19

## SURROUNDINGS

The Tuckerwood Conservation Area is 32 acres large, located downstream from Ironworks Conservation Area on the Town River in a quiet, residential neighborhood in north central Bridgewater. It is situated above the aquifer which feeds the wells for the town. Parking and access to this site are on High Street east of Hayward Street. Residential development surrounds the Tuckerwood site on three sides and construction continues to build new houses east and west of the site. An electric easement cuts a 90 foot break through the forest from northeast to southwest.

## EXISTING NATURAL CONDITIONS

Tuckerwood is the most pristine of the four conservation areas. It is a flat, wet site providing valuable filtering capacity for water flowing through this site to the aquifer below. Steep river banks of highly erodible soils and sands comprise its approximately 2000 feet of frontage on meanders of the Town River. The site is mostly forested and has been for the last 50 years. Vegetation is typical of a wet white pine/oak forest association with a healthy shrub layer serving as important wildlife habitat.

The surface water on this site is seasonal due to wet soils throughout. The central portion of the site is the wettest year-round. According to Brian Reid of the Wildlands Trust, as many as five vernal pools may be present on the site which serve as important habitat for wood frog and spotted salamander. Vernal pools are sensitive areas and have a buffer zone of 100 feet, although the more buffer the better and 200 feet is the accepted minimum in ecological circles. According to the MA Rivers Protection Act, a 200 foot river protection buffer zone is mandated for the banks of the Town River preventing any heavy construction or disturbance; trail construction is allowed as a limited project. A 100 foot protection buffer zone for the wetland on the eastern border of the property is mandated by the MA Wetlands Protection Act.

Topography shows two gullies cutting down through the steep banks to the Town River. Banks are steep and easily erodible all along the river making a canoe pull-off somewhat tricky. Construction and vegetation will be needed to protect the banks from degradation due to use.

## PAST, CURRENT, and FUTURE USE

This site has been in single, private ownership since the 1950's and maintained as a forest. Currently, this site is not experiencing much use largely because it is so new and trails have not yet been established. Future use will include walking trails and a canoe pull-off.

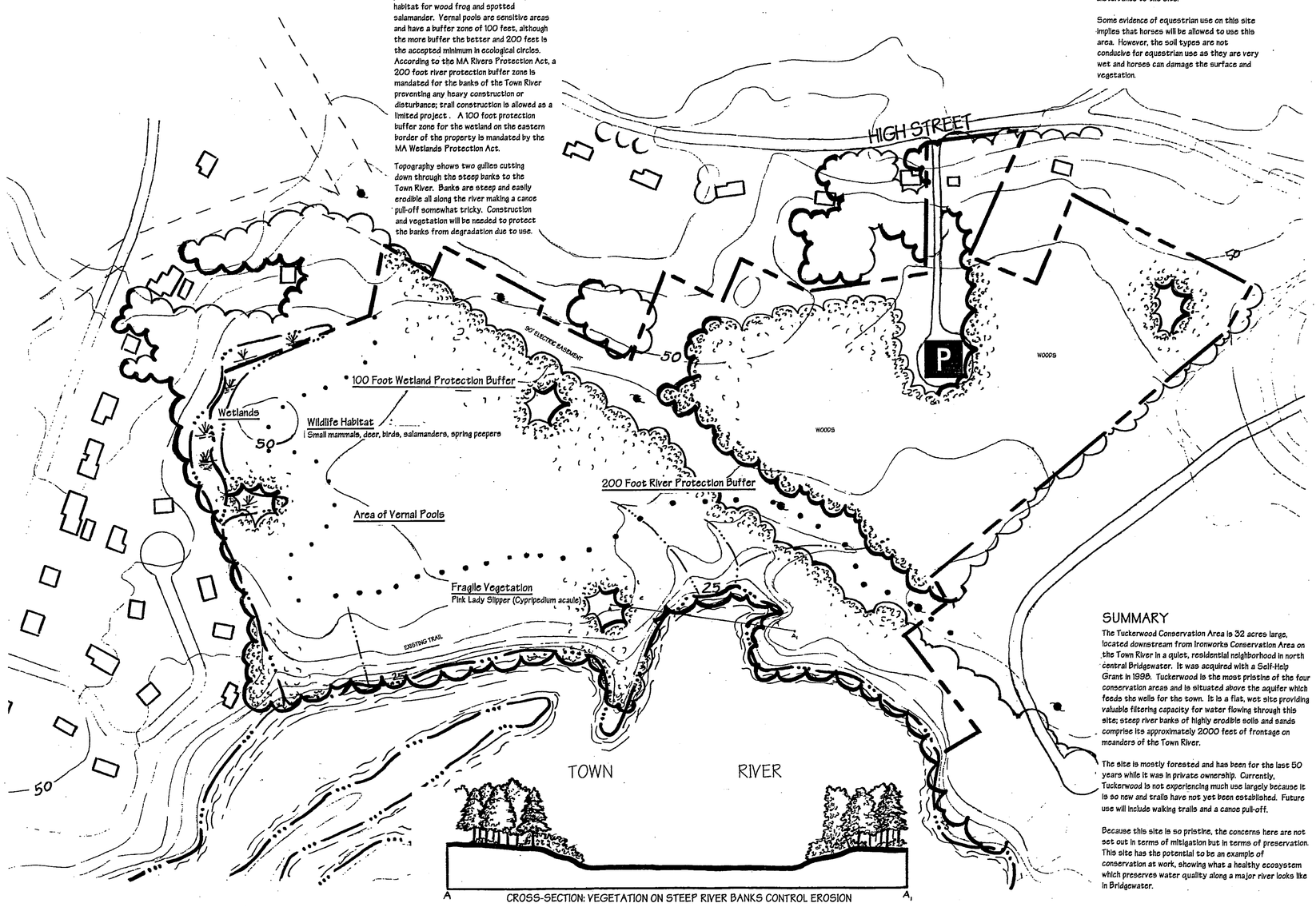
The slope, drainage, and soil conditions on this site lend themselves to trails around the periphery but not through the middle due to wet soils almost year-round. A seasonal high water table will make this site wet in the spring and winter and most usable in the summer and early fall. Steep slopes along the river will require bank stabilization to prevent unnecessary erosion.

## ECOLOGICAL CONCERNS and MANAGEMENT SUGGESTIONS

Because this site is so pristine, the concerns here are not set out in terms of mitigation but in terms of preservation. This site has the potential to be an example of conservation at work, showing what a healthy ecosystem which preserves water quality along a major river looks like in Bridgewater.

A trail system will allow access to an green island in the midst of ongoing development. Care should be taken in siting a trail that protects the ecosystem at work here in the vegetation and wildlife while giving people an opportunity to see conservation at work. Vernal pools should be respected and not "trailed" too heavily. The clearest areas should provide the natural pattern for a walk through the woods to minimize the amount of disturbance to the site.

Some evidence of equestrian use on this site implies that horses will be allowed to use this area. However, the soil types are not conducive for equestrian use as they are very wet and horses can damage the surface and vegetation.




## SUMMARY

The Tuckerwood Conservation Area is 32 acres large, located downstream from Ironworks Conservation Area on the Town River in a quiet, residential neighborhood in north central Bridgewater. It was acquired with a Self-Help Grant in 1998. Tuckerwood is the most pristine of the four conservation areas and is situated above the aquifer which feeds the wells for the town. It is a flat, wet site providing valuable filtering capacity for water flowing through this site; steep river banks of highly erodible soils and sands comprise its approximately 2000 feet of frontage on meanders of the Town River.

The site is mostly forested and has been for the last 50 years while it was in private ownership. Currently, Tuckerwood is not experiencing much use largely because it is so new and trails have not yet been established. Future use will include walking trails and a canoe pull-off.

Because this site is so pristine, the concerns here are not set out in terms of mitigation but in terms of preservation. This site has the potential to be an example of conservation at work, showing what a healthy ecosystem which preserves water quality along a major river looks like in Bridgewater.

Conceptual designs prepared for the NATURAL RESOURCES TRUST OF BRIDGEWATER with grant funding from the BOSTON FOUNDATION, Fund for Preservation of Wildlife & Natural Areas

# EXISTING CONDITIONS - TUCKERWOOD CONSERVATION AREA

## BRIDGEWATER CONSERVATION SYSTEM

bridgewater, massachusetts

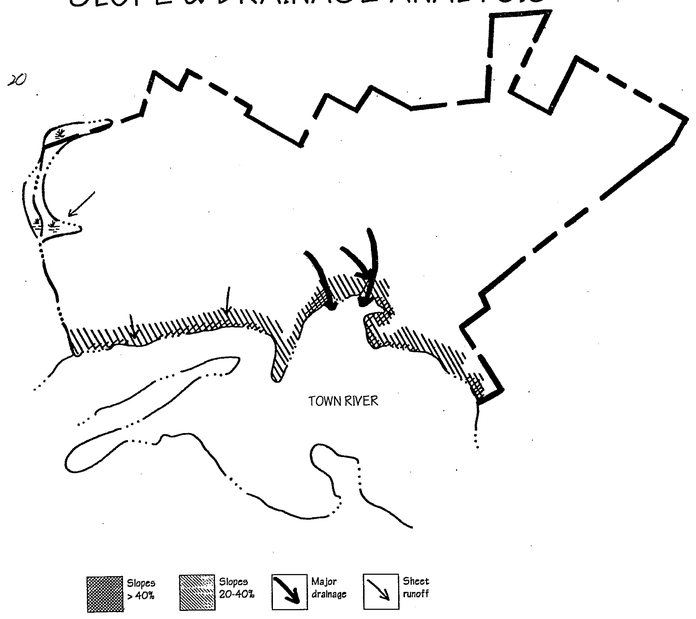
conway school of landscape design
chagnon, leal & darrow

June 1999

feet in inches

N

# SLOPE & DRAINAGE ANALYSIS




## SUMMARY

The Tuckerwood Conservation Area is a flat site with wet soils throughout; banks along the Town River are steep and soils easily erode. A band of soil with a high water table makes the middle third of the site wet most of the year. Two major drainage areas along the river bank have created gullies in the central portion of the site as runoff flows toward the Town River.

## DESIGN DIRECTIVES

Use Belgrade soils for trails because they will be drier and more stable. Because the river banks on this site are steep and highly prone to erosion, bank stabilization efforts should be used to prevent degradation of the bank due to erosion. Therefore, the steep banks should be avoided where possible and any water access or canoe pull-off should be constructed to minimize impact of use.

## SLOPE CONSIDERATIONS

This slopes on this site are mostly flat and suitable for hiking. Thin strips of steep slopes border the Town River which fall into two categories:

- slopes of 20-40% which are fairly steep but short and therefore suitable for light use
- slopes of 40% or more which are too steep to walk on and are highly erodible.

## DRAINAGE CONSIDERATIONS

This mostly flat site carries its water only a short distance before the runoff filters into the soils. There are two major drainage areas along the river in the central portion of the site which have formed gullies; these areas are highly prone to erosion and should be avoided.

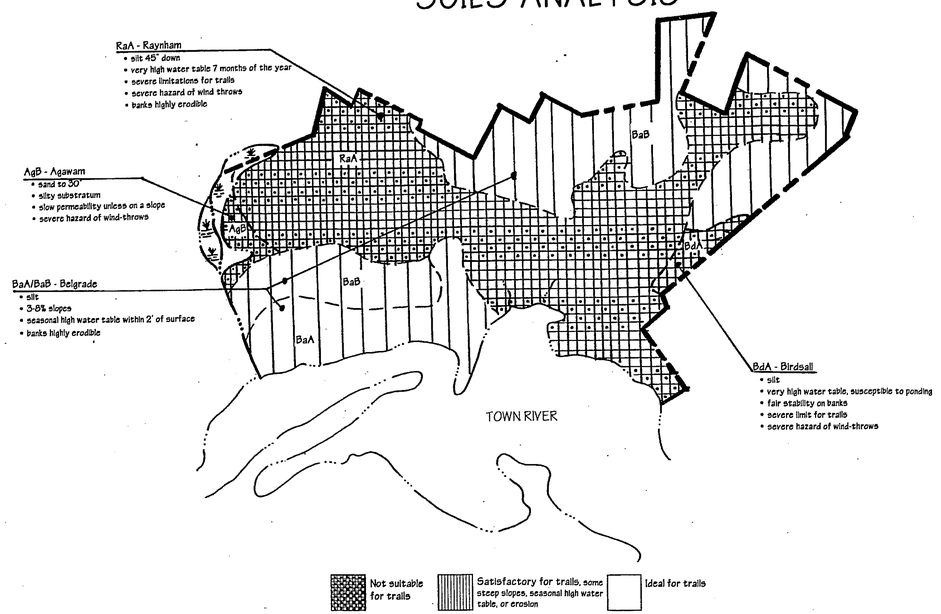
## RIVER BANK CONSIDERATIONS

Both RaA and BaB soils, which comprise the river bank at Tuckerwood, make for highly erodible banks; combined with the steep slopes along the river bank, this should serve as an alert to limit use of and access directly to the river banks on this site to prevent further degradation of the banks.

## TRAIL CONSIDERATIONS

All the soils on site hold a shallow slope except along the Town River banks, therefore the grade for trails is satisfactory throughout. However, the Belgrade soils (BaA, BaB) are most suitable for trails on this site because they are drier and composed of less organic material. Reynham soils (RaA) are highly organic and will be wet almost year-round, therefore they will not withstand the impact of hiking without degradation unless a boardwalk is used.

# SOILS ANALYSIS

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# ANALYSIS - TUCKERWOOD CONSERVATION AREA

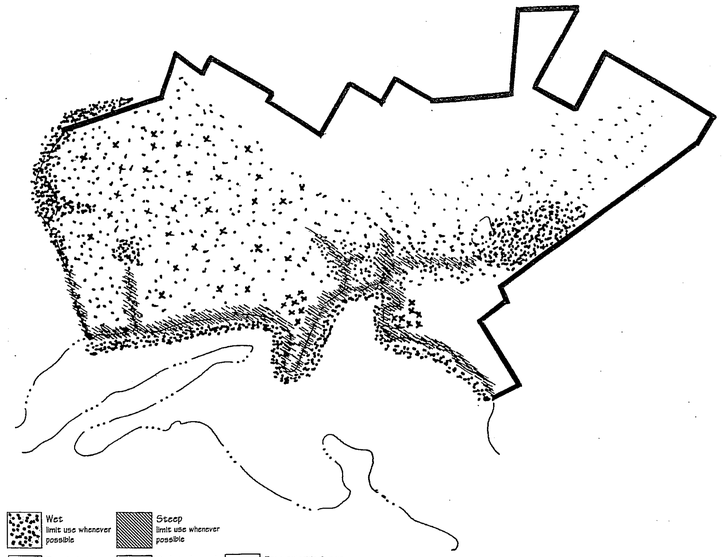
BRIDGEWATER CONSERVATION SYSTEM
bridgewater, massachusetts

conway school of landscape design
chagnon, leal & darrow
June 1999

200 400 600
feet in inches

N

# ZONES APPROPRIATE FOR USE



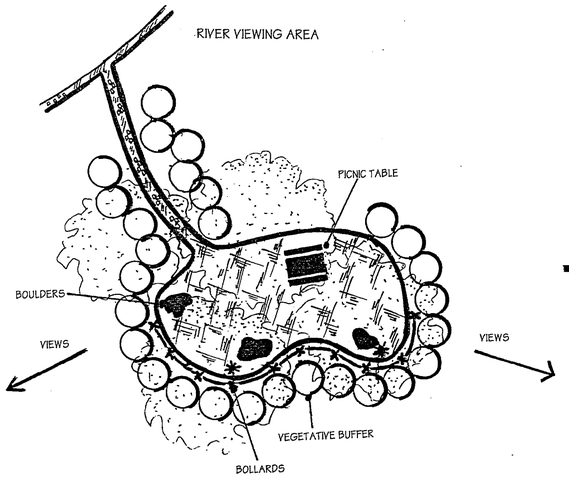
Wet
limit use whenever possible

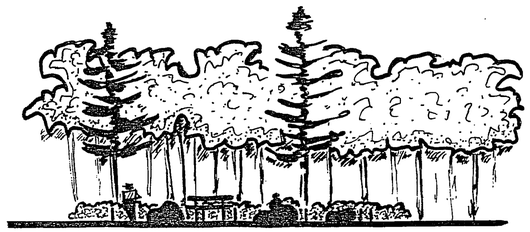
Steep
limit use whenever possible

Fragile habitat
limit use whenever possible

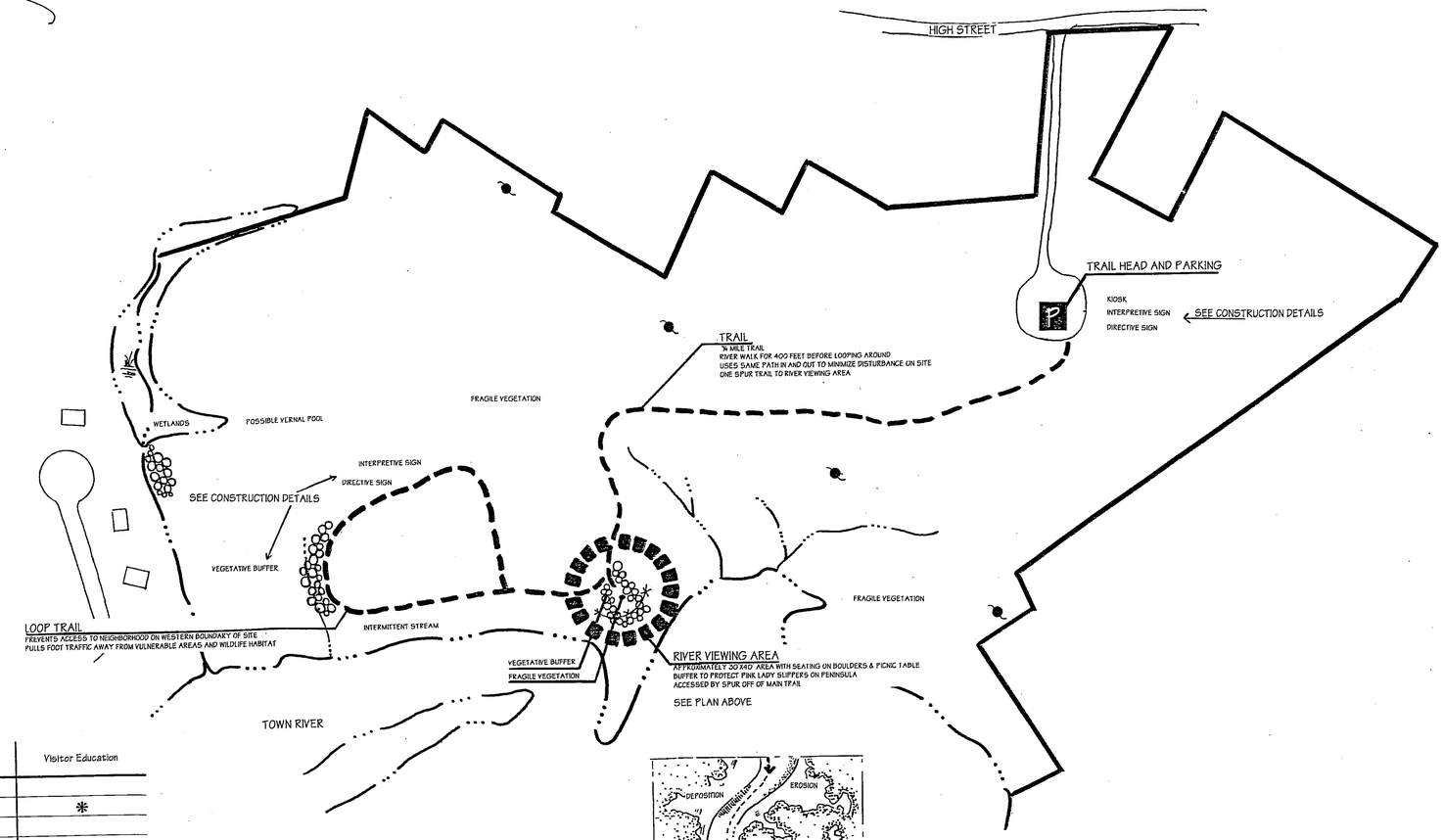
Safety hazard
limit use whenever possible

Zone suitable for use
(see notes for appropriate activities on this site)



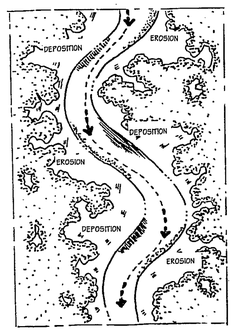



VIEW OUT FROM RIVER SEATING AREA




## REPEATABLE DETAILS USED

| CONSTRUCTION DETAIL | PROJECT AIM: Resource Protection | Visitor Access | Visitor Education |
|---|---|---|---|
| Canoe Put-In/Pull-Out | | | |
| Designated Destination | * | * | * |
| Designated Entrance | * | * | |
| Parking | | | |
| Boardwalk | | | * |
| Bollards | * | * | * |
| Designated Trail | * | * | * |
| Directive Signs | * | * | |
| Interpretive Signs | * | * | * |
| Kiosk | * | * | * |
| Specified Trail Material | | | |
| Stairs | | | |
| Railings/Fencing | | | |
| River Dock | | | |
| Vegetative Buffers | * | * | * |




ACTIVITIES APPROPRIATE ON THIS SITE GIVEN THE ECOLOGICAL CONDITIONS

- ☑ WALKING, HIKING
- ☑ NATURE OBSERVATION
- ☑ PICNICKING
- CANOE PUT-IN/PULL-OUT
- MOUNTAIN BIKING
- CAMPING
- ☑ FISHING
- HORSEBACK RIDING
- ☑ CROSS-COUNTRY SKIING

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# CONCEPTUAL DESIGN - TUCKERWOOD CONSERVATION AREA

## BRIDGEWATER CONSERVATION SYSTEM

bridgewater, massachusetts

conway school of landscape design
chagnon, leal & darrow

June 1999

100 200 300
feet in inches

N