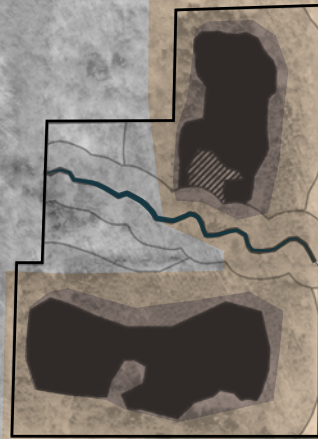




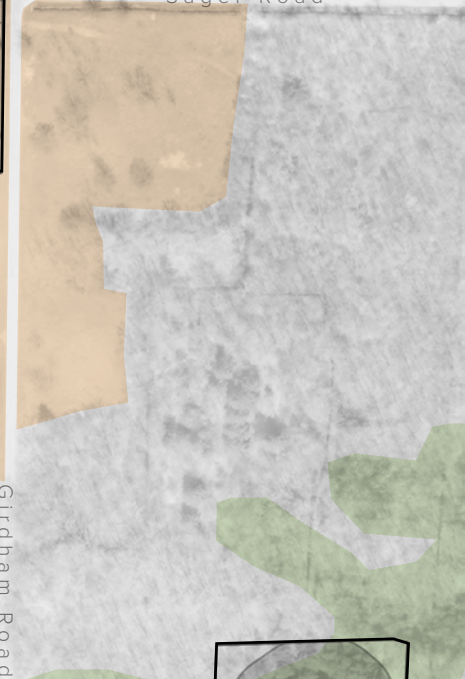
SITE A



SITE B



Sager Road



Girdham Road



SITE C

OAK OPENINGS SITES MAP Habitat and Design Overview



- Potential Lark Sparrow Habitat
- Forested Wetland Complex
- Emergent Wetland Complex
- Existing Delineated Wetland
- Stream Restoration Area*
- Wetland Restoration Area*

**MAD's project design follows the acreage and crediting as set forth in the RFP. Any necessary changes will be made during the design phase.*



NORTH



Blanding's Turtle (*Emydoidea blandingii*)

The Blanding's Turtle requires an array of wetlands depth to thrive. As a state threatened species present in wooded wetlands within the Oak Openings region, this restoration project is a prime opportunity to improve the suitable habitat within the Metropark.



Four Toed Salamander (*Hemidactylium scutatum*)

The Four Toed Salamander nests and guards its eggs on mossed ledges above forested wetlands. The small creature spends the rest of its time foraging through leaf litter surrounding high quality forested wetlands. It is also present within the Oak Openings region.

**OAK OPENINGS HABITAT
FORESTED WETLAND SECTION**



1

HUMMOCK

2

4

3

5

POOL

- 1 hummock microtopography based on reference wetlands
- 2 four toed salamander nesting habitat
- 3 woody pine debris incorporated into hummock construction
- 4 salvaged pine logs for basking surfaces and habitat heterogeneity
- 5 3'- 4' deep pool (supports Blanding's turtle foraging and hibernating)



Lark Sparrow (*Chondestes grammacus*)

Already present a short distance from the project sites, the state endangered Lark Sparrow would highly benefit from intentional planting design and habitat patch awareness when developing Sites A and B. Creating additional nesting habitat is possible given current site conditions.



Spotted Turtle (*Clemmys guttata*)

The state threatened Spotted Turtle often uses multiple shallow wetland systems throughout its life, and will benefit from the restoration of all three project sites. There are confirmed populations within the Oak Openings region both to the north and to the south of the project sites.

**OAK OPENINGS HABITAT
EMERGENT WETLAND SECTION**



DUNE

WETLAND

- ① low dune features created from Ottokee sands
- ② open grassland / sandy scrub habitat to support lark sparrow nesting
- ③ hydrologic connection between wetland areas
- ④ woody debris incorporated into emergent wetland for turtle basking and habitat
- ⑤ predominantly shallow (6") wet meadow with deeper pools (1'-2') situated throughout the site

OAK OPENINGS SITES A & B
STREAM RESTORATION CONCEPTS



① Floodplain secured with coir blanket and planted with willow stakes

② Larger willow stands for additional bank stabilization

③ Use of pine logs as toe wood for cut bank stabilization

④ Small Beaver Dam Analogs to encourage groundwater and floodplain recharge

⑤ Woody debris within stream for habitat heterogeneity and to increase leaf-pack

⑥ Stream route influenced by existing vegetation on site

⑦ Existing large native trees to be preserved and protected

⑧ Emergent wetland restoration up-slope of stream (Site B)