

Stream & Location: Green Creek Site 7

RM: 2.50 Date: 8/10/23

*S. Teleg S. Robinson / S. Morrison / C. Miller Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-145-000 STORET #: 302510 Lat./ Long.: 41.5578 -81.5470 Office verified location

1) SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. BEST TYPES: POOL RIFFLE OTHER TYPES: POOL RIFFLE. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], etc. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], etc. NUMBER OF BEST TYPES: 4 or more [2] 3 or less [0]. Comments: fine sediment fills low flow channel up to 2' over hardpan. 9+2+0-4

2) INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts. UNDERCUT BANKS [1], OVERHANGING VEGETATION [1], SHALLOWS [1], ROOTMATS [1], POOLS > 70cm [2], ROOTWADS [1], BOULDERS [1], OXBOWS, BACKWATERS [1], AQUATIC MACROPHYTES [1], LOGS OR WOODY DEBRIS [1]. AMOUNT: EXTENSIVE >75% [1], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1]. Comments: 2+3. Cover Maximum 20

3) CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1]. Comments: 2+1+2+1. Channel Maximum 20

4) BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). River right looking downstream. EROSION: NONE/LITTLE [3], MODERATE [2], HEAVY/SEVERE [1]. RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0]. Comments: 1.5+2.5+2. Riparian Maximum 10

5) POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], VERY FAST [1], FAST [1], MODERATE [1], SLOW [1], INTERSTITIAL [-1], INTERMITTENT [-2], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact. Comments: 2+1+2. Pool / Current Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE [2], MOD. STABLE [1], UNSTABLE [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1]. Comments: best riffle < 5cm, mostly completely embedded in fines. Riffle / Run Maximum 8

6) GRADIENT (60.70 ft/mi) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. DRAINAGE AREA (0.63 mi^2). % POOL: 20 % GLIDE: 75 % RUN: 5 % RIFFLE: 0 Gradient Maximum 10

1x exceeds upper Band

AJ SAMPLED REACH

Check ALL that apply

METHOD

- BOAT
- WADE
- L. LINE
- OTHER

DISTANCE

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

115 meters

CANOPY

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

CJ RECREATION

AREA DEPTH POOL: >100R2 >3ft

STAGE

- 1st - sample pass-- 2nd
- HIGH
- UP
- NORMAL
- LOW
- DRY

CLARITY

- 1st --sample pass-- 2nd
- < 20 cm
- 20-<40 cm
- 40-70 cm
- > 70 cm/CTB
- SECCHI DEPTH

BJ AESTHETICS

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/ISSOs/OUTFALLS

DJ MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUT-OFFS
- MOVING-BEDLOAD-STABLE
- ARMORED / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

EJ ISSUES

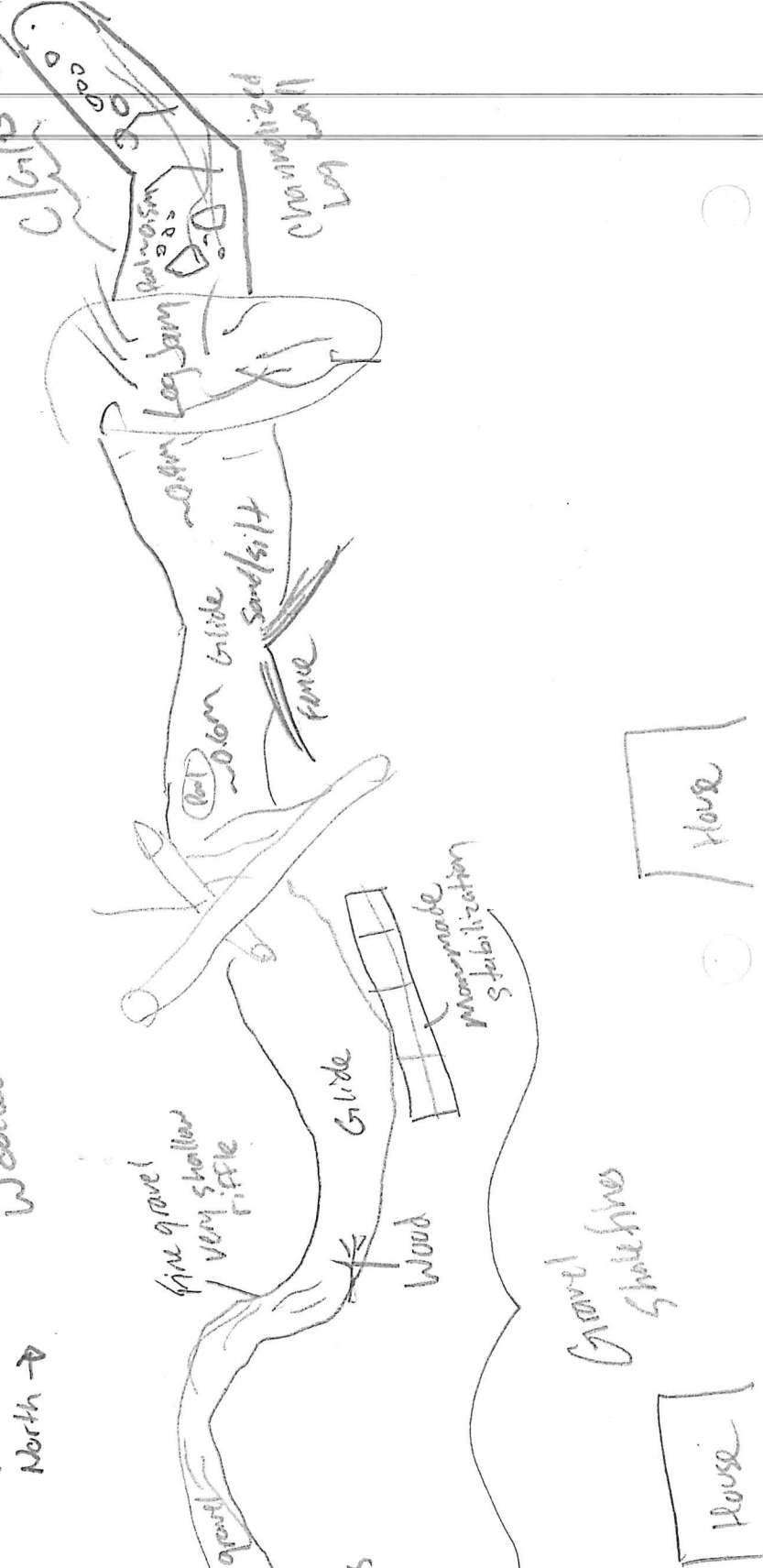
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT & GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

- \bar{x} width
- \bar{x} depth
- max. depth
- \bar{x} bankfull width
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone \bar{x} width
- entrench. ratio
- Legacy Tree:

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.
 Sewage odor evident. Trash throughout the zone. Extremely high silt and embeddedness.
 River left abutts to households and homeowners are installing makeshift bank stabilization techniques. Downstream 20m completely channelized before entering culvert. Approx 3-4' of sediment removed upstream of culvert for stormwater mgmt purposes.

Stream Drawing:



Stream & Location: Green Creek @ Upper Valley Drive, US Euclid Ave RM: 250 Date: 9/25/23

Scorers Full Name & Affiliation: Telept, Harrison Robinson Northeast Ohio Regional Sewer District

River Code: 119-145-000 STORET #: 302510 Lat./ Long.: 41.5578 181.5470 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Substrate assessment section including BEST TYPES (BLDR, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK), OTHER TYPES (HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL), ORIGIN (LIMESTONE, TILLS, WETLANDS, etc.), and QUALITY (HEAVY, MODERATE, NORMAL, FREE, EXTENSIVE, etc.). Includes handwritten notes and a circled score of 12.5.

Comments: Most of silt washed out with woody debris removed now.

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent, 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

Instream Cover assessment section including UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes handwritten notes and a circled score of 6.

Comments: Major woody debris removal for S.W. Mgmt completely changed habitat at this site.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment section including SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes handwritten notes and a circled score of 7.

Comments: Shale fine deposits up to 2.5' in height along side main channel.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment section including EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes handwritten notes and a circled score of 6.5.

Comments: 2.5 2

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment section including MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential. Includes handwritten notes and a circled score of 5.

Comments: Woody debris "dam" lowered water level upstream

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

Riffle assessment section including RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes handwritten notes and a circled score of 8.

6] GRADIENT (66.7 ft/mi) DRAINAGE AREA (0.63 mi^2) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

Gradient and Drainage Area assessment section including %POOL, %GLIDE, %RUN, %RIFFLE. Includes handwritten notes and a circled score of 4.

Comment RE: Reach consistency/ Is reach typical of stream? Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.
 Since woody debris removal, sediment accumulation next to stream channel has risen to 2-3', showing the inability of this stream to export sediments. The gradient in the lower ~25m drops about 6-8' before entering the culvert. Silt is no longer a major issue. Pool depths more shallow and less in-stream cover.

AJ SAMPLED REACH
 Check ALL that apply

- METHOD**
 BOAT
 WADE
 L. LINE
 OTHER
- STAGE**
 1st - sample pass-- 2nd
 HIGH
 UP
 NORMAL
 LOW
 DRY

- DISTANCE**
 0.5 Km
 0.2 Km
 0.15 Km
 0.12 Km
 OTHER
 115 meters
- CLARITY**
 1st --sample pass-- 2nd
 < 20 cm
 20-40 cm
 40-70 cm
 > 70 cm/ CTB
 SECCHI DEPTH

- CANOPY**
 > 85% - OPEN
 55% - 85%
 30% - 55%
 10% - 30%
 < 10% - CLOSED
- CJ RECREATION**
 AREA DEPTH
 POOL: > 100ft² > 3ft

FJ MEASUREMENTS

- EJ ISSUES**
- WMTP / CSO / NPDES / INDUSTRY
 HARDENED (URBAN) / DIRT & GRIME
 CONTAMINATED / LANDFILL
 BMPs-CONSTRUCTION-SEDIMENT
 LOGGING / IRRIGATION / COOLING
 BANK / EROSION / SURFACE
 FALSE BANK / MANURE / LAGOON
 WASH H₂O / TILE / H₂O TABLE
 ACID / MINE / QUARRY / FLOW
 NATURAL / WETLAND / STAGNANT
 PARK / GOLF / LAWN / HOME
 ATMOSPHERE / DATA PAUCITY
- Circle some & COMMENT

- DJ MAINTENANCE**
- PUBLIC / PRIVATE / BOTH / NA
 ACTIVE / HISTORIC / BOTH / NA
 YOUNG-SUCCESSION-OLD
 SPRAY / SNAG / REMOVED
 MODIFIED / DIPPED-OUT / NA
 LEVEED / ONE-SIDED
 RELOCATED / CUTOFFS
 MOVING-BEDLOAD-STABLE
 ARMOURING / SLUMPS
 ISLANDS / SCOURED
 IMPOUNDED / DESICCATED
 FLOOD CONTROL / DRAINAGE

- BJ AESTHETICS**
- NUISANCE ALGAE
 INVASIVE MACROPHYTES
 EXCESS TURBIDITY
 DISCOLORATION
 FOAM / SCUM
 OIL SHEEN
 TRASH / LITTER
 NUISANCE ODOR
 SLUDGE DEPOSITS
 CSOs/SSOs/OUTFALLS

Stream Drawing:

Flow →

