



SITE ANALYSIS - 2160 VERSAILLES ROAD PROPERTY

FAYETTE COUNTY PUBLIC SCHOOLS
LEXINGTON, KENTUCKY

JANUARY 20, 2021





SITE ANALYSIS – 2160 VERSAILLES ROAD

Fayette County Public Schools Lexington, Kentucky

RTA #2048

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Summary

The Design team consisting of RossTarrant Architects, Element Design and Staggs & Fisher Consulting Engineer was hired by to Fayette County Public Schools to do a site assessment to determine the feasibility of potential site development of the property at 2160 Versailles Road, Lexington, KY 40504 for use as the site of the new Rise STEM Academy for Girls for Fayette County Public Schools (FCPS), as well as the potential to accommodate a future elementary school program at the same site. The site was assessed for existing conditions and regulatory requirements; the anticipated site program elements were then overlaid to determine feasibility of this site for the intended FCPS use. A number of site layout options are included in this report to assist in visualizing the potential use for this site. Generally, the has a good location within the City context and some very unique assets that FCPS could utilize for multiple purposes / programs. The only major deficiency is the sloping topography which will impact the buildable area and orientation of the new school building.

Team

Fayette County Public Schools Representatives

Myron Thompson	Chief Operating Officer
Melinda Joseph-Dezarn	Director, Facility Design & Construction

Design Team Members

Sarah Lamere	RossTarrant Architects
Michael Hughes	RossTarrant Architects
Brian Buckner	RossTarrant Architects
Jordan Goff	RossTarrant Architects

Ramona Fry	Element Design
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Wayne Thomas	Staggs & Fisher Consulting Engineers
Greg Kraeszig	Staggs & Fisher Consulting Engineers

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Existing Site Conditions

Location, Zone and Land Use

The site is located at 2160 Versailles Road, Lexington, KY 40504. The property is zoned A-U Agricultural - Urban and is a single, consolidated parcel of 35.94 acres. The property is bounded by Versailles Road to the north, which is a state / KYTC road and Mason Headley Road to the east, which is a city / LFUCG road. To the south and north the land is residential, zoned R-1C for single family residential use.

Existing Improvements

Building facilities:

The property is currently a private residence. The main residence is a large, single family home. The main portion of the home was constructed in 1874. Including the basement, there is nearly 15,000 square feet in the existing building. The building is in very good condition and given its age and the high feasibility of adapting the use of much of the space, it is recommended to be preserved and repurposed for potential office, conference and classroom or study space. The grounds include a separate garage with parking, a large outbuilding / barn and a greenhouse.

Greenspace:

There are also well developed green and recreational spaces that could be well used by the proposed programs, including a patio and garden spaces, irrigated garden, sand volleyball court, tennis court, swimming pool and grass baseball field. As the grounds are in good condition as well and could facilitate both adaptive reuse of the house and exterior spaces for a variety of meeting, educational and outdoor activity spaces, it would be recommended that much of this space also be preserved to provide additional educational and recreational program space.

Circulation and Parking

Current access is from Versailles Road via a small, gated entrance and is a non-controlled access point; Versailles Road is heavily traveled and a major / main access point from Versailles is unlikely to be feasible. The existing access point leads to a drive that traverses up slope to the main house. This drive appears to be in good condition and could be used for site access / circulation, though some improvements may be needed for increased traffic and loading. The main road leads to a garage and parking area and a loop road / drop-off at the main house. This drop-off loop is well situated at the top of the property with expansive views and would provide a good framework for site circulation if adapted for FCPS use. As a private

residence, there is currently no large parking area and this would need to be constructed to suit the FCPS project program.

Currently there is no access from Mason Headley, although the grade is relatively level and access would be very feasible. Said access should consider aligning with an existing access point across Mason Headley at Cardinal Hill Rehabilitation Hospital. The intersection of Mason Headley and Versailles Road is signalized. New access from Mason Headley would need to be some distance from the signalized intersection to minimize traffic back-up at key circulation times: morning drop-off and afternoon pick-up. Significant stacking distance on the property would also be important to minimize backup on Mason Headley.

Topography

The high point of the site is the south edge, where the existing development is located. This area is relatively flat and has attractive views out over the property. The desire to preserve much of the existing development limits use of this area for new construction.

The east edge / Mason Headley side is also relatively flat; however the KDE required 200' setback from the existing gas main limits building development on this edge, as does the ability to fit vehicular circulation around building placement here. This area is suitable for parking, circulation and green space, including playground and sport fields.

There is an existing pond in the relative center of the site; the east and south portion appear to drain to this pond. It is feasible to maintain this attractive feature, it includes a small dock and is already fenced. It may be useful for storm water management for these portions of the site.

The west, northwest and south west portion of the site has steeply rolling topography and is currently mostly lawn area bisected by the existing drive access from Versailles Road. These areas are likely to need to be used for building development to some extent, and may be considered as an opportunity to use the building(s) to navigate the grade, with second / primary floor entrance at the upper elevation and first floor and service access potentially from the lower elevation. It may also be possible to configure the proposed building(s) with the grade to work along the existing topography to allow for a two story structure with all entrances at the same grade.

It should be anticipated that there will be some earthwork associated with developing the building pad.

Depth of rock is not known at this time, however no rock / rock outcroppings were observed at the initial site visit.

No portion of the property is in the mapped FEMA floodplain.

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Site / Civil Utilities

Refer to the attached utility assessment performed by Staggs & Fisher Consulting Engineers for a more detailed assessment of utility infrastructure available to the site. The following notes are intended primarily to indicate impact of utility infrastructure on site development.

Existing water service – domestic and fire protection:

New water and fire protection service would likely come from the existing Kentucky American Water Company 8" main on Mason Headley, located on the side of the project site. Service appears adequate and would come from this east side for distribution through the site, recommended to follow a new access drive to create a utility corridor.

There is also a 6" water main at the existing neighborhood to the west side that may be considered, though the Mason Headley service looks more feasible at this time.

Existing gas service:

Columbia Gas also has an existing main at Mason Headley. While gas service is readily available, this also means any new buildings must be set back 200' from the existing gas line, which limits building development on the east edge of the site.

Existing sanitary service:

The existing home is on a septic system. However, there is available LFUCG sanitary service to the west side of the site. Service has capacity and is located at the low end of the site, making gravity sewer service appear very feasible.

Existing storm drainage:

There is no observed storm infrastructure on site. Because the site is a largely a green field site, LFUCG storm water management requirements would include water quality measures for all new development. These can be accomplished with a number of interventions, including biofiltration at detention areas, water quality treatment devices and permeable pavements / surfaces. It is likely either underground detention or surface detention basin(s) will need to be developed at the two low ends of the site at the west edge, to hold and slowly release what now sheet flows toward the west edge of the property. Connection to existing storm system in the neighborhood at the west side is likely necessary.

LFUCG storm water management requirements are part of all projects in Fayette County; while there is significant cost associated with these improvements and they will vary depending on the specific site, it should be noted these costs are part of all site development in the county.

Regulatory Requirements

LFUCG Planning & Zoning:

FCPS and KDE are technically exempt from local planning and zoning requirements. Previous projects have provided the Lexington | Fayette Urban County Government (LFUCG) with a Facility Review Plan to provide an opportunity for LFUCG officials to review proposed improvements and offer comments or suggestions that FCPS / KDE may elect to comply with if they are feasible in terms of budget and function. Examples of local planning and zoning requirements from which FCPS is exempt include zoning restrictions and landscape ordinances.

Regulatory Agency Reviews:

Any proposed improvements that are included in State or Federal level jurisdictions are subject to meeting requirements and submitting for review and approval. Examples of these approvals include roadway improvements within Kentucky Transportation Cabinet (KYTC) rights-of-way, LFUCG Division of Engineering for stormwater management and improvements with various utility agencies. Below are the anticipated agency coordination and reviews for this project:

Local (LFUCG) level reviews:

1. LFUCG Community Facilities Review for Planning level concerns regarding general site and facilities layout.
2. LFUCG Division of Traffic Engineering for review / approval of any entrance / access improvements from Mason Headley, including encroachment permitting will be required
3. LFUCG Division of Engineering for review / approval of storm water management, including quantity and quality controls, erosion protection / Land Disturbance Permit and grading permit for construction will be required
4. LFUCG Division of Water Quality for sanitary sewer / connection to existing sanitary
5. LFUCG Division of Waste Management for waste pickup and facilities to insure the site design provides adequate access
6. Lexington Fire Department for review of location of hydrants and fire infrastructure such as fire protection vault, post indicator valve and fire department connections as well as general site access and circulation

State (Kentucky) level reviews:

1. Kentucky Division of Water (DOW) potentially for sanitary sewer plans (depending on size and location of upgrades to existing

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service), erosion control for site disturbance greater than 1 acre. Note the site is not within a delineated floodplain.

2. KYTC review of any proposed improvements on Versailles Road, including encroachment permit as required for changes to existing curb lines.
3. Kentucky Division of Fish & Wildlife for any potential habitat issues. None are anticipated at this time; clearing of any trees may need to be coordinated to occur in winter months / off season for Indiana Brown Bat habitat.

Civil Site Utility Agencies:

1. Water service to the building to accommodate any renovations, additions, need for added flow or fire protection, will need to be coordinated with Kentucky American Water Company.
2. Fire protection service / design will need to be coordinated with the Lexington Fire Department as noted above.
3. Gas service shall be coordinated with Columbia Gas. Renovation of the existing facility will very likely mean disturbance to existing service and relocation / new service to likely kitchen facilities and potentially mechanical equipment.
4. Sanitary Sewer, as noted above, will be coordinated with LFUCG Divisions of Engineering and Water Quality for any revisions to existing service and / or upgrades.
5. Storm Water management, also as noted above, will be coordinated with and reviewed by LFUCG Division of Engineering.

Site Program Elements

The following list of basic site program elements are anticipated for the proposed STEM Academy for Girls. These basic site elements are common to both STEM and to a potential future elementary school. The Versailles Road property was studied for its potential to reasonably accommodate the school building as well as the following:

Circulation:

- Bus drop-off
- Parent / passenger vehicle loop and drop-off
- Service loop (delivery and trash collection)
- Employee parking
- Visitor parking
- Pedestrian connectivity from drop-off points into the school and from the school to potential recreation / green space and exterior education space

Civil Site Utilities:

- Availability / proximity of sanitary sewer, water and gas to the site
- Ability to accommodate the necessary storm water quantity and quality controls required by LFUCG, including the likely need for an on site detention pond

Green space:

- Play / playground space
- Play field space (space for at least one multi-purpose sport field)
- Outdoor classroom space

Feasibility Study Site Options

General Notes

The site layout options presented herein are the result of exploring many iterations of potential site layout. These options appear to be the 'best fit' for this site; however they are conceptual in nature. Some options consider the proposed STEM building only, others include the additional development of a future elementary school. None of the options here consider full removal of the existing house and pond as these are considered unique and valuable assets to this site.

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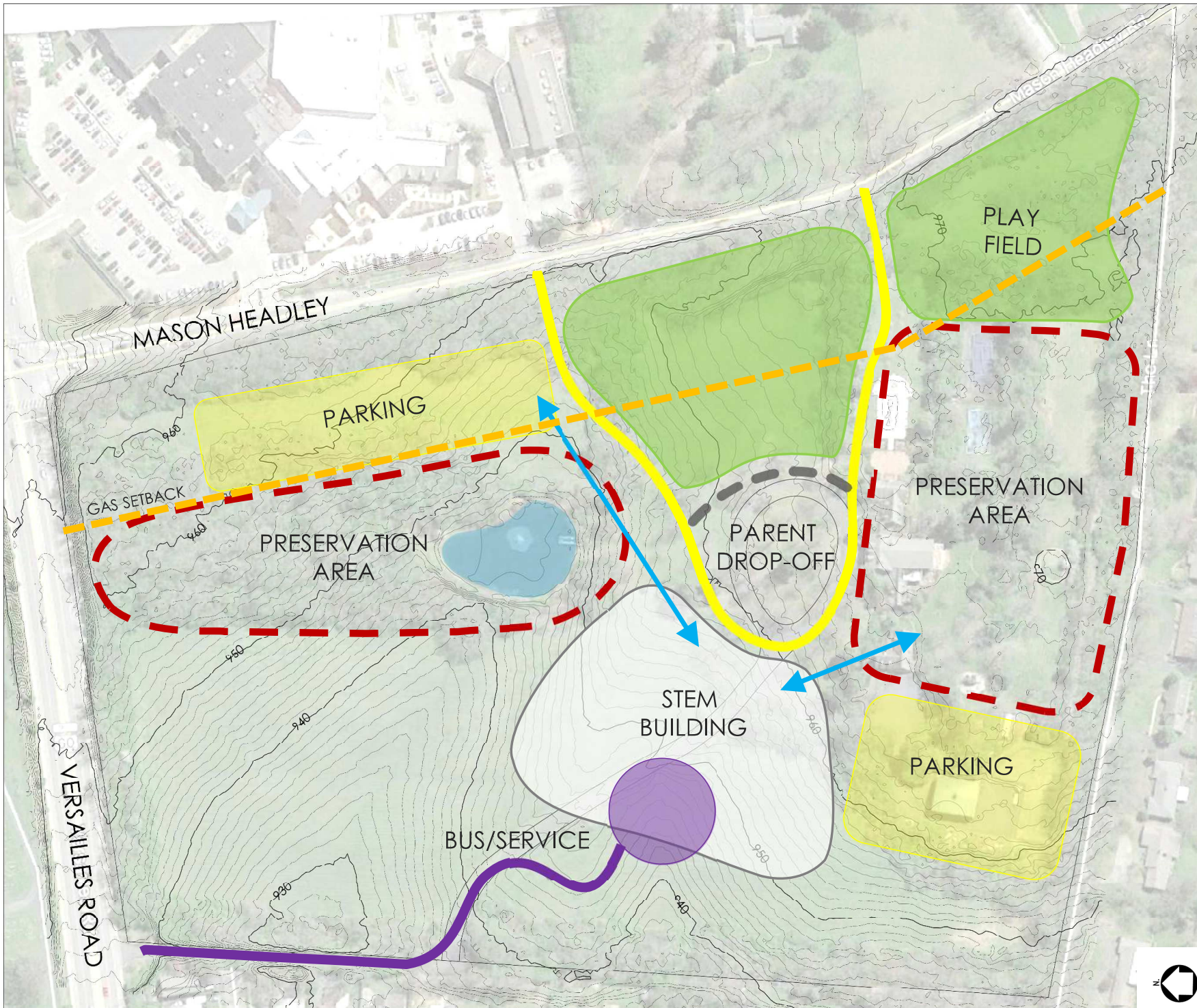
Option A

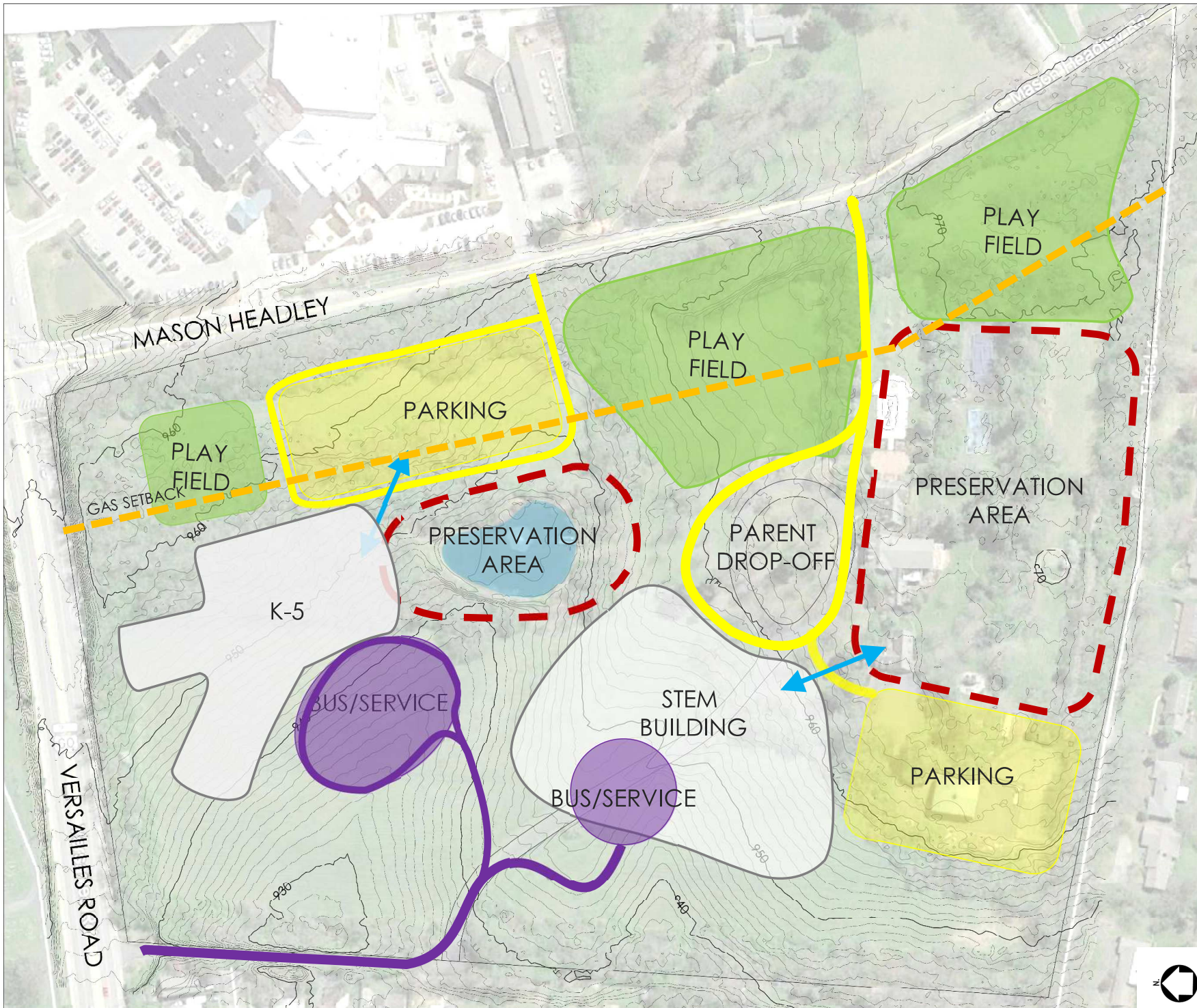
Option A1 (STEM only) notes:

- Preservation of the existing home and the majority of the existing grounds.
- Preservation of the existing pond and all of the associated wooded area.
- Vehicular / car access is from Mason Headley. This is indicated as two access points, but could be consolidated to one with an internal loop.
- Excellent visibility of the new STEM building from the new entrance.
- Good pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Good wayfinding and clear circulation.
- There is approximately 12' of grade difference from front to back to address either via building design or earthwork.
- Bus / service access is indicated as Versailles Road, using the existing access point. This could be accommodated from Mason Headley, but would require more roadway infrastructure.
- Bus loop will require grade work.
- One close parking area, the other is somewhat remote; depending on anticipated space needs, it may not be necessary.
- Proximate parking lot would potentially require removal of the existing garage and metal barn.
- Play fields are somewhat remote.

Option A2 (STEM + Elementary) notes:

- Preservation of the existing home and the majority of the existing grounds.
- Preservation of the existing pond, removal of part of the wooded area for the elementary school development.
- Vehicular / car access is from Mason Headley. There is a separate access point for the STEM Academy and the proposed elementary school.
- Excellent visibility of the new STEM building from the new entrance; elementary school is less visible.
- Good pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Good wayfinding and clear circulation for STEM; elementary school may be less clear.
- Approximately 12' of grade difference from front to back to address either via building design or earthwork.
- Approximately 18' of grade difference from side to side at the elementary school building site.
- Bus / service access is indicated as Versailles Road, using the existing access point. This could be accommodated from Mason Headley, but would require more roadway infrastructure.
- Bus loop will require grade work at both school sites.
- Reduced parking capacity as each site would have only one lot and whatever additional parking might be accommodated in the bus loops.
- STEM parking would potentially require removal of the existing garage and metal barn.
- STEM playfields are somewhat remote.
- Elementary school play area has good proximity.





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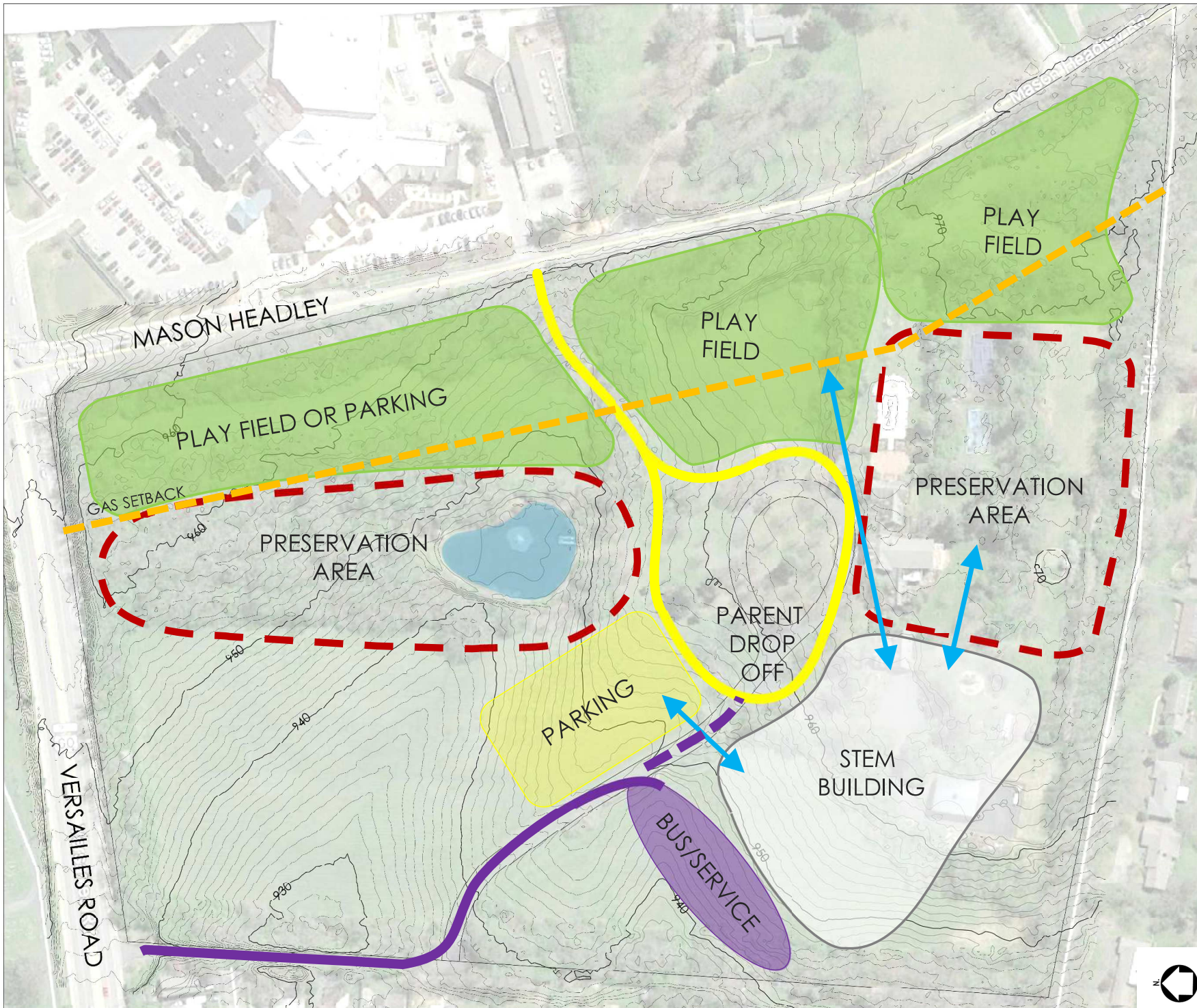
Option B

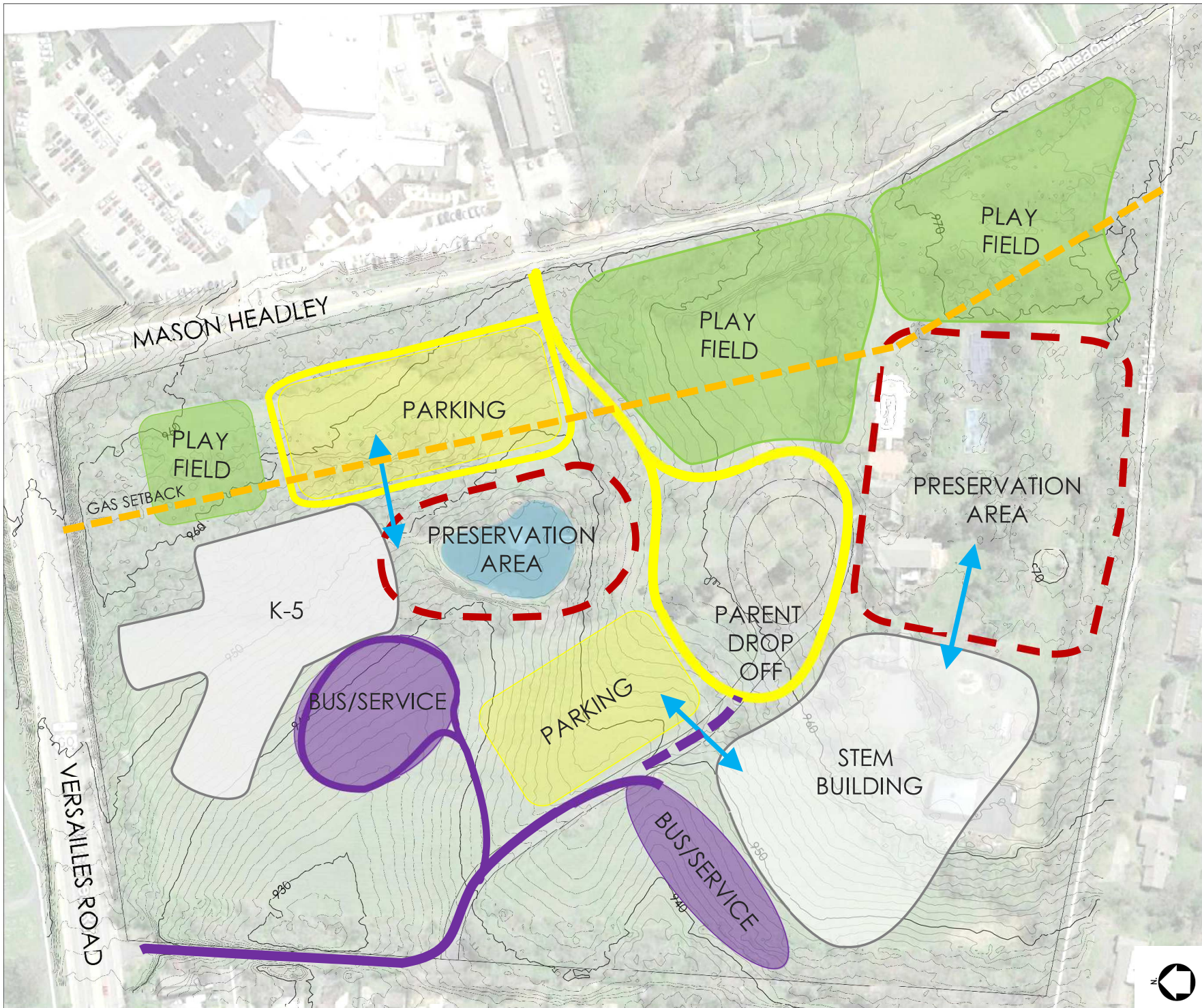
Option B1 (STEM only) notes:

- Preservation of the existing home and the majority of the existing grounds.
- Preservation of the existing pond and all of the associated wooded area.
- Vehicular / car access is from Mason Headley. This is indicated as one access point, but could be two if preferred.
- Good visibility of the new STEM building from the new entrance.
- Excellent pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Good wayfinding and clear circulation.
- There is approximately 12' of grade difference from front to back to address either via building design or earthwork. It may be possible to configure the building to take more advantage of the relatively flat site of the garage and barn.
- Bus / service access is indicated as Versailles Road, using the existing access point. This could be accommodated from Mason Headley, but would require more roadway infrastructure.
- Bus loop will require grade work.
- Parking may be somewhat limited; additional parking could be accommodated on the other side of the pond.
- Building site would require removal of the existing garage and metal barn.
- Play fields are well connected / do not require crossing drives.

Option B2 (STEM + Elementary) notes:

- Preservation of the existing home and the majority of the existing grounds.
- Preservation of the existing pond, removal of part of the wooded area for the elementary school development.
- Vehicular / car access is from Mason Headley via one access drive; a second / separate access point for STEM only could also be developed.
- Good visibility of the new STEM building from the new entrance; elementary school is less visible.
- Excellent pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Good wayfinding and clear circulation for STEM; elementary school may be less clear.
- Approximately 12' of grade difference from front to back to address either via building design or earthwork. It may be possible to configure the building to take more advantage of the relatively flat site of the garage and barn.
- Approximately 18' of grade difference from side to side at the elementary school building site.
- Bus / service access is indicated as Versailles Road, using the existing access point. This could be accommodated from Mason Headley, but would require more roadway infrastructure.
- Bus loop will require grade work at both sites.
- Parking may be somewhat limited with two schools on the site. May consider one consolidated lot for employees and closer, small ADA and visitor lots at each building.
- Building site would require removal of the existing garage and metal barn.
- Play fields are well connected / do not require crossing drives.





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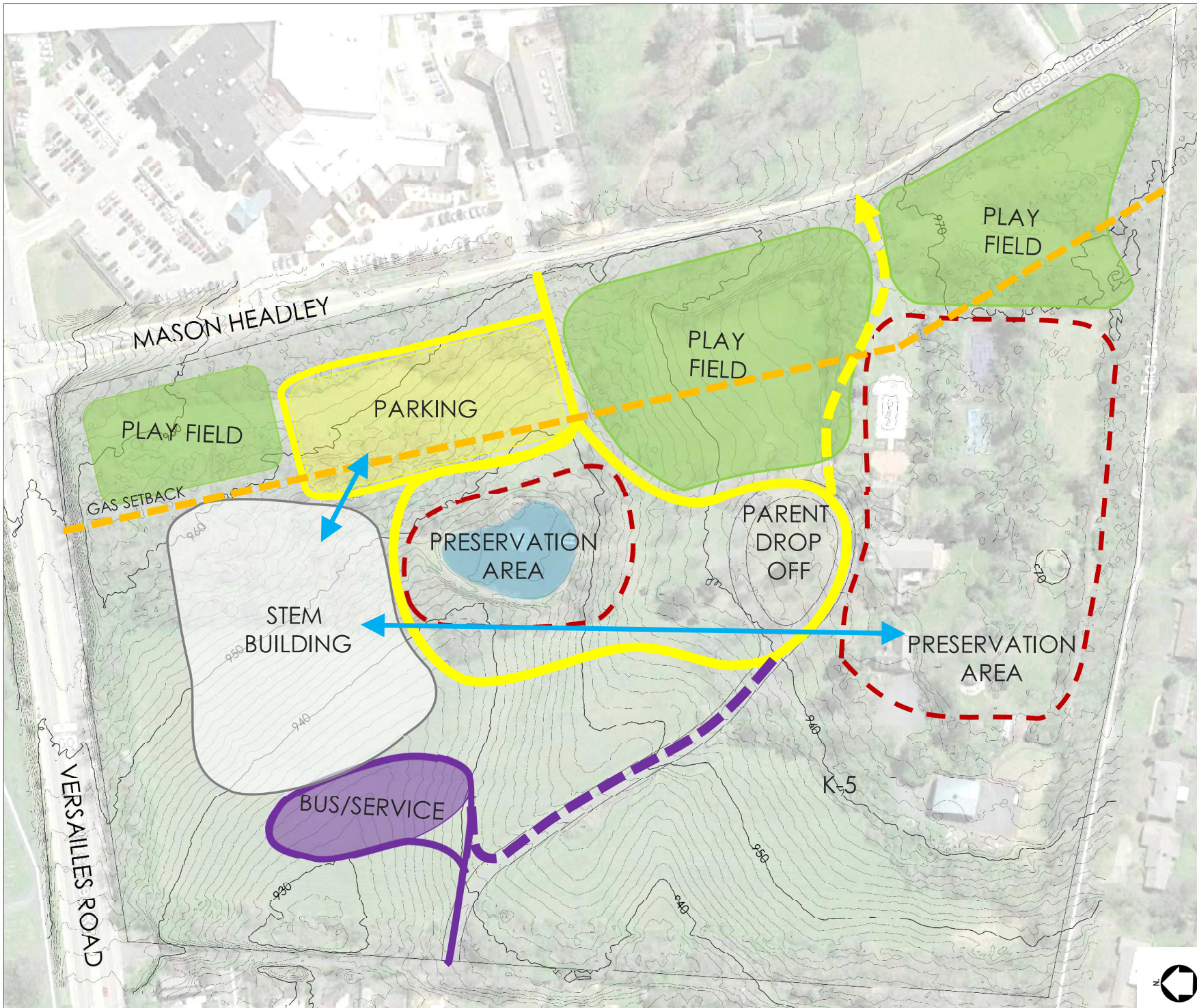
Option C

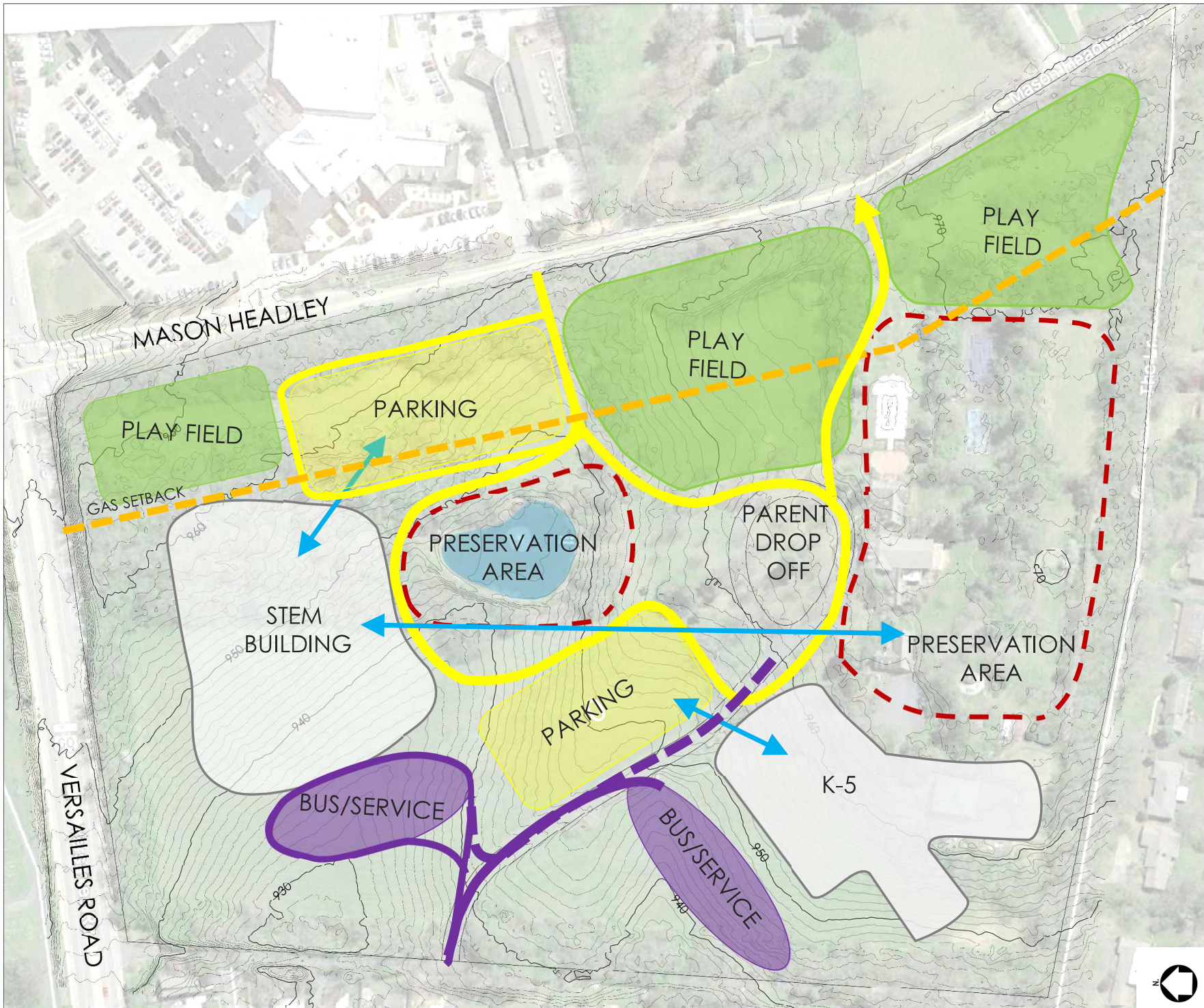
Option C1 (STEM only) notes:

- Preservation of the existing home and the majority of the existing grounds.
- Preservation of the existing pond, removal of part of the wooded area for the STEM building development
- Vehicular / car access is from Mason Headley. This is indicated as one access point, but could be two if preferred to create an egress only point. Vehicular drive is close to the pond.
- Less visibility of the new STEM building from the new entrance; however an interesting axis is created between the existing house and the STEM building with the pond in the middle.
- Poor pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Circulation is somewhat less clear to drop-off at STEM for first time visitors.
- There is approximately 20'+ of grade difference from side to side to address either via building design or earthwork.
- Bus / service access is indicated as Versailles Road, using the existing access point. This could be accommodated from Mason Headley, with reuse of part of the existing drive / roadway to access the service side of the STEM building
- Bus loop will require grade work.
- Ample area for parking adjacent to the building with little grade work required.
- Existing garage and metal barn could remain.
- Playground directly adjacent to the building; playfields more remote.

Option C2 (STEM + Elementary) notes:

- Preservation of the existing home and the majority of the existing grounds.
- Preservation of the existing pond, removal of part of the wooded area for the STEM building development
- Vehicular / car access is from Mason Headley. This is indicated as one access point, but could be two if preferred to create an egress only point. Vehicular drive is close to the pond.
- Less visibility of the new STEM building from the new entrance; however an interesting axis is created between the existing house and the STEM building with the pond in the middle.
- Good visibility of the elementary school.
- Excellent pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Good wayfinding and clear circulation for STEM; elementary school may be less clear.
- Poor pedestrian access from the new STEM building to the existing house and grounds for shared use of facilities.
- Good pedestrian access from elementary school to existing building and grounds, but this is likely less desirable for the elementary school program than for STEM.
- Circulation is somewhat less clear to drop-off at STEM for first time visitors.
- There is approximately 20'+ of grade difference from side to side of the STEM building to address either via building design or earthwork.
- The elementary school is somewhat flatter, approximately 12' grade difference.
- Bus / service access is indicated as Versailles Road, using the existing access point. This could be accommodated from Mason Headley, with reuse of part of the existing drive / roadway to access the service side of the STEM building
- Bus loop will require grade work.
- Ample parking for STEM, more limited parking for the elementary school.
- Playground areas adjacent to both schools (elementary school could utilize grounds adjacent to the house).





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Preliminary Areas of Geotechnical Exploration

To determine which of the sites are the most feasible for the new STEM School, Elementary School and associated parking lots, a geotechnical investigation should be completed. Although the schemes vary regarding location of the building, parking, drives and play areas, several of the areas are similar through all the schemes. Therefore, the recommended location for initial geothermal investigations similar for all schemes. See attached Sketch.

Utilities Narrative

Refer to attached document provided by Stagg & Fisher Consulting Engineers

Preliminary Site Development Costs

The design team put together a range of opinions of cost for each scheme. These preliminary opinions are based on past experience of the project team and are not actual construction costs. There are still many unknowns about the site that could affect the site development costs such as the results of the geotechnical investigations, soil remediation requirement, and rock excavation. The Design Team has no control over the cost of labor, materials, equipment or the contractor's methods for determining prices.

Each of the figures below assumes that the elementary school is constructed after STEM, so site utility costs for elementary are less. Therefore, the initial infrastructure costs are included with STEM. The site development cost opinions include site clearing, stormwater drainage, earthwork, site paving, site improvements such as exterior patio / classroom / playground areas sport field areas, landscape plantings, seed / sod, sanitary sewer, water service, gas service, electrical service, and telecommunication service. In addition, the figures provided below include a 15% design contingency, 5% for general conditions, and 15% Contractor's OH&P.

The following are not included in the figures below: Soft costs (survey, geotechnical, tap fees, etc.), rock excavation, soil remediation, inflation, and escalation.

The site development scope for Options A and B were about very similar and therefore the opinion below is for either scheme.

Options A and B

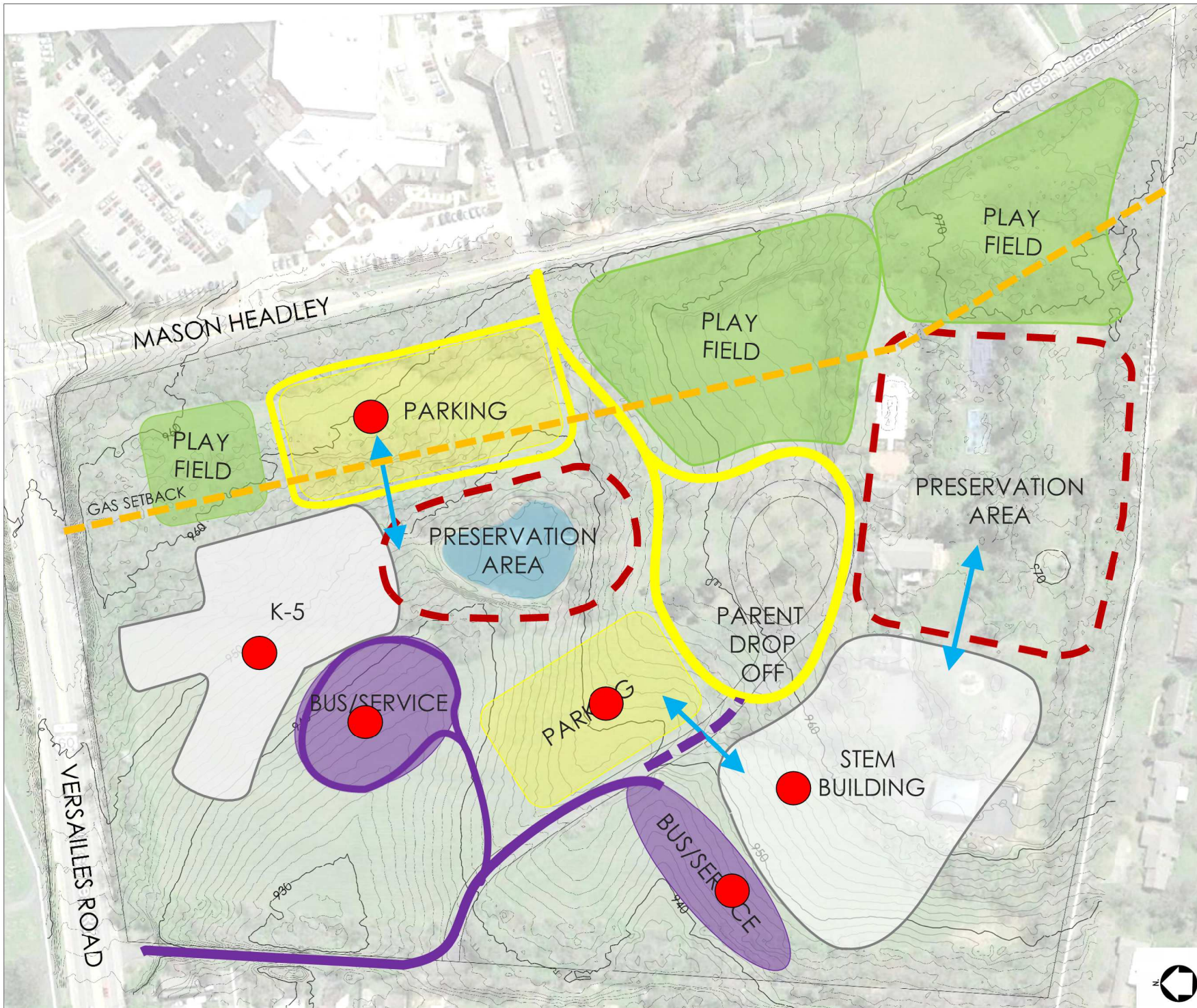
STEM – \$2.75M to \$3.00M

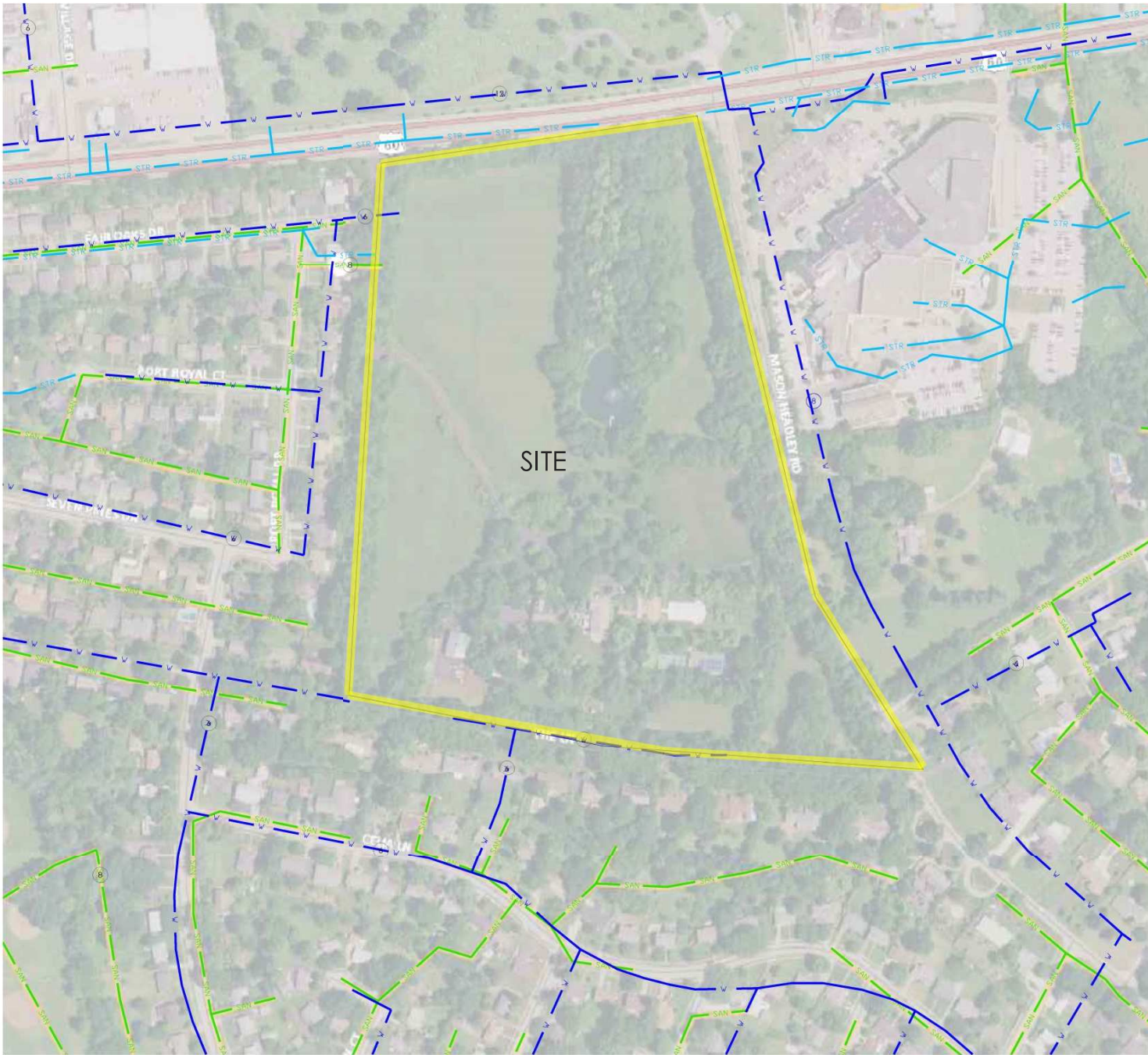
Elementary – \$2.45M to \$2.70M

Options C

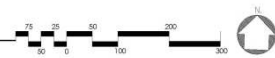
STEM – \$2.95M to \$3.20M

Elementary – \$2.60M to \$2.85M





SITE UTILITIES - WATER, STORM & SANITARY



Date:	December 2020
Drawn by:	RAF/BLM
Checked by:	RAF
Revision:	
Revision:	
Revision:	



January 6, 2021

Sarah Lamere
RossTarrant Architects
101 Old Lafayette Avenue
Lexington, Kentucky 40502

**ASSESSMENT OF PROPERTY AT INTERSECTION OF VERSAILLES
ROAD AND MASON HEADLEY ROAD**
S&F Project No. 20309

Dear Sarah,

Staggs & Fisher Consulting Engineers was asked to review the utilities available at a property located at the intersection of Versailles Road and Mason Headley Road. This property is bounded on the north by Versailles Road, on the east by Mason Headley Road, on the south by The Lane, and on the west by houses along Port Royal Drive. We visited the site on Friday, December 18, 2020. We obtained additional information from subsequent conversations with the various utility companies. We have worked to determine whether utilities are available at the site to support a new 900 student school and possibly a second school.

Please refer to the attached map as you read our description of the existing utilities around the site.

SANITARY SEWER:

While the current residence on the property does not utilize the city's sanitary system, LFUCG Division of Water Quality has confirmed that there is sanitary sewer line with adequate capacity extended onto the property. An 8" ductile iron sanitary line was installed from Port Royale Drive in the adjacent neighborhood to a manhole just on the opposite side of the private drive.

WATER:

Kentucky American Water Company has a water main running directly adjacent to the property along Mason Headley Road. This water main has adequate capacity for a future school project. The property currently has a





service line from this main which could potentially be reused for a new school campus. However, there will need to be a new service off this main for a fire protection line.

NATURAL GAS:

Columbia Gas currently has a 4" high-pressure main running along Mason Headley Road which has capacity to support a future school project. See attached map, prepared by Columbia Gas, showing the location of this high-pressure main. Any new school facilities are required to be at least 200' away from high pressure gas lines pursuant to 702 KAR 4:170 Part 2.a.11.

ELECTRIC:

Kentucky Utilities Company has an existing, three-phase, overhead, distribution line running along the north side of Versailles Road. This overhead line has capacity to support new construction on the site. A new road crossing will be required to bring this service to the south side of Versailles Road and to the property.

KU Company has two additional three-phase service points with adequate capacity to serve the property. These service points are located to the east of the property on the east side of Mason Headley Road. Running new electric service from either of these points to the property would require tree trimming and utility easements on private properties.

TELECOMMUNICATIONS:

Windstream has analog telephone and fiber optic facilities running on an overhead line which runs along the western boundary of the site behind the houses along Port Royal Drive. Windstream has confirmed there are adequate facilities along this line to provide analog telephone and fiber optic service to new construction on the property.

Spectrum has reviewed their facility maps for the area immediately surrounding the property and have determined they have fiber facilities on an overhead line running along the north side of Versailles Road and at a point to the east of the property on the east side of Mason Headley Road. Both service points have adequate capacity for new construction on the site. Obtaining service from the east service point would require tree trimming and utility easements on private properties.



This concludes are review of utilities present and available at or near the site.
Please contact me if you have any questions.

Regards,

A handwritten signature in blue ink, appearing to read 'Wayne Thomas'.

Wayne Thomas





Spectrum has fiber optic service along this overhead line with capacity to service the property.

Windstream analog telephone and fiber services with capacity to serve property

Existing, overhead, three-phase, electric line with capacity to serve the property. A road crossing across Versailles Road would be required.

8" Sanitary to manhole on property

Spectrum has fiber optic capacity at this point with capacity to serve the property.

Water service from main on Mason Headley

Existing three-phase electric is available at these locations but would require tree trimming and utility easements on private properties.

Gas service from high pressure main on Mason Headley

Celia Ln

The Ln

The Ln

Versailles Rd

Cardinal Hill Pain Institute

Mason Headley Rd

Mason Headley Rd

Mason Headley Rd

Duntreath Dr

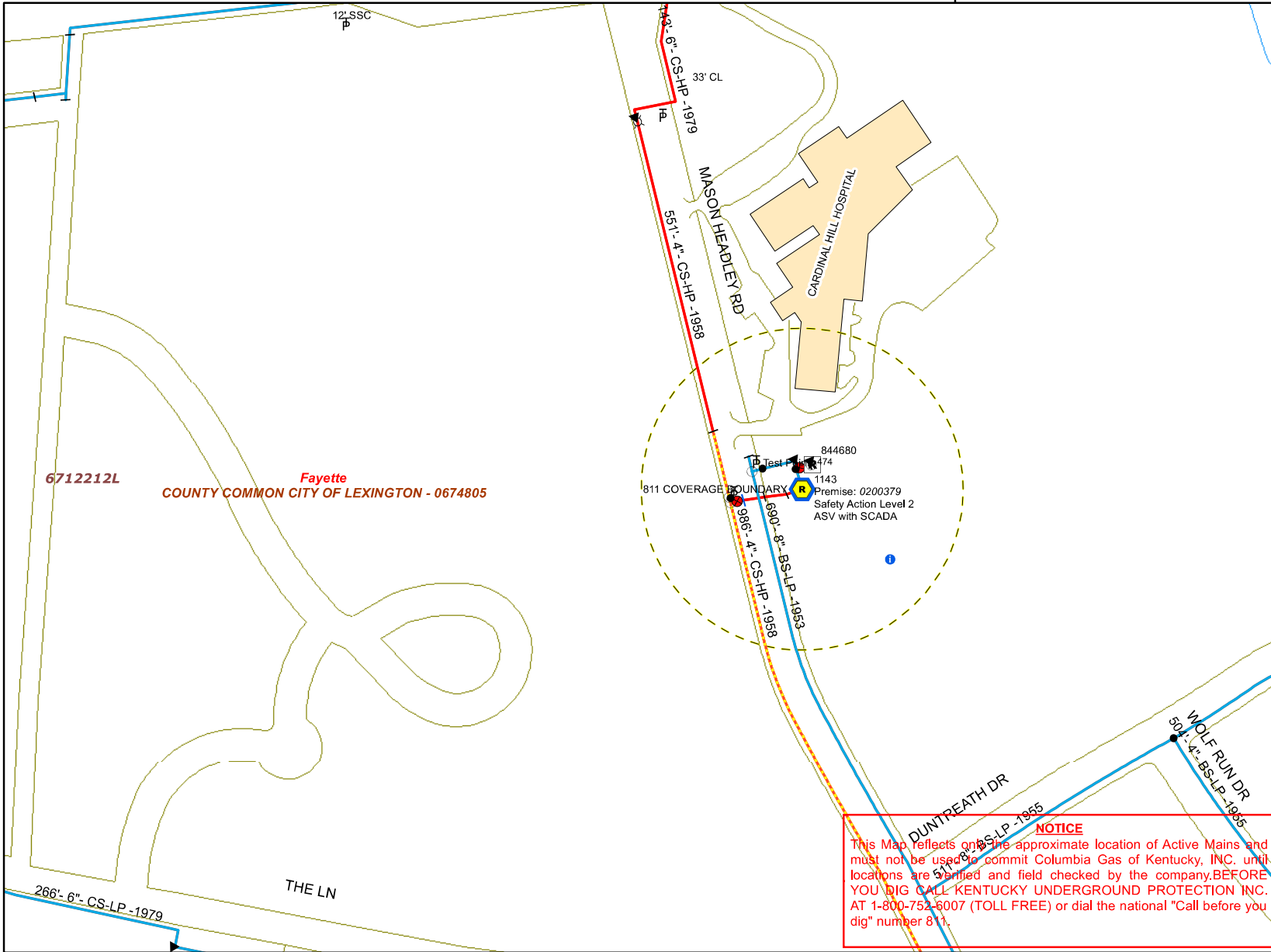
Mason Headley Rd

Part Royal Dr

60

HP MAIN MASON HEADLEY

84°32'30"W



84°32'30"W



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:	TWALKER
Date:	1-6-2021
Coordinates:	GCS (Lat/Long) in DMS. Datum: WGS84