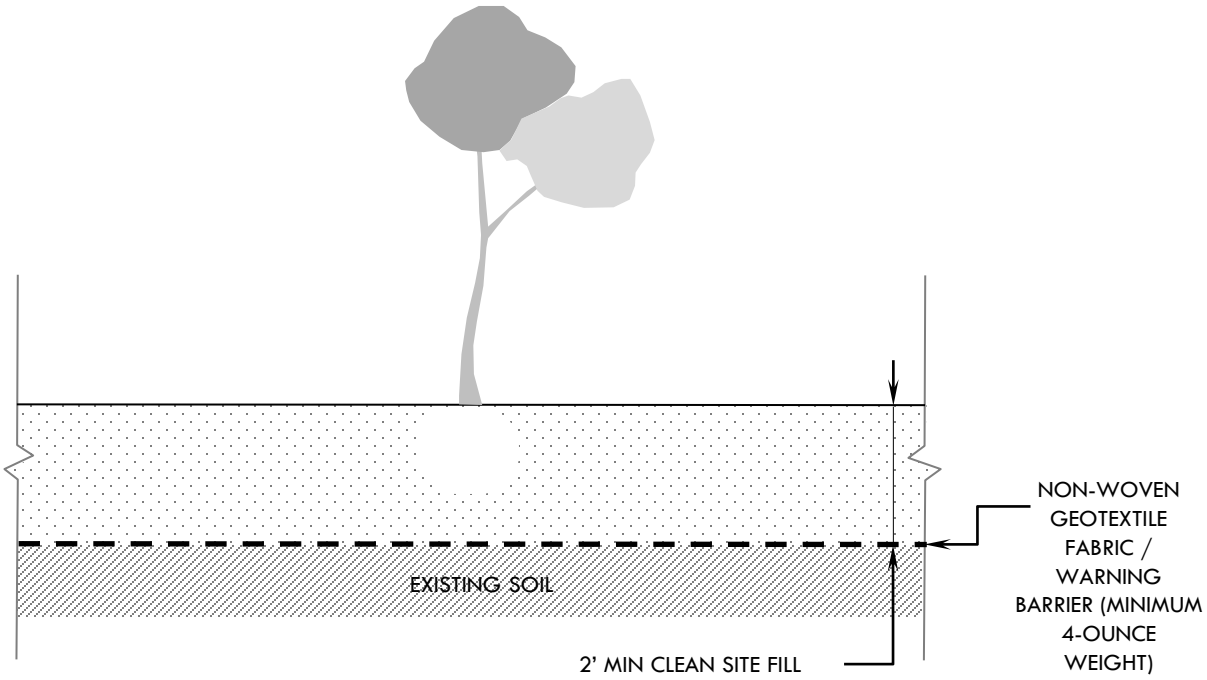


NOTES:

1. DETAIL NOT FOR CONSTRUCTION
2. DETAIL ADDRESSES ENVIRONMENTAL CONCERNS AND DOES NOT ADDRESS CIVIL OR GEOTECHNICAL CONCERNS. ENGINEER SHOULD EVALUATE FOR CONSTRUCTION PURPOSES.
3. PAVEMENT SECTION: IMPERVIOUS

URBANGREEN ENVIRONMENTAL	RK&K	Figure 2 Cross Section Showing Proposed Cap Construction in Asphalt and Concrete Covered Areas Hagerstown Multi-Use Sports and Events Facility Hagerstown, Maryland	Date: September 2020 Approximate Scale: Not to Scale	Figure: 2 Project Number: 305-001-20



TYPICAL LANDSCAPE AREA DETAIL

NOT TO SCALE

NOTES:

1. DETAIL NOT FOR CONSTRUCTION
2. DETAIL ADDRESSES ENVIRONMENTAL CONCERNS AND DOES NOT ADDRESS CIVIL OR GEOTECHNICAL CONCERNS. ENGINEER SHOULD EVALUATE FOR CONSTRUCTION PURPOSES.

URBANGREEN ENVIRONMENTAL	RK&K	Figure 3 Cross Section Showing Proposed Cap Construction in Landscaped Areas Hagerstown Multi-Use Sports and Events Facility Hagerstown, Maryland	Date: September 2020	Figure: 3
			Approximate Scale: Not to Scale	Project Number: 305-001-20

Table 1 - Phase II Soil Analytical Summary - Hits Only

Proposed M.U.S.E.C. Hagerstown, Maryland 21740

ANALYTE	MDE Non-Residential Cleanup Standard (2018)[1]	ATC [2]		B-1 4.5	B-3 4.5	B-6 10	B-7 3.5	B-8 5	B-9 10	B-10 5	B-12 2	B-13	B-14	B-15	B-16	B-17	B-18	B-19	B-20	B-21	B-22	B-23	B-24	B-25	B-26
			Date Sampled	9/7/12	9/7/12	9/7/12	9/7/12	9/7/12	9/7/12	9/7/12	9/7/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12	12/4/12
			Depth of Sample	4.5 feet	4.5 feet	10 feet	3.5 feet	5 feet	10 feet	5 feet	2 feet	10-12 feet	6 feet	7.5 feet	5 feet	12 feet	4 feet	6.5 feet	6.5 feet	9.5 feet	3.5 feet	7 feet	5 feet	12 feet	16 feet
			PID reading (ppmv)	110	1,330	0	110	1,815	3,008	3,613	0	306	0	2,678	11	0	0	0	0	0	0	0	0	1,200	1,384
			% moisture	22.6	25.2	24.9	19.4	20.9	40.9	20.9	20.1	22.8	27.9	44.9	13.8	21.3	16.4	11.5	19.2	19.0	22.0	21.9	20.5	27.0	28.8
Volatile Organic Compounds (SW8260B / mg/kg)																									
Acetone	61,000	NA		0.0783	0.453	0.0264	ND	0.452 J	2.89	0.0673	ND	ND	0.017	ND	ND	0.0063 J	0.0062 J	0.0056 J	---	0.050	ND	ND	ND	0.025 J	0.066
Benzene	5.1	NA		0.0011 J	0.0064 J	ND	ND	0.345	1.96	0.0035 J	ND	ND	ND	ND	0.0015 J	ND	ND	ND	---	ND	ND	ND	ND	ND	ND
Total BTEX	---	NA		ND	0.0460	ND	ND	1.69	18.6	0.0186 J	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	350	NA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND	0.0097 J	0.0047 J
Cyclohexane	---	NA		---	---	---	---	---	---	---	---	2.2	0.0024 J	ND	ND	ND	ND	ND	---	ND	ND	ND	ND	0.0045 J	0.58
Ethylbenzene	25	NA		ND	0.0088	ND	ND	0.630	13.1	0.0186	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	990	NA		---	---	---	---	---	---	---	---	0.32	ND	1.6	ND	ND	ND	ND	---	ND	ND	ND	ND	ND	0.23
p-Isopropyltoluene	---	NA		---	---	---	---	---	---	---	---	0.14 J	ND	0.29 J	ND	ND	ND	ND	---	ND	ND	ND	ND	ND	0.065
2-Butanone (MEK)	19,000	NA		ND	0.139	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND	ND	ND
Methylcyclohexane	---	NA		---	---	---	---	---	---	---	---	5.9	0.0048 J	28.3	0.0045 J	0.0027 J	ND	0.0028 J	---	0.0038 J	ND	ND	0.0034 J	0.013 J	5.0
Methylene Chloride	320	NA		ND	0.0039 J	ND	ND	ND	ND	ND	ND	ND	0.0031 J	ND	ND	ND	ND	0.0014 J	---	0.0055 J	0.0031 J	0.0027 J	0.0064	0.0045 J	ND
4-Methyl-2-pentanone (MIBK)	14,000	NA		ND	ND	ND	ND	ND	ND	0.190	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND	ND	ND
Naphthalene	17	NA		---	---	---	---	---	---	---	---	ND	ND	ND	0.014	ND	ND	ND	---	ND	ND	ND	0.0064	0.0096 J	0.011 J
1,2,4-Trimethylbenzene	180	NA		---	---	---	---	---	---	---	---	ND	ND	ND	0.0092	ND	ND	ND	---	ND	ND	ND	0.0071	ND	ND
1,3,5-Trimethylbenzene	150	NA		---	---	---	---	---	---	---	---	ND	ND	ND	0.0027 J	ND	ND	ND	---	ND	ND	ND	0.0019 J	ND	0.061
Tetrachloroethene	39	NA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	0.0014 J	ND	ND	ND	ND
Toluene	4,700	NA		ND	0.0047 J	ND	ND	0.204 J	0.810	0.0039 J	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND	ND	ND
m&p-Xylene	250	NA		ND	0.0372	ND	ND	0.720	2.72	0.0047 J	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
o-Xylene	250	NA		ND	0.0044 J	ND	ND	0.149 J	0.394 J	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylene (Total)	250	NA		ND	0.0416	ND	ND	0.868	3.11	0.0047 J	ND	ND	ND	ND	0.0051 J	ND	ND	ND	---	ND	ND	ND	0.010 J	ND	ND
Semi-Volatile Organic Compounds (SW8270B / ug/kg)																									
2-Methylnaphthalene	300	NA		---	ND	---	---	---	10.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---
Naphthalene	17	NA		---	ND	---	---	---	5.41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---
Priority Pollutant List Metals (SW6020A / mg/kg)																									
Antimony	47	6		ND	ND	ND	---	ND	ND	---	---	ND	1.1	ND	---	---	---	---	ND	---	---	---	---	ND	---
Arsenic	3	1.83[3]		21.5	12.8	21.0	---	8.0	6.6	---	---	9.6	8.1	18.9	---	---	---	---	6.6	---	---	---	---	29.0	---
Beryllium	230	0.66		1.5	1.1	1.6	---	1.2	0.43	---	---	1.4	0.84	2.4	---	---	---	---	0.76	---	---	---	---	3.2	---
Chromium	---	28.00		33.3	33.8	34.5	---	24.3	11.5	---	---	33.3	19.3	45.3	---	---	---	---	22.2	---	---	---	---	42.8	---
Copper	4,700	12		13.3	6.0	11.4	---	10.1	9.9	---	---	15.6	23.7	25.8	---	---	---	---	10.5	---	---	---	---	19.3	---
Lead	800	45		26.8	25.5	28.8	---	19.3	24.2	---	---	24.0	107	40.9	---	---	---	---	12.6	---	---	---	---	25.8	---
Mercury	---	0.51		0.070 J	0.056 J	0.055 J	---	0.071 J	0.099 J	---	---	0.060 J	1.0	0.22	---	---	---	---	0.038 J	---	---	---	---	0.11 J	---
Nickel	2,200	13		22.6	14.4	26.0	---	17.9	8.5	---	---	24.5	15.8	46.9	---	---	---	---	12.9	---	---	---	---	42.3	---
Selenium	580	2.2		1.3	1.2	1.5	---	0.84	1.4	---	---	1.4	1.0	1.4	---	---	---	---	1.4	---	---	---	---	ND	---
Silver	580	0.9		ND	0.20 J	0.30 J	---	ND	ND	---	---	ND	0.44 J	0.38 J	---	---	---	---	ND	---	---	---	---	0.23 J	---
Zinc	35,000	63		42.3	28.9	53.7	---	27.2	27.6	---	---	35.0	50.7	134	---	---	---	---	24.6	---	---	---	---	83.9	---
Total Petroleum Hydrocarbons (SW6020 / mg/kg)																									
Diesel Components	620	NA		6.4 J	48.3	6.6 J	652	663	875	67.0	7.8 J	427	5.8 J	509	87.8	5.9 J	17.2	230	---	13.6	5.8 J	ND	69.4	295	19.7
Gasoline Range Organics	620	NA		8.3 J	151	ND	51.1 J	444	610	103	2.9 J	58.2	ND	615	ND	ND	ND	4.6 J	---	ND	ND	ND	2.9 J	23.2	147
TPH (C06-C10)	620	NA		9.4 J	167	3.5 J	56.8 J	500	692	106	3.4 J	62.9	ND	650	ND	ND	ND	5.2 J	---	ND	ND	ND	3.3 J	17.1	152

Notes:

(1) State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater, Interim Final Guidance, Update No. 3 (MDE 2018).

(2) Anticipated Typical Concentrations (ATCs) represent reference or background levels published by the MDE for the Site area.

(3) Pursuant to the July 2013 Memorandum issued by the MDE regarding the bioavailibility of arsenic, the standards presented are adjusted based on the assumption that 60% of the arsenic reported is bioavailable.

mg/kg = Milligrams per kilogram

--- = No standard or sample not analyzed for select compound

Bold cell indicates a concentration above the lowest level of quantitation (LLQ).

Bold and shaded cells indicate a detection above the MDE Cleanup Standard for Non-Residential Soil or the ATC

ND = Not detected

J = Analyte detected at a level less than the Method Reporting Limit (MRL) and greater than or equal to the Method Detection Limit (MDL), Concentrations witin this range are es

ppmv = parts per million volume

Table 2 - Phase II Groundwater Analytical Summary - Hits Only

Proposed M.U.S.E.C. Hagerstown, Maryland 21740

ANALYTE	MDE Cleanup Standard - Groundwater [1] (2018)	Sample ID	B-8 GW	B-9 GW	GW-25
		Date Sampled	9/7/2012	9/7/2012	12/4/2012
Volatile Organic Compounds (8260B / ug/L)					
Acetone	**1,400**		**13**	**26**	ND
Benzene	**5**		**160**	**120**	**0.43 J**
Chlorobenzene	**100**		**33**	**21**	ND
Cyclohexane	---		---	---	**0.63 J**
cis-1,2-Dichloroethene	**70**		ND	ND	**0.25 J**
Ethylbenzene	**700**		**20**	**14**	ND
Isopropylbenzene (Cumene)	**45**		**26**	**20**	ND
Methylcyclohexane	---		---	---	**9.1 J**
Naphthalene	**0.17**		**3.90**	**0.98 J**	ND
Toluene	**1,000**		**8.2**	**11**	**0.44 J**
1,2,4-Trimethylbenzene	**5.6**		**2.6**	**2.6**	**---**
1,3,5-Trimethylbenzene	**6**		**8.6**	**9.4**	---
m&p-Xylene	**1,000**		**13**	**37**	ND
o-Xylene	**1,000**		**3.1**	**8.8**	ND
Xylene (Total)	**1,000**		**16**	**46**	ND
Priority Pollutant List Metals (SW6010B / ug/L)					
Arsenic	**10**		**---**	**62.7**	**626**
Beryllium	**4**		**---**	**5.9**	**54.2**
Chromium	**100**		**---**	**176**	**1,190**
Copper	**1,300**		**---**	**151**	**575**
Lead	**15**		**---**	**283**	**1,220**
Mercury	**2**		**---**	**0.99**	**4.0**
Nickel	**39**		**---**	**130**	**800**
Selenium	**50**		**---**	**7.5 J**	**70.5 J**
Zinc	**600**		**---**	**365**	**2,110**
Total Petroleum Hydrocarbons (SW 8015/5030 / ug/L)					
TPH DRO	**47**		**1,900**	**1,000**	**45,500**
TPH (C06-C10)	**47**		**2,500**	**1,570**	**15,200**

Notes:

[1] State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater, Interim Final Guidance, Update No. 3 (MDE 2018).

ug/L = Micrograms per liter

ND = Not detected.

--- = No standard or sample not analyzed for select compound

Bold cell indicates a concentration above the lowest level of quantitation (LLQ).

Bold and shaded cells indicate a detection above the MDE Cleanup Standard for Groundwater

J = Analyte detected at a level less than the Method Reporting Limit (MRL) and greater than or equal to the Method Detection Limit (MDL), concentrations witin this range are estimated.

ATTACHMENT A

MDE OCP FACILITY SUMMARY AND CASE INFORMATION REPORT

Facility Summary for Facility ID #9747

Owner Name and Address: D & P Properties
18911 Dover Dr Hagerstown, MD 21742
Donald Baker (301) 733-8329

Owner Type: Commercial

Facility ID	County	Location Name	Location Street Address	Location City	Zip
9747	Washington	D & P Coin-Op Laundry	140 Summit Avenue	Hagerstown	21740

Tank ID / Status / Closure Status	Date Installed / Age (yr) / Closure Date	Product / Total Capacity / Compartment	Tank Mat'l of Contruction / Secondary Option	Piping Material / Secondary Option / Piping Type	Primary - Tank Release Detection / Primary - Piping Release Detection / Sec - Interstitial Monitoring Tank/Piping	CP / Over / Mnfd	RD / Spill / EG	FR / B/HO
1	04/01/1963	Heating Oil	Asphalt Coated or Bare Steel	Copper	R	No	No	No
Permanently Out Of Use		1,000	None	None	R	No	No	
Tank removed from ground	4/18/2018			Not Listed	No/No	No	No	No
2		Unknown	Asphalt Coated or Bare Steel	Bare or Galvanized Steel	R	No	No	No
Permanently Out Of Use		500	None	None	R	No	No	
Tank removed from ground	4/18/2018			Not Listed	No/No	No	No	No
3		Unknown	Asphalt Coated or Bare Steel	Bare or Galvanized Steel	R	No	No	No
Permanently Out Of Use		500	None	None	R	No	No	
Tank removed from ground	4/18/2018			Not Listed	No/No	No	No	No

Total Tanks: 3

Tank/Piping Release Detection Codes

A	Manual Tank Gauging	**B**	Tank Tightness Testing	**C**	Inventory Control	**D**	ATG/Auto Line LD	**E**	ATG 0.2 GPH Test	**F**	Safe Suction
G	Gravity Feed	**H**	Elect ALLD Testing 0.2 GPH	**I**	Line Tightness Annual	**J**	Line Tightness Every 2 Yrs.	**K**	Vapor monitoring	**L**	Groundwater monitoring
M	Inventory SIR	**N**	Interstit. Dbl-wall Monitor	**O**	Interstit. Sec. Con. Monitor	**P**	Other method	**Q**	Deferred	**R**	Not listed
N/A	Heating Oil/Emergency Generator										

Tank/Piping Codes

CP	Corrosion Protection Met	**Over**	Overfill Protected	**Mnfd**	Manifold	**FR**	Financial Responsibility Met
RD	Release Detection Met	**Spill**	Spill Protected	**EG**	Emergency Power Generation	**B/HO**	Bulk Heating Oil

Report Generation Date: 9/9/2020

Maryland
Department of
the Environment

Oil Control Program

Suite 620, 1800 Washington Blvd., Baltimore, MD 21230-1719

410-537-3442 1-800-633-6101 x3442

http://www.mde.maryland.gov/

Oil Control Program Case Information Report

Case No.:	18-0354WA			
Date Open:	JAN 23, 2017			
Spill Location:	D&P COIN-OP LAUNDRY			
Address:	140 SUMMIT AVE,	HAGERSTOWN,	MD	21740
County:	WASHINGTON COUNTY			
Facility ID:	9747			
Release:	YES			
Cleanup:				
Status:	CLOSED	**Date Closed:**	AUG 09, 2018	

ATTACHMENT B

TESTING REQUIREMENTS FOR OFFSITE DISPOSAL

Clean Earth Sampling Protocol
Maryland

PARAMETERS		TPH-GRO	TPH-DRO	Oil and Grease	BTEX	PCBs	TOTAL METALS - 8 RCRA *	TOTAL VOLATILE ORGANICS*	TCL SEMI-VOLATILE ORGANICS* (& Pyridine)
METHODS (1)		8015	8015	9071B	8021 or 8260B	8082A	6010/7471	8260B	8270D
	FREQUENCY								
VIRGIN PETROLEUM WITH REGULATORY DOCUMENT									
Gasoline	Representative composite sample of at least five representative grab samples every 3000 tons	X			X				
Other distillate fuel (eg: Diesel, Kerosene)			X		X				
Residual fuel (eg: #4, #6 Fuel Oil)				X	X				
Limit (mg/kg)		avg<25,000	avg<25,000	avg<25,000	Benzene <10				
PETROLEUM WITHOUT REGULATORY DOCUMENT/MISCELLANEOUS									
Gasoline	Representative composite sample of at least five representative grab samples every 3000 tons	X				X	X	X	X
Other distillate fuel (eg:Diesel,Kerosene)			x			X	X	X	X
Residual fuel (eg: #4, #6 Fuel Oil)				X		X	X	X	X
Unknown		X	X	X		X	X	X	X
Limit (mg/kg)		avg<25,000	avg<25,000	avg<25,000	Benzene <10	avg<12	Below RCRA Toxicity Level	Below RCRA Toxicity Level	Below RCRA Toxicity Level

(1) The methods provided are standard EPA methods. The method revisions are subject to change and the most current method should always be utlized by the laboratory.

This is to be used as a guideline for sampling. Sampling frequencies and parameter requirements may be modified at the discretion of the CE Approval staff based on items such as site history, levels of contamination and/or source of contamination. (Please refer to the attached Addendum # 1)

*** Note: For compounds with total concentrations greater than or equal to 20X RCRA Toxicity, TCLP is required.**

Clean Earth Sampling Protocol
New Castle - DRS

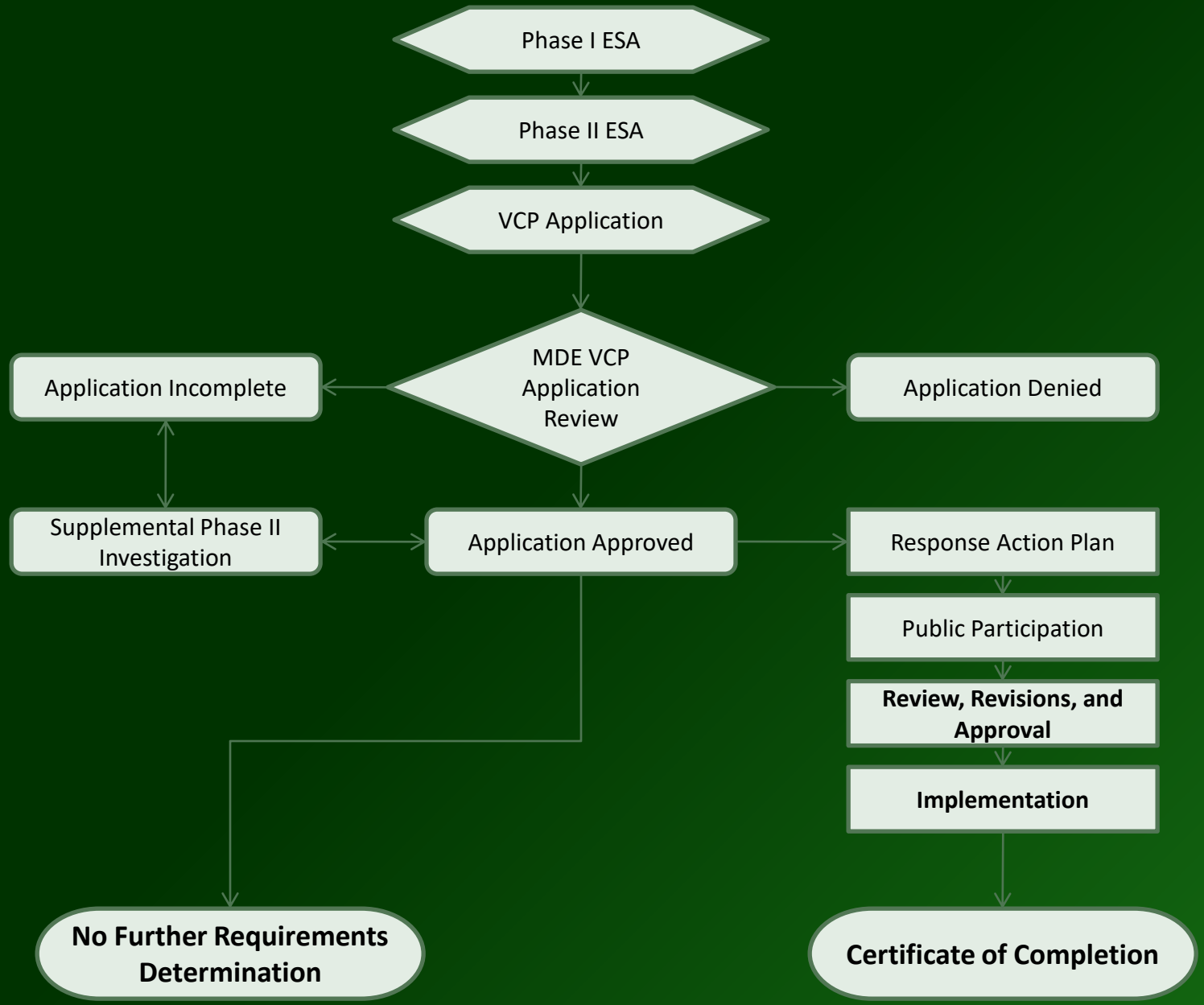
PARAMETERS	TPH DRO*	BTEX	TOX	TCLP METALS 8 RCRA	IGNITABILITY	CORROSIVITY (pH)	REACTIVITY - SULFIDE AND CYANIDE	PCBs	TOTAL METALS	HEXAVALENT CHROMIUM	TOTAL CYANIDE	TCL VOLATILE ORGANICS	TCL SEMI-VOLATILE ORGANICS	TCLP VOLATILE ORGANICS	TCLP SEMI-VOLATILE ORGANICS	TCLP HERBICIDES	TCLP PESTICIDES	PAHs	MOISTURE
METHODS (1)		8015B	8021 or 8260B	9020 or 9023	1311/6010/ 7470A	1010A	9040C	SW846 CHAPTER 7.3	8082A	6010/7471	7196	9014	8260B	8270D	1311/8260B	1311/8270D	1311/8151A	1311/8081B	8270D	SM20-2540G
	FREQUENCY																			
Known Source Petroleum Contaminated	Representative composite sample every 1000 tons in accordance with SW846	X	X	X	X	X	X	X	X	Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Cobalt Copper Trivalent Chromium Iron Lead Manganese Mercury Nickel Selenium Silver Thallium Tin Vanadium Zinc	X	X			X	X	X	X	X	X
Limit (mg/Kg)		<1000	<10	10	Below RCRA Toxicity Level	Negative	>2 - <12.5	Sulfide <500 Cyanide <250	<3.0						Below RCRA Toxicity Level	Below RCRA Toxicity Level	Below RCRA Toxicity Level	Below RCRA Toxicity Level		
Non-Petroleum Contaminated	Representative composite sample every 1000 tons in accordance with SW846	X	X	X	X	X	X	X	X	Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Cobalt Copper Trivalent Chromium Iron Lead Manganese Mercury Nickel Selenium Silver Thallium Tin Vanadium Zinc	X	X	X	X	X	X	X	X		X
Limit (mg/Kg)		<1000	<10	10	Below RCRA Toxicity Level	Negative	>2 - <12.5	Sulfide <500 Cyanide <250	<3.0						Below RCRA Toxicity Level	Below RCRA Toxicity Level	Below RCRA Toxicity Level	Below RCRA Toxicity Level		

(1) Test methods shall be those found in the most current legal edition of SW-846.
Additional testing criteria may be required to address potential contaminants that can reasonably be expected to be present in the soil based on environmental due diligence.
* For Gasoline Sources use TPH-GRO in lieu of TPH-DRO

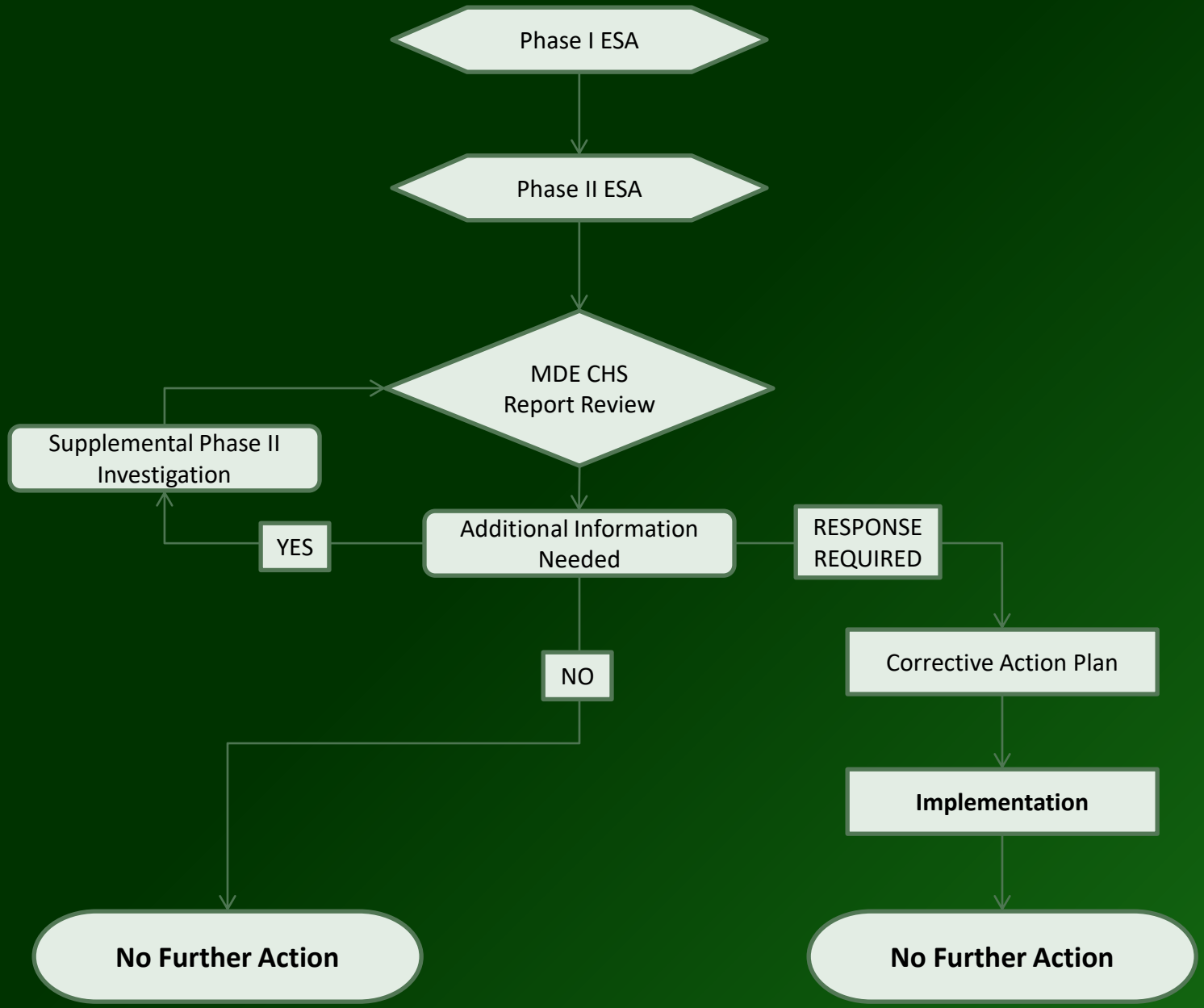
ATTACHMENT C

FLOWCHARTS OF THE VCP AND CHS PROCESSES

VCP Process


Phase I ESA
Phase II ESA
VCP Application
MDE VCP Application Review
Application Incomplete
Application Denied
Supplemental Phase II Investigation
Application Approved
Response Action Plan
Public Participation
Review, Revisions, and Approval
Implementation
No Further Requirements Determination
Certificate of Completion

CHS Process


Phase I ESA
Phase II ESA
MDE CHS Report Review
Supplemental Phase II Investigation
YES
Additional Information Needed
RESPONSE REQUIRED
NO
Corrective Action Plan
Implementation
No Further Action
No Further Action

Appendix G
Geotechnical Investigation

ERT, Inc.
14401 Sweitzer Lane, Suite 300
Laurel, MD 20707
Phone: 301-361-0620 | Fax: 301-361-0659
www.ertcorp.com

June 26, 2020

TO: Scott A. Berkheimer, PE, DBIA
Project Manager
RK&K
700 East Pratt Street, Suite 500
Baltimore, MD 21202

RE: Geophysical Survey of Hagerstown Multi-Use Sports & Events Facility (HMUSEF), Hagerstown, Maryland

Dear Mr. Berkheimer,

ERT, Inc. (ERT) is pleased to submit to RK&K this report summarizing the instrumentation, field design, and results of seismic surveys conducted on the night of June 17 and the morning of June 18, 2020, at the proposed Hagerstown Multi-Use Sports & Events Facility, Hagerstown, Maryland. The objective of the survey was to map the variation in thickness of overburden materials using the standard refraction seismic technique.

1.0 Geologic Setting

The investigation area is within the Great Valley Physiographic Province of Maryland. The area of investigation is a group of parking lots underlain by the Ordovician Stonehenge Limestone. Most of the site is underlain by the Middle member of the Stonehenge, composed of "massive, medium gray, algal lime boundstone with some layers up to 25 feet thick." (Brezinski, D. K., 2013. *Geologic and Karst Features Map of the Hagerstown Quadrangle, Washington County, Maryland.* Maryland Geological Survey. Map Scale: 1:24,000).

An outcrop of the Stonehenge is present in the southwest corner of the site. The bedding is nearly vertical and strikes north-northeast, or nearly parallel to Summit Avenue on the west side of the site. The outcrop may expose the Middle member, the underlying Stoufferstown Member, or both. Other parts of the site are probably heavily disturbed by construction of current and previous structures.

For purposes of determining rippability of the near surface materials, the bedrock is assumed to be "limestone."

2.0 Field Methods

Seismic refraction lines were placed in the field with reference to existing site features. Three lines were acquired in their proposed locations. One line planned for a grassy area in the southeast part of the site was found to be in a highly landscaped area and the decision was made in the field with concurrence from RK&K personnel to move this line and acquire a fourth line parallel to the other three.

A Topcon HiperGa Real Time Kinematic Global Positioning System (RTK GPS) was used to capture line locations. The RTK GPS base was set up on a large manhole cover visible on georeferenced orthophotos available from USGS (https://earthexplorer.usgs.gov/). The position of the manhole was measured autonomously by the base and the digitized location of the manhole from the orthophoto was used to make a correction to all horizontal positions. The accuracy should be within approximately 1 ft.

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A seismic refraction survey involves the transmission of sound waves into the Earth and recording the acoustic responses using a seismograph at set distances from a seismic energy source (e.g. hammering on an aluminum plate). The seismograph measures the time it takes for a compressional sound wave (P-wave) generated by the seismic energy source to travel down through the layers of the Earth and back up to detectors (called geophones) placed on the surface. By measuring the travel time of the sound wave and applying the laws of physics that govern the propagation of sound, the subsurface geology can be inferred. Because sound waves travel at different velocities through dissimilar materials (i.e., faster through denser, more rigid materials), interpretations related to the depth, morphology and integrity of the bedrock surface can be made using various computer-aided processing techniques, such as the intercept time method, the generalized reciprocal method (GRM), tomographic inversion, and inversion and optimization techniques.

The data were collected using a Geometrics SmartSeis 24-channel seismograph with 4.5-Hertz geophones. Each spread, consisting of up to 24 geophones, was arranged at a constant geophone interval of 5 feet along a straight line on the ground, yielding a geophone array length of up to 115 feet. A 16-lb sledgehammer struck directly on asphalt surfaces or against an aluminum plate placed on the ground was used as the seismic source. To generate and stack the energy, the hammer was swung to strike the aluminum plate 3 to 7 times at each shot point. Multiple strikes with the hammer at a single location ("stacking") were used to improve the signal-to-noise ratio for the records. The record length of the seismograph was set at 128 milliseconds (ms), and the sample interval was set at 31.25 microseconds (μs). Generally, 4 or 5 shots were made for each geophone spread: a midpoint shot (between geophones 12 and 13), two endpoint shots (5 feet beyond geophones 1 and 24), and two far shots, offset up to 40 feet from each endpoint of the spread. On several spreads only one far shot was possible due to obstructions such as buildings, walls, or streets.

3.0 Data Processing

The following assumptions were made for the interpretation of seismic refraction data: 1) seismic velocity (the speed at which a compressional sound wave travels through a given medium, such as schist) increases with depth; 2) each successive layer is at least as thick as the layer above it; and 3) the thickness of each layer is greater than the wavelength of the compressional wave.

Data were processed with seismic data processing software distributed by Optim Software. The first step involved using SeisOpt Picker software to pick the first arrivals of P-waves at geophone trace and to input topographic data for the shots and geophones. The data were then further processed using SeisOpt 2D (v6.0) Inversion and Optimization software in order to generate a velocity model. This processing method allows the user to identify zones of subsurface velocity that gradually change laterally and with depth. Velocity and depth data generated from the model were contoured to produce 2-D profiles using the Surfer (v 12.0) contour package from Golden Software.

An example of the first part of data processing is shown in Figure 1. A through E show the upper part of raw seismic records as displayed on the seismograph and in the processing software for five shots (two far, two end, and one midpoint) of a single 24-geophone spread. The numbers on the Y-axis represent the time in ms for the seismic wave to travel from the shot to each geophone; while the numbers on the X-axis represent the geophone number (with a 10-ft geophone spacing). In C, the actual first break picks (the time at which the seismic energy from the hammer strike arrives at the geophone) are shown as blue horizontal marks. Selection of the first arrivals was performed for all records.

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www.ertcorp.com

In instances where data recorded by a geophone were too noisy to recognize a first break, that channel was not used during further processing stages.

First break picks in milliseconds (ms), geophone locations (horizontal station, elevation), and shot locations (also horizontal station, elevation) were entered into SeisOpt 2D software (OBS, REC, and SRC files, respectively). Iterative inversion in SeisOpt 2D was used to process the data in order to develop a subsurface velocity model that matches the first arrival picks without layer assignments. The velocity models consist of hundreds of blocks of approximately 1/3 the geophone spacing in width, and each block has a velocity in feet per second (ft/s). Successive iterations in the software model ray paths from shots to geophones through the model blocks, and improve the velocities to reduce error in the modeled first break picks versus the actual ones. The fit is measured as a least-square error in ms^2, with a low number indicating a better fit and greater reliability of the processed data.

Topographic data were provided by RK&K. Line locations were plotted and elevation data were extracted from the topographic contour lines. Additional topographic data were collected using RTK GPS.

Table 1 summarizes data processing. Least-square errors are all in the low range, with many below 1.0.

Table 1: Summary of seismic refraction data processing

Profile	Spreads	Shots	Model block size (ft)	No. Model Blocks (horiz. x vert.)	Iter-ations	Max. Velocity (ft/s)	Min. Velocity (ft/s)	Least-square error (ms^2)
1	3	13	2.016 x 2.016	164 x 29	70647	19711	1569	2.12
2	3	13	2.017 x 2.017	167 x 29	49933	18940	1482	2.32
3	3	14	2.168 x 2.168	181 x 26	43566	15435	1657	2.48
4	4	19	2.005 x 2.005	250 x 30	66695	18379	1458	3.38

Model block data (files showing horizontal distance, elevation, and P-wave velocity in ft/s) were contoured for display using Surfer v12.0.

Depth estimations based on the seismic refraction method usually have a 10% error. However, this error would increase if the data quality were compromised with external factors such as nearby traffic or construction sites, aircraft, electric power lines, underground utilities or structures, and adverse weather conditions. Traffic noise was fairly minimal due to collection of data at night, but underground utilities may have been a source of noise.

4.0 Results

A map of the seismic refraction lines is shown in Figure 2. The locations of borings from a Phase II Environmental Site Assessment Report (Triad Engineering, Inc., 2013) are also shown.

Seismic refraction profiles are displayed in Figure 3 as contoured P-wave velocity cross-sections. Contoured values represent wave velocities in feet per second. The solid thick black line along the top of each section represents the ground surface. Zones of rippability, based on the Caterpillar Performance Handbook (CAT, 1999. Edition 30, Pages 1-72 to 1-76.), are indicated as rippable, marginally rippable, or non-rippable, based on 1) the rock type (granite, schist, sandstone, etc.), and 2) the type of ripper (D8R, D9R, etc.). In all sections the rock type is limestone and the smallest ripper (D8R) is assumed. The rippable zone of a larger ripper would extend into higher velocity rock and generally to greater depth.

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Boreholes located within 20 feet of any profile are plotted on the profile. Note however that some are offset from the profile

Line 1: Depth to marginally rippable material varies from 0 feet at the northwest end to approximately 30 feet at the southeast end. Boreholes 12 and 10 agree fairly well with the profile, but borehole 9 shows a discrepancy of nearly 10 feet.

Line 2: Depth to marginally rippable material varies from approximately 2 feet at 1025 to over 30 feet at 1320, with a relatively flat boundary between these stations. The cutter (bedrock low) at 1320 correlates with broader bedrock lows on Lines 1 and 3. No borings lie within 20 feet of Line 2.

Line 3: Depth to marginally rippable material varies from approximately 7 to 10 feet at the center and at the southeast end, with greater depth in other areas, including a broad area of over 30 feet centered at station 1230. Borehole 21 correlates well with the depth to marginally rippabel material, and borehole 6 correlates fairly well.

Line 4: Depth to marginally rippable material varies from at or near the surface in three places to approximately 30 feet at station 1340. Boreholes 18 and 20 both indicate a top of rock above the marginally rippable material.

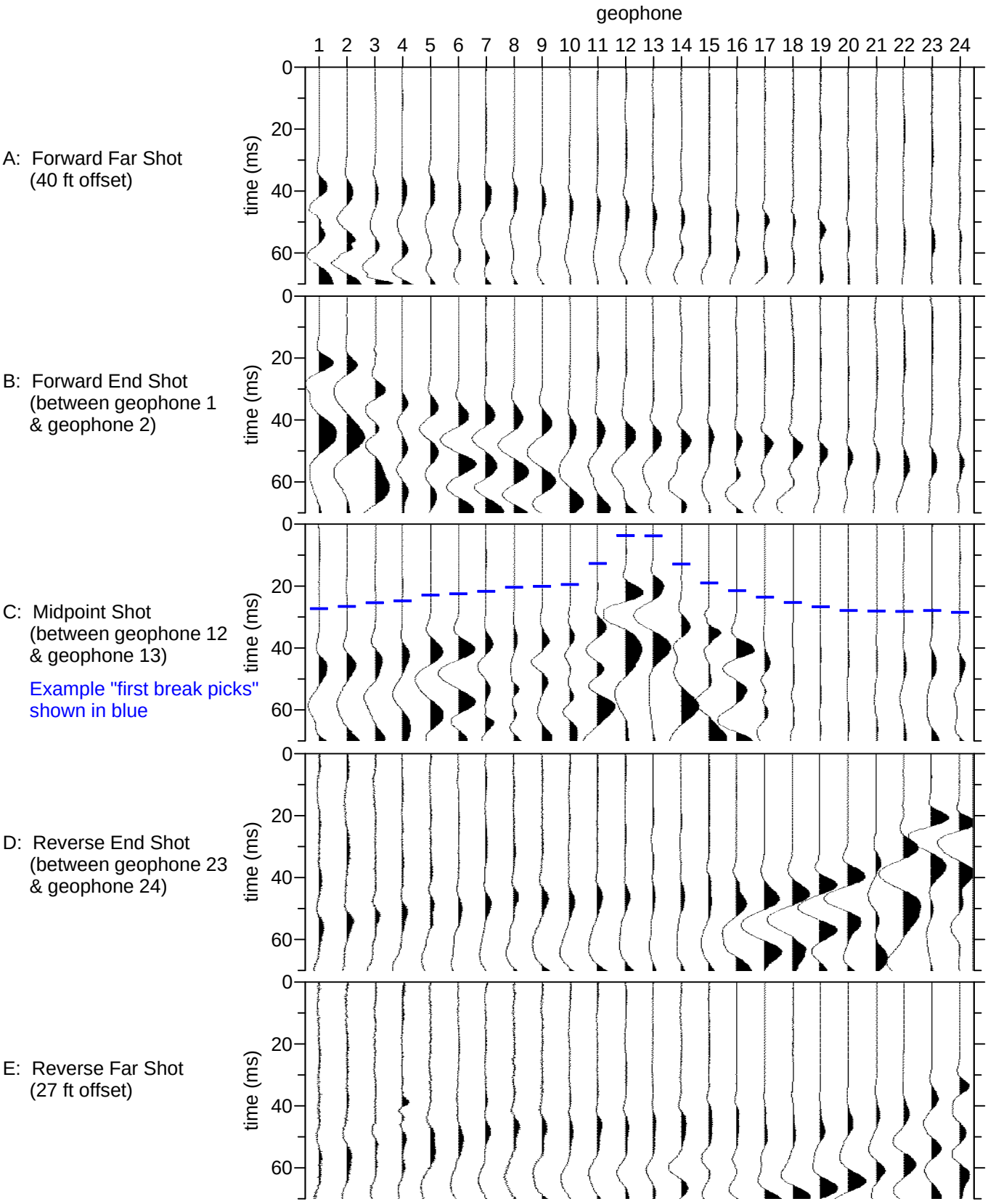
5.0 Closing

The survey indicates that there is variation in depth to rippable material across the site ranging from 0 to over 30 feet. The presence of a strike-parallel cutter of variable width is supported by the seismic data on all four lines. Boring data indicates the top of rock surface is at or up to approximately 10 feet above the top of marginally rippable material as determined by the seismic data.

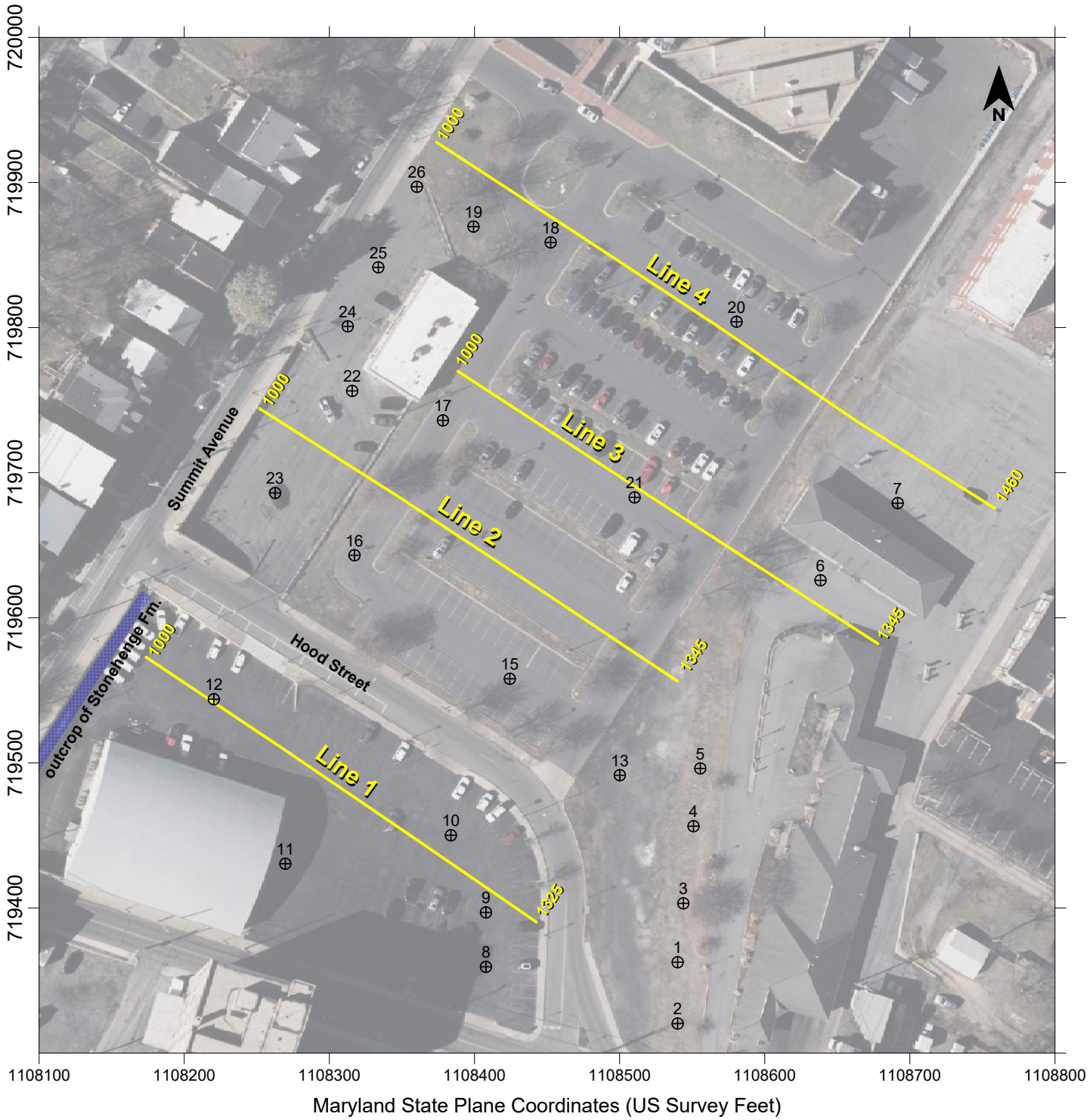
The field procedures and interpretative methodologies used in this project are consistent with standard, recognized practices in similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the past result of similar surveys although it is possible that some variation could exist at this site. This warranty is in lieu of all other warranties either implied or expressed. **ERT** assumes no responsibility for interpretations made by others based on work performed by or recommendations made by **ERT.**

Sincerely,
Earth Resources Technology, Inc.

James L. Stuby, M.S., P.G.
Senior Geophysicist



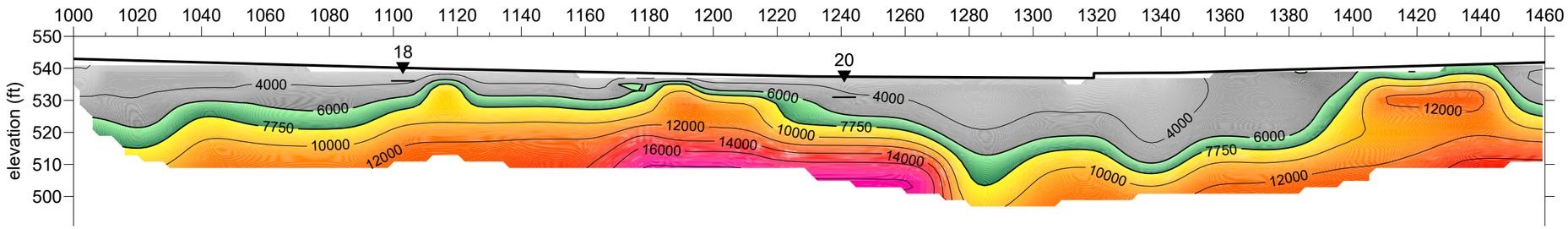
ERT	Example of Raw Seismic Refraction Data from single 24-geophone setup geophone interval: 10 feet (note: data not from this site)	FIGURE 1 revised July 2014 SCALE: As shown



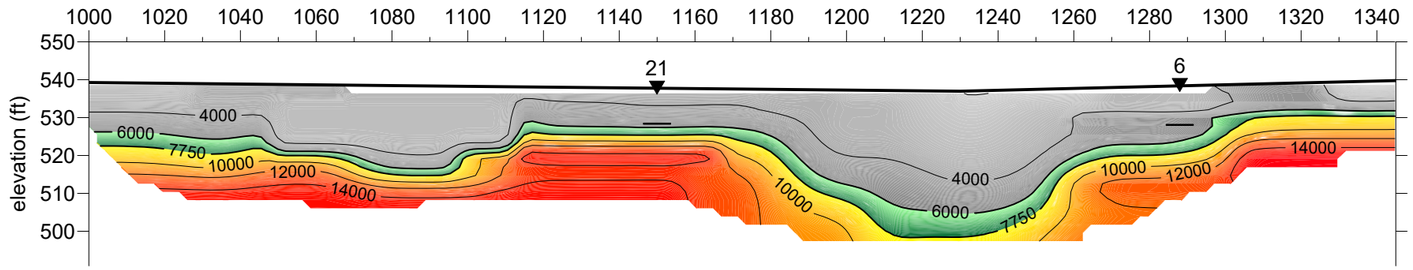
1. Orthophoto: 2014
2. The approximate locations of borings are from a Phase II Environmental Site Assessment Report (Triad Engineering, Inc., 2013).

ERT	Site Map Hagerstown Multi-Use Sports & Events Facility Hagerstown, Maryland	FIGURE 2 June 2020 SCALE: 1 inch = 100 feet

Line 4

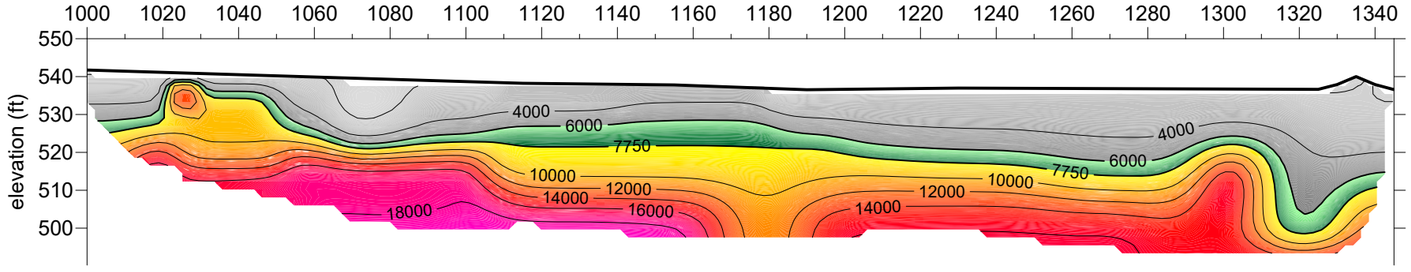


Line 3

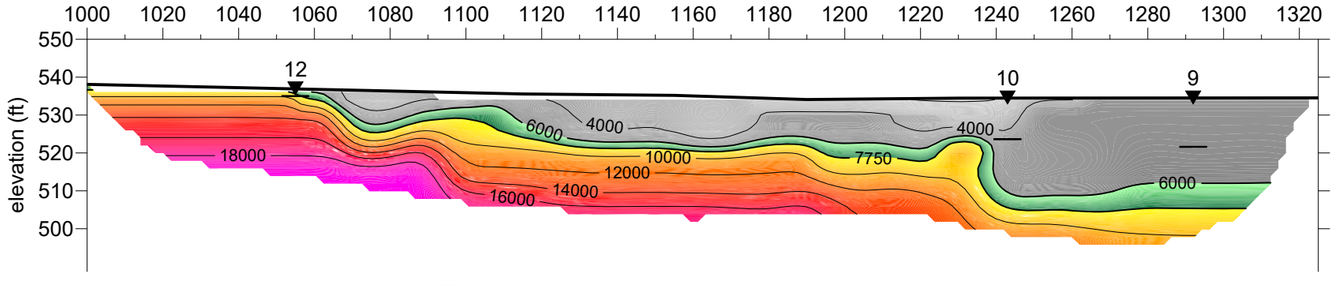


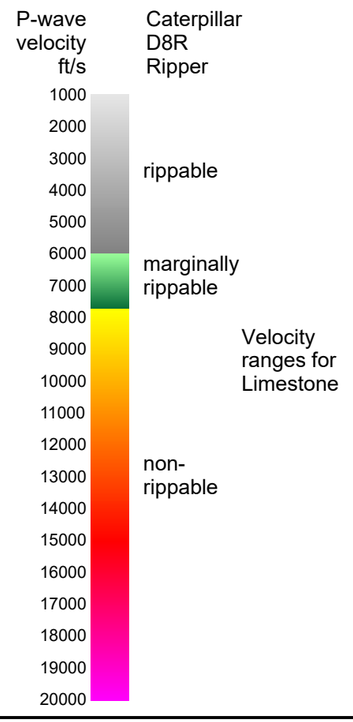
Northwest ***Southeast***

Line 2



Line 1





1. Data collected on June 17, 2020, using Geometrics SmartSeis seismograph with 4.5 Hz geophones.
2. Data processed using SeisOpt 2D v6.0.
3. Borehole locations within 20 feet of the seismic line are indicated by inverted triangles with borehole numbers above. The top of rock is indicated by a horizontal line below the triangle.

ERT

SEISMIC REFRACTION PROFILES
Hagerstown Multi-Use Sports & Events Facility
Hagerstown, Maryland

FIGURE 3
June 2020
Scale: 1" = 40'

Appendix H
Building Program

blue cells have an additional sf because of covid

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
CLUBHOUSE LEVEL				**CLUBHOUSE LEVEL**	
HOME CLUBHOUSE			***FUTURE MiLB STANDARDS MAY CHANGE SQ.FT.**		
HOME CLUBHOUSE	1,400		35 lockers(33-36x72) (2- 42x72)		
HOME GROOMING	180		2 wc,2u, 8 lav		
HOME DRY	45				
HOME SHOWER	150		8 heads		
HOME LOUNGE	270				
PLAYER/COACH MEETING	150		AV fit out, marker bd		
HOME MANAGER	150				
HOME MANAGER GROOM.	0		share with coach	100	
HOME COACH LOCKER	340		8 lockers (36x72)		
HOME COACH GROOM.	210		2 wc, 2 u, 2 lav., 3 showers		
HOME TRAINING	500		2 tubs, 3 tables, 1 ice, 1 sink		
WEIGHT ROOM	900				
TRAINNG OFFICE	80				
STORAGE	30				

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
VIDEO ROOM	0				
MASCOT	35				
JANITOR	25				
MILB FUTURE ADD			*500 SF POSSIBLE*	200	nutrition
TOTAL	**4,465**			**300**	
TEAM FACILITIES					
LAUNDRY	250		2 wshr, 2 dry, 1 utility sink		
EQUIPMENT STORAGE	300				
EQUIPMENT MANAGER	100				
STADIUM STORAGE	500				
MAJ. LEAGUE STOR.	300				
TOTAL	**1,450**			**0**	
VISITOR CLUBHOUSE					
VISITOR CLUBHOUSE	1,100		30 lockers (28-36x72)(2-42x72)	200	add 5 lockers
VISITOR GROOMING	200		2 wc, 2 u, 4 lav		
VISITOR DRY	65				
VISITOR SHOWER	160		6 heads		
VISITOR MANAGER	145				
VISITOR MGR GROOM	0		share with coaches	100	
VISITOR COACH LOCKER	225		6 lockers		
VISITOR COACH GROOM	190		2 shwr, 2 wc, 2 u, 2 lav		
VISITOR TRAINING	185		1 tub, 1 table, 1 sink	65	2 tubs
VISITOR EQUIPMENT	0				
JANITOR	15				
TOTAL	**2,285**			**365**	

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
UMPIRE FACILITIES					
UMPIRE GROOMING	165		2 shwr, 1 wc, 1u, 2 lav		
UMPIRE LOCKER	150		3 lockers		
WOMENS LOCKER	0			50	
WOMENS GROOM	0			100	
TOTAL	**315**			**150**	
AUXILIARY LOCKER ROOM					
AUX. LOCKER ROOM	500		share with visitor wet areas, adjacent to storage for expansion		
TOTAL	**500**			**0**	
GROUNDS/MAINTENANCE					
GROUNDS CREW	2,300				
GROUNDS CREW STORAGE	0				
GROUNDS LOCKER	70				
GROUNDS GROOMING	120		1wc,1u,1 lav, 1 shwr		
GROUNDS OFFICE	110				
IRRIGATION ROOM	0				
OFFICE	0				
CHECK-IN OFFICE	0				
MAINTENANCE	1,500				
MAINTENANCE STORAGE	0		included in maintenance area		
MATERIAL STOR. YARD	0	300	3 bins of material (10'x10')		
JANITOR	50				
TOTAL	**4,150**	**300**		**0**	

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
TEAM ADMINISTRATION AND TICKET OFFICES					
ADMIN. CORRIDOR	380				
TICKET VAULT	60				
TICKET MNGR OFFICE	0				
TICKET	285		6 windows all exterior		
REMOTE TICKET	0				
CONFERENCE ROOM	325				
WOMEN RESTROOM	80				
MEN RESTROOM	80				
TIX MANAGER OFFICE	130				
LOBBY	250				
RECEPTION	0				
GEN. MAN. OFFICE	240				
OFFICE 1	175				
OFFICE 2	170				
OFFICE 3	170				
OFFICE 4	170				
OPEN OFFICE	2,000		6x6 cubicles (covid)		
OFFICE 5	0			700	7 add offices
OFFICE 6	0				
BREAK ROOM	0				
STORAGE	0				
TOTAL	**4,515**			**700**	
RETAIL					
TEAM STORE	750		*average retail is 2,400sf		
RETAIL STORAGE	150				
RETAIL OFFICE	100				
SHELL SPACE	0				

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
TOTAL	**1,000**			**0**	
MEP					
MEP	160				
FIRE PUMP ROOM	220				
BEER COOLER (BAR)	225				
ELECTRICAL	0				
MECHANICAL	0				
TELECOM	0				
ELEV. MACHINE ROOM	0				
LOADING DOCK	0				
TOTAL	**605**			**0**	
CIRCULATION					
SERVICE CORRIDOR	1,803		20% of interior space	163	
ELEVATOR 1	70		field, concourse, suite/club level		
ELEVATOR 2	70		field, concourse		
ELEVATOR 3	70		parking, concourse, patio		
STAIR 1	260		field, concourse,suite/club level		
STAIR 2	200		field, concourse,suite/club level		
STAIR 3	100		field, concourse		
TOTAL	**2,683**			**163**	

HAGERSTOWN, MD (A)			
NET SQUARE FOOTAGE			
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**
FIELD			
FIELD		128,600	
BULLPENS		4000	
TOTAL	**0**	**132,600**	
CLUBHOUSE LEVEL SQ. FOOTAGE			
NET TOTAL:	**21,968**	**132,900**	

MILB FUTURE ADD	**AS OF 06.30.20**
NET SQUARE FOOTAGE	
	NOTES
CLUBHOUSE LEVEL SF	
1678	

MAIN CONCOURSE			
CONCESSIONS/COMMISSARY/KITCHEN			
POS			175 sf/pos
PERMAMENT	1:200	14.19	60% of capacity
TEMPORARY	1:200	9.46	40% of capacity
CONCESSION-3RD BASE	1,400		8 pos
STAGING	480		
VENDOR	140		
CHECK-IN/CASH ROOM	170		
OFFICE	145		
RECEIVING OFFICE	100		
ACCOUNTING OFFICE	0		
OFFICE	0		
COUNT RM./VAULT	0		
LOCKER ROOM	0		

MAIN CONCOURSE	

HAGERSTOWN, MD (A)			
NET SQUARE FOOTAGE			
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**
COMMISSARY	1,600		
DRY STORAGE	160		
KITCHEN	1,150		
STORAGE	210		
CONCESSION-1ST BASE	1,400		8 pos
KEG ROOM	0		
COMM. RESTROOM	0		
TOTAL	**6,955**		
RESTROOMS			* added 15sf/p for pandemic
BASED ON LOCAL APPROVED CODES			4600 seats;50/50 split of seating (no sro)
WOMEN			
WC	51	4080	total sf; WC fixtures X 80sf*
LAV	16		
MEN			
WC	9	720	total sf; WC fixtures X 80sf*
URINALS	18	1440	total sf; U fixtures X 80sf*
LAV	12		
WOMEN-3RD BASE	2,040		
MEN-3RD BASE	1,080		
FAMILY TOILET	70		
WOMEN-1ST BASE	2,040		
MEN-1ST BASE	1,080		
FAMILY TOILET	70		
NURSING ROOM	0		
TOTAL	**6,380**		

MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE	
	NOTES

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
FIRST AID/SECURITY					
FIRST AID	140				
TOILET	65				
NURSING ROOM	100				
SECURITY	120				
TOTAL	**425**				
BATTING TUNNEL					
BATTING TUNNEL	4,400		2 tunnels		
TOTAL	**4,400**				
MEP					
3B IDF	170				
MEP	280				
EMERG. ELEC.	135				
1B IDF	185				
AV / DATA	80				
ELECTRICAL	110				
TOTAL	**960**				
MISCELLANEOUS					
JANITOR STORAGE	220				
JANITOR	25				
TRASH ROOM	440				
TRASH STORAGE	0				
JANITOR	35				
JANITOR	25				
JANITOR	35				
TOTAL	**780**				

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
CIRCULATION					
PREMIUM LOBBY	470				
ELEVATOR 1	80				
ELEVATOR 2	70				
STAIR 1	200				
STAIR 2	200				
STAIR 3	200				
TOTAL	**1,220**				
EXTERIOR SEATING/CONCOURSE					
EXTERIOR CONCOURSE		48,000	30' wide concourse (10sf/p), outfield concourse, exterior stairs, lifts		
SEATING BOWL		18,700	5.5sf/p - 21" chairs, 36" tread		
VISITOR DUGOUT		1,000	with tlt, depending on design		
HOME DUGOUT		900			
ADA SEATING		0	on concourse, incorporated in each category		
4-TOPPS SEATING		2,200	22sf/p, half round table and chairs		
KID'S ZONE		4,000	to include a splash pad, play equip.		
SEATING BERM		3,600	12 sf/p; grass seating		
LF BAR		1,884	12sf/p drink rail; 900sf bar		
HIGH TOP SEATING		3,300	22 sf/p;high top tables and chairs		
FIELD BOX		3,300	22 sf/p; picnic tables or lounge chairs with side tables		
STANDING TERRACES		3,600	12 sf/p		
CONCOURSE SUITE		576	12sf/drink rail ; standing drink rail		
FIELD ACCESS DRIVE		0	no ramp at this time		
DOCK		0	at street		
UTILITY YARD		3,000	depending on design		

HAGERSTOWN, MD (A)			
NET SQUARE FOOTAGE			
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**
TOTAL		**94,060**	
MAIN CONCOURSE SQ. FOOTAGE			
NET TOTAL:	**21,120**	**94,060**	

MILB FUTURE ADD	**AS OF 06.30.20**
NET SQUARE FOOTAGE	
	NOTES
MAIN CONCOURSE SF	
0	

CLUB LEVEL				**CLUB LEVEL**	
PRESS					
VISITOR RADIO	80				
HOME RADIO	80				
TV	80		MiLB recommendation		
WRITING PRESS	80		1 p req., 3 at window MiLB		
LOUNGE	200		counter		
PA/SB/VIDEO	100				
PRODUCTION/EQUIP	250		city to verify		
MILB ADD			2 tracking booths (80sf ea)	160	
TOTAL	**870**			**160**	
SUITES					
SUITE 1	385	140	12p seated- 22" chairs or sofa or? ; interior - 4 at bar stools at glass, 4 extra; flexible layout- combine some or all		
SUITE 2	385	140			
SUITE 3	385	140			
SUITE 4	385	140			
SUITE 5	385	140			
SUITE 6	385	140			

HAGERSTOWN, MD (A)				MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE				**NET SQUARE FOOTAGE**	
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**		**NOTES**
TOTAL	**2,310**	**840**			
CLUB LOUNGE					
CLUB LOUNGE	7,200	700	7 SF/P exterior seating; 18 SF/P interior seating; 100 exterior, 400 interior		
CLUB BAR	475				
TOTAL	**7,675**	**700**			
PARTY DECK					
PARTY DECK		600	7sf/p at seating, 15sf/p at deck		
TOTAL		**600**			
COMMUNITY ROOM					
COMMUNITY ROOM	550		view of field, access of concourse and plaza		
CIRCULATION					
CORRIDOR	1,086		10% of net	16	
LOBBY	220				
ELEVATOR 1	80				
ELEVATOR 2	0				
STAIR 1	200				
STAIR 2	200				
STAIR 4	0		potential add		
TOTAL	**1,786**			**16**	

HAGERSTOWN, MD (A)			
NET SQUARE FOOTAGE			
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**
RESTROOMS			* added 15sf/p for pandemic
BASED ON APPLICABLE CODES			50/50 split; 270 + 300 at lounge (assume 100 exterior seating could be added to the lounge capacity)
WOMEN	640		8wc, 2 lav
MEN	400		2 wc, 3 u, 2 lav
FAMILY TOILET	80		
TOTAL	**1,040**		
MISCELLANEOUS			
ELEC	100		
AV / DATA	100		
STORAGE	500		
PANTRY	600		
BAR STORAGE	0		
ELEV. 1 CONTROL ROOM	0		
ELEV. 2 CONTROL ROOM	0		
JAN	70		
AV / DATA	90		
ELEC	60		
TOTAL	**1,520**		

MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE	
	NOTES

HAGERSTOWN, MD (A)			
NET SQUARE FOOTAGE			
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**
CLUB LEVEL SQUARE FOOTAGE			
NET TOTAL:	**15,201**	**2,140**	

TOTAL SQUARE FOOTAGE			
CLUBHOUSE LEVEL	21,968	132,900	*non-enclosed area includes 128,000sf for the field
CONCOURSE LEVEL	21,120	94,060	
CLUB LEVEL	15,201	2,140	
TOTAL	**58,289**	**229,100**	*non-enclosed area would be 100,500 sf without field
GROSS FACTOR 5%	**61202.925**		walls, chases

SITE DEVELOPEMENT			**NOTES**
CULTURAL TRAIL		24000	excludes 15' of concourse
ENTRY PLAZAS (PLURAL)		12,000	will vary depending on entry
VENDOR TRUCK AREA		5,000	will vary depending on design
ON SITE PARKING		32,000	20 vip; 60 staff/team (400sf/car)
TOTAL	**0**	**73,000**	

MILB FUTURE ADD	**AS OF 06.30.20**
NET SQUARE FOOTAGE	
	NOTES
CLUB LEVEL SF	
176	
1,678	
0	
176	
1854	
1946.7	

HAGERSTOWN, MD (A)			
NET SQUARE FOOTAGE			
ROOM NAME	**NET AREA (SF)**	**NON-ENCLOSED AREA (SF)**	**NOTES**
SPECTATOR SEATING			**NOTES**
BOWL SEATING	3,400		FIXED SEATS - 21", 36" TREADS; 33 WC POSITIONS (ADA)
FIELD BOX	150		PICNIC TABLES
HIGH TOPS	150		4P HIGH TOP TABLES
BERM SEATING	300		12 SF/P
4- TOPPS	100		8-4P HALF ROUND TABLES
BAR SEATING	82		60-DRINK RAIL (22 at BAR)
STANDING TERRACES	300		DRINK RAIL NO STOOL
SRO	200		1 DEEP; DRINK RAIL
CONCOURSE SUITE	48		2-24P
SUB-TOTAL	**4,730**		
CLUB SEATING	100		21" CHAIRS, 42" TREADS
SUITES	120		AREA
PARTY DECK	50		20- 21" CHAIRS; HIGH TOP TABLES
SUB-TOTAL	**270**		
			no sro
TOTAL	**5,000**		4,800

MILB FUTURE ADD	AS OF 06.30.20
NET SQUARE FOOTAGE	
	NOTES

Appendix I
Workshop Notes

HAGERSTOWN MULTI-USE SPORTS & EVENT FACILITY (HMUSEF)
SITE WORKSHOP (VIRTUAL)
MEETING NOTES
9/2/2020

PARTICIPANTS

Scott Nicewarner, COH
Rodney Tissue, COH
Al Tyler, MSA
Mike Sabatini, Populous
Steve Caudle, Populous
Brian Smith, Populous
Josey Shaw, Populous
Tom Strandberg, OCMI
Dan Spedden, VH
Jim Kercheval, GHC
Charlie Mitchell, RK&K
Chris Krupinski, RK&K

GOALS / PROGRAM SUMMARY

- Program review
    - Capacity typically differentiates facilities
    - Based on MiLB requirements
    - 5,000 seats (incl boxes, standing, etc); fixed = 3,400 (seatbacks)
    - Lounge area for event space
        - Club for 400 enclosed – year round
        - Outfield bar separate
    - 6 suites – breakout rooms (multi-purpose)
    - Trend toward moving/"transient" fans during event
- Stakeholder Goals
    - Multi-use (365 days) – anything an event center would have
        - More than a ballpark
    - Great fan experience
    - Convenient access/parking (for stadium and A&E sites)

    - Cultural trail to remain on-site
    - Budget considerations – options/add ons from phasing perspective
    - Ability to address technology/flexibility for use of future tech advancements
    - Openess of concourse
    - Historical aesthetics of facade – USMH bldg example (historic front/modern back) (similar to regional library)
- Dan feedback on current stadium (shared by Jim)
    - Autograph alley
    - Provide flex space enjoyed by community
    - 360-deg concourse integrated with trail
    - Fireworks – operational/logistical considerations
    - 3,500 seats target
    - Plaza – community pride with infrastructure for events
    - Keep historic feel – avoid chain link, etc
    - Message board
    - Sound – adjacent community concerns…new tech? Lighting too?
    - Allow bathroom access during outside events
    - Large event/catering considerations
    - Multi-purpose

<u>EVALUATION CRITERIA CONSIDERATIONS</u>

- Flexibility (multi-purpose) – more flexible is better
- No. of seats
- Ability to accommodate year-round use
- Minimizes barren feel during off-days (empty stadium)

<u>EXISTING CONDITIONS/SITE CONSTRAINTS</u>

- Herald Mail (HM) building and drive aisle
- Cultural trail
- East Alley (one way – only access to several existing parking lots)
- Multiple parcels
    - Cultural trail is a separate parcel now (COH) – conditional language requiring it remains a park

        - COH to send the plat
    - HM partial parcel acquiring (parking lot)
- Storm drain (3x5 ft) ~ 6 ft below exist? Likely more shallow (2 ft)
    - Elevations? COH can provide
    - Video? COH will check
    - COH recommends replacement due to age
- Rock – seismic refraction analysis and previous boring records
    - Karst limestone
    - Shallow
- Contaminated soils ~ approx. locations factored into site model
- Archeological Ph 1 recommendations (further site investigations)
- Topo maps – No field survey. Using Washington County recent 2 ft contour
- Groundwater pumped from HM (hit underground spring/runs constant) – tested for contaminants?

<u>CONCEPT OPTIONS OVERVIEW</u>

- Introduction/Commonalities/Assumptions
    - Field orientation similar
    - Attendees entering from downtown
    - Use of existing parking lots/garages in vicinity
    - Rock (extent estimated from records and seismic refraction analysis)
    - East alley must remain
    - Art trail to remain (modification possible)
    - Demolition of ex bldgs
    - HM remains/possible engagement?
    - Respect residential in vicinity
    - Existing storm drain (stone/brick arch) location/condition
        - Options developed so that storm drain could remain if condition allowed (***need elevation verification***)
    - Hazmat soil removal needed in all options
    - Utility impacts similar between all options
    - Challenge – outfield development – open up cultural trail options (shutdown during events)

CONCEPT OPTION 1

- OVERVIEW/ASSUMPTIONS
    - See notes in intro above
    - 60 space parking on-site for staff
- SITE CONSTRAINTS/CHALLENGES
    - HM service drive remains
    - Integration of Cultural trail
    - Use of alley for peds as bypass for events? COH thinks this is appropriate
- CONCURRENT/FUTURE PROJECTS
    - Opportunities to engage adjacent properties
- OPERATIONS – use of rooftop space? Potential
- REGULATORY
    - Artificial vs Natural turf considerations (MDE)
        - Both have similar configuration
        - Artificial holds up better to more frequent field use during events
        - Artificial typically increases SWM requirements
- PROS
    - Ideal architectural (programmatically)
    - Less empty feel (deck)
    - Opens up for residential
    - More cultural trail and access (drink rail height)
    - Maintains HM service route/no overlap
    - Better exterior views into stadium
    - Parking (below grade)
- CONS
    - Excavating Rock (most)
    - Proximity to existing storm drain

CONCEPT OPTION 2

- OVERVIEW/ASSUMPTIONS

    - See notes in introduction above
    - Minimize rock (pull up field/amenities)
    - Engage HM bldg. (pushes north)
    - Based on what we know from MiLB changes
    - Field similar to Option 1
- SITE CONSTRAINTS/CHALLENGES
    - HM engagement? Opportunity? Have not had recent conversation with HM ownership, but COH can look into this.
    - Reaction to higher structure concept?
        - Swap to Baltimore side?
- CONCURRENT/FUTURE PROJECTS – similar to Option 1
- OPERATIONS – see pros/cons
- UTILITIES – similar to Option 1
- REGULATORY – similar to Option 1
- PROS
    - Minimizes rock (least)
    - Greater buffer from storm drain
    - Flexibility for sectioning off areas during smaller events
    - Engaging other buildings
- CONS
    - Perceived blockage of exterior residential views?
    - Reduces cultural trail/interface with outfield
    - Logistical access less direct
    - Deck less opportunity for rooftop events (compared to option 1)
    - Player amenities at concourse

<u>CONCEPT OPTION 3</u>

- OVERVIEW/ASSUMPTIONS
    - Similar elevation to option 2 except field is raised
    - Maintains HM access
    - Moves ground crew to SE – access from right field
    - No run outs for football
- SITE CONSTRAINTS/CHALLENGES – similar to Option 1

- CONCURRENT/FUTURE PROJECTS
    - Antietam bldg. – owners sympathetic to this project…public/private agreement potential? Ability to further engage trail
        - Similar considerations for HM
    - Dagmar Hotel redevelopment options?
- OPERATIONS – see pros/cons
- UTILITIES – similar to Option 1
- REGULATORY – similar to Option 1
- PROS
    - HM service drive maintained
    - More room for cultural trail
    - Minimizes rock
- CONS
    - Grounds facilities in right field/public view
    - Parking all off-site

<u>STAKEHOLDER FEEDBACK</u>

- Seats below concourse preferred vs tiers
- Leading edge amenities? Overlap with cultural trail
- Heritage considerations…balance with younger audience
- Concourse/Cult trail integration/extension opportunity?
- Caution with cultural trail due to its funding approach (COH bond $) – don't break covenants? Consult finance director
- Vacant lot opportunities – private money availability? Complement development? Appropriate time to reach out – Antietam vs HM? Challenges of private development on public property (COH to review)
- Parking impacts and lot acquisition
- Community anticipation of report? Report to hold until after election

NEXT STEPS/ACTION ITEMS

- COH provide additional information:
    - Cultural Trail
    - existing storm drain records on condition/elevation
- RKK/Populous to prepare draft concept report for MSA review

    - Will include a fourth option based upon discussion in workshop
- Following MSA review/comment, RKK/Populous to revise concept report and submit to MSA/COH for selection of preferred concept option
- RKK/Populous to prepare schematic design package based upon preferred concept