Huckabee

TOMBALL ISD

5TH & 6TH GRADE CENTER
MASSING AND SITE STUDY

AUGUST 2023

Test Fit

We conducted a feasibility study without input from any consultants to study the possibility of siting a 5th and 6th grade center on the existing Creekside Park Junior High School property. Our primary objective was to determine if it was possible to accommodate the required facilities and functions within the available space on the site. This review did not include the review of existing grades, detention, or utilities. The program areas were based on scaled versions of the provided prototype. However, the layout is not per the prototype.

Design Option Information

Option Name	5th + 6th Template
Project Type	5th & 6th Grade IS
Target Square Footage	111,300 sf
Actual Square Footage	111,300 sf
Cost per Square Foot	$315
Target Cost	$35,059,500
Actual Cost	$35,059,500

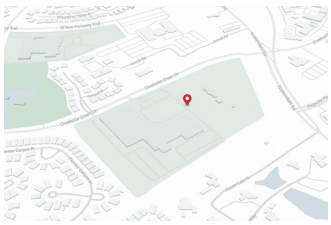
Program Areas

Program

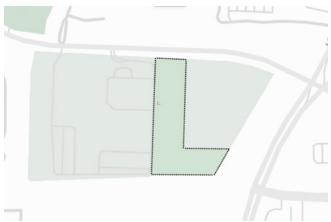
Sort By: Category | Filter By: All

6th Grade Wing	Area: 30,000sq.ft.	Target SF 60,000	27%
5th Grade Wing	Area: 30,000sq.ft.	Target SF 60,000	27%
Administrative Space	Area: 4,500sq.ft.	Target SF 4,500	4%
Athletics	Area: 4,200sq.ft.	Target SF 4,200	4%
Band	Area: 9,700sq.ft.	Target SF 9,700	9%
Cafetorium	Area: 8,000sq.ft.	Target SF 8,000	7%
Entry	Area: 1,200sq.ft.	Target SF 1,200	1%
Kitchen And Serving	Area: 6,800sq.ft.	Target SF 6,800	6%
Library	Area: 6,600sq.ft.	Target SF 6,600	6%
Specials	Area: 7,500sq.ft.	Target SF 7,500	7%
Visual Arts	Area: 2,800sq.ft.	Target SF 2,800	3%

Site Constraints and Analysis

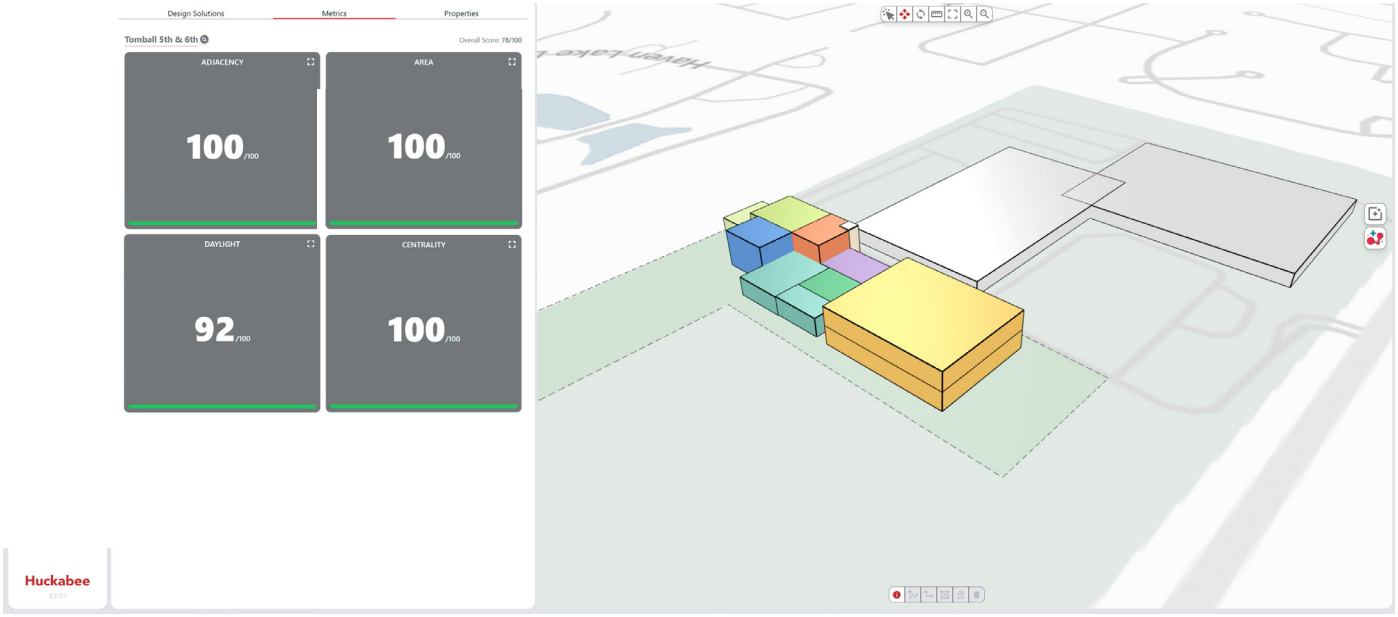


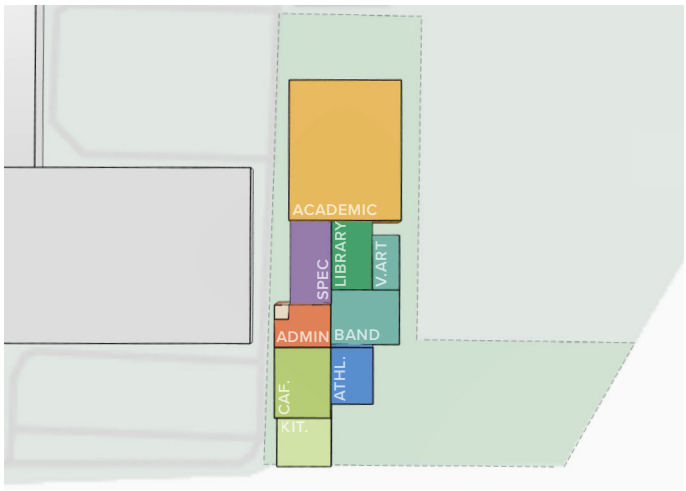
Existing Site



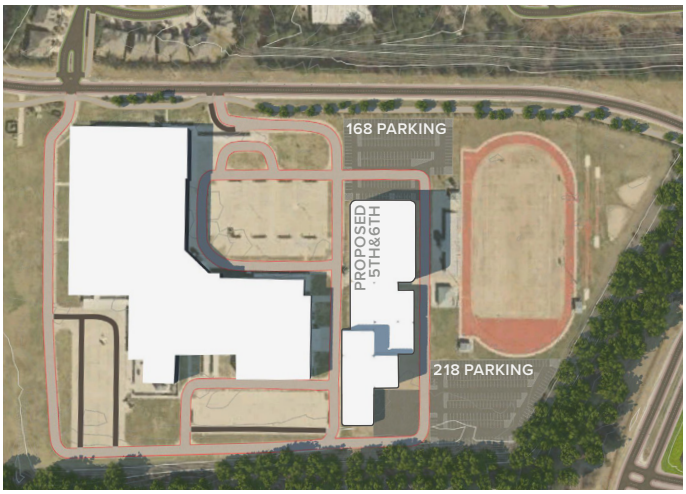
Identified Buildable Area

Bubble Diagramming StudyAna





FLOOR PLAN



SITE TRAFFIC & PARKING STUDY

SITE:

Utilizing the sports fields area between the track and existing school we are able to create a study model that fits a 5th and 6th grade program with minimal site disturbance.

DESCRIPTION:

The academic wings would need to be stacked with the remainder of the program area maintaining a single level. This option balances compactness and functionality.

CONCEPTUAL IMAGES OF MASSING CONCEPT

MORE THAN ARCHITECTS

August 24, 2023

Tomball ISD
Creekside Park Junior High School Grades 5-6
Expansion Feasibility Study

Executive Summary:

Huckabee was asked to conduct a feasibility study of establishing a 5th and 6th Grade Intermediate School within the existing Creekside Junior High School site. Our primary objective was to determine if it was possible to accommodate the required facilities and functions within the available space on the site. The adjacency diagram and layout represented within the following documents were derived from a general understanding of the proposed student population, without the development of a formalized program or conceptual design input from the district. Development of a customized floor plan would require additional time and resources to generate a design solution compliant with all Tomball ISD's Facility Standards. It is reasonable to assume that a shorter design phase would be required if the district chose to exercise placing an existing prototype facility in an area with a green field site.

Items considered while analyzing this site option with the proposed layout are:

- There would be a loss of practice fields, and restricted access to the Competition Athletics Fields during and after construction.
- Due to the complexity of the site, during construction there will be an impact on the day-to-day operations of the existing facility. We anticipate a construction period of 18-24 months. A few items that will cause disturbance are:
    - Noise, vibration, parent access, availability of outdoor spaces, coordination of construction work with district calendar and testing
- Upon completion of the project, arrival and dismissal may create traffic challenges for parents, students, staff, and busses.
- Each facility will have limited outdoor activity spaces.
- Each campus would share the Athletic Competition Field. The site amenities for each campus will not comply with Tomball ISD standards.
- To fit the site the classroom wing would be a two-story configuration.
- The construction of the 5th and 6th grade building would create more space in the existing facility by removing 6th grade from the existing campus.

The following information pertains to the complexity of the site development. Within the following information no survey was provided or performed, no phase one or geotechnical survey was conducted, no studies either implied or inferred were provided to Huckabee as part of this preliminary site review. Our team reviewed documents available from Harris County, FEMA, Harris Montgomery Counties MUD 386 and Woodlands Township.

Civil Design:

Tomball Independent School District (TISD) is planning to construct a new building for Grades 5 and 6 and additional parking on the Creekside Park Junior High School campus located at 8711 Creekside Green Drive, Tomball, TX 77375. The site is in unincorporated Harris County and within the Harris-Montgomery Counties MUD 386 (HMCMUD 386) and the Woodlands Township districts. The new building will be located between the existing school building and the existing track. The building addition will include some demolition of the existing site, and proposed pavement, grading drainage, and domestic water, fire water and wastewater improvements. The research conducted for this study revealed a lack of utility capacity information from HMCMUD 386 for the campus. During the design phase, additional coordination will be required prior to establish available capacity.

Site Demolition:

Site demolition includes removal of sections of existing concrete pavement and utilities, which will have an impact on the existing facility function, and will need to be coordinated with building shut downs, as necessary to accommodate the proposed building and improvements. Existing underground utilities in conflict with proposed construction that are to remain in service will be relocated. It is recommended that the district retain the services of a third party to perform a S.U.E.

Site Grading:

Proposed site grading shall be designed to provide positive drainage away from structures at a minimum five (5) percent for at least 10 feet beyond the perimeter of the building. Accessible paths are to be provided to all main building entrances from accessible parking areas and public right-of-way in compliance with ADA and TAS (the American with Disabilities Act and Texas Accessibility Standards).

Site Paving:

Proposed site paving for parking areas and sidewalks shall be designed in accordance with the geotechnical report recommendations and Harris County standard details. The campus expansion will include two (2) new concrete pavement connections to the site paving.

Stormwater Drainage:

Stormwater drainage for the existing site is collected in swales, catch basins and underground piping that discharge to an existing storm manhole on an existing 72” storm sewer located along the nearside of Creekside Green Road. The proposed drainage for the site shall be designed to work in conjunction with the existing site drainage infrastructure. Roof downspouts for the proposed building addition shall be captured below grade. According to the original construction plans in 2014, regional detention is provided by the plans titled “Stormwater Detention Facilities Phase 3 to serve The Village of Creekside Park” approved in January 2011 by Harris County Flood Control District. It is anticipated that additional detention volume may be required to accommodate the latest applicable rainfall data and detention criteria. Drainage and detention improvements to the site shall comply with HMCMUD 386 and Harris County regulations and standard details. Proposed required stormwater detention volume is anticipated to be approximately 22,250 cubic-feet based on current criteria which has an increased detention rate of 0.75 acre-ft/acre from the original design rate of 0.65 acre-ft/acre.

Water Service:

The existing building is served by existing 6" domestic and 8" fire water lines connected independently to an existing 16" water line in Creekside Green Drive. Coordination with HMCMUD 386 is needed to determine if the MUD's water system has available capacity to accommodate the anticipated water demand of the new school expansion. It is anticipated that proposed water service for the building addition is to be provided by an extension of the existing private water lines. All proposed fire, domestic and irrigation water improvements, including any new service connection sizes, meters and backflow preventers are to be designed in accordance with the current Harris County and Texas Commission of Environmental Quality (TCEQ) regulations. If MUD 386 does not have the capacity, there would be a need for a well and appurtenance, assuming it could be placed on site. We propose carrying an allowance of $2,000,000 for a well as a contingency.

Sanitary Sewer:

The existing campus is served by a system of existing 4", 6" and 8" sanitary pipes and discharges to an existing 10" sanitary pipe near the western access driveway on Creekside Green Drive. The proposed sanitary service for the building addition is expected to be provided by an extension of the private sanitary sewers for the existing campus. Sanitary sewer improvements are only as necessary to accommodate the proposed building. All proposed sanitary sewer improvements are to be designed in accordance with the Harris County and Texas Commission of Environmental Quality (TCEQ) regulations. Coordination with HMCMUD 386 is needed to determine if the MUD's wastewater system has available capacity to accommodate the anticipated wastewater demand of the new school expansion. The assumption at this time is that there is capacity, however there will be additional fees as prescribed by the MUD.

Stormwater Pollution Prevention:

Stormwater pollution prevention measures, including but not limited to silt fences and inlet protection barriers shall be utilized to protect the local waterways from pollutants during construction. Filter fabric fence will be required along all edges of the area of disturbance. Inlet protection barriers are required for the existing inlets near the work zone. All proposed storm water prevention pollution devices are to be specified according to the current Harris County regulations and standard details and Texas Commission of Environmental Quality (TCEQ) regulations.

Floodplain:

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 48201C0070L, effective June 18, 2017, the project site is located in unshaded zone X, areas determined to be outside the 0.2% annual chance floodplain.

Traffic:

A traffic study is necessary to analyze the impact of the increased vehicle trip generation and trip distribution that will be produced by the new building addition. The study will provide what mitigation measures and options may be required should the impact of the proposed improvements result in unacceptable levels of service on the public roadway system. Based on our experience in the past with projects of similar scope and capacity, we believe that there will be a requirement to add a turn lane as well as a signal at the western most intersection. The estimated cost for this item is $ 1,500,000 not including off-site civil engineering fees. This will not alleviate congestion on site, it will likely create more congestion on site, however it will aid in traffic control on jurisdictional public roads.

MORE THAN ARCHITECTS

Cost:

In order to construct the proposed Intermediate School (5th and 6th grade) on the existing Creekside Park site with Tomball ISD's standards, and complying with the items listed above, we estimate the construction Cost of Work at approximately $40,909,500. This estimate does not contain potential project soft costs including but not limited to additional contingencies, allowances, additional jurisdictional requirements, cost of 3rd party consultants, FFE, Owner Required due diligence, or impact fees.

Costs Identified within Study:

Item	Estimated Construction Cost
~ 111,300 sf building	+/- $35,059,500
Turn Lane and Signal	+/- $1,500,000
Well / Utilities	+/- $2,000,000
Relocation / Rerouting of Existing infrastructure	+/- $850,000
Underground Detention Infrastructure	+/- $1,000,000
Pumps related to detention	+/- $500,000
Estimated Construction Cost Total	**+/- $40,909,500**

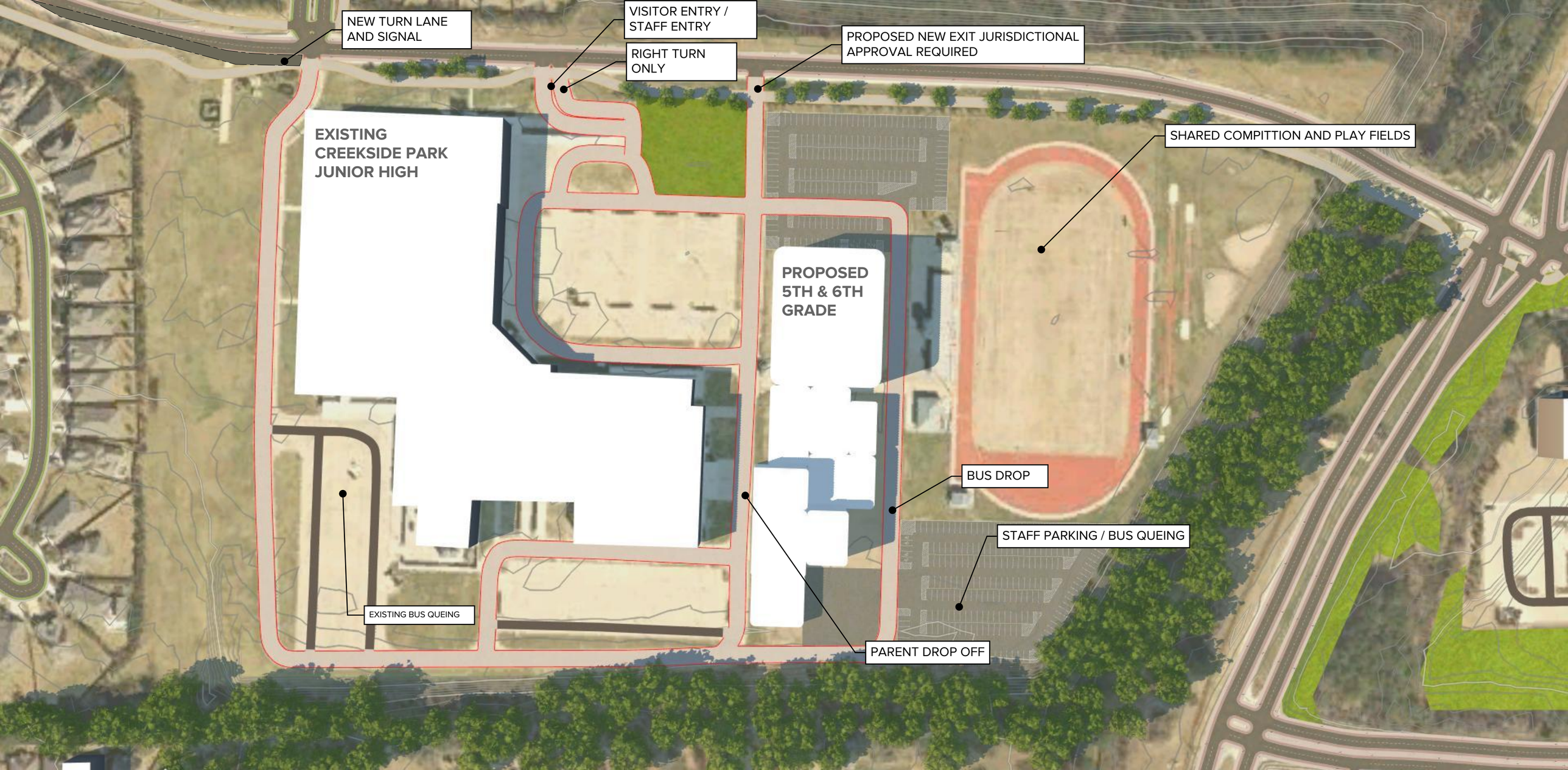
***According to industry experts Construction Cost Index, a 14.1% year-over-year increase in construction costs was forecasted by year-end 2022 as labor as material costs continued to rise. However, escalation is expected to stabilize at the 2%-4% range in 2023 and 2024, on par with historical averages.

MORE THAN ARCHITECTS

Huckabee

APPENDIX

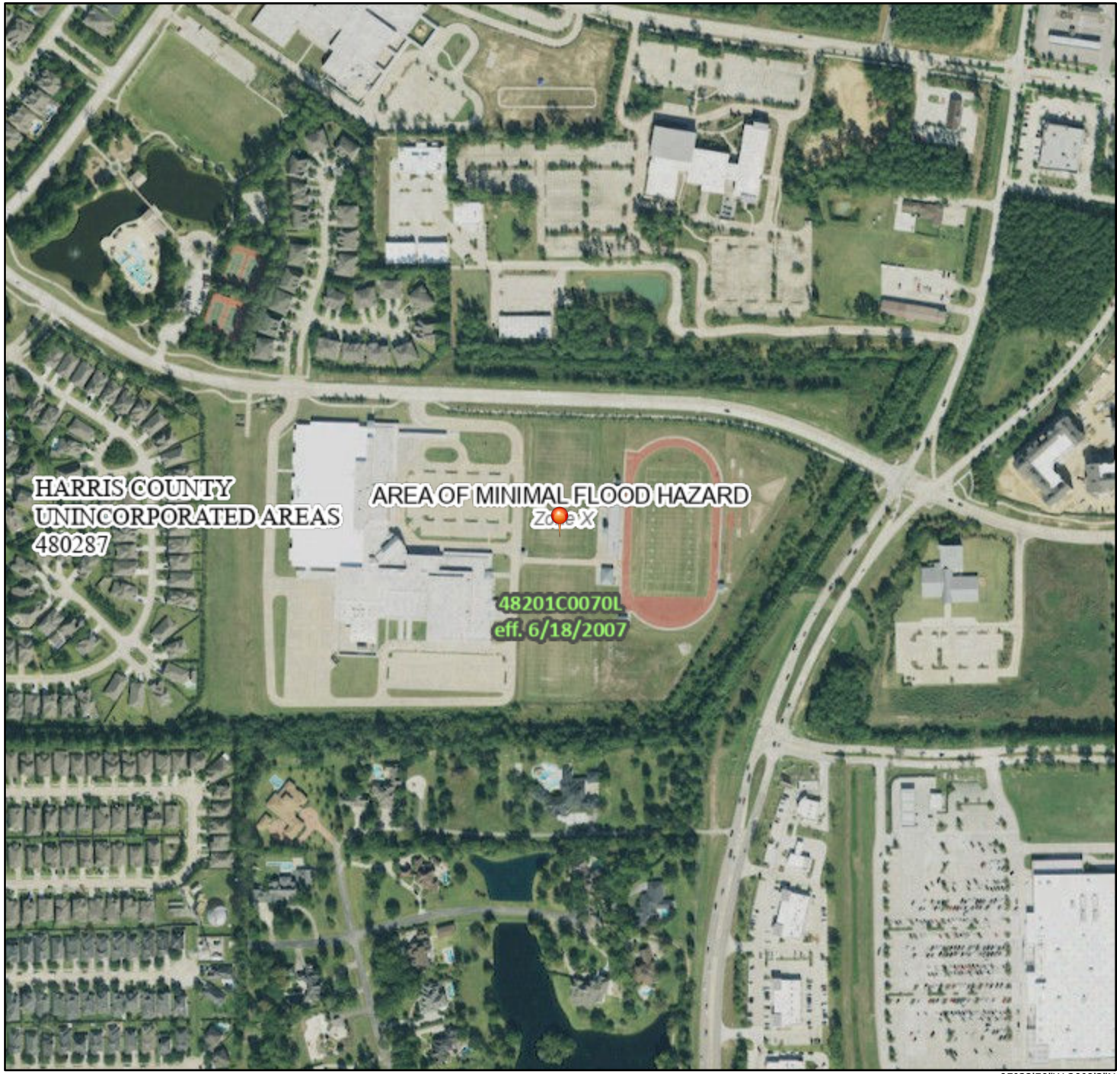
AUGUST 2023


NEW TURN LANE AND SIGNAL
VISITOR ENTRY / STAFF ENTRY
RIGHT TURN ONLY
PROPOSED NEW EXIT JURISDICTIONAL APPROVAL REQUIRED
EXISTING CREEKSIDE PARK JUNIOR HIGH
SHARED COMPITTION AND PLAY FIELDS
PROPOSED 5TH & 6TH GRADE
BUS DROP
STAFF PARKING / BUS QUEING
EXISTING BUS QUEING
PARENT DROP OFF

National Flood Hazard Layer FIRMette

FEMA

95°33'36"W 30°8'34"N



95°32'59"W 30°8'3"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/22/2023 at 3:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.