

Scene 28 · MS4 Assessment

Black Branch 2

City of Lebanon TN

36.16997, -86.27026 · Generated October 22, 2026

OVERALL SCORE

5.8

Marginal



Front: Looking downstream, a narrow stream channel meanders through a rural landscape with scattered deciduous trees in bare winter/early spring condition. The left bank shows a notable accumulation of flat, stacked rock material along the bank edge. The channel is very narrow (approximately 3-5 feet wide) with shallow water flowing over a rocky bed. Open pastoral land is visible beyond the riparian corridor on both sides.

Right: Looking toward the right bank (when facing downstream), the view shows a mowed grass area with scattered mature deciduous trees in bare condition. A moss-covered fallen log and a broken overhanging limb are prominent. A wood pile or brush pile is visible in the mid-ground, and fencing or fence posts may be present at the right edge of the image. The land slopes gently upward away from the stream, indicating a pastoral/residential setting.

Back: Looking upstream, the narrow stream channel is visible with very shallow flow over a rocky/flat substrate. A large fallen tree spans the channel creating a natural debris jam. A red agricultural barn or outbuilding is visible on the left bank (right side when facing upstream), very close to the stream. The banks are low with grass and bare deciduous trees. Flat rock substrate is visible in the channel bed.

Left: Looking toward the left bank (when facing downstream), a red agricultural barn or outbuilding is prominently visible very close to the stream. Dense dormant shrub and vine thickets dominate the bank between the stream and the barn. Agricultural fields are visible in the distance beyond the barn. The vegetation is dense but appears to include invasive species (likely bush honeysuckle or multiflora rose based on growth form).

Assessment Scores

Component	Score	Visual	Rating
Channel Condition	7		fair
Hydrologic Alteration	7		Good
Sediment Deposition	7		Good
Left Bank Stability	6		Fair
Right Bank Stability	6		Fair
Left Vegetative Protection	6		Fair
Right Vegetative Protection	5		Fair
Riparian Canopy Cover	5		Fair
Floodplain Vegetation	2		Poor
Water Appearance	7		Good
Nutrient Enrichment	7		Good
Epifaunal Substrate	-		-

Urgency: MEDIUM TERM 6 12 MONTHS

Detailed Observations · Scene 28

Black Branch at this location is a small headwater stream in marginal condition, primarily impaired by inadequate riparian buffers, limited instream habitat, and invasive species encroachment. The channel maintains a generally natural form with good floodplain connectivity and reasonable water quality, but agricultural land use has significantly degraded the riparian corridor on both banks. The right bank is maintained as mowed grass with only scattered trees, while the left bank has a narrow buffer dominated by invasive shrubs with an agricultural building within 25-50 feet of the channel. No stormwater infrastructure or outfalls were observed at this rural location. Priority management actions should focus on riparian buffer restoration and invasive species management.

Primary Stressors

riparian loss, sedimentation, bank erosion

Channel Assessment

Metric	Score	Notes
Channel Condition	7	Channel appears largely natural with no obvious channelization or significant structural alteration. Some possible placed stone on the left bank downstream, but the channel itself maintains a natural form. Low banks and floodplain connectivity suggest the channel is in reasonable geomorphic condition. Minor past disturbance possible near the barn.
Hydrologic Alteration	7	Channel shows low banks with good floodplain connection on both sides. The grass on the right bank extends to near water level, and the left bank is low enough for periodic overbank flooding. Slight incision may have occurred but the channel appears to maintain reasonable floodplain access. No dams or major structures limiting connectivity.
Sediment Deposition	7	Some minor sediment deposits visible along channel margins and at inside bends. The bed is primarily cobble/rock with minor fine sediment accumulation. Estimated 10-20% of the bottom affected by deposition. No major bar development or pool infilling observed.

Bank Assessment

Side	Stability	Veg. Protection	Erosion	Notes
Left	6	6	1_25_percent	Left bank has dense shrub cover with possible invasive species. Red barn/agricultural building very close to stream (~25-50 ft). Agricultural fields visible beyond. The stacked rock along the bank requires field verification to determine if it is placed stabilization or natural outcrop.
Right	6	5	1_25_percent	Right bank is maintained as mowed grass/pastoral area with scattered mature trees. Low bank angle provides good floodplain access but limited woody riparian vegetation. The mowed condition up to the stream edge suggests the riparian buffer is compromised by land management practices.

Riparian Assessment

Metric	Score/Value	Notes
Canopy Cover	5	Currently in leaf-off condition, so shade assessment is limited. Based on the density and placement of mature trees visible in the canopy (UP face), summer shade would likely be approximately 25-50% when trees are in full leaf. The open areas on the right bank and gaps on the left bank would allow significant light penetration even in summer. For a warmwater stream, this is a marginal shade level.
Left Buffer Width	10 25ft	Score: 3/10
Right Buffer Width	10 25ft	Score: 3/10
TDEC 30ft Buffer Met?	L: No / R: No	Both banks show significant buffer deficiencies. The left bank has a barn within the buffer zone and invasive vegetation. The right bank is mowed to the stream edge. Riparian buffer restoration through cessation of mowing, invasive species removal, and native tree/shrub planting would be highly beneficial and feasible at this location.

Water Quality & Infrastructure · Scene 28

Water Quality Indicators

Metric	Score	Notes
Water Appearance	7	Water appears relatively clear in the DOWN face view, with the stream bottom clearly visible throughout. The shallow depth makes clarity assessment somewhat limited, but the water has minimal turbidity. Slight brown coloration visible in some areas, likely from dissolved organic matter (tannic). No oil sheen, algal mats, or discoloration observed.
Nutrient Enrichment	7	Algae: minor
Manure/Waste	8	No direct evidence of manure or waste in the stream. No livestock are visible and no obvious livestock access points to the stream corridor. However, the agricultural setting and barn proximity suggest that livestock may use this area, and fencing visible in the right bank view may indicate livestock management. No waste pipes or direct discharge evidence.
Surface Contamination	-	Sheen: No · Foam: No · Odor: none

Stormwater Infrastructure

No outfall detected at this location.

Instream Habitat

Metric	Score	Notes
Epifaunal Substrate	-	

Stream Characteristics

Field	Value
Stream Type	perennial
Gradient	low_flat

Management Recommendations

Action	Priority	Timeline
Document this reach as having inadequate riparian buffers on both banks for watershed planning purposes	medium	90_days
Verify material composition of stacked rock on left bank during next field visit to determine if it is placed bank stabilization requiring inventory	low	annual

Terrain360 - terrain360.com/trail/black-branch-2/scene/28/analysis