

Shades Creek to Eastwood Trail Study

ADVANCED PLANNING,
PROGRAMMING, AND LOGICAL
ENGINEERING (APPLE) PROGRAM

RPC Project Number 1289 May 2023



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Shades Creek

Project Purpose

Through the Regional Planning Commission (RPC) as part of an Advanced Planning, Programming, and Logical Engineering (APPLE) Study, the project team assessed trail feasibility and provided preliminary concept design for an approximately 1.27-mile multi-use trail along Shades Creek Greenway between the Flora Johnston Trailhead and Groover Drive / Shiloh Drive. Overall, the site provides amenable conditions for trail construction and is already accessed by local residents for recreation.

Project Location

This trail study area connects existing trails at the Flora Johnston Nature Park to the Irondale Furnace Greenway. The project area is located along the north side of Shades Creek comprised of land primarily owned by the City of Birmingham. The project stretches between the Flora Johnston Trailhead at Elder Street and Groover Dr / Shiloh Drive. From there, trail users can utilize the existing sidewalks along Stone River Road and Shiloh Drive to connect to the Irondale Furnace Greenway.



Most of the corridor is flat with open space available for a trail.

PROJECT SNAPSHOT

Approximately

1.27 miles of Multi-use Trail



Connects

Flora Johnston Nature Park to Irondale Furnace Greenway



Existing Conditions

Shades Creek within the study area is already used in many places for recreation purposes; existing user-created trails and play areas were observed throughout the corridor. During the site assessment, the project team talked with a local resident who reported that she and many of the nearby residents frequently walk along the creek side.

Most of the corridor is flat and runs along the elevated creek bank. The area was observed immediately following a rainstorm and appeared well draining, with the exception of pooled water in low sections, just west of the Flora Johnston Trailhead. Approximately $\frac{3}{4}$ of the trail corridor is mostly open and free of vegetation. The remaining $\frac{1}{4}$ runs through small patches of vegetation including understory shrubs and mostly small (less than 12" Diameter at Breast Height) trees. The corridor is surrounded by green spaces, large trees, and a forest on the south side of the creek, creating a very scenic area for a trail.

The trail will need to cross two minor, seasonal drainages with approximately 15'-20' long boardwalks. Additionally, there is one major creek crossing between Mountain Dale Road and Swallow Lane (See photo to the right) that will require an approximately 40'-45' long span bridge.



Local residents already use the corridor and the adjoining green space as a recreation area. Adding a trail will provide an amenity for residents of all ages and abilities to enjoy.



A span bridge will be required to cross a creek that flows into Shades Creek.

Project Recommendations

The project identifies a conceptual alignment for an approximately 1.27-mile crushed gravel trail that traverses along the creek side. The preferred alignment will require easements or acquisition of portions of the eight privately-owned parcels. If city ownership or easements cannot be obtained, the project can be completed on existing city-owned parcels and easements alone, although the alignment will be less desirable and may increase disturbance to other existing private properties along the corridor. The concept plans on the following pages identify both a preferred alignment and public land alternative alignments to avoid private land.

A small, accessible gravel parking lot is proposed within a large, primarily flat open space at the terminus of Redwood Street. The other access points will be neighborhood access locations for residents walking or biking to the trailhead. At these public access points and small green spaces along the trail, park amenities, such as benches, pavilions, waste receptacles, and pet waste stations are recommended to create a linear park setting and neighborhood amenity. Neighborhood engagement is recommended to gather input on desired amenities.

Before addressing existing private fence encroachments, a full survey of the corridor should be performed to assess the full extent of the encroachments. With this information, the City of Birmingham and RPC will address next steps in terms of remediation of fence encroachments into city-owned property.



The future trail along Shades Creek is proposed as compacted gravel with a similar texture as the Irondale Furnace Greenway shown here.



This flat open space at the end of Redwood Street provides ample area for the development of 2-3 accessible parking spaces.

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Conceptual Trail Alignment

LEGEND

Existing Trailhead

Park

Parking

Conceptual Trail Recommendations

Existing sidewalk / Conceptual On-street connection

Conceptual Shades Creek Greenway - preferred alignment

Conceptual Shades Creek Greenway - public land alternative

Conceptual natural surface trail connection (requiring further study)

Design Considerations

Access

Crosswalk

Park

Parking

Bridge / Boardwalk

Base Data

Private Parcels along Shades Creek

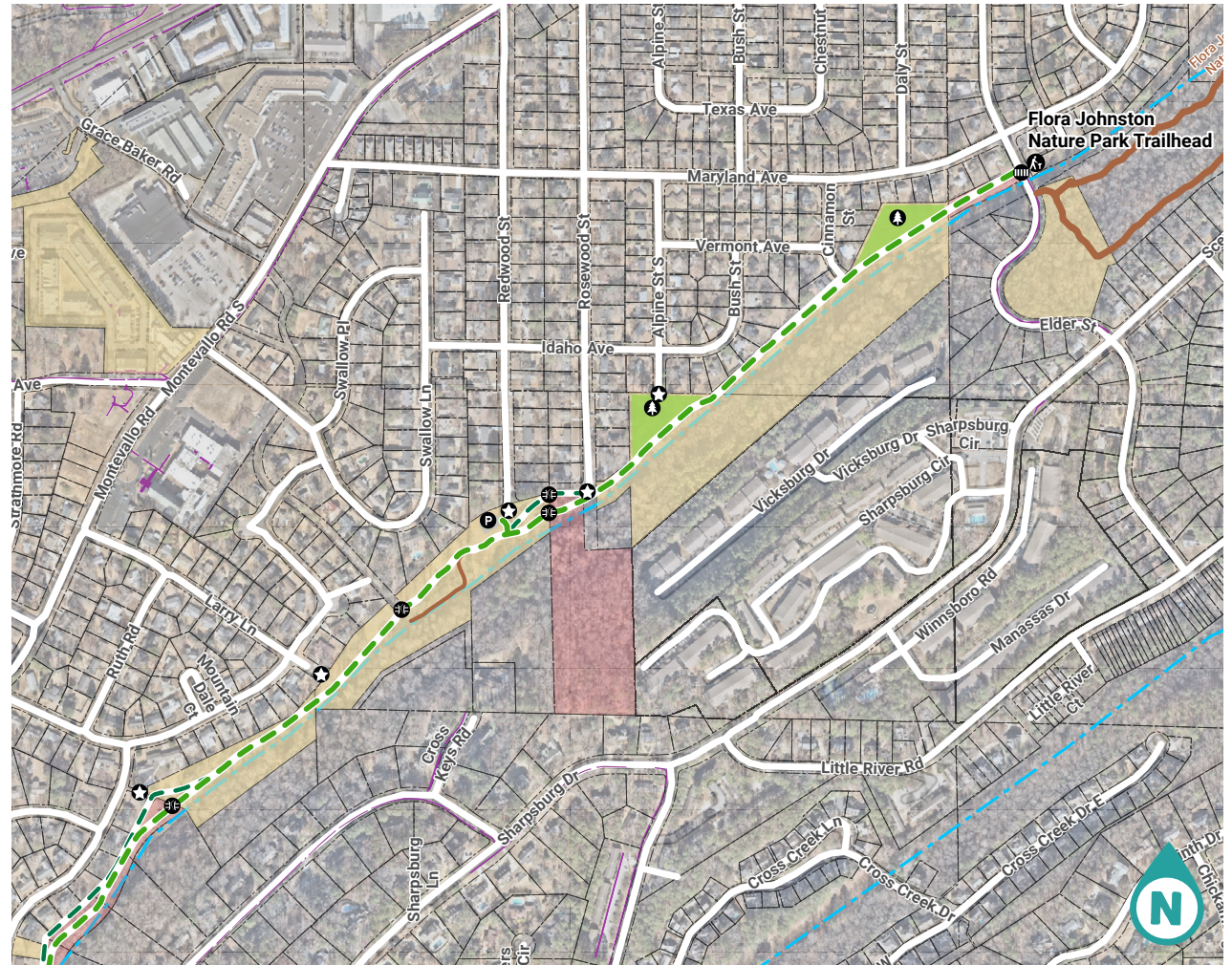
Public Parcels

Building Footprints

Streams

Existing Trails

Parcels



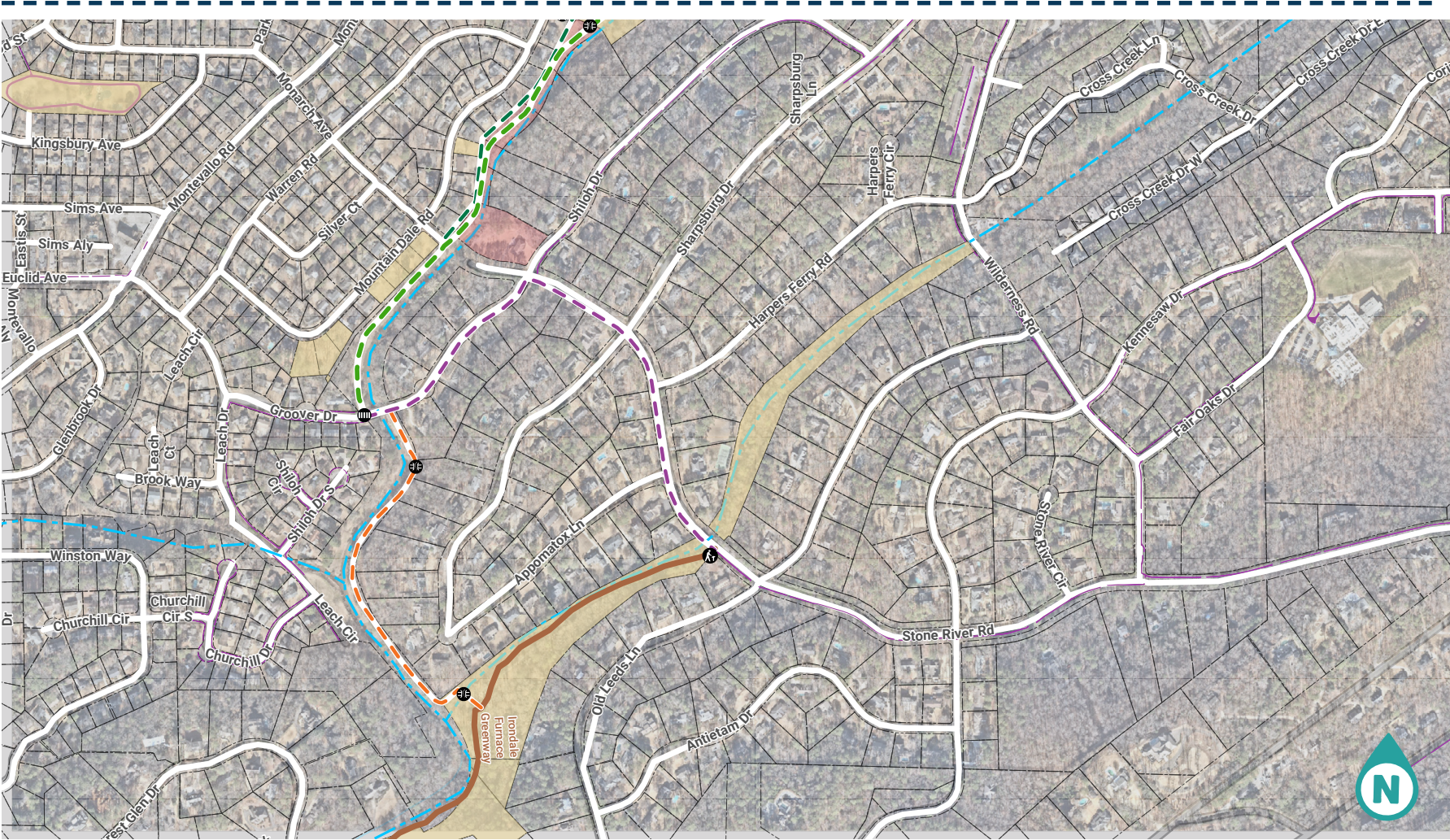
See page 7

0

0.25 miles

Conceptual Trail Alignment (continued)

See page 6



0

0.25 miles

Access Points

At the east end of the corridor, the Flora Johnston Trailhead provides a small gravel parking area with approximately 7-8 spaces. This public access point serves an ideal starting point for those who choose to drive to the trailhead. Along the creek corridor, there are nine potential public access points (Cinnamon Street, Alpine Street, Rosewood Street, Redwood Street, Larry Street, Larry Lane, Mountain Dale Road, Monarch Avenue, and Groover Drive). These can serve as neighborhood access and in some cases be developed into additional trailhead parking areas.

Land Ownership Considerations

Most of the trail corridor lies within land owned by the City of Birmingham. The preferred trail alignment crosses eight private parcels. Starting from the eastern end of the trail, the preferred trail alignment would traverse the following private parcels:

- One parcel of private land along Elder Street just across from the Flora Johnston Trailhead
- One parcel of private land near Rosewood Street that extends across the creek
- The other six private parcels extend east from Mountain Dale Road and Monarch Avenue. The preferred alignment would exist across the creek from the homesite which is substantially elevated along the ridgeline. In fact, these property owners live in the City of Mountain Brook with small portions of their property being composed of a separate parcel within the City of Birmingham. These property owners currently have taxable property in both cities. Landowners cannot access the space without crossing Shades Creek.

Multiple private fence encroachments were observed onto City of Birmingham land in many cases also spanning a city sewer easement. (See photo on the right)



Rosewood Street access point



There are a few occurrences of private fences encroaching onto City of Birmingham land and the sewer easement. A full corridor survey is recommended to full assess the extent of these encroachments.

Future Study Recommendations

Where the proposed trail ends at Groover Drive / Shiloh Drive, there is an opportunity to create a natural or gravel surface trail connection along Shades Creek to connect to the Irondale Furnace Greenway. This area is heavily vegetated with an approximately 30-60% side slope. Further study is recommended to assess the feasibility of constructing a natural or gravel surface trail connection. This would create a preferred connection between the Irondale Furnace Greenway and the proposed Shades Creek trail alignment. See pages 19, 23, and 24 for a conceptual trail alignment and future study area.



A future natural surface trail could tie into this portion of the Irondale Furnace Greenway.

PROJECT CUTSHEETS

MAP 1: CONNECTION TO FLORA JOHNSTON NATURE PARK

LEGEND

Conceptual Shades Creek Greenway - preferred alignment

Existing Trailhead

Existing Trails

Parcels

Public Parcels

Private Parcels along Shades Creek

Sidewalks

Building Footprints

Streams

2ft Contours

Field Observations

Civil

Design Considerations

Crosswalk

Park

Project Recommendations

Park

SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023

0 50 100 US FEET

DYNAMIC CIVIL SOLUTIONS
CIVIL & TRANSPORTATION ENGINEERS

1 A crosswalk with improved landing area is necessary to connect to the parking area at Flora Johnston Natue Park. Improve drainage

2 Proper drainage will be needed. An easement will be required here through privately-owned land.

3 Potential neighborhood passive park along the future trail.

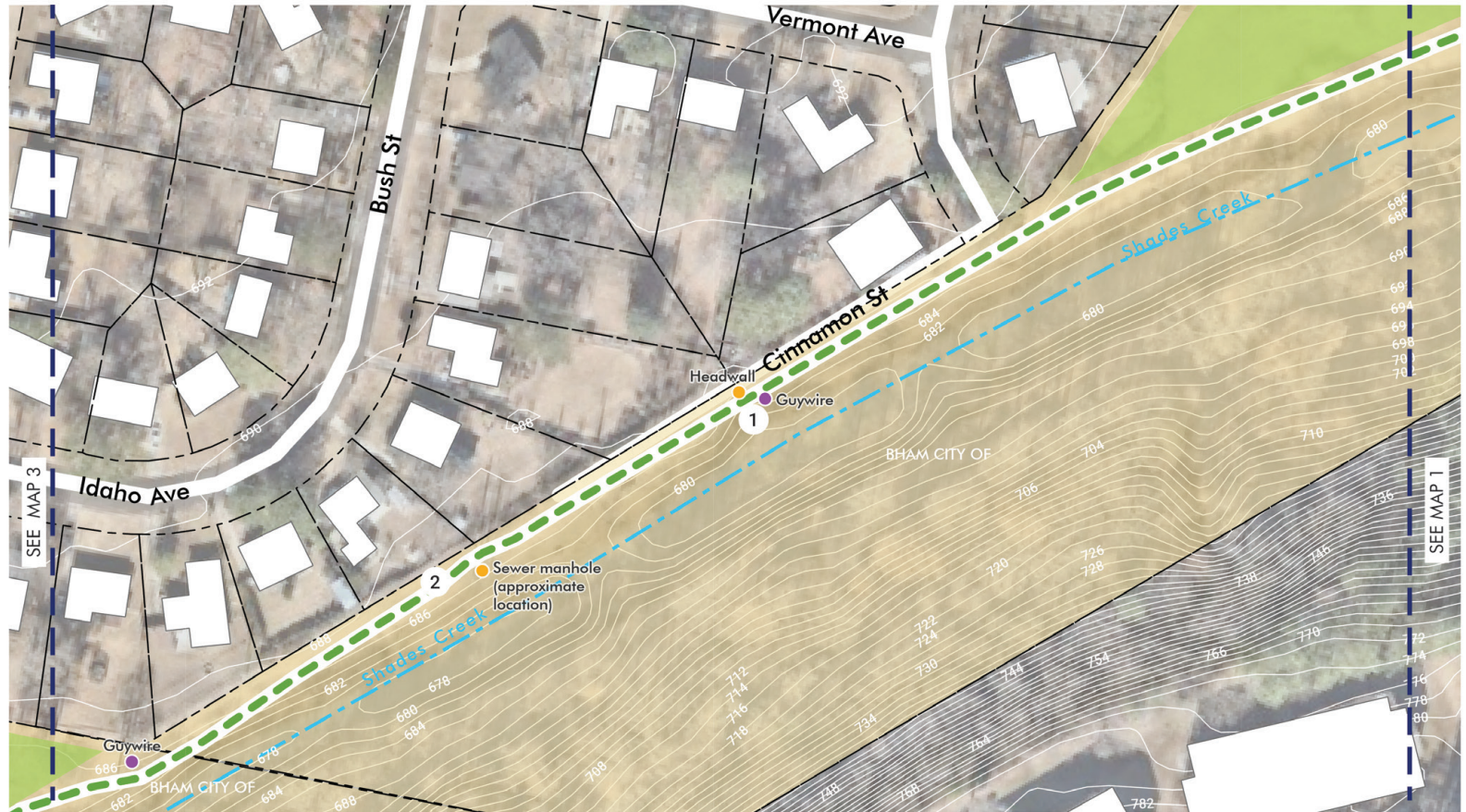
10

PROJECT CUTSHEETS

MAP 2: CINNAMON ST

LEGEND

- Conceptual Shades Creek Greenway - preferred alignment
- Parcels
- Public Parcels
- Building Footprints
- Streams
- 2ft Contours
- Field Observations**
 - Caution
 - Civil
- Project Recommendations**
 - Park



SHADES CREEK GREENWAY

EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
ALTERNATIVES
March 2023

0 50 100 US FEET

DYNAMIC CIVIL SOLUTIONS
CIVIL & TRANSPORTATION ENGINEERS



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PROJECT CUTSHEETS

MAP 3: ALPINE ST

LEGEND

Conceptual Shades Creek Greenway - preferred alignment

Conceptual Shades Creek Greenway - public land alternative

Parcels

Public Parcels

Private Parcels along Shades Creek

Building Footprints

Streams

2ft Contours

Field Observations

Caution

Civil

Constraint

Fence Encroachments

Design Considerations

Access

Park

Project Recommendations

Park

SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES

March 2023

0 50 100 US FEET

1 Existing recreational use within the public open space. Future access point (Alpine St) shown in the background.

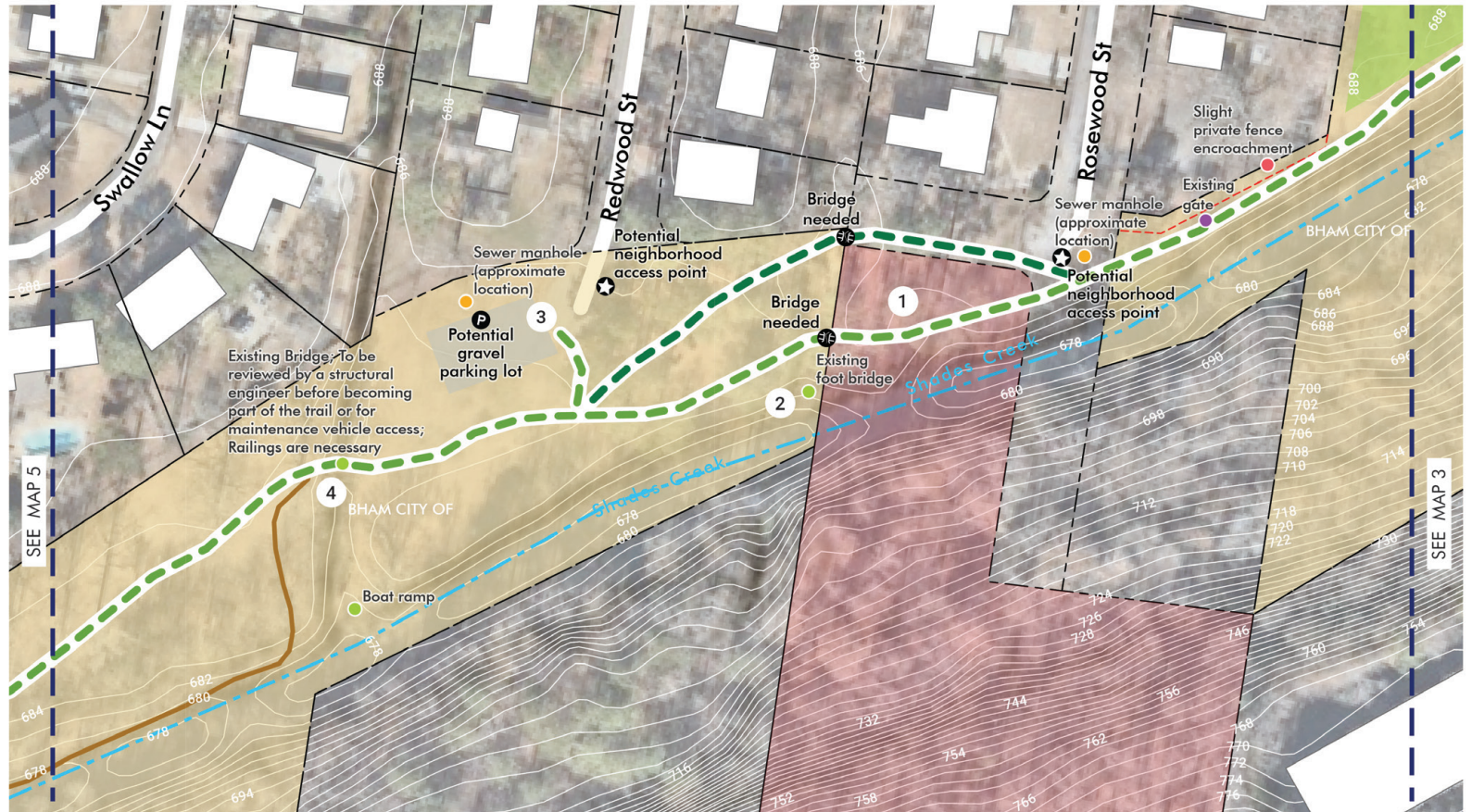
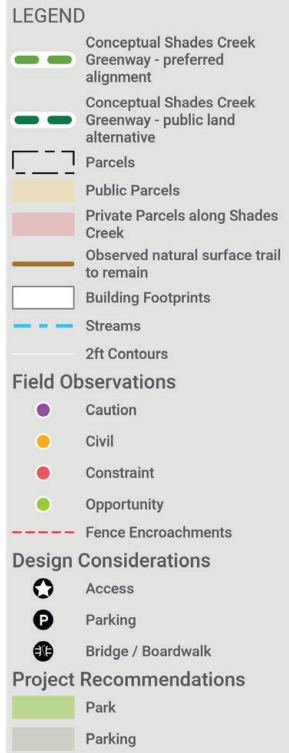
2 Existing fence encroaching into City property

3 Potential access at Rosewood St. Trail can be sited on the south side of the cul-de-sac to avoid utilities.

12

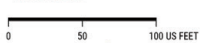
PROJECT CUTSHEETS

MAP 4: REDWOOD ST



SHADES CREEK GREENWAY

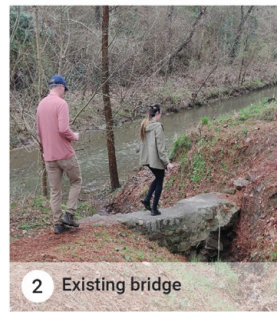
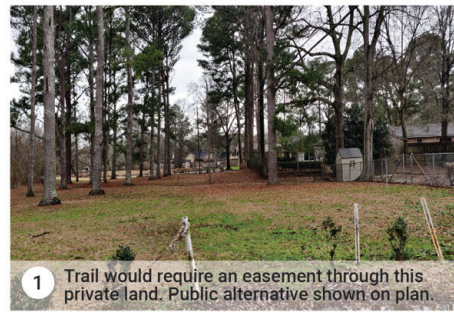
EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023



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PROJECT CUTSHEETS

MAP 5: MOUNTAINDALE ROAD

LEGEND

Conceptual Shades Creek Greenway - preferred alignment

Parcels

Public Parcels

Observed natural surface trail to remain

Building Footprints

Streams

2ft Contours

Field Observations

Civil

Constraint

Opportunity

Fence Encroachments

Design Considerations

Access

Bridge / Boardwalk

This topographic map shows the area around Mountindale Rd and Larry Ln. The map features a green dashed line representing the 'Conceptual Shades Creek Greenway - preferred alignment'. Key features include:

- Mountindale Rd** and **Larry Ln** running diagonally across the upper left.
- Shades Creek** flowing from the bottom left towards the top right.
- Public Parcels** shaded in light yellow.
- Building Footprints** shown as white polygons.
- Streams** indicated by blue dashed lines.
- 2ft Contours** shown as thin grey lines with elevation labels (e.g., 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790).
- Field Observations:**
 - Civil:** Orange dots marking a 'Sewer manhole (approximate location)', a 'Stormwater inlet', and a '2' pipe with headwall'.
 - Constraint:** Red dots marking 'Private fence encroachment' locations.
 - Opportunity:** Green dots marking a 'Boat ramp' and a 'Potential neighborhood access point'.
 - Fence Encroachments:** Red dashed lines.
- Design Considerations:**
 - Access:** A star symbol at the 'Potential neighborhood access point'.
 - Bridge / Boardwalk:** A black circle with a cross symbol at a location labeled 'Bridge needed'.
- Other Labels:** 'SEE MAP 6' on the left, 'SEE MAP 4' on the right, and 'BHAM CITY OF' in two locations.
- Notes:** A text box in the top right corner states: 'Existing Bridge; To be reviewed by a structural engineer before becoming part of the trail or for maintenance vehicle access; Railings are necessary'.

SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023

0 50 100 US FEET

DYNAMIC CIVIL SOLUTIONS
CIVIL & TRANSPORTATION ENGINEERS

1 Existing natural surface trail along Shades Creek

2 Bridge needed over stream

3 Private fence encroachment into public land

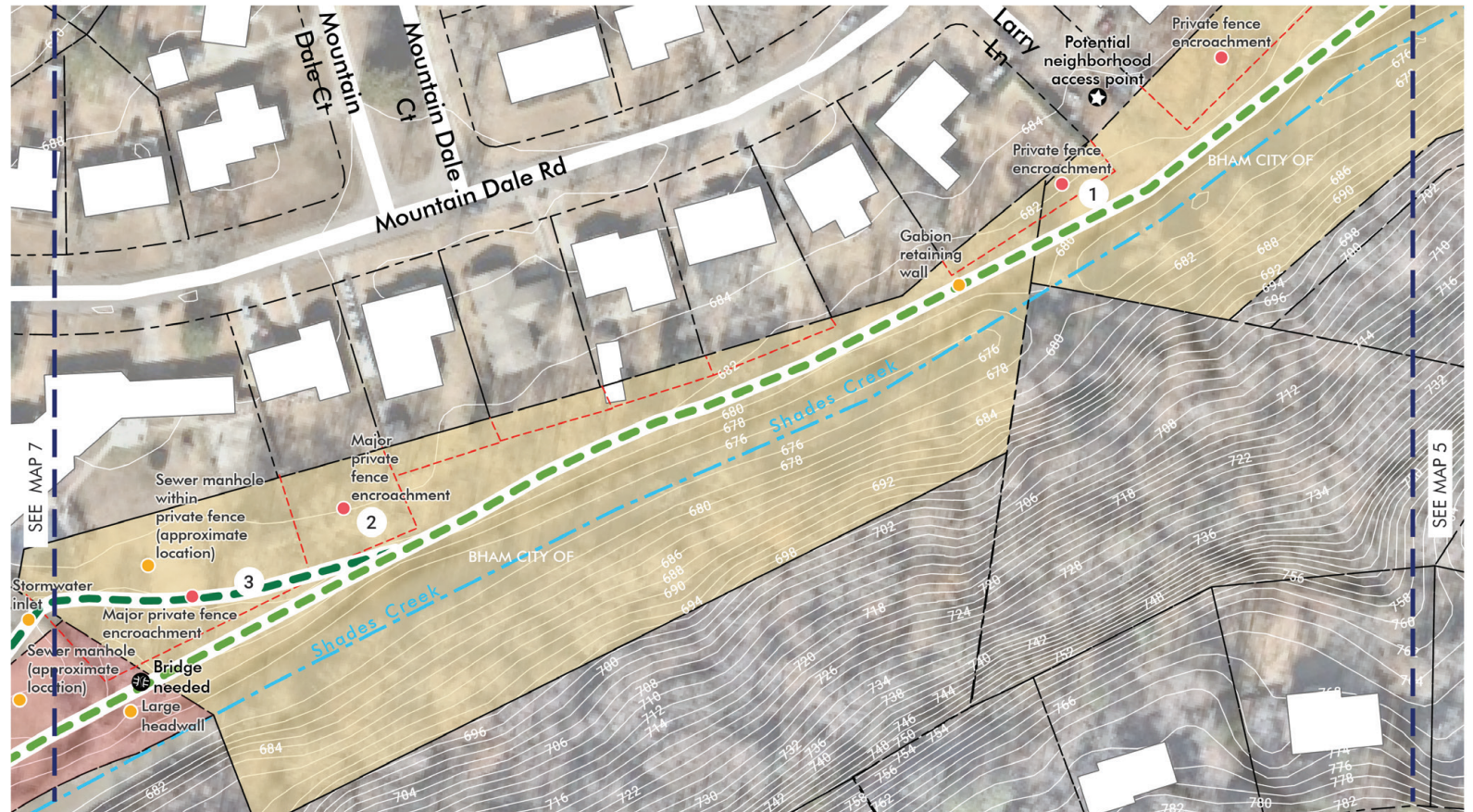
14

PROJECT CUTSHEETS

MAP 6: MOUNTAINDALE ROAD AND LARRY ST

LEGEND

- Conceptual Shades Creek Greenway - preferred alignment
- Conceptual Shades Creek Greenway - public land alternative
- Parcels
- Public Parcels
- Private Parcels along Shades Creek
- Building Footprints
- Streams
- 2ft Contours
- Field Observations**
 - Civil
 - Constraint
 - Fence Encroachments
- Design Considerations**
 - ★ Access
 - ⚡ Bridge / Boardwalk



SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023

0 50 100 US FEET



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PROJECT CUTSHEETS

MAP 7: MOUNTAINDALE ROAD AND WARREN ROAD

LEGEND

Conceptual Shades Creek Greenway - preferred alignment

Conceptual Shades Creek Greenway - public land alternative

Parcels

Public Parcels

Private Parcels along Shades Creek

Sidewalks

Building Footprints

Streams

2ft Contours

Field Observations

Civil

Constraint

Fence Encroachments

Design Considerations

Access

Bridge / Boardwalk

SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023

0

50

100 US FEET

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DYNAMIC CIVIL SOLUTIONS

CIVIL & TRANSPORTATION ENGINEERS

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1 Sewer easement

2 Existing tree cover

3 Private fence encroachment

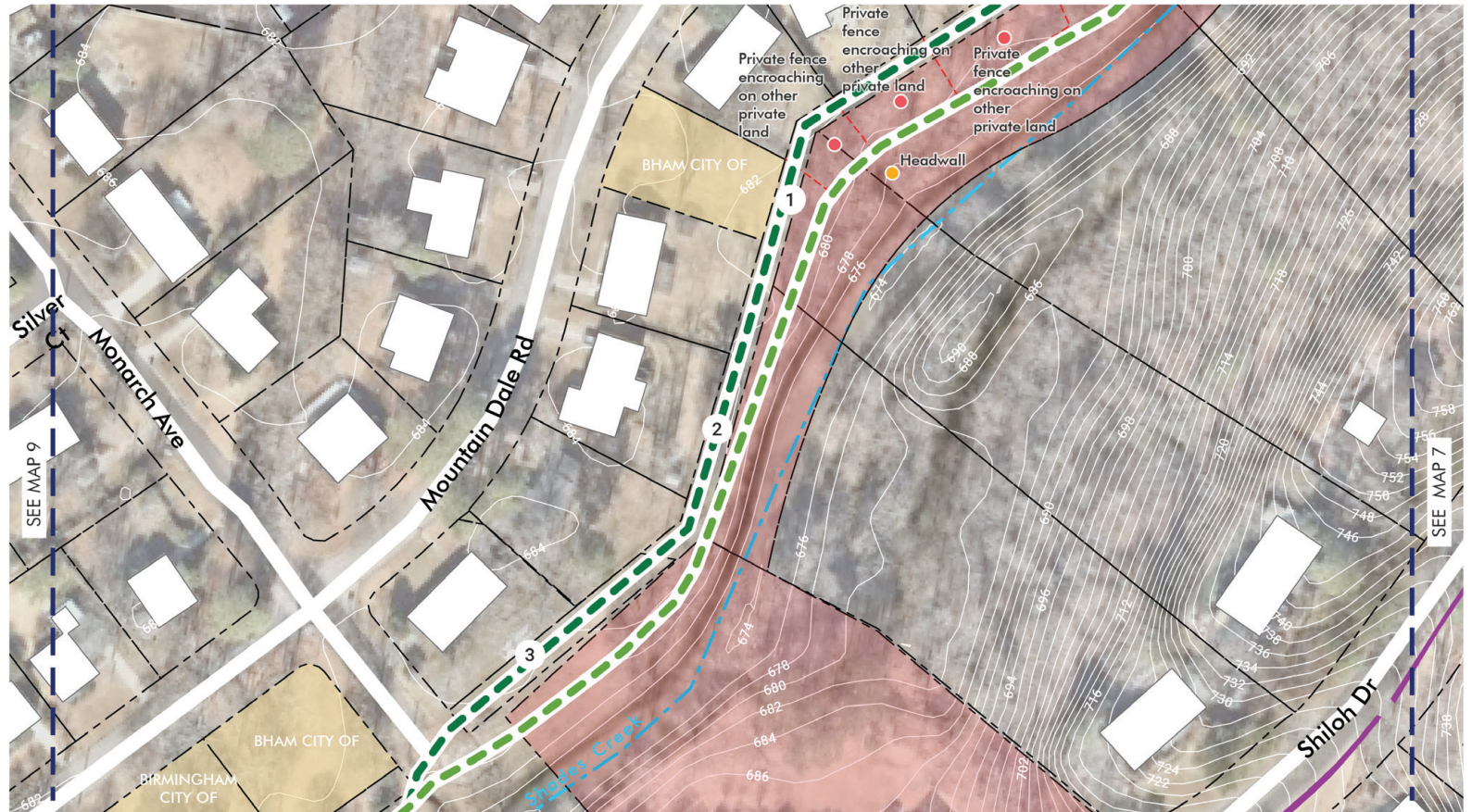
16

PROJECT CUTSHEETS

MAP 8: MOUNTAINDALE ROAD AND MONARCH AVE

LEGEND

- Conceptual Shades Creek Greenway - preferred alignment
- Conceptual Shades Creek Greenway - public land alternative
- Parcels
- Public Parcels
- Private Parcels along Shades Creek
- Sidewalks
- Building Footprints
- Streams
- 2ft Contours
- Field Observations**
 - Civil
 - Constraint
 - Fence Encroachments



SHADES CREEK GREENWAY

EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
ALTERNATIVES
March 2023

0 50 100 US FEET



DYNAMIC CIVIL SOLUTIONS
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1 Looking east towards private fence encroachment



2 Walking along the sewer easement



3 Large green open space

PROJECT CUTSHEETS

MAP 9: MOUNTAIN DALE ROAD NEAR GROOVER DR

LEGEND

Existing sidewalk / Conceptual On-street connection

Conceptual Shades Creek Greenway - preferred alignment

Conceptual Shades Creek Greenway - public land alternative

Parcels

Public Parcels

Private Parcels along Shades Creek

Building Footprints

Streams

2ft Contours

Field Observations

Civil



SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023












0 50 100 US FEET

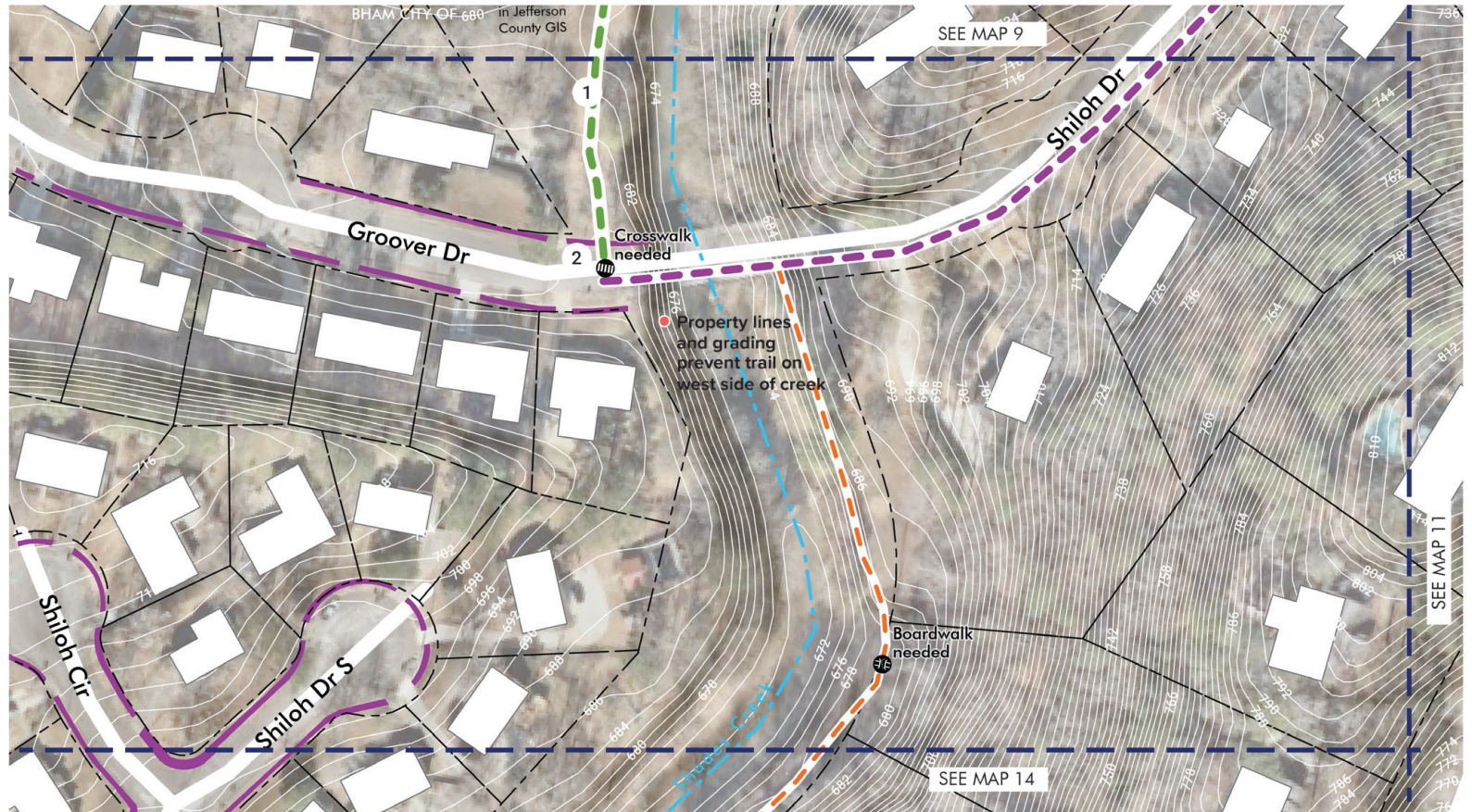


PROJECT CUTSHEETS

MAP 10: GROOVER DR

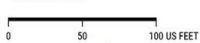
LEGEND

-  Existing sidewalk / Conceptual On-street connection
-  Conceptual Shades Creek Greenway - preferred alignment
-  Conceptual natural surface trail connection (requiring further study)
-  Parcels
-  Public Parcels
-  Sidewalks
-  Building Footprints
-  Streams
-  2ft Contours
- Design Considerations**
-  Crosswalk
-  Bridge / Boardwalk



SHADES CREEK GREENWAY

EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
ALTERNATIVES
March 2023



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1 Large green open space. Looking southwest towards Shiloh Dr / Groover Dr



2 Looking east along Shiloh Drive. Fast-moving, downhill traffic travels quickly around that curve where the van is located in this picture.

PROJECT
CUTSHEETS

MAP 11: SHILOH DR

LEGEND

Existing sidewalk /
Conceptual On-street
connection

Conceptual Shades Creek
Greenway - preferred
alignment

Conceptual Shades Creek
Greenway - public land
alternative

Parcels

Public Parcels

Private Parcels along Shades
Creek

Sidewalks

Building Footprints

Streams

2ft Contours

SHADES CREEK
GREENWAY
EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
March 2023



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PROJECT
CUTSHEETS

MAP 12: STONE RIVER
ROAD AND SHARPSBURG
DR

LEGEND

Existing sidewalk /
Conceptual On-street
connection

Parcels

SHADES CREEK
GREENWAY

EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
ALTERNATIVES
March 2023

0 50 100 US FEET

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CUTSHEETS

MAP 13: CONNECTION TO
IRONDALE FURNACE
GREENWAY

LEGEND

Existing sidewalk /
Conceptual On-street
connection

Existing Trailhead

Existing Trails

Parcels

Public Parcels

Sidewalks

Building Footprints

Streams

2ft Contours

SHADES CREEK
GREENWAY

EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
ALTERNATIVES
March 2023

050100 US FEET

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PROJECT
CUTSHEETS

MAP 14: WEST OF
SHARPSBURG DR

LEGEND

Conceptual natural surface trail connection (requiring further study)

Parcels

Sidewalks

Building Footprints

Streams

2ft Contours

SHADES CREEK
GREENWAY

EXISTING CONDITIONS
AND CONCEPTUAL
TRAIL ALIGNMENT
ALTERNATIVES
March 2023

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US FEET

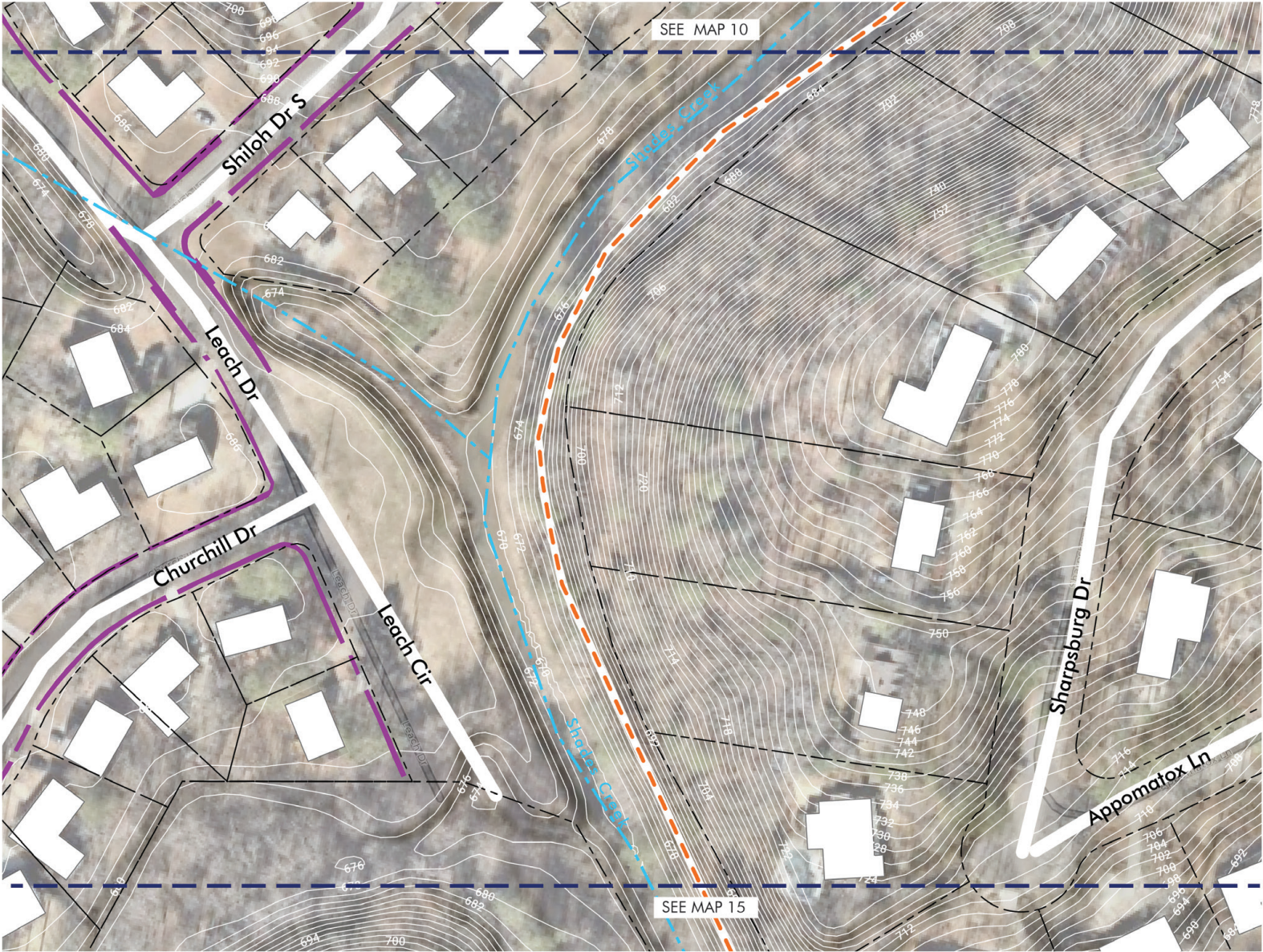
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PROJECT CUTSHEETS

MAP 15: TRAIL CONNECTION TO IRONDALE FURNACE TRAIL

LEGEND

Conceptual natural surface trail connection (requiring further study)

Existing Trails

Parcels

Public Parcels

Building Footprints

Streams

2ft Contours

Field Observations

Constraint

Design Considerations

Bridge / Boardwalk

SEE MAP 14

Shades Creek

Irondale Furnace Greenway

Mountain Brook City of

Bridge needed

Flood area

1

2

736, 734, 732, 730, 728, 726, 724, 722, 720, 718, 716, 714, 712, 710, 708, 706, 704, 702, 698, 696, 694, 692, 690, 688, 686, 684, 682, 680, 678, 676, 674, 672, 670, 668, 666, 664, 662, 660, 658, 656, 654, 652, 650, 648, 646, 644, 642, 640, 638, 636, 634, 632, 630, 628, 626, 624, 622, 620, 618, 616, 614, 612, 610, 608, 606, 604, 602, 600, 598, 596, 594, 592, 590, 588, 586, 584, 582, 580, 578, 576, 574, 572, 570, 568, 566, 564, 562, 560, 558, 556, 554, 552, 550, 548, 546, 544, 542, 540, 538, 536, 534, 532, 530, 528, 526, 524, 522, 520, 518, 516, 514, 512, 510, 508, 506, 504, 502, 500, 498, 496, 494, 492, 490, 488, 486, 484, 482, 480, 478, 476, 474, 472, 470, 468, 466, 464, 462, 460, 458, 456, 454, 452, 450, 448, 446, 444, 442, 440, 438, 436, 434, 432, 430, 428, 426, 424, 422, 420, 418, 416, 414, 412, 410, 408, 406, 404, 402, 400, 398, 396, 394, 392, 390, 388, 386, 384, 382, 380, 378, 376, 374, 372, 370, 368, 366, 364, 362, 360, 358, 356, 354, 352, 350, 348, 346, 344, 342, 340, 338, 336, 334, 332, 330, 328, 326, 324, 322, 320, 318, 316, 314, 312, 310, 308, 306, 304, 302, 300, 298, 296, 294, 292, 290, 288, 286, 284, 282, 280, 278, 276, 274, 272, 270, 268, 266, 264, 262, 260, 258, 256, 254, 252, 250, 248, 246, 244, 242, 240, 238, 236, 234, 232, 230, 228, 226, 224, 222, 220, 218, 216, 214, 212, 210, 208, 206, 204, 202, 200, 198, 196, 194, 192, 190, 188, 186, 184, 182, 180, 178, 176, 174, 172, 170, 168, 166, 164, 162, 160, 158, 156, 154, 152, 150, 148, 146, 144, 142, 140, 138, 136, 134, 132, 130, 128, 126, 124, 122, 120, 118, 116, 114, 112, 110, 108, 106, 104, 102, 100, 98, 96, 94, 92, 90, 88, 86, 84, 82, 80, 78, 76, 74, 72, 70, 68, 66, 64, 62, 60, 58, 56, 54, 52, 50, 48, 46, 44, 42, 40, 38, 36, 34, 32, 30, 28, 26, 24, 22, 20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 0

SHADES CREEK GREENWAY

EXISTING CONDITIONS AND CONCEPTUAL TRAIL ALIGNMENT ALTERNATIVES
March 2023

0 50 100 US FEET

DYNAMIC CIVIL SOLUTIONS
CIVIL & TRANSPORTATION ENGINEERS

1 A bridge crossing would be necessary to connect the conceptual natural surface trail to the Irondale Furnace Greenway

2 Irondale Furnace Greenway

24



PLANNING ESTIMATE

DESCRIPTION: SHADES CREEK GREENWAY (FLORA JOHNSTON PARK TO THE IRONDALE FURNACE GREENWAY)

TOTAL LENGTH: 1.27 MILES

PROJECT NUMBER: 2023-023

COUNTY: JEFFERSON

CITY BIRMINGHAM

ESTIMATE BY: SK

DATE: 5/15/2023

REVISED:

CHECKED BY: BMB

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
201A002	CLEARING AND GRUBBING (MAXIMUM ALLOWABLE BID \$)	LS	1	\$45,000.00	\$45,000.00
210A000	UNCLASSIFIED EXCAVATION	CUYD	3500	\$50.00	\$175,000.00
210D001	BORROW EXCAVATION (LOOSE TRUCKBED MEASUREMENT)	CUYD	250	\$50.00	\$12,500.00
430B003	AGGREGATE SURFACING (ALDOT #57)	TON	1400	\$70.00	\$98,000.00
430B004	AGGREGATE SURFACING (ALDOT #810)	TON	1350	\$70.00	\$94,500.00
600A000	MOBILIZATION	LS	1	\$107,600.00	\$107,600.00
618A000	CONCRETE SIDEWALK, 4" THICK	SQYD	40	\$60.00	\$2,400.00
618B003	CONCRETE DRIVEWAY, 6" THICK (INCLUDES WIRE MESH)	SQYD	65	\$100.00	\$6,500.00
618C001	DETECTABLE WARNING SURFACE	SQFT	100	\$60.00	\$6,000.00
618D000	CURB RAMP	SQYD	100	\$300.00	\$30,000.00
637A000	FENCE RESET	LF	1500	\$75.00	\$112,500.00
650A000	TOPSOIL	CUYD	1000	\$50.00	\$50,000.00
680A001	GEOMETRIC CONTROLS - SURVEY	LS	1	\$60,000.00	\$60,000.00
	BENCHES	EACH	10	\$3,500.00	\$35,000.00
	TRAILHEAD KIOSK AT ELDER STREET	LS	1	\$8,000.00	\$8,000.00
	NEIGHBORHOOD ACCESS POINT TRAIL SIGNAGE	EACH	6	\$1,500.00	\$9,000.00
	PET WASTE STATIONS	EACH	5	\$3,000.00	\$15,000.00
	TRASH RECEPTACLES	EACH	5	\$3,000.00	\$15,000.00
	BOLLARDS AT ACCESS POINTS	EACH	30	\$3,000.00	\$90,000.00
	TEMPORARY TRAFFIC CONTROL	LS	1	\$25,000.00	\$25,000.00
	RECTANGULAR RAPID FLASHING BEACON	EACH	4	\$15,000.00	\$60,000.00
	PEDESTRIAN BRIDGE	LF	40	\$3,500.00	\$140,000.00
	BOARDWALK	LF	50	\$2,000.00	\$100,000.00
	DRAINAGE ALLOWANCE	LS	1	\$50,000.00	\$50,000.00
	EROSION CONTROL ALLOWANCE	LS	1	\$105,000.00	\$105,000.00
	MINOR ITEMS (5%)	LS	1	\$72,600.00	\$72,600.00
CONSTRUCTION COST SUBTOTAL					\$1,525,000.00
	CONTINGENCIES		20.0%		\$305,000.00
	UTILITIES (ABOVE GROUND)				\$0.00
CONSTRUCTION COST TOTAL (2023)					\$1,830,000.00
	INFLATION FACTOR	2 YEARS	8.0%		\$305,000.00
CONSTRUCTION COST TOTAL (2025)					\$2,135,000.00
DESIGN AND PERMITTING				10.0%	\$214,000.00
CONSTRUCTION ADMINISTRATION					\$50,000.00
TOTAL ESTIMATED PROJECT COST (2025)					\$2,399,000.00

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2023 UNIT PRICES. ESCALATION ADJUSTMENTS MUST BE APPLIED FOR OTHER YEARS.

DOES NOT INCLUDE RIGHT-OF-WAY.

UNDERGROUND UTILITY COORDINATION/RELOCATION COSTS UNKNOWN AND NOT INCLUDED.