

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|------------|-----------|---------|------------------|---------------------|
| STREAM NAME | S-JHS-05 | | CLIENT | PTC | |
| STREAM CLASS | Ephemeral | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM LKV | DATE | 5/16/12 | LOCATION | Somerset County, PA |
| | | TIME | 2:30 PM | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | STONY CREEK R. |
| STATION # | | RIVERMILE | | STORET # | |

| | | | |
|--------------------|-------------------------------------|------------------------|---|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | |
| | <input type="checkbox"/> | % CLOUD COVER | AIR TEMPERATURE |
| | <input checked="" type="checkbox"/> | CLEAR/SUNNY | 73° °F |
| | | | OTHER |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|------------------------------|----------------|--------------|-----|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 1.0 | FT. |
| | | | VERTICAL (B) | 0.5 |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 1.5 | FT. |
| | | VERTICAL (D) | 0.66 | FT. |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | 6.0 | FT. | |
| | BOTTOM WIDTH (F) | 3.5 | FT. | |
| | OVERALL DEPTH (G) | 1.0 | FT. | |
| | ORDINARY HIGH WATER MARK (H) | - | FT. | |
| | FLOW DEPTH (I) | - | FT. | |
| | APPROX. SURFACE VELOCITY | - | FT./SEC | |

| | | | | |
|-------------------------|---|--|--|-------------------------------------|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input checked="" type="checkbox"/> COLD WATER | <input type="checkbox"/> WARM WATER |
| | <input checked="" type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | precipitation/stormwater | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input type="checkbox"/> SWAMP AND BOG | <input checked="" type="checkbox"/> OTHER | | |

STREAM ID: S-JHS-05

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|--|--|---|---|---|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES | |
| | <input type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | LOCAL WATERSHED EROSION | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? <u>Bitch, maple</u> | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | FT. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | AC. | <input type="checkbox"/> | <input type="checkbox"/> |
| | EST. DRAINAGE AREA | SQ. MI. | <input type="checkbox"/> | <input type="checkbox"/> |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input type="checkbox"/> RIFFLE <input type="checkbox"/> POOL <input checked="" type="checkbox"/> RUN <input type="checkbox"/> % <u>100</u> % | |
| TAXA PRESENT | | CHANNELIZED | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| DAM PRESENT | | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | |
| | DENSITY OF LWD | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | |
| WATER QUALITY | TEMPERATURE | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| | DISSOLVED OXYGEN | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| | pH | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER <u>N/A</u> |
| | TURBIDITY | | WATER SURFACE OILS | |
| | WQ INSTRUMENT USED | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily |
| | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | |
| | | <input type="checkbox"/> NONE | <input type="checkbox"/> OTHER <u>N/A</u> | |
| | | TURBIDITY (IF NOT MEASURED) | | |
| | | <input type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | |
| | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | |
| | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER <u>N/A</u> | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input type="checkbox"/> NORMAL | <input checked="" type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST |
| | <input type="checkbox"/> SEWAGE | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELIQU-SHELLS | |
| <input type="checkbox"/> OTHER | | <input type="checkbox"/> OTHER | | |
| OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | |
| <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <u>N/A</u> |
| <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 100% |
| BOULDER | 256 MM (10"+) | - | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | - | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | - | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| SAND | 0.06 - 0.2 MM (GRITTY) | 1/2 | | | |
| SILT | 0.004 - 0.06 MM | 50 | MARL | GREY, SHELL FRAGMENTS | - |
| CLAY | <0.004 MM (SLICK) | 50 | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|----------------------|----------|-----|----------|----------|-----------|
| A113 | PTC ALLEGHENY TUNNEL | | | 05-16-12 | S.JHS-05 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| DLM, LAU | S.JHS-05 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|--|----|---|----|--|----|--|----|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | | |
| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | | | | | |
|------------------------------------|------------------|------|--|--|--|--|--|--|--|--|------|----|------------------------|------|
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | 1.00 | 0% | | |
| | Score > | 14 | | | | | | | | | 14 | | | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | 1.00 | 0% | Rt Sub-Index> 0.7 0.00 | CI |
| | Score > | 14 | | | | | | | | | 14 | | Lt Sub-Index> 0.7 0.00 | 0.00 |

0.70

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|--|----|---|----|--|----|--|----|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | | |
| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | | | | | |
|------------------------------------|------------------|------|--|--|--|--|--|--|--|--|------|----|------------------------|------|
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | 1.00 | 0% | | |
| | Score > | 14 | | | | | | | | | 14 | | | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | 1.00 | 0% | Rt Sub-Index> 0.7 0.00 | CI |
| | Score > | 14 | | | | | | | | | 14 | | Lt Sub-Index> 0.7 0.00 | 0.00 |

0.70

Comments:
ZOI IS COMPRISED OF UPLAND, DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) | | 0.70 |
| RECI = (Sum of CI's)/2 | | |

0.70



S-JHS-05 overview, facing upstream.



S-JHS-05 overview, facing downstream.

STREAM S-JHS-06

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|------------|-----------|---------|----------------------|----------------|
| STREAM NAME | S-JHS-06 | | CLIENT | PTC | |
| STREAM CLASS | ephemeral | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM LAU | DATE | 5/16/12 | MM/DD/YR | LOCATION |
| | | TIME | 3:15 pm | 24 HOUR (I.E. 16:45) | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Stony Creek R. |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | | |
|-------------------------------------|--------------------------|--------------------------|---|-----------------|--|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input type="checkbox"/> | AIR TEMPERATURE | |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | <input checked="" type="checkbox"/> | 75 °F | |
| | <input type="checkbox"/> | % CLOUD COVER | <input type="checkbox"/> | OTHER | |
| <input checked="" type="checkbox"/> | CLEAR/SUNNY | <input type="checkbox"/> | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

Most of the channel has sub-surface flow several pools caddis found on rocky substrate

| | | | | | |
|---|------------------------------|-----------------------------|------------------------------|------|----------|
| <p style="text-align: center;">FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> <div style="text-align: center;"> <p>CHANNEL TOP WIDTH (E)</p> </div> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 0 | FT. | |
| | | | VERTICAL (B) | 0.42 | FT. |
| | | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 0.50 | FT. |
| | | | VERTICAL (D) | 1.0 | FT. |
| | | CHANNEL DIMENSIONS | TOP WIDTH (E) | 3.01 | FT. |
| | | | BOTTOM WIDTH (F) | 2.5 | FT. |
| | | | OVERALL DEPTH (G) | 1.0 | FT. |
| | | | ORDINARY HIGH WATER MARK (H) | 0.42 | FT. |
| | | | FLOW DEPTH (I) | 0.25 | FT. |
| | | | APPROX. SURFACE VELOCITY | 0.1 | FT./ SEC |

| | | | | |
|-------------------------|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | <i>precip/storm events</i> | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input type="checkbox"/> SWAMP AND BOG | <input checked="" type="checkbox"/> OTHER | | |

STREAM ID: S-JHS-06

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|------------------------------|--|--|---|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE | | LOCAL WATERSHED NPS POLLUTION | |
| | <input checked="" type="checkbox"/> FOREST | <input type="checkbox"/> COMMERCIAL | <input type="checkbox"/> NO EVIDENCE | <input checked="" type="checkbox"/> SOME POTENTIAL SOURCES |
| | <input type="checkbox"/> FIELD/PASTURE | <input type="checkbox"/> INDUSTRIAL | <input type="checkbox"/> OBVIOUS SOURCES | <i>gravel road up-gradient</i> |
| | <input type="checkbox"/> AGRICULTURAL | <input type="checkbox"/> OTHER | LOCAL WATERSHED EROSION | |
| | <input type="checkbox"/> RESIDENTIAL | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | |
| | <input checked="" type="checkbox"/> TREES | <input type="checkbox"/> SHRUBS | <input type="checkbox"/> GRASSES | <input type="checkbox"/> HERBACEOUS |
| | DOMINANT SPECIES PRESENT? <i>birch, cherry, maple, seedling + mature</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | | CANOPY COVER | |
| | STREAM WIDTH | <i>3.0 ft.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | | <input type="checkbox"/> OPEN | <input type="checkbox"/> PARTLY OPEN |
| | EST. DRAINAGE AREA | | <input type="checkbox"/> PARTLY SHADED | <input type="checkbox"/> SHADED |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES | |
| TAXA PRESENT | <i>Caddis, Stonefly</i> | | <input checked="" type="checkbox"/> RIFFLE | <input type="checkbox"/> RUN |
| | | | <input checked="" type="checkbox"/> POOL | <input type="checkbox"/> |
| | | | <input type="checkbox"/> CHANNELIZED | <input type="checkbox"/> DAM PRESENT |
| LARGE WOODY DEBRIS | LWD | | FT. ² | |
| | DENSITY OF LWD | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | |
| | <input type="checkbox"/> ROOTED EMERGENT | <input type="checkbox"/> ROOTED SUBMERGENT | <input type="checkbox"/> ROOTED FLOATING | <input type="checkbox"/> FREE FLOATING |
| | DOMINANT SPECIES PRESENT | | | |
| | PORTION OF THE REACH WITH AQUATIC VEGETATION | | | |
| WATER QUALITY | TEMPERATURE | | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input checked="" type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| | DISSOLVED OXYGEN | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| | pH | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER |
| TURBIDITY | | WATER SURFACE OILS | | |
| | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily | |
| | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | |
| | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> OTHER | |
| | | TURBIDITY (IF NOT MEASURED) | | |
| | | <input checked="" type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | |
| | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | |
| | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | |
| | <input type="checkbox"/> OTHER | | <input type="checkbox"/> OTHER | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | |
| | <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| | <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | <i>75 leaves</i> |
| BOULDER | 256 MM (10"+) | <i>25</i> | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | <i>5</i> | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | <i>25</i> | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>45</i> | | | |
| SILT | 0.004 - 0.06 MM | - | MARL | GREY, SHELL FRAGMENTS | - |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|----------------------|----------|-----|----------|----------|-----------|
| A11J | PTC ALLEGHENY TUNNEL | | | 05.16.12 | S.JHS.06 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| DLM, LAK | S.JHS.06 UNT TO SPONEY CREEK REVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> |
|----------------------------------|--|---|--|---|---|---|---|--|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: ImperVIOUS surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| | High | Low | High | Low | High | Low | | | |
| Scores | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

| | | | | | | | | | |
|---|------------------|------|------|--|--|--|--|------|---------------------|
| 1. Identify Condition Category areas along the floodplain using the descriptors above. | | | | | | | | | |
| 2. Estimate the % area within each condition category. Calculators are provided for you below. | | | | | | | | | |
| 3. Enter the % Riparian Area and Score for each category in the blocks below. Ensure the sums of % Riparian Blocks equal 100 | | | | | | | | | |
| Right Side | % Riparian Area> | 0.60 | 0.40 | | | | | 100% | |
| | Score > | 14 | 4 | | | | | 10 | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | |
| Left Side | % Riparian Area> | 0.60 | 0.40 | | | | | 100% | Rt Sub-Index> 25.00 |
| | Score > | 14 | 4 | | | | | 10 | Lt Sub-Index> 25.00 |
| CI = 0.50 | | | | | | | | | |

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> |
|--------------|--|---|--|---|---|---|---|--|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: ImperVIOUS surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| | High | Low | High | Low | High | Low | | | |
| Score | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

| | | | | | | | | | |
|--|------------------|------|------|--|--|--|--|------|---------------------|
| 1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above. | | | | | | | | | |
| 2. Estimate the % area within each condition category. Calculators are provided for you below. | | | | | | | | | |
| 3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | | | |
| Right Side | % Riparian Area> | 0.50 | 0.50 | | | | | 100% | |
| | Score > | 14 | 4 | | | | | 9 | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | |
| Left Side | % Riparian Area> | 0.50 | 0.50 | | | | | 100% | Rt Sub-Index> 25.00 |
| | Score > | 14 | 4 | | | | | 9 | Lt Sub-Index> 25.00 |
| CI = 0.45 | | | | | | | | | |

Comments:
 ZOI INCLUDES UPLAND, DECIDUOUS FOREST AND BELTLINE
 AT POWERSLOW ROW.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CI's)/2 | | 0.48 |



S-JHS-06 overview, facing upstream.



S-JHS-06 overview, facing downstream.

STREAM S-JHS-07

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|-----------|-----------|---------|------------------|---------------------|
| STREAM NAME | S-JHS-07 | | CLIENT | PTC | |
| STREAM CLASS | ephemeral | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM | DATE | 5/16/12 | LOCATION | Somerset County, PA |
| | LAU | TIME | 16:00 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Stony Creek R. |
| STATION # | | RIVERMILE | | STORET # | |

| | | | |
|--------------------|---|-------------------------------------|--|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input checked="" type="checkbox"/> | |
| | <input type="checkbox"/> % CLOUD COVER | <input type="checkbox"/> | |
| AIR TEMPERATURE | | 75 | °F |
| OTHER | | | |
| CLEAR/SUNNY | | <input type="checkbox"/> | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|------------------------------|----------------|--------------|------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 0.50 | FT. |
| | | | VERTICAL (B) | 0.42 |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 0.50 | FT. |
| | | VERTICAL (D) | 0.42 | FT. |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | 3.0 | FT. | |
| | BOTTOM WIDTH (F) | 2.0 | FT. | |
| | OVERALL DEPTH (G) | 0.42 | FT. | |
| | ORDINARY HIGH WATER MARK (H) | 0.42 | FT. | |
| | FLOW DEPTH (I) | 0.42 | FT. | |
| | APPROX. SURFACE VELOCITY | 0 | FT./SEC | |

| | | | | |
|-------------------------|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input checked="" type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | precip/storm events | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input type="checkbox"/> SWAMP AND BOG | <input checked="" type="checkbox"/> OTHER | | |

STREAM ID: S-JHS-07

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|--|--|---|---|--------------------------------------|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES | |
| | | | LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input checked="" type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? <i>Oak, maple, mtn Laurel, birch</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | 2.0 FT. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | AC. | <input type="checkbox"/> OPEN | <input type="checkbox"/> PARTLY OPEN |
| | EST. DRAINAGE AREA | SQ. MI. | <input type="checkbox"/> PARTLY SHADED | <input type="checkbox"/> SHADED |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input type="checkbox"/> RIFFLE % <input type="checkbox"/> RUN % <input checked="" type="checkbox"/> POOL 10 % CHANNELIZED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO DAM PRESENT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| LARGE WOODY DEBRIS | LWD | FT. ² | | |
| | DENSITY OF LWD | FT. ² /MI. ² | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT. <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT: _____ PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | |
| WATER QUALITY | TEMPERATURE | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input checked="" type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| | DISSOLVED OXYGEN | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| | pH | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER |
| TURBIDITY | | WATER SURFACE OILS | | |
| WQ INSTRUMENT USED | | <input checked="" type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily | |
| | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | |
| | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> OTHER | |
| | | TURBIDITY (IF NOT MEASURED) | | |
| | | <input checked="" type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | |
| | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | |
| | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | |
| OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | |
| <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input type="checkbox"/> NO <i>N/A</i> | |
| <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 80 |
| BOULDER | 256 MM (10"+) | 10 | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| COBBLE | 64 - 256 MM (2.5 - 10") | - | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | - | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 50 | MARL | GREY, SHELL FRAGMENTS | ✓ |
| SILT | 0.004 - 0.06 MM | 40 | | | |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|----------------------|----------|-----|----------|----------|-----------|
| A115 | PTC ALLEGHENY TURNER | | | 05.16.12 | S.JHS.07 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| DLM, LKH | S.JHS.07 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> |
|----------------------------------|--|---|--|---|---|---|---|--|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| Scores | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

| | | | | | | | | | | |
|--|------------------|------|--|--|--|--|--|--|---------|-------------------------|
| 1. Identify Condition Category areas along the floodplain using the descriptors above. | | | | | | | | | | |
| 2. Estimate the % area within each condition category. Calculators are provided for you below. | | | | | | | | | | |
| 3. Enter the % Riparian Area and Score for each category in the blocks below. | | | | | | | | | | |
| Ensure the sums of % Riparian Blocks equal 100 | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% | |
| | Score > | 14 | | | | | | | 14 | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% | Rt Sub-Index> 0.70 0.00 |
| | Score > | 14 | | | | | | | 14 | Lt Sub-Index> 0.70 0.00 |
| CI | | | | | | | | | | |
| 0.70 | | | | | | | | | | |

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> |
|--------------|--|---|--|---|---|---|---|--|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| Score | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

| | | | | | | | | | | |
|---|------------------|------|--|--|--|--|--|--|---------|-------------------------|
| 1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above. | | | | | | | | | | |
| 2. Estimate the % area within each condition category. Calculators are provided for you below. | | | | | | | | | | |
| 3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. | | | | | | | | | | |
| Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% | |
| | Score > | 14 | | | | | | | 14 | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% | Rt Sub-Index> 0.70 0.00 |
| | Score > | 14 | | | | | | | 14 | Lt Sub-Index> 0.70 0.00 |
| CI | | | | | | | | | | |
| 0.70 | | | | | | | | | | |

Comments:
ZOI INCLUDES UPLAND, DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) | | 0.70 |
| RECI = (Sum of CIs)/2 | | |



S-JHS-07 overview, facing upstream.



S-JHS-07 overview, facing downstream.

STREAM S-JHS-08

STREAM POINTS COINCIDE
w W-JHS-03

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|-----------|------|-------------|----------------|---------------------|
| STREAM NAME | S-JHS-08 | | CLIENT TAKE | PTC | |
| STREAM CLASS | Perennial | | PROJECT | AT | |
| INVESTIGATORS | JACKIE | DATE | 5/12/12 | LOCATION | Somerset County, PA |
| | LOW Deb | TIME | AM | | |
| LATITUDE | LONGITUDE | | RIVER BASIN | Stony Creek R. | |
| STATION # | RIVERMILE | | STORET # | | |

| | | | | |
|--------------------|---|-------------------------------------|---|-----------------------------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | AIR TEMPERATURE | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | 50 | °F |
| | <input type="checkbox"/> % CLOUD COVER | <input type="checkbox"/> | OTHER | |
| | <input checked="" type="checkbox"/> CLEAR/SUNNY | <input checked="" type="checkbox"/> | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|------------------------------|-------------------|--------|-----|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 1.67 | FT. |
| | | VERTICAL (B) | 0.83 | FT. |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 1.67 | FT. |
| | | VERTICAL (D) | 0.83 | FT. |
| | CHANNEL DIMENSIONS | TOP WIDTH (E) | 4.17 | FT. |
| | | BOTTOM WIDTH (F) | 2.0 | FT. |
| | | OVERALL DEPTH (G) | 0.83 | FT. |
| ORDINARY HIGH WATER MARK (H) | | 0.42 | FT. | |
| FLOW DEPTH (I) | | 0.67 | FT. | |
| | APPROX. SURFACE VELOCITY | ~5 | FT/SEC | |

UNDISTURBED STARTS

| | | |
|-------------------------|--|---|
| STREAM CHARACTERIZATION | <input checked="" type="checkbox"/> PERENNIAL <input type="checkbox"/> EPHEMERAL <input type="checkbox"/> INTERMITTENT <input type="checkbox"/> TIDAL | <input checked="" type="checkbox"/> COLD WATER <input type="checkbox"/> WARM WATER CATCHMENT AREA: _____ SQ. MI. |
| | <input type="checkbox"/> GLACIAL <input type="checkbox"/> NON-GLACIAL MONTANE <input type="checkbox"/> SWAMP AND BOG | <input checked="" type="checkbox"/> SPRING FED <input type="checkbox"/> MIXTURE OF ORIGINS <input type="checkbox"/> OTHER |
| | HEADWATER | |

STREAM ID: S-JHS-08

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|------------------------------|--|---|---|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE | | LOCAL WATERSHED NPS POLLUTION | |
| | <input checked="" type="checkbox"/> FOREST | <input type="checkbox"/> COMMERCIAL | <input checked="" type="checkbox"/> NO EVIDENCE | <input type="checkbox"/> SOME POTENTIAL SOURCES |
| | <input type="checkbox"/> FIELD/PASTURE | <input type="checkbox"/> INDUSTRIAL | <input type="checkbox"/> OBVIOUS-SOURCES | |
| | <input type="checkbox"/> AGRICULTURAL | <input type="checkbox"/> OTHER | LOCAL WATERSHED EROSION | |
| | <input type="checkbox"/> RESIDENTIAL | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | |
| | <input checked="" type="checkbox"/> TREES | <input checked="" type="checkbox"/> SHRUBS | <input type="checkbox"/> GRASSES | <input type="checkbox"/> HERBACEOUS |
| | DOMINANT SPECIES PRESENT? <i>SUM cherry, Kodo dendron</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | FT. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | AC. | <input type="checkbox"/> OPEN | <input checked="" type="checkbox"/> PARTLY OPEN |
| | EST. DRAINAGE AREA | SQ. MI. | <input type="checkbox"/> PARTLY SHADED | <input type="checkbox"/> SHADED |
| | MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES | |
| TAXA PRESENT | <i>CADDIS, MITCHELL</i> | <input checked="" type="checkbox"/> RIFFLE | <i>50</i> % | <input type="checkbox"/> RUN |
| | | <input type="checkbox"/> POOL | <i>30</i> % | <input checked="" type="checkbox"/> <i>40</i> % |
| | | CHANNELIZED | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| | | DAM PRESENT | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO <i>Below</i> |
| LARGE WOODY DEBRIS | LWD | FT. ² | | |
| | DENSITY OF LWD | <i>1.570</i> | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | |
| | <input checked="" type="checkbox"/> ROOTED EMERGENT | <input checked="" type="checkbox"/> ROOTED SUBMERGENT | <input type="checkbox"/> ROOTED FLOATING | <input type="checkbox"/> FREE FLOATING |
| | <input type="checkbox"/> FLOATING ALGAE | <input type="checkbox"/> ATTACHED ALGAE | DOMINANT SPECIES PRESENT | |
| | PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | |
| WATER QUALITY | TEMPERATURE | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input checked="" type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| | DISSOLVED OXYGEN | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| | pH | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER |
| | TURBIDITY | | WATER SURFACE OILS | |
| | WQ INSTRUMENT USED | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily |
| | | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS |
| | | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> OTHER |
| | | | TURBIDITY (IF NOT MEASURED) | |
| | | | <input checked="" type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID |
| | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | |
| | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER/FIBER | <input type="checkbox"/> SAND |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | |
| | <input type="checkbox"/> OTHER | | <input type="checkbox"/> OTHER | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | |
| | <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| | <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | <i>75</i> |
| BOULDER | 256 MM (10"+) | <i>10</i> | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | <i>50</i> | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | <i>20</i> | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>20</i> | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | <i>25</i> |
| SILT | 0.004 - 0.06 MM | - | | | |
| CLAY | <0.004 MM (SLICK) | - | MARL | GREY, SHELL FRAGMENTS | <i>X</i> |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-------------------------|----------------------|------------------------------------|-----|----------|----------|-----------|
| A15 | PTE ALLEGHENY TUNNEL | | | 05.17.12 | S-JHS-08 | |
| Name(s) of Evaluator(s) | | Stream Name and Information | | | | |
| DLM, JH, LAM | | S-JHS-08 UNT TO STONEY CREEK RIVER | | | | |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|--|---|------------|--|----------|---|------|---|---------|---|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | |
|------------|------------------|--|------|--|--|--|--|--|---------|
| | | Ensure the sums of % Riparian Blocks equal 100 | | | | | | | |
| Right Side | % Riparian Area> | 0.70 | 0.30 | | | | | | 1.00 0% |
| | Score > | 4 | 14 | | | | | | 7 |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | |
| Left Side | % Riparian Area> | 0.70 | 0.30 | | | | | | 1.00 0% |
| | Score > | 4 | 14 | | | | | | 7 |
| | | Rt Sub-Index> 0.35 0.00 | | | | | | | |
| | | Lt Sub-Index> 0.35 0.00 | | | | | | | |
| | | CI 0.00 | | | | | | | |

0.35

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|--|---|------------|--|----------|---|------|---|---------|---|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | |
|------------|------------------|--|------|--|--|--|--|--|---------|
| | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | |
| Right Side | % Riparian Area> | 0.70 | 0.30 | | | | | | 1.00 0% |
| | Score > | 4 | 14 | | | | | | 7 |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | |
| Left Side | % Riparian Area> | 0.70 | 0.30 | | | | | | 1.00 0% |
| | Score > | 4 | 14 | | | | | | 7 |
| | | Rt Sub-Index> 0.35 0.00 | | | | | | | |
| | | Lt Sub-Index> 0.35 0.00 | | | | | | | |
| | | CI 0.00 | | | | | | | |

0.35

Comments:

ZOI IS PRIMARILY ELECTRICAL POWERLINE ROW w/ SOME UPLAND, DELICIOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|--|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CIs)/2 | | 0.35 |

0.35



S-JHS-08 overview, facing upstream.



S-JHS-08 overview, facing downstream.

STREAM S-JHS-09

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|-----------|---------|----------------------|------------------|---------------------|
| STREAM NAME | S-JHS-09 | | CLIENT | PTC | |
| STREAM CLASS | perennial | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DATE | 5/17/12 | MM/DD/YR | LOCATION | Somerset County, PA |
| | TIME | 11:30 | 24 HOUR (I.E. 16:45) | | |
| LATITUDE | LONGITUDE | | RIVER BASIN | Snyder Cr. | |
| STATION # | RIVERMILE | | STORET # | | |

| | | | | | |
|--------------------|--|--------------------------|---|---|-----------------------------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| | STORM (HEAVY RAIN) RAIN (STEADY RAIN) | | AIR TEMPERATURE | 65 °F | |
| | SHOWERS (INTERMITTENT) | | OTHER | | |
| | % CLOUD COVER | | | | |
| | CLEAR/SUNNY | | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|---------------------------------|------------------------------|--------------|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> <p style="text-align: center;">CHANNEL TOP WIDTH (E)</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 0.50 | FT. |
| | | | VERTICAL (B) | 0.50 |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 0.33 | FT. |
| | | VERTICAL (D) | 0.50 | FT. |
| | CHANNEL DIMENSIONS | TOP WIDTH (E) | 2.0 | FT. |
| | | BOTTOM WIDTH (F) | 1.17 | FT. |
| | | OVERALL DEPTH (G) | 0.25 | FT. |
| | | ORDINARY HIGH WATER MARK (H) | 0.00 | FT. |
| | | FLOW DEPTH (I) | 0.25 | FT. |
| | | APPROX. SURFACE VELOCITY | 5 | FT./SEC |

| | | | | |
|-------------------------|---|--|-------------------------------------|-------------------------------------|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | precip/storm events | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input checked="" type="checkbox"/> SWAMP AND BOG | <input type="checkbox"/> OTHER | | |

STREAM ID: 5-JHS-09

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|------------------------------|---|------------|--|---|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES | |
| | <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | LOCAL WATERSHED EROSION | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input checked="" type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input checked="" type="checkbox"/> HERBACEOUS | | | |
| | DOMINANT SPECIES PRESENT? <i>Hedera, skunk cabbage, birch, oak, ntn laurel</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER |
| | STREAM WIDTH | <i>1.5</i> | FT. | |
| | STUDY REACH AREA | | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input checked="" type="checkbox"/> RIFFLE <i>100</i> % <input type="checkbox"/> RUN % <input type="checkbox"/> POOL % |
| | EST. DRAINAGE AREA | | SQ. MI. | |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | | | |
| TAXA PRESENT | <i>CADDIS, MAYFLY</i> | | | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | |
| | DENSITY OF LWD | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input checked="" type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING | | | |
| | DOMINANT SPECIES PRESENT <i>Hydrilla</i> | | | |
| WATER QUALITY | PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | |
| | TEMPERATURE | | °C | WATER ODORS <input checked="" type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER |
| | SPEC. CONDUCTANCE | | | WATER SURFACE OILS <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input checked="" type="checkbox"/> NONE <input type="checkbox"/> OTHER |
| | DISSOLVED OXYGEN | | | TURBIDITY (IF NOT MEASURED) <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER |
| | pH | | | |
| | TURBIDITY | | | |
| SEDIMENT/SUBSTRATE | ODORS <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> OTHER | | DEPOSITS <input type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER | |
| | OILS <input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? <input type="checkbox"/> YES <input type="checkbox"/> NO <i>N/A</i> | |
| | WQ INSTRUMENT USED _____ | | | |
| | WQ INSTRUMENT USED _____ | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | <i>leaves 80</i> |
| BOULDER | 256 MM (10"+) | - | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | - | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | - | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>80</i> | | | |
| SILT | 0.004 - 0.06 MM | <i>20</i> | MARL | GREY, SHELL FRAGMENTS | |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|---------------------|----------|-----|------|----------|-----------|
| A115 | PT ALLEGHENY TUNNEL | | | | S.JHS-09 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| DLM | S.JHS-09 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|--|----|---|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

1. Identify Condition Category areas along the floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | Ensure the sums of % Riparian Blocks equal 100 | |
|------------|------------------|------|------|--|--|--|--|--|--------|
| Right Side | % Riparian Area> | 0.75 | 0.25 | | | | | | 100.0% |
| | Score > | 14 | 4 | | | | | | 11.5 |
| | | | | | | | | CI = Sum (Rt and Lt sub-Indexes)/2 | |
| Left Side | % Riparian Area> | 0.75 | 0.25 | | | | | | 100.0% |
| | Score > | 14 | 4 | | | | | | 11.5 |
| | | | | | | | | Rt Sub-Index> | 0.00 |
| | | | | | | | | Lt Sub-Index> | 0.00 |
| | | | | | | | | CI | 0.00 |

0.59

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|--|----|---|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | Ensure the sums of % Riparian ZOI Blocks equal 100 | |
|------------|------------------|------|------|--|--|--|--|--|--------|
| Right Side | % Riparian Area> | 0.75 | 0.25 | | | | | | 100.0% |
| | Score > | 14 | 4 | | | | | | 11.5 |
| | | | | | | | | CI = Sum (Rt and Lt sub-Indexes)/2 | |
| Left Side | % Riparian Area> | 0.75 | 0.25 | | | | | | 100.0% |
| | Score > | 14 | 4 | | | | | | 11.5 |
| | | | | | | | | Rt Sub-Index> | 0.00 |
| | | | | | | | | Lt Sub-Index> | 0.00 |
| | | | | | | | | CI | 0.00 |

0.58

Comments:
 ZOI IS UPLAND, DEEDUOUS FOREST W/ ELECTRICAL POWERLINE NOW.

| RIPARIAN ECOTONE CONDITION INDEX | RECI |
|---|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | 0.00 |

0.58



S-JHS-09 overview, facing upstream.



S-JHS-09 overview, facing downstream.

STREAM S-JHS-10

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|---------|-----------|---------|-------------|---------------------|
| STREAM NAME | | S-JHS-10 | | CLIENT | PTC |
| STREAM CLASS | | Perennial | | PROJECT | Allegheny Tunnel |
| INVESTIGATORS | JSH LAU | DATE | 5/17/12 | LOCATION | Somerset County, PA |
| | DLM | TIME | 12:38 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Stony Creek R. |
| STATION # | | RIVERMILE | | STORET # | |

| | | | |
|--------------------|---|-------------------------------------|--|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | |
| | % CLOUD COVER | | AIR TEMPERATURE |
| | <input type="checkbox"/> | <input type="checkbox"/> | 70 °F |
| | CLEAR/SUNNY | | OTHER |
| | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|------------------------------|------------------------------|--------------|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 3.0 | FT. |
| | | | VERTICAL (B) | 3.0 |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 3.0 | FT. |
| | | VERTICAL (D) | 4.0 | FT. |
| <p>CHANNEL DIMENSIONS</p> | | TOP WIDTH (E) | 12.0 | FT. |
| | | BOTTOM WIDTH (F) | 6.0 | FT. |
| | | OVERALL DEPTH (G) | 3.0 | FT. |
| | | ORDINARY HIGH WATER MARK (H) | 1.0 | FT. |
| | | FLOW DEPTH (I) | 0.33 | FT. |
| | | APPROX. SURFACE VELOCITY | 5 | FT./SEC |

| | | | | |
|-------------------------|---|--|---|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA <input type="checkbox"/> SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | precipitation events | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input checked="" type="checkbox"/> SWAMP AND BOG | <input checked="" type="checkbox"/> OTHER | | |

STREAM ID:

S-JHS-10

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|--------------------|--|-------------------------------------|--|---|---------------------------------------|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | |
| | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input checked="" type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? <i>Birch, Cinnamon ferns</i> | | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER | |
| | STREAM WIDTH | 4-60 | FT. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | | AC. | OPEN | PARTLY OPEN |
| | EST. DRAINAGE AREA | | SQ. MI. | PARTLY SHADED | SHADED |
| | MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> | YES | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input checked="" type="checkbox"/> RIFFLE 60% <input type="checkbox"/> RUN % <input checked="" type="checkbox"/> POOL 40% % | |
| | TAXA PRESENT | <i>mayflies, caddis, stone</i> | | CHANNELIZED | DAM PRESENT |
| LARGE WOODY DEBRIS | LWD | | FT. ² | YES | NO |
| | DENSITY OF LWD | | FT. ² /MI. ² | YES | NO |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | | |
| | WATER QUALITY | TEMPERATURE | | °C | WATER ODORS |
| SPEC. CONDUCTANCE | | | | <input checked="" type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| DISSOLVED OXYGEN | | | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| pH | | | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER |
| | WQ INSTRUMENT USED | | | WATER SURFACE OILS | |
| | | | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily |
| | | | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS |
| | | | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> OTHER |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST | |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND | |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | |
| | <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input type="checkbox"/> NO | N/A |
| | <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 35 sticks leaves |
| BOULDER | 256 MM (10"+) | - | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | - | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | - | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 70 | | | |
| SILT | 0.004 - 0.06 MM | 15 | MARL | GREY, SHELL FRAGMENTS | - |
| CLAY | <0.004 MM (SLICK) | 15 | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|----------------------|----------|-----|----------|----------|-----------|
| A11J | PTC ALLEGHENY TUNNEL | | | 05.17.12 | S-JHS-10 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| JSH, LAU, DLM | S-JHS-10 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | | | | | | | | | NOTES>> | | | | | | | | | | |
|----------------------------------|--|----|----|----|---|----|----|----|--|----|----|---|---|---|---|---|---------|---|---|---|--|---|--|--|--|---|--|
| | Optimal | | | | Suboptimal | | | | Marginal | | | | Poor | | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | | | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | |
| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|------------------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------|----|
| | | | | | | | | | | Ensure the sums of % Riparian Blocks equal 100 | | | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | | | | | | 1.00 | 0% |
| | Score > | 16 | | | | | | | | | | | | | | | | | | | 16 | |
| CI= Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | | | | | | 1.00 | 0% |
| | Score > | 16 | | | | | | | | | | | | | | | | | | | 16 | |
| Rt Sub-Index> 0.80, 0.00 | | | | | | | | | | | | | | | | | | | | | | |
| Lt Sub-Index> 0.80, 0.00 | | | | | | | | | | | | | | | | | | | | | | |
| CI 0.80 | | | | | | | | | | | | | | | | | | | | | | |

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | | | | | | | | | NOTES>> | | | | | | | | | | |
|--------------|--|----|----|----|---|----|----|----|--|----|----|---|---|---|---|---|---------|---|---|---|--|---|--|--|--|---|--|
| | Optimal | | | | Suboptimal | | | | Marginal | | | | Poor | | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | | | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | |
| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|------------------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------|----|
| | | | | | | | | | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | | | | | | 1.00 | 0% |
| | Score > | 16 | | | | | | | | | | | | | | | | | | | 16 | |
| CI= Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | | | | | | 1.00 | 0% |
| | Score > | 16 | | | | | | | | | | | | | | | | | | | 16 | |
| Rt Sub-Index> 0.80, 0.00 | | | | | | | | | | | | | | | | | | | | | | |
| Lt Sub-Index> 0.80, 0.00 | | | | | | | | | | | | | | | | | | | | | | |
| CI 0.80 | | | | | | | | | | | | | | | | | | | | | | |

Comments:

ZOI IS UPLAND, DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.80 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) | | 0.80 |
| RECI = (Sum of CI's)/2 | | |



S-JHS-10 overview, facing upstream.



S-JHS-10 overview, facing downstream.

STREAM S-JHS-11

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | | |
|---------------|-----------------|-----------|---------|----------------------|---------------------------------|--|
| STREAM NAME | | S-JHS-11 | | CLIENT | PTC | |
| STREAM CLASS | | perennial | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | JSH, DLM LAU | DATE | 5/17/12 | MM/DD/YR | LOCATION Somerset County, PA | |
| | | TIME | 12:45 | 24 HOUR (I.E. 16:45) | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Snyder Creek R. | |
| STATION # | | RIVERMILE | | STORET # | | |

| | | | | |
|--------------------|---|--------------------------|---|-----------------------------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | AIR TEMPERATURE: 70 °F | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | OTHER: _____ | |
| | <input type="checkbox"/> % CLOUD COVER | <input type="checkbox"/> | | |
| | <input checked="" type="checkbox"/> CLEAR/SUNNY | <input type="checkbox"/> | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------------------------------|----------------|-----|-----|--------------|-----|-----|-----------------------------|----------------|----|-----|--------------|-----|-----|--------------------|---------------|----|-----|------------------|---|-----|-------------------|-----|-----|------------------------------|-----|-----|----------------|------|-----|--------------------------|---|--------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> <div style="text-align: center;"> </div> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2">RIGHT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (A)</td> <td>5</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (B)</td> <td>2.5</td> <td>FT.</td> </tr> <tr> <td rowspan="2">LEFT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (C)</td> <td>10</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (D)</td> <td>3.5</td> <td>FT.</td> </tr> <tr> <td rowspan="6">CHANNEL DIMENSIONS</td> <td>TOP WIDTH (E)</td> <td>20</td> <td>FT.</td> </tr> <tr> <td>BOTTOM WIDTH (F)</td> <td>5</td> <td>FT.</td> </tr> <tr> <td>OVERALL DEPTH (G)</td> <td>2.5</td> <td>FT.</td> </tr> <tr> <td>ORDINARY HIGH WATER MARK (H)</td> <td>1.0</td> <td>FT.</td> </tr> <tr> <td>FLOW DEPTH (I)</td> <td>0.93</td> <td>FT.</td> </tr> <tr> <td>APPROX. SURFACE VELOCITY</td> <td>5</td> <td>FT/SEC</td> </tr> </table> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 5 | FT. | VERTICAL (B) | 2.5 | FT. | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 10 | FT. | VERTICAL (D) | 3.5 | FT. | CHANNEL DIMENSIONS | TOP WIDTH (E) | 20 | FT. | BOTTOM WIDTH (F) | 5 | FT. | OVERALL DEPTH (G) | 2.5 | FT. | ORDINARY HIGH WATER MARK (H) | 1.0 | FT. | FLOW DEPTH (I) | 0.93 | FT. | APPROX. SURFACE VELOCITY | 5 | FT/SEC |
| RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | | 5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (B) | 2.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 10 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (D) | 3.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | 20 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BOTTOM WIDTH (F) | 5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OVERALL DEPTH (G) | 2.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ORDINARY HIGH WATER MARK (H) | 1.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLOW DEPTH (I) | 0.93 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | APPROX. SURFACE VELOCITY | 5 | FT/SEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|-------------------------|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA: _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER: precip/stormflow | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input checked="" type="checkbox"/> SWAMP AND BOG | <input type="checkbox"/> OTHER | | |

5-JAS-11

STREAM ID:

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|------------------------------|---|--|---|---|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE | | LOCAL WATERSHED NPS POLLUTION | |
| | <input checked="" type="checkbox"/> FOREST | <input type="checkbox"/> COMMERCIAL | <input checked="" type="checkbox"/> NO EVIDENCE | <input type="checkbox"/> SOME POTENTIAL SOURCES |
| | <input type="checkbox"/> FIELD/PASTURE | <input type="checkbox"/> INDUSTRIAL | <input type="checkbox"/> OBVIOUS SOURCES | |
| | <input type="checkbox"/> AGRICULTURAL | <input type="checkbox"/> OTHER | LOCAL WATERSHED EROSION | |
| | <input type="checkbox"/> RESIDENTIAL | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | |
| | <input checked="" type="checkbox"/> TREES | <input checked="" type="checkbox"/> SHRUBS | <input type="checkbox"/> GRASSES | <input checked="" type="checkbox"/> HERBACEOUS |
| | DOMINANT SPECIES PRESENT? <i>Maple (sugar), OAK, (White), Cherry, Witch Hazel</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | FT. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | AC. | OPEN | PARTLY OPEN |
| | EST. DRAINAGE AREA | SQ. MI. | PARTLY SHADED | SHADED |
| MACROINVERTEBRATES PRESENT? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES | |
| TAXA PRESENT | <i>Salomander, eg. skimp, midge</i> | | <input checked="" type="checkbox"/> RIFFLE | <input type="checkbox"/> RUN |
| | | | <input type="checkbox"/> POOL | <input type="checkbox"/> 30 % |
| | | | CHANNELIZED | <input checked="" type="checkbox"/> YES |
| | | | DAM PRESENT | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| LARGE WOODY DEBRIS | LWD | FT. ² | | |
| | DENSITY OF LWD | FT. ² /MI. ² | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | |
| | <input type="checkbox"/> ROOTED EMERGENT | <input type="checkbox"/> ROOTED SUBMERGENT | <input type="checkbox"/> ROOTED FLOATING | <i>leaf litter</i> |
| | <input type="checkbox"/> FLOATING ALGAE | <input type="checkbox"/> ATTACHED ALGAE | <input type="checkbox"/> FREE FLOATING | |
| | DOMINANT SPECIES PRESENT | | | |
| | PORTION OF THE REACH WITH AQUATIC VEGETATION % | | | |
| WATER QUALITY | TEMPERATURE | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input checked="" type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| | DISSOLVED OXYGEN | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| | pH | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER |
| | TURBIDITY | | WATER SURFACE OILS | |
| | WQ INSTRUMENT USED | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily |
| | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | |
| | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> OTHER | |
| | | TURBIDITY (IF NOT MEASURED) | | |
| | | <input checked="" type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | |
| | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | |
| | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | |
| | <input type="checkbox"/> OTHER | <input type="checkbox"/> OTHER | | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | |
| | <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| | <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | 1 | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 30-35 |
| BOULDER | 256 MM (10"+) | 1 | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | 10 | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | 15 |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | 15 | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 50 | | | |
| SILT | 0.004 - 0.06 MM | 15 | MARL | GREY, SHELL FRAGMENTS | / |
| CLAY | <0.004 MM (SLICK) | 8 | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|------------------------|----------|-----|----------|----------|-----------|
| A11J | PTC ALLEGHENY TURNPIKE | | | 05-17-12 | S.JHS-11 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| JSH, DLM, LAH | S.JHS-11 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | | | | | | | NOTES>> | | | | | | | |
|--|----------------------|----|----|----|--|----|----|----|---|----|----|---|--|---|---------|---|--|---|--|---|--|--|
| | Optimal | | | | Suboptimal | | | | Marginal | | | | Poor | | | | | | | | | |
| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | | 6 | 5 | 4 | 3 | 2 | 1 | |
| Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | | | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | |
| Scores | | | | | High | | | | Low | | | | High | | Low | | | | | | | |

1. Identify Condition Category areas along the floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | Ensure the sums of % Riparian Blocks equal 100 | | | | | |
|------------|------------------|------|--|--|--|--|--|--|--|--|--|------------------------------------|---------|------------------------|------|
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | | 1.00 0% | | |
| | Score > | 16 | | | | | | | | | | | 16 | | |
| | | | | | | | | | | | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | | 1.00 0% | Rt Sub-Index> 0.8 0.80 | CI |
| | Score > | 16 | | | | | | | | | | | 16 | Lt Sub-Index> 0.8 0.80 | 0.80 |

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | | | | | | | NOTES>> | | | | | | | |
|--|----------------------|----|----|----|--|----|----|----|---|----|----|---|--|---|---------|---|--|---|--|---|--|--|
| | Optimal | | | | Suboptimal | | | | Marginal | | | | Poor | | | | | | | | | |
| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | | 6 | 5 | 4 | 3 | 2 | 1 | |
| Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | | | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | |
| Scores | | | | | High | | | | Low | | | | High | | Low | | | | | | | |

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | |
|------------|------------------|------|--|--|--|--|--|--|--|--|--|------------------------------------|---------|------------------------|------|
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | | 1.00 0% | | |
| | Score > | 16 | | | | | | | | | | | 16 | | |
| | | | | | | | | | | | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | | 1.00 0% | Rt Sub-Index> 0.8 0.80 | CI |
| | Score > | 16 | | | | | | | | | | | 16 | Lt Sub-Index> 0.8 0.80 | 0.80 |

Comments:

ZOI IS MATURE, UPLAND DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | RECI |
|---|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | 0.80 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CI's)/2 | 0.80 |



S-JHS-11 overview, facing upstream.



S-JHS-11 overview, facing downstream.

STREAM S-JHS-12

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | | |
|---------------|--------------|-----------|---------|-------------|---------------------|--|
| STREAM NAME | ST-JHS-12 | | | CLIENT | PTC | |
| STREAM CLASS | Perennial | | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | Jackie Kelly | DATE | 5/17/12 | LOCATION | Somerset County, PA | |
| | | TIME | pm | | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Stony Creek R. | |
| STATION # | | RIVERMILE | | STORET # | | |

| | | | | | | |
|--------------------|---|--------------------------|---|---|-----------------------------|--|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | | AIR TEMPERATURE | 60's °F | |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | | OTHER | | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | | | | |
| | <input type="checkbox"/> % CLOUD COVER | <input type="checkbox"/> | | | | |
| | <input checked="" type="checkbox"/> CLEAR/SUNNY | <input type="checkbox"/> | | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|---------------------------------|------------------------------|--------------|-------------------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 5' | FT. |
| | | | VERTICAL (B) | 0.5' |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 3' | FT. |
| | | VERTICAL (D) | 0.5' | FT. |
| CHANNEL DIMENSIONS | | TOP WIDTH (E) | 15' | FT. |
| | | BOTTOM WIDTH (F) | 4-6' | FT. |
| | | OVERALL DEPTH (G) | 1.0' | FT. |
| | | ORDINARY HIGH WATER MARK (H) | 1.0' | FT. |
| | | FLOW DEPTH (I) | 4-6" | FT. in |
| | | APPROX. SURFACE VELOCITY | 5-8 | FT/SEC <i>8pm</i> |

| | | | | | | |
|-------------------------|------------------|---|--|--|--|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | PERENNIAL <input checked="" type="checkbox"/> | INTERMITTENT <input type="checkbox"/> | STREAM TYPE | COLD WATER <input type="checkbox"/> | WARM WATER <input checked="" type="checkbox"/> |
| | | EPHEMERAL <input type="checkbox"/> | TIDAL <input type="checkbox"/> | CATCHMENT AREA | SQ. MI. | |
| | STREAM ORIGIN | GLACIAL <input type="checkbox"/> | NON-GLACIAL MONTANE <input type="checkbox"/> | SWAMP AND BOG <input type="checkbox"/> | SPRING FED <input checked="" type="checkbox"/> | |
| | | | | MIXTURE OF ORIGINS <input checked="" type="checkbox"/> | | OTHER <input type="checkbox"/> |

STREAM ID: S - JHS - 12

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|-----------------------------|--|-----------------------------|--|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES LOCAL WATERSHED EROSION <input type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | |
| | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input checked="" type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | FT. | <input type="checkbox"/> OPEN <input type="checkbox"/> PARTLY OPEN <input checked="" type="checkbox"/> PARTLY SHADED <input checked="" type="checkbox"/> SHADED | |
| | STUDY REACH AREA | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input checked="" type="checkbox"/> RIFFLE <input type="checkbox"/> RUN <input type="checkbox"/> POOL <input type="checkbox"/> CHANNELIZED <input type="checkbox"/> DAM PRESENT | |
| | EST. DRAINAGE AREA | SQ. MI. | YES <input type="checkbox"/> NO YES <input type="checkbox"/> NO YES <input type="checkbox"/> NO | |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | TAXA PRESENT <i>mayfly, midges</i> | |
| LARGE WOODY DEBRIS | LWD | <i>20-30</i> | FT. ² | |
| | DENSITY OF LWD | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT | | | |
| | PORTION OF THE REACH WITH AQUATIC VEGETATION <i>NONE</i> % | | | |
| WATER QUALITY | TEMPERATURE | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input checked="" type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER | |
| | DISSOLVED OXYGEN | | WATER SURFACE OILS | |
| | pH | | <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input checked="" type="checkbox"/> NONE <input type="checkbox"/> OTHER | |
| | TURBIDITY | | TURBIDITY (IF NOT MEASURED) | |
| | WQ INSTRUMENT USED | | <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> OTHER | | <input type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER <i>NONE</i> | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | |
| | <input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | <i>5</i> | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | <i>60</i> |
| BOULDER | 256 MM (10"+) | <i>5</i> | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | <i>10</i> | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | <i>20</i> |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | <i>20</i> | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>30</i> | | | |
| SILT | 0.004 - 0.06 MM | <i>20</i> | MARL | GREY, SHELL FRAGMENTS | <i>-</i> |
| CLAY | <0.004 MM (SLICK) | <i>10</i> | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|---------------------|----------|-----|----------|-----------|-----------|
| A115 | PTE ALLEGHENY TRUNK | | | 05.17.12 | S. JHS-12 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|-------------------------------------|
| JSH, KLE | S. JHS-12 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|---|----|--|--|--|---|---|--|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions | | | | | | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below. Ensure the sums of % Riparian Blocks equal 100

| | | | | | | | | | | | |
|------------|-------------------|------|--|--|--|--|--|--|--|---------|------------------------------------|
| Right Side | % Riparian Area > | 1.00 | | | | | | | | 1.00 0% | CI = Sum (Rt and Lt sub-Indexes)/2 |
| | Score > | 16 | | | | | | | | 16 | |
| Left Side | % Riparian Area > | 1.00 | | | | | | | | 1.00 0% | Rt Sub-Index > 0.8 0.00 |
| | Score > | 16 | | | | | | | | 16 | Lt Sub-Index > 0.8 0.00 |

0.80

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|---|----|--|--|--|---|---|--|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions | | | | | | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sums of % Riparian ZOI Blocks equal 100

| | | | | | | | | | | | |
|------------|-------------------|------|--|--|--|--|--|--|--|---------|------------------------------------|
| Right Side | % Riparian Area > | 1.00 | | | | | | | | 1.00 0% | CI = Sum (Rt and Lt sub-Indexes)/2 |
| | Score > | 16 | | | | | | | | 16 | |
| Left Side | % Riparian Area > | 1.00 | | | | | | | | 1.00 0% | Rt Sub-Index > 0.8 0.00 |
| | Score > | 16 | | | | | | | | 16 | Lt Sub-Index > 0.8 0.00 |

0.80

Comments:

ZOI IS PRIMARILY MATURE, UPLAND DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | RECI |
|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CIs)/2 | 0.80 |

0.80



S-JHS-12 overview, facing upstream.



S-JHS-12 overview, facing downstream.

STREAM S-JHS-13

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|-------------|-----------|---------|------------------|---------------------|
| STREAM NAME | S-JHS-13 | | CLIENT | PTC | |
| STREAM CLASS | perennial | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM. LAU | DATE | 5/17/12 | LOCATION | Somerset County, PA |
| | | TIME | 13:45 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Stony Creek R. |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | | | |
|--------------------|---|-------------------------------------|---|---|-----------------------------|--|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | AIR TEMPERATURE | 70 °F | | |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | OTHER | | | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | % CLOUD COVER | | | |
| | <input checked="" type="checkbox"/> CLEAR/SUNNY | <input checked="" type="checkbox"/> | | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------------------------------|----------------|-----|-----|--------------|-----|-----|-----------------------------|----------------|-----|-----|--------------|-----|-----|--------------------|---------------|-----|-----|------------------|-----|-----|-------------------|------|-----|------------------------------|------|-----|----------------|------|-----|--------------------------|-----|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2">RIGHT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (A)</td> <td>0</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (B)</td> <td>6.5</td> <td>FT.</td> </tr> <tr> <td rowspan="2">LEFT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (C)</td> <td>2.0</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (D)</td> <td>1.5</td> <td>FT.</td> </tr> <tr> <td rowspan="6" style="text-align: center;">CHANNEL DIMENSIONS</td> <td>TOP WIDTH (E)</td> <td>8.0</td> <td>FT.</td> </tr> <tr> <td>BOTTOM WIDTH (F)</td> <td>6.0</td> <td>FT.</td> </tr> <tr> <td>OVERALL DEPTH (G)</td> <td>0.50</td> <td>FT.</td> </tr> <tr> <td>ORDINARY HIGH WATER MARK (H)</td> <td>0.50</td> <td>FT.</td> </tr> <tr> <td>FLOW DEPTH (I)</td> <td>0.50</td> <td>FT.</td> </tr> <tr> <td>APPROX. SURFACE VELOCITY</td> <td>1.5</td> <td>FT./SEC</td> </tr> </table> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 0 | FT. | VERTICAL (B) | 6.5 | FT. | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 2.0 | FT. | VERTICAL (D) | 1.5 | FT. | CHANNEL DIMENSIONS | TOP WIDTH (E) | 8.0 | FT. | BOTTOM WIDTH (F) | 6.0 | FT. | OVERALL DEPTH (G) | 0.50 | FT. | ORDINARY HIGH WATER MARK (H) | 0.50 | FT. | FLOW DEPTH (I) | 0.50 | FT. | APPROX. SURFACE VELOCITY | 1.5 | FT./SEC |
| RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | | 0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (B) | 6.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 2.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (D) | 1.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | 8.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BOTTOM WIDTH (F) | 6.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OVERALL DEPTH (G) | 0.50 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ORDINARY HIGH WATER MARK (H) | 0.50 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLOW DEPTH (I) | 0.50 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | APPROX. SURFACE VELOCITY | 1.5 | FT./SEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|--|---------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | STREAM TYPE | CATCHMENT AREA |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> TIDAL |
| STREAM ORIGIN | OTHER: <u>precip/ stream events</u> | | |
| <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | | |
| <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| <input checked="" type="checkbox"/> SWAMP AND BOG | <input type="checkbox"/> OTHER | | |

STREAM ID:

S-JHS-13

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|--------------------|---|------------------------------------|--|---|---------------------------------------|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES LOCAL WATERSHED EROSION <input type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | |
| | RIPARIAN VEG. (18 M. BUFFER) INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input checked="" type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input checked="" type="checkbox"/> HERBACEOUS "the other one" photo DOMINANT SPECIES PRESENT? maple, arrowwood, birch, mt laurel ferns, hellebore | | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER | |
| | STREAM WIDTH | 6.0 ft | FT. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | | AC. | <input type="checkbox"/> | <input type="checkbox"/> |
| EST. DRAINAGE AREA | | SQ. MI. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input type="checkbox"/> RIFFLE % <input checked="" type="checkbox"/> RUN 20 % <input checked="" type="checkbox"/> POOL 80 % <input type="checkbox"/> CHANNELIZED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> DAM PRESENT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| TAXA PRESENT | GROWING, MATRIS | | | | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | | |
| | DENSITY OF LWD | | FT. ² /MI. ² | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING | | | | |
| | DOMINANT SPECIES PRESENT mosses PORTION OF THE REACH WITH AQUATIC VEGETATION 25 % | | | | |
| WATER QUALITY | TEMPERATURE | | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | | <input checked="" type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE |
| | DISSOLVED OXYGEN | | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL |
| | pH | | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER |
| | TURBIDITY | | | WATER SURFACE OILS | |
| | WQ INSTRUMENT USED | | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily |
| | | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | |
| | | | <input checked="" type="checkbox"/> NONE | <input checked="" type="checkbox"/> OTHER pollen? tan/iridescent (not oil) | |
| | | | TURBIDITY (IF NOT MEASURED) | | |
| | | | <input checked="" type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | |
| | | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | |
| | | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST | |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND | |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | | |
| | <input type="checkbox"/> OTHER | | <input type="checkbox"/> OTHER | | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | |
| | <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input type="checkbox"/> NO | N/A |
| | <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 80 leaves |
| BOULDER | 256 MM (10"+) | 5 | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | - | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | 5 | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| SAND | 0.06 - 0.2 MM (GRITTY) | 80 | | | |
| SILT | 0.004 - 0.06 MM | 10 | MARL | GREY, SHELL FRAGMENTS | - |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|----------------------|----------|-----|----------|----------|-----------|
| A11J | PTC ALLEGHENY TUNNEL | | | 05.17.12 | S-JHS-13 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| DLM, LAU | S-JHS-13 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | | | | | | | | | NOTES>> | | | | | | | |
|----------------------------------|--|---|----|----|------------|--|----|----|----------|---|----|---|------|---|---|---|---------|---|---|---|--|---|--|--|
| | Optimal | | | | Suboptimal | | | | Marginal | | | | Poor | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | |

1. Identify Condition Category areas along the floodplain using the descriptors above.
 2. Estimate the % area within each condition category. Calculators are provided for you below.
 3. Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | | | | | | | | | |
|--|------------------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--------|-------------------------|------|
| Ensure the sums of % Riparian Blocks equal 100 | | | | | | | | | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | 1.000% | | |
| | Score > | 16 | | | | | | | | | | | | | | 16 | | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | 1.000% | Rt Sub-Index> 0.80 0.00 | CI |
| | Score > | 16 | | | | | | | | | | | | | | 16 | Lt Sub-Index> 0.80 0.00 | 0.00 |

0.80

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | | | | | | | | | NOTES>> | | | | | | | |
|--------------|--|---|----|----|------------|--|----|----|----------|---|----|---|------|---|---|---|---------|---|---|---|--|---|--|--|
| | Optimal | | | | Suboptimal | | | | Marginal | | | | Poor | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | | | | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | | | | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | | | | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | | | | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | | | | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | |

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
 2. Estimate the % area within each condition category. Calculators are provided for you below.
 3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | | | | | | | | | |
|--|------------------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--------|-------------------------|------|
| Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | | | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | 1.000% | | |
| | Score > | 16 | | | | | | | | | | | | | | 16 | | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | | | | | 1.000% | Rt Sub-Index> 0.80 0.00 | CI |
| | Score > | 16 | | | | | | | | | | | | | | 16 | Lt Sub-Index> 0.80 0.00 | 0.00 |

0.80

Comments:

ZOI CONSISTS OF MATURE, UPLAND DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) | | 0.00 |
| RECI = (Sum of CI's)/2 | | |

0.80



S-JHS-13 overview, facing upstream.



S-JHS-13 overview, facing downstream.

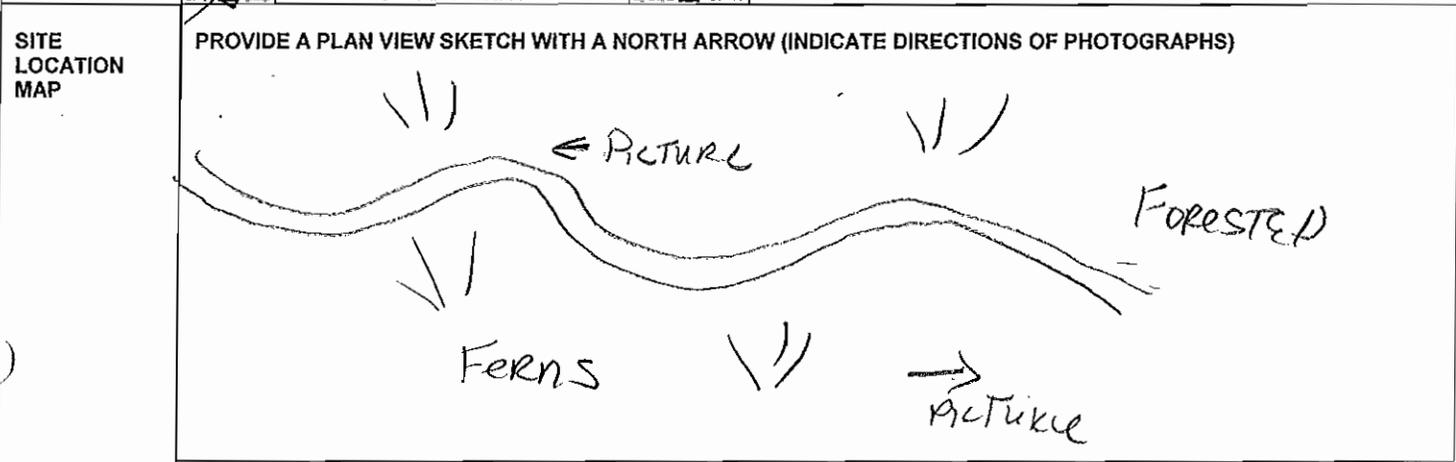
STREAM S-JHS-14

S-JHS-14

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|------------|-----------|---------|------------------|---------------------|
| STREAM NAME | S-JHS-14 | | CLIENT | PTC | |
| STREAM CLASS | ephemeral | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DUM LAN | DATE | 5/17/12 | LOCATION | Somerset County, PA |
| | | TIME | pm | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Stony Creek R. |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | |
|--------------------|---|--------------------------|---|-------------------------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | | AIR TEMPERATURE 60.5 °F |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | | OTHER |
| | <input type="checkbox"/> % CLOUD COVER | <input type="checkbox"/> | | |
| | <input checked="" type="checkbox"/> CLEAR/SUNNY | <input type="checkbox"/> | | |



| | | | | | |
|---|------------------------------|----------------|------------------------------|------|----------|
| FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING. | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 0.5 | FT. | |
| | | VERTICAL (B) | 0.66 | FT. | |
| CHANNEL TOP WIDTH (E) | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 0.5' | FT. | |
| | | VERTICAL (D) | 0.83 | FT. | |
| | CHANNEL DIMENSIONS | | TOP WIDTH (E) | 2 | FT. |
| | | | BOTTOM WIDTH (F) | 1 | FT. |
| | | | OVERALL DEPTH (G) | 0.83 | FT. |
| | | | ORDINARY HIGH WATER MARK (H) | 0.83 | FT. |
| | | | FLOW DEPTH (I) | 0.17 | FT. |
| | | | APPROX. SURFACE VELOCITY | < 1 | FT./SEC. |

| | | | | | | |
|-------------------------|------------------|---|--|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | <input type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | STREAM TYPE | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | | <input checked="" type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | <input type="checkbox"/> GLACIAL | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> SPRING FED | | |
| | | <input type="checkbox"/> SWAMP AND BOG | <input type="checkbox"/> OTHER | <input type="checkbox"/> MIXTURE OF ORIGINS | EVERGLAND FLOW | |

S-JHS-14

STREAM ID:

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|--|--|---|--|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES | |
| | LOCAL WATERSHED EROSION <input type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input checked="" type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS | | | |
| | DOMINANT SPECIES PRESENT? <i>HAY-SCARED FERN, SWAMP URBLE</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER |
| | STREAM WIDTH | <i>1</i> | FT. | |
| | STUDY REACH AREA | | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input type="checkbox"/> RIFFLE <input type="checkbox"/> % <input type="checkbox"/> RUN <input type="checkbox"/> % <input type="checkbox"/> POOL <input type="checkbox"/> % CHANNELIZED <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NO DAM PRESENT <input type="checkbox"/> YES <input type="checkbox"/> NO <i>MEANDERS</i> |
| | EST. DRAINAGE AREA | | SQ. MI. | |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> | YES | | |
| TAXA PRESENT | | NO | | |
| LARGE WOODY DEBRIS | LWD | <i>50-60</i> | FT. ² | |
| | DENSITY OF LWD | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING | | | |
| | DOMINANT SPECIES PRESENT <i>NONE</i> | | | |
| WATER QUALITY | PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | |
| | TEMPERATURE | | °C | WATER ODORS |
| | SPEC. CONDUCTANCE | | | <input type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER |
| | DISSOLVED OXYGEN | | | WATER SURFACE OILS |
| | pH | | | <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input type="checkbox"/> NONE <input type="checkbox"/> OTHER |
| | TURBIDITY | | | TURBIDITY (IF NOT MEASURED) |
| | WQ INSTRUMENT USED | | | <input type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER |
| | | | | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> OTHER | | <input type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER <i>NONE</i> | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | |
| <input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | <i>75</i> |
| BOULDER | 256 MM (10"+) | - | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | <i>20</i> | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | <i>1</i> |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | <i>20</i> | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>20</i> | | | |
| SILT | 0.004 - 0.06 MM | <i>20</i> | MARL | GREY, SHELL FRAGMENTS | <i>/</i> |
| CLAY | <0.004 MM (SLICK) | <i>20</i> | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|---------------------|----------|-----|----------|----------|-----------|
| A11J | PK ALLEGHENY TUNNEL | | | 05.17.12 | S.JHS.14 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|------------------------------------|
| DLM, LAU | S.JHS.14 UNT TO STONEY CREEK RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|---|----|--|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|--|--------|----------------------|------|
| | | Ensure the sums of % Riparian Blocks equal 100 | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | 1.000% | | |
| | Score > | 16 | | | | | | | | 16 | | |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | 1.000% | Rt Sub-Index> 0.8000 | CI |
| | Score > | 16 | | | | | | | | 16 | Lt Sub-Index> 0.8000 | 0.00 |

0.80

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|---|----|--|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|--|--------|----------------------|------|
| | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | 1.000% | | |
| | Score > | 16 | | | | | | | | 16 | | |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | 1.000% | Rt Sub-Index> 0.8000 | CI |
| | Score > | 16 | | | | | | | | 16 | Lt Sub-Index> 0.8000 | 0.00 |

0.80

Comments:

ZOI IS MATURE, UPLAND DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|--|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.80 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CIs)/2 | | 0.80 |

0.80



S-JHS-14 overview, facing upstream.



S-JHS-14 overview, facing downstream.

STREAM S-JHS-15

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | |
|--------------------------------------|------------------------|--|---------------------------------|
| STREAM NAME <i>S-JHS-15</i> | | CLIENT PTC | |
| STREAM CLASS <i>Perennial</i> | | PROJECT Allegheny Tunnel | |
| INVESTIGATORS <i>DLM, SEC LAU</i> | DATE <i>5/22/12</i> | MM/DD/YR | LOCATION Somerset County, PA |
| | TIME <i>11:00</i> | 24 HOUR (I.E. 16:45) | |
| LATITUDE | LONGITUDE | RIVER BASIN <i>RAHSTOWN N BR. JUCONN. AL.</i> | |
| STATION # | RIVERMILE | STORET # | |

| | | | | | | |
|--------------------|---|--------------------------|---|---|-----------------------------|--|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | |
| | <input type="checkbox"/> STORM (HEAVY RAIN) | <input type="checkbox"/> | AIR TEMPERATURE | <i>70</i> °F | | |
| | <input type="checkbox"/> RAIN (STEADY RAIN) | <input type="checkbox"/> | OTHER | | | |
| | <input type="checkbox"/> SHOWERS (INTERMITTENT) | <input type="checkbox"/> | % CLOUD COVER | <i>90</i> | | |
| | <input type="checkbox"/> CLEAR/SUNNY | <input type="checkbox"/> | | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------------------|----------------|-----------|-----|--------------|-----------|-----|-----------------------------|----------------|-----------|-----|--------------|-----------|-----|--------------------|---------------|------------|-----|------------------|------------|-----|-------------------|-----------|-----|------------------------------|--------------|-----|----------------|--------------|-----|--------------------------|----------|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> <div style="text-align: center;"> </div> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2">RIGHT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (A)</td> <td><i>7'</i></td> <td>FT.</td> </tr> <tr> <td>VERTICAL (B)</td> <td><i>6'</i></td> <td>FT.</td> </tr> <tr> <td rowspan="2">LEFT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (C)</td> <td><i>5'</i></td> <td>FT.</td> </tr> <tr> <td>VERTICAL (D)</td> <td><i>6'</i></td> <td>FT.</td> </tr> <tr> <td rowspan="6" style="text-align: center;">CHANNEL DIMENSIONS</td> <td>TOP WIDTH (E)</td> <td><i>25'</i></td> <td>FT.</td> </tr> <tr> <td>BOTTOM WIDTH (F)</td> <td><i>10'</i></td> <td>FT.</td> </tr> <tr> <td>OVERALL DEPTH (G)</td> <td><i>5'</i></td> <td>FT.</td> </tr> <tr> <td>ORDINARY HIGH WATER MARK (H)</td> <td><i>0.67'</i></td> <td>FT.</td> </tr> <tr> <td>FLOW DEPTH (I)</td> <td><i>0.33'</i></td> <td>FT.</td> </tr> <tr> <td>APPROX. SURFACE VELOCITY</td> <td><i>5</i></td> <td>FT./SEC</td> </tr> </table> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | <i>7'</i> | FT. | VERTICAL (B) | <i>6'</i> | FT. | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | <i>5'</i> | FT. | VERTICAL (D) | <i>6'</i> | FT. | CHANNEL DIMENSIONS | TOP WIDTH (E) | <i>25'</i> | FT. | BOTTOM WIDTH (F) | <i>10'</i> | FT. | OVERALL DEPTH (G) | <i>5'</i> | FT. | ORDINARY HIGH WATER MARK (H) | <i>0.67'</i> | FT. | FLOW DEPTH (I) | <i>0.33'</i> | FT. | APPROX. SURFACE VELOCITY | <i>5</i> | FT./SEC |
| RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | | <i>7'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (B) | <i>6'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | <i>5'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (D) | <i>6'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | <i>25'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BOTTOM WIDTH (F) | <i>10'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OVERALL DEPTH (G) | <i>5'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ORDINARY HIGH WATER MARK (H) | <i>0.67'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLOW DEPTH (I) | <i>0.33'</i> | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | APPROX. SURFACE VELOCITY | <i>5</i> | FT./SEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA <i>7</i> SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| <input type="checkbox"/> GLACIAL | <input type="checkbox"/> NON-GLACIAL MONTANE | <input type="checkbox"/> SPRING FED | | |
| <input type="checkbox"/> SWAMP AND BOG | <input type="checkbox"/> OTHER | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |

STREAM ID: S-JHS-15

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | | |
|-------------------------------------|---|--|---|--|--|-------------------------------------|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE | | | LOCAL WATERSHED NPS POLLUTION | | |
| | <input checked="" type="checkbox"/> FOREST | <input type="checkbox"/> COMMERCIAL | <input checked="" type="checkbox"/> NO EVIDENCE | <input type="checkbox"/> SOME POTENTIAL SOURCES | | |
| | <input type="checkbox"/> FIELD/PASTURE | <input type="checkbox"/> INDUSTRIAL | <input type="checkbox"/> OBVIOUS SOURCES | | | |
| | <input type="checkbox"/> AGRICULTURAL | <input type="checkbox"/> OTHER | LOCAL WATERSHED EROSION | | | |
| | <input type="checkbox"/> RESIDENTIAL | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> MODERATE | <input type="checkbox"/> HEAVY | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | | | |
| | <input checked="" type="checkbox"/> TREES | <input type="checkbox"/> SHRUBS | <input type="checkbox"/> GRASSES | <input type="checkbox"/> HERBACEOUS | | |
| | DOMINANT SPECIES PRESENT? <i>Sagittaria, Jewelweed, NY fern</i> | | | | | |
| INSTREAM FEATURES | STUDY LENGTH | | PT. | CANOPY COVER | | |
| | STREAM WIDTH | 104 | FT. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | | AC. | OPEN | PARTLY OPEN | PARTLY SHADED |
| | EST. DRAINAGE AREA | | SQ. MI. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES | | |
| | MACROINVERTEBRATES PRESENT? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input checked="" type="checkbox"/> RIFFLE | 80 % | <input type="checkbox"/> RUN |
| TAXA PRESENT | <i>Caddis, stoneflies</i> | | <input checked="" type="checkbox"/> POOL | 20 % | <input type="checkbox"/> CHANNELIZED | <input type="checkbox"/> YES |
| | | | <input type="checkbox"/> DAM PRESENT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | | | |
| | DENSITY OF LWD | | FT. ² /MI. ² | | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT | | | | | |
| | <input checked="" type="checkbox"/> ROOTED EMERGENT | <input type="checkbox"/> ROOTED SUBMERGENT | <input type="checkbox"/> ROOTED FLOATING | | | |
| | <input type="checkbox"/> FLOATING ALGAE | <input type="checkbox"/> ATTACHED ALGAE | <input type="checkbox"/> FREE FLOATING | | | |
| | DOMINANT SPECIES PRESENT <i>Sphagnum</i> | | | | | |
| | PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | | | |
| WATER QUALITY | TEMPERATURE | | °C | WATER ODORS | | |
| | SPEC. CONDUCTANCE | | | <input type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE | |
| | DISSOLVED OXYGEN | | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | |
| | pH | | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER | |
| | TURBIDITY | | | WATER SURFACE OILS | | |
| | | | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily | |
| | | | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | |
| | | | | <input checked="" type="checkbox"/> NONE | <input type="checkbox"/> OTHER | |
| | | | | TURBIDITY (IF NOT MEASURED) | | |
| | | | | <input type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | |
| | | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | | |
| | | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | | |
| SEDIMENT/SUBSTRATE | ODORS | | | DEPOSITS | | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input checked="" type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST | | |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND | | |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | | | |
| | <input type="checkbox"/> OTHER | | <input type="checkbox"/> OTHER | | | |
| | OILS | | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | |
| | <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | | |
| | <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 20 |
| BOULDER | 256 MM (10"+) | - | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| COBBLE | 64 - 256 MM (2.5 - 10") | 20 | MARL | GREY, SHELL FRAGMENTS | - |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | 30 | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 20 | | | |
| SILT | 0.004 - 0.06 MM | 30 | | | |
| CLAY | <0.004 MM (SLICK) | - | | | |



S-JHS-15 overview, facing upstream.



S-JHS-15 overview, facing downstream.

STREAM S-JHS-16

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|---------------|-----------|---------|------------------|-------------------------|
| STREAM NAME | S-JHS-16 | | CLIENT | PTC | |
| STREAM CLASS | Perennial | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM, SRC, LAU | DATE | 5/22/12 | LOCATION | Somerset County, PA |
| | | TIME | 11:00 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Raystown Branch Juniata |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | | | | |
|--------------------|-------------------------------------|------------------------|-------------------------------------|--------------------------|---|---|-----------------------------|
| WEATHER CONDITIONS | NOW | | PAST 24 HOURS | | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input type="checkbox"/> | | | AIR TEMPERATURE | 70 |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | <input type="checkbox"/> | | OTHER | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | <input checked="" type="checkbox"/> | | | | |
| | <input checked="" type="checkbox"/> | 90 | % CLOUD COVER | <input type="checkbox"/> | | | |
| | <input type="checkbox"/> | | CLEAR/SUNNY | <input type="checkbox"/> | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|------------------------------|------------------------------|--------------|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 0.66 | FT. |
| | | | VERTICAL (B) | 1 |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 0.5 | FT. |
| | | VERTICAL (D) | 0.66 | FT. |
| CHANNEL DIMENSIONS | | TOP WIDTH (E) | 7.1 | FT. |
| | | BOTTOM WIDTH (F) | 3 | FT. |
| | | OVERALL DEPTH (G) | 1 | FT. |
| | | ORDINARY HIGH WATER MARK (H) | 0.5 | FT. |
| | | FLOW DEPTH (I) | 0.25 | FT. |
| | | APPROX. SURFACE VELOCITY | 5 | FT./SEC |

| | | | | |
|-------------------------|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA | SQ. MI. |
| | STREAM ORIGIN | | MIXTURE OF ORIGINS | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input type="checkbox"/> OTHER | | |
| | <input type="checkbox"/> SWAMP AND BOG | | | |

STREAM ID: S-JHS-16

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|------------------------------|--|-----|---|--|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES | | |
| | <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input checked="" type="checkbox"/> HERBACEOUS | | | | |
| | DOMINANT SPECIES PRESENT? <i>Sugar maples, pennsylvanica, Jewelweed, Mayapple</i> | | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER | |
| | STREAM WIDTH | 3 | FT. | | <input type="checkbox"/> OPEN <input type="checkbox"/> PARTLY OPEN <input type="checkbox"/> PARTLY SHADED <input checked="" type="checkbox"/> SHADED |
| | STUDY REACH AREA | | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input checked="" type="checkbox"/> RIFFLE 80 % <input type="checkbox"/> RUN _____ % <input checked="" type="checkbox"/> POOL 20 % | |
| | EST. DRAINAGE AREA | | SQ. MI. | | <input checked="" type="checkbox"/> CHANNELIZED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> DAM PRESENT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> | YES | | | |
| TAXA PRESENT | <i>stone flies, caddisfly</i> | | | | |
| LARGE WOODY DEBRIS | LWD | | | FT. ² | |
| | DENSITY OF LWD | | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input checked="" type="checkbox"/> FLOATING ALGAE <input checked="" type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING | | | | |
| | DOMINANT SPECIES PRESENT <i>Sphaerium, Drift algae</i> PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | | |
| WATER QUALITY | TEMPERATURE | | °C | WATER ODORS <input checked="" type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER | |
| | SPEC. CONDUCTANCE | | | | WATER SURFACE OILS <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input checked="" type="checkbox"/> NONE <input type="checkbox"/> OTHER |
| | DISSOLVED OXYGEN | | | | |
| | pH | | | | |
| | TURBIDITY | | | | |
| | WQ INSTRUMENT USED | | | | |
| SEDIMENT/SUBSTRATE | ODORS <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> OTHER | | DEPOSITS <input type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER | | |
| | OILS <input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | |
| | | | | | |
| | | | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 25 |
| BOULDER | 256 MM (10"+) | - | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| COBBLE | 64 - 256 MM (2.5 - 10") | 30 | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | 30 | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 40 | MARL | GREY, SHELL FRAGMENTS | - |
| SILT | 0.004 - 0.06 MM | - | | | |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in Wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|-----------------------|----------|-----|------|----------|-----------|
| A11J | PT ALLEGHENY TURNPIKE | | | | S.JHS.16 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|--|
| DLM, SAC, LAH | S.JHS.16 UNT TO RAYSTOWN BRANCH OF JUNIATA RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> |
|----------------------------------|--|---|--|---|---|---|---|--|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, moved, and maintained areas, nurseries, no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| | High | Low | High | Low | High | Low | | | |
| Scores | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

1. Identify Condition Category areas along the floodplain using the descriptors above.
 2. Estimate the % area within each condition category. Calculators are provided for you below.
 3. Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | | |
|------------------------------------|-------------------|------|--|--|--|--|--|--|---------|------------------------|------|
| Right Side | % Riparian Area > | 1.00 | | | | | | | 1.00 0% | | |
| | Score > | 18 | | | | | | | 18 | | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | |
| Left Side | % Riparian Area > | 1.00 | | | | | | | 1.00 0% | Rt Sub-Index > 29 0.00 | CI |
| | Score > | 18 | | | | | | | 18 | Lt Sub-Index > 29 0.00 | 0.00 |

0.90

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> |
|--------------|--|---|--|---|---|---|---|--|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, moved, and maintained areas, nurseries, no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| | High | Low | High | Low | High | Low | | | |
| Score | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
 2. Estimate the % area within each condition category. Calculators are provided for you below.
 3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | | |
|------------------------------------|-------------------|------|--|--|--|--|--|--|---------|------------------------|------|
| Right Side | % Riparian Area > | 1.00 | | | | | | | 1.00 0% | | |
| | Score > | 18 | | | | | | | 18 | | |
| CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | |
| Left Side | % Riparian Area > | 1.00 | | | | | | | 1.00 0% | Rt Sub-Index > 29 0.00 | CI |
| | Score > | 18 | | | | | | | 18 | Lt Sub-Index > 29 0.00 | 0.00 |

0.90

Comments:
 ZOI CONSISTS OF MATURE, UPLAND DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|--|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.90 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CIs)/2 | | 0.90 |

0.90



S-JHS-16 overview, facing upstream.



S-JHS-16 overview, facing downstream.

STREAM S-JHS-17

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|-------------|-----------|---------|------------------|----------------------------|
| STREAM NAME | S-JHS-17 | | CLIENT | PTC | |
| STREAM CLASS | ephemeral | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM, LAM | DATE | 5/22/12 | LOCATION | Somerset County, PA |
| | | TIME | 11:30 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Raystown Branch of Juniata |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | | | |
|--------------------------|-------------------------------------|--------------------------|---|---|-----------------------------|-------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | | <input checked="" type="checkbox"/> | | |
| | <input checked="" type="checkbox"/> | 90 % CLOUD COVER | | <input type="checkbox"/> | AIR TEMPERATURE | 70 °F |
| <input type="checkbox"/> | CLEAR/SUNNY | <input type="checkbox"/> | OTHER | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|---------------------------------|------------------------------|--------------|----------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 15 | FT. |
| | | | VERTICAL (B) | 6 |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 10 | FT. |
| | | VERTICAL (D) | 4 | FT. |
| | CHANNEL DIMENSIONS | TOP WIDTH (E) | 28 | FT. |
| | | BOTTOM WIDTH (F) | 3 | FT. |
| | | OVERALL DEPTH (G) | 6 | FT. |
| | | ORDINARY HIGH WATER MARK (H) | 0.5 | FT. |
| | | FLOW DEPTH (I) | — | FT. |
| | | APPROX. SURFACE VELOCITY | — | FT./ SEC |

| | | | | |
|-------------------------|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER _____ | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input type="checkbox"/> SWAMP AND BOG | <input type="checkbox"/> OTHER | | |

STREAM ID: S-JHS-17

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

*not dominant but present
trillium
jacks-in-the-wood
pale*

*ash?
elm?
white oak*

| | | | | | | |
|--|---|---|--|--|--|-------------------------------------|
| WATERSHED FEATURES | <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> RESIDENTIAL | | <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> OTHER | | <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> OBVIOUS SOURCES <input type="checkbox"/> SOME POTENTIAL SOURCES | |
| | LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | | | | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS | | | | | |
| | DOMINANT SPECIES PRESENT? <i>sugar maple, white ash, redstart, NY fern, trillium</i> | | | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER | | |
| | STREAM WIDTH | 3 | FT. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | STUDY REACH AREA | | AC. | OPEN | PARTLY OPEN | PARTLY SHADED |
| | EST. DRAINAGE AREA | | SQ. MI. | SHADED | | |
| MACROINVERTEBRATES PRESENT? | TAXA PRESENT | | | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input type="checkbox"/> RIFFLE % <input type="checkbox"/> RUN % <input type="checkbox"/> POOL % | | |
| | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | | <input type="checkbox"/> CHANNELIZED YES <input type="checkbox"/> NO <input type="checkbox"/> DAM PRESENT YES <input type="checkbox"/> NO | | |
| | | | | | | |
| | | | | | | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | | | |
| | DENSITY OF LWD | | FT. ² /MI. ² | | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING | | | | | |
| | DOMINANT SPECIES PRESENT <i>SODIUMUM</i> PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | | | |
| WATER QUALITY | TEMPERATURE | | °C | WATER ODORS | | |
| | SPEC. CONDUCTANCE | | | <input type="checkbox"/> NORMAL/NONE | <input type="checkbox"/> SEWAGE | |
| | DISSOLVED OXYGEN | | | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | |
| | pH | | | <input type="checkbox"/> FISHY | <input type="checkbox"/> OTHER | |
| | TURBIDITY | | | WATER SURFACE OILS | | |
| | WQ INSTRUMENT USED | | | <input type="checkbox"/> SLICK | <input type="checkbox"/> SHEEN - Oily | |
| | | | <input type="checkbox"/> GLOBS | <input type="checkbox"/> FLECKS | | |
| | | | <input type="checkbox"/> NONE | <input type="checkbox"/> OTHER | | |
| | | | TURBIDITY (IF NOT MEASURED) | | | |
| | | | <input type="checkbox"/> CLEAR | <input type="checkbox"/> SLIGHTLY TURBID | | |
| | | | <input type="checkbox"/> TURBID | <input type="checkbox"/> OPAQUE | | |
| | | | <input type="checkbox"/> STAINED | <input type="checkbox"/> OTHER | | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | | | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST | | |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND | | |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | | | |
| OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | | | |
| <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | | | |
| <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 90 |
| BOULDER | 256 MM (10"+) | 40 | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 20 | | | |
| SILT | 0.004 - 0.06 MM | 40 | MARL | GREY, SHELL FRAGMENTS | |
| CLAY | <0.004 MM (SLICK) | | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in Wadeable channels classified as intermittent or perennial

| | | | | | | |
|-------------------------|---------------------|--|-----|----------|----------|-----------|
| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
| A11J | DC ALLEGHENY TANNER | | | 05-22-12 | S-JHS-17 | |
| Name(s) of Evaluator(s) | | Stream Name and Information | | | | |
| JLM, LAM | | S-JHS-17 UNT TO RAYSTOWN BRANCH OF JUNIATA RIVER | | | | |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|--|----|---|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|---------|
| | | Ensure the sums of % Riparian Blocks equal 100 | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% |
| | Score > | 17 | | | | | | | 17 |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% |
| | Score > | 17 | | | | | | | 17 |
| | | Rt Sub-Index> 0.85 0.00 | | | | | | | |
| | | Lt Sub-Index> 0.85 0.00 | | | | | | | |
| | | CI 0.00 | | | | | | | |

0.85

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|--|----|---|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|---------|
| | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% |
| | Score > | 17 | | | | | | | 17 |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | 1.00 0% |
| | Score > | 17 | | | | | | | 17 |
| | | Rt Sub-Index> 0.85 0.00 | | | | | | | |
| | | Lt Sub-Index> 0.85 0.00 | | | | | | | |
| | | CI 0.00 | | | | | | | |

0.85

Comments:

ZOI IS PRIMARILY MATURE, UPLAND DECIDUOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CI's)/2 | | 0.85 |

0.85



S-JHS-17 overview, facing upstream.



S-JHS-17 overview, facing downstream.

STREAM S-JHS-18

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|------------|-----------|---------|------------------|----------------------------|
| STREAM NAME | S-JHS-18 | | CLIENT | PTC | |
| STREAM CLASS | ephemeral | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | DLM LAU | DATE | 5/22/12 | LOCATION | Somerset County, PA |
| | | TIME | 11:45 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Raystown Branch of Juniata |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | | |
|-------------------------------------|--------------------------|--------------------------|---|---|-----------------------------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input type="checkbox"/> | AIR TEMPERATURE | |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | <input checked="" type="checkbox"/> | OTHER | |
| <input checked="" type="checkbox"/> | 90 % CLOUD COVER | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | CLEAR/SUNNY | <input type="checkbox"/> | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

S-JHS-17

S-JHS-18

S-JHS-19

S-JHS-20

S-JHS-21

S-JHS-22

S-JHS-23

S-JHS-24

S-JHS-25

S-JHS-26

S-JHS-27

S-JHS-28

S-JHS-29

S-JHS-30

S-JHS-31

S-JHS-32

S-JHS-33

S-JHS-34

S-JHS-35

S-JHS-36

S-JHS-37

S-JHS-38

S-JHS-39

S-JHS-40

S-JHS-41

S-JHS-42

S-JHS-43

S-JHS-44

S-JHS-45

S-JHS-46

S-JHS-47

S-JHS-48

S-JHS-49

S-JHS-50

S-JHS-51

S-JHS-52

S-JHS-53

S-JHS-54

S-JHS-55

S-JHS-56

S-JHS-57

S-JHS-58

S-JHS-59

S-JHS-60

S-JHS-61

S-JHS-62

S-JHS-63

S-JHS-64

S-JHS-65

S-JHS-66

S-JHS-67

S-JHS-68

S-JHS-69

S-JHS-70

S-JHS-71

S-JHS-72

S-JHS-73

S-JHS-74

S-JHS-75

S-JHS-76

S-JHS-77

S-JHS-78

S-JHS-79

S-JHS-80

S-JHS-81

S-JHS-82

S-JHS-83

S-JHS-84

S-JHS-85

S-JHS-86

S-JHS-87

S-JHS-88

S-JHS-89

S-JHS-90

S-JHS-91

S-JHS-92

S-JHS-93

S-JHS-94

S-JHS-95

S-JHS-96

S-JHS-97

S-JHS-98

S-JHS-99

S-JHS-100

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------------------|----------------|-----|-----|--------------|---|-----|-----------------------------|----------------|---|-----|--------------|-----|-----|--------------------|---------------|---|-----|------------------|---|-----|-------------------|---|-----|------------------------------|------|-----|----------------|---|-----|--------------------------|---|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> <div style="text-align: center;"> </div> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2">RIGHT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (A)</td> <td>2.5</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (B)</td> <td>1</td> <td>FT.</td> </tr> <tr> <td rowspan="2">LEFT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (C)</td> <td>3</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (D)</td> <td>1.5</td> <td>FT.</td> </tr> <tr> <td rowspan="6">CHANNEL DIMENSIONS</td> <td>TOP WIDTH (E)</td> <td>8</td> <td>FT.</td> </tr> <tr> <td>BOTTOM WIDTH (F)</td> <td>3</td> <td>FT.</td> </tr> <tr> <td>OVERALL DEPTH (G)</td> <td>1</td> <td>FT.</td> </tr> <tr> <td>ORDINARY HIGH WATER MARK (H)</td> <td>0.33</td> <td>FT.</td> </tr> <tr> <td>FLOW DEPTH (I)</td> <td>-</td> <td>FT.</td> </tr> <tr> <td>APPROX. SURFACE VELOCITY</td> <td>-</td> <td>FT./SEC</td> </tr> </table> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 2.5 | FT. | VERTICAL (B) | 1 | FT. | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 3 | FT. | VERTICAL (D) | 1.5 | FT. | CHANNEL DIMENSIONS | TOP WIDTH (E) | 8 | FT. | BOTTOM WIDTH (F) | 3 | FT. | OVERALL DEPTH (G) | 1 | FT. | ORDINARY HIGH WATER MARK (H) | 0.33 | FT. | FLOW DEPTH (I) | - | FT. | APPROX. SURFACE VELOCITY | - | FT./SEC |
| RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | | 2.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (B) | 1 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 3 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (D) | 1.5 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | 8 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BOTTOM WIDTH (F) | 3 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OVERALL DEPTH (G) | 1 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ORDINARY HIGH WATER MARK (H) | 0.33 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLOW DEPTH (I) | - | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | APPROX. SURFACE VELOCITY | - | FT./SEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input checked="" type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| STREAM ORIGIN | | MIXTURE OF ORIGINS | | |
| <input type="checkbox"/> GLACIAL | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> SPRING FED | | |
| <input type="checkbox"/> SWAMP AND BOG | | <input type="checkbox"/> OTHER | | |

STREAM ID: S-JHS-18

*striped maple
whitewood*

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|--|---|---|--|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | |
| | RIPARIAN VEG. (18 M. BUFFER) INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? <i>Sugar maple, striped maple, rubus spp, nettle, horsetail, Solonchale</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | <i>200</i> FT. | CANOPY COVER | |
| | STREAM WIDTH | <i>8</i> FT. | <input type="checkbox"/> OPEN <input type="checkbox"/> PARTLY OPEN <input checked="" type="checkbox"/> PARTLY SHADED <input type="checkbox"/> SHADED | |
| | STUDY REACH AREA | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input type="checkbox"/> RIFFLE <input type="checkbox"/> % <input type="checkbox"/> RUN <input type="checkbox"/> % <input type="checkbox"/> POOL <input type="checkbox"/> % | |
| | EST. DRAINAGE AREA | SQ. MI. | CHANNELIZED <input type="checkbox"/> YES <input type="checkbox"/> NO DAM PRESENT <input type="checkbox"/> YES <input type="checkbox"/> NO | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | |
| | DENSITY OF LWD | | FT. ² /MI. ² | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT <i>Spondylium</i> | | | |
| | PORTION OF THE REACH WITH AQUATIC VEGETATION <i>10</i> % | | | |
| WATER QUALITY | TEMPERATURE | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | <input type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER | |
| | DISSOLVED OXYGEN | | WATER SURFACE OILS | |
| | pH | | <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input type="checkbox"/> NONE <input type="checkbox"/> OTHER | |
| TURBIDITY | WQ INSTRUMENT USED | | TURBIDITY (IF NOT MEASURED) | |
| | | | <input type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | |
| | <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> OTHER | | <input type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER | |
| | OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | |
| <input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | <i>80 leaves</i> |
| BOULDER | 256 MM (10"+) | <i>10</i> | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | |
| COBBLE | 64 - 256 MM (2.5 - 10") | - | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | <i>5</i> | MARL | GREY, SHELL FRAGMENTS | |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>50</i> | | | |
| SILT | 0.004 - 0.06 MM | <i>35</i> | | | |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|----------------------|----------|-----|----------|---------|-----------|
| AI1J | PTC ALLEGHENY TUNNEL | | | 05-22-12 | S.JHS1P | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|---|
| DLM, LAU | S. JHS 18 UNT TO RAYSTOWN BRANCH OF JUNEATA RIVER |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> |
|----------------------------------|--|---|--|--|---|--|--|-----|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation) | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory | High Poor: Lawns, moved, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| | High | Low | High | Low | High | Low | High | Low | |
| Scores | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | |
|------------|-------------------|--|--|--|--|--|---------|--------------------------|
| | | Ensure the sums of % Riparian Blocks equal 100 | | | | | | |
| Right Side | % Riparian Area > | 1.00 | | | | | 1.00 0% | |
| | Score > | 17 | | | | | 67 | |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | |
| Left Side | % Riparian Area > | 1.00 | | | | | 100 0% | Rt Sub-Index > 0.00 0.00 |
| | Score > | 17 | | | | | 17 | Lt Sub-Index > 0.00 0.00 |

0.85

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> |
|--------------|--|---|--|--|---|--|--|-----|---------|
| | Optimal | | Suboptimal | | Marginal | | Poor | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation) | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory | High Poor: Lawns, moved, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | |
| | High | Low | High | Low | High | Low | High | Low | |
| Score | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 | | | | | |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | |
|------------|-------------------|--|--|--|--|--|--------|--------------------------|
| | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | |
| Right Side | % Riparian Area > | 1.00 | | | | | 100 0% | |
| | Score > | 17 | | | | | 17 | |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | |
| Left Side | % Riparian Area > | 1.00 | | | | | 100 0% | Rt Sub-Index > 0.00 0.00 |
| | Score > | 17 | | | | | 17 | Lt Sub-Index > 0.00 0.00 |

0.85

Comments:

ZOI IS MATURE, UPLAND DELICIOUS FOREST.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of CI's)/2 | | 0.85 |

0.85



S-JHS-18 overview, facing upstream.



S-JHS-18 overview, facing downstream.

STREAM S-JHS-19

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|---------------|------------------|-----------|---------|-------------|----------------------------|
| STREAM NAME | | S-JHS-19 | | CLIENT | PTC |
| STREAM CLASS | | Perennial | | PROJECT | Allegheny Tunnel |
| INVESTIGATORS | SRC, DLM, LAW | DATE | 5/22/12 | LOCATION | Somerset County, PA |
| | | TIME | 12:15 | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Raystown Branch of Juniata |
| STATION # | | RIVERMILE | | STORET # | |

| | | | | | | | | | | | |
|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--|--|---|---|-----------------------------|--|--|--|
| WEATHER CONDITIONS | NOW | | PAST 24 HOURS | | | | | | | | |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input type="checkbox"/> | | | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | | | |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | <input type="checkbox"/> | | | | AIR TEMPERATURE | 70 °F | | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | <input checked="" type="checkbox"/> | | | OTHER | | | | | |
| | <input checked="" type="checkbox"/> | 90 % CLOUD COVER | <input type="checkbox"/> | | | | | | | | |
| <input type="checkbox"/> | CLEAR/SUNNY | <input type="checkbox"/> | | | | | | | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | |
|--|------------------------------|------------------------------|------|----------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 4 | FT. |
| | | VERTICAL (B) | 2.5 | FT. |
| | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 5 | FT. |
| | | VERTICAL (D) | 3 | FT. |
| | CHANNEL DIMENSIONS | TOP WIDTH (E) | 10.5 | FT. |
| | | BOTTOM WIDTH (F) | 1.5 | FT. |
| | | OVERALL DEPTH (G) | 2.5 | FT. |
| | | ORDINARY HIGH WATER MARK (H) | 0.5 | FT. |
| | | FLOW DEPTH (I) | 0.25 | FT. |
| | | APPROX. SURFACE VELOCITY | 5 | FT./ SEC |

| | | | |
|-------------------------|---|--|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> COLD WATER | <input checked="" type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> MIXTURE OF ORIGINS |
| | <input type="checkbox"/> TIDAL | CATCHMENT AREA | _____ SQ. MI. |
| | STREAM ORIGIN | <input checked="" type="checkbox"/> SPRING FED | |
| | <input type="checkbox"/> GLACIAL | <input type="checkbox"/> OTHER | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | | |
| | <input type="checkbox"/> SWAMP AND BOG | | |

STREAM ID: S-JHS 19

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|--------------------|---|--|---|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input checked="" type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | |
| | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input checked="" type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? <i>silver maple, ash, silver maple, goldenrod, rushes, nettle, sedgelo</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | FT. | <input type="checkbox"/> OPEN <input type="checkbox"/> PARTLY OPEN <input type="checkbox"/> PARTLY SHADED <input type="checkbox"/> SHADED | |
| | STUDY REACH AREA | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input checked="" type="checkbox"/> RIFFLE 75% <input type="checkbox"/> RUN % <input checked="" type="checkbox"/> POOL 25% <input type="checkbox"/> CHANNELIZED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> TAXA PRESENT <i>mayflies, stoneflies</i> DAM PRESENT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | |
| LARGE WOODY DEBRIS | LWD | FT. ² | | |
| | DENSITY OF LWD | FT. ² /MI. ² | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT PORTION OF THE REACH WITH AQUATIC VEGETATION % | | | |
| | WATER QUALITY | TEMPERATURE | °C | WATER ODORS <input checked="" type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> SPEC. CONDUCTANCE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> DISSOLVED OXYGEN <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER <input type="checkbox"/> pH <input type="checkbox"/> TURBIDITY |
| WQ INSTRUMENT USED | | WATER SURFACE OILS <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input checked="" type="checkbox"/> NONE <input type="checkbox"/> OTHER | | |
| | | TURBIDITY (IF NOT MEASURED) <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER | | |
| | | SEDIMENT/SUBSTRATE ODORS <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> OTHER OILS <input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | |
| | | DEPOSITS <input checked="" type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | 20 |
| BOULDER | 256 MM (10"+) | 10 | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| COBBLE | 64 - 256 MM (2.5 - 10") | 25 | | | |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | 20 | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 30 | MARL | GREY, SHELL FRAGMENTS | - |
| SILT | 0.004 - 0.06 MM | 15 | | | |
| CLAY | <0.004 MM (SLICK) | - | | | |

Riverine Assessment Form

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in wadeable channels classified as intermittent or perennial

| Project # | Project Name | Locality | HUC | Date | AA # | AA length |
|-----------|--------------------|----------|-----|----------|----------|-----------|
| A115 | FR ALLEGANY TUNNEL | | | 05.22.12 | S-JHS-19 | |

| Name(s) of Evaluator(s) | Stream Name and Information |
|-------------------------|-----------------------------|
| SAC, DLM, LAU | |

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian Vegetation (Floodplain) | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|----------------------------------|--|----|--|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Scores | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along the floodplain using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian Area and Score for each category in the blocks below.

| | | | | | | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|--|--|--|---------|-------------------------|------|
| | | Ensure the sums of % Riparian Blocks equal 100 | | | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | 1.00 0% | | |
| | Score > | 3 | | | | | | | | | | 3 | | |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 1.00 | | | | | | | | | | 1.00 0% | Rt Sub-Index> 0.15 0.00 | CI |
| | Score > | 3 | | | | | | | | | | 3 | Lt Sub-Index> 0.15 0.00 | 0.00 |

0.15

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of areal coverage from aerial photos with field verified acceptable).

| Riparian ZOI | Conditional Category | | | | | | | | NOTES>> | | | | | | | | | | | |
|--------------|--|----|--|--|---|---|---|---|---------|----|----|---|---|---|---|---|---|---|---|---|
| | Optimal | | Suboptimal | | Marginal | | Poor | | | | | | | | | | | | | |
| | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover. Wetlands and stream channels located within the riparian areas. | | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | | | | | | | | | | | | |
| Score | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

- Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
- Estimate the % area within each condition category. Calculators are provided for you below.
- Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

| | | | | | | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|--|--|--|---------|-------------------------|------|
| | | Ensure the sums of % Riparian ZOI Blocks equal 100 | | | | | | | | | | | | |
| Right Side | % Riparian Area> | 1.00 | | | | | | | | | | 1.00 0% | | |
| | Score > | 3 | | | | | | | | | | 3 | | |
| | | CI = Sum (Rt and Lt sub-Indexes)/2 | | | | | | | | | | | | |
| Left Side | % Riparian Area> | 0.90 | | | | | | | | | | 1.00 0% | Rt Sub-Index> 0.15 0.00 | CI |
| | Score > | 2 | | | | | | | | | | 3 | Lt Sub-Index> 0.15 0.00 | 0.00 |

0.15

Comments:
ZOI IS PREMARILY MOWED - MAINTAINED HERBACEOUS WITH AN ADJ. GRAVEL ROAD.

| RIPARIAN ECOTONE CONDITION INDEX | | RECI |
|---|--|------|
| NOTE: The CIs and RECI should be rounded to 2 decimal places. | | 0.00 |
| THE RIPARIAN ECOTONE CONDITION INDEX (RECI) RECI = (Sum of C1's)/2 | | 0.15 |

0.15



S-JHS-19 overview, facing upstream.



S-JHS-19 overview, facing downstream.

STREAM S-JHS-20

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | | | |
|---------------|-----------|-----------|---------|----------------------|----------|---------------------------|--|
| STREAM NAME | | S-JHS-20 | | CLIENT | | PTC | |
| STREAM CLASS | | Perennial | | PROJECT | | Allegheny Tunnel | |
| INVESTIGATORS | SAC, D.M. | DATE | 5/22/12 | MM/DD/YR | LOCATION | Somerset County, PA | |
| | L.H. | TIME | 12:30 | 24 HOUR (I.E. 16:45) | | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | | Royston Branch of Juniata | |
| STATION # | | RIVERMILE | | STORET # | | | |

| | | | | |
|--------------------|-------------------------------------|-------------------------------------|---|-----------------------------|
| WEATHER CONDITIONS | NOW | PAST 24 HOURS | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | <input type="checkbox"/> | <input type="checkbox"/> | AIR TEMPERATURE | |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 70 | °F |
| | STORM (HEAVY RAIN) | <input type="checkbox"/> | OTHER | |
| | RAIN (STEADY RAIN) | <input type="checkbox"/> | | |
| | SHOWERS (INTERMITTENT) | <input checked="" type="checkbox"/> | | |
| | 90 % CLOUD COVER | <input type="checkbox"/> | | |
| | CLEAR/SUNNY | <input type="checkbox"/> | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | | | |
|---|--|------------------------------|--|------------------------------|------|---------|
| FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING. | | RIGHT BANK (FACE DOWNSTREAM) | | HORIZONTAL (A) | 21 | FT. |
| | | LEFT BANK (FACE DOWNSTREAM) | | HORIZONTAL (C) | 15 | FT. |
| | | | | VERTICAL (B) | 2.5 | FT. |
| | | | | VERTICAL (D) | 5 | FT. |
| | | CHANNEL DIMENSIONS | | TOP WIDTH (E) | 20 | FT. |
| | | | | BOTTOM WIDTH (F) | 2.5 | FT. |
| | | | | OVERALL DEPTH (G) | 25 | FT. |
| | | | | ORDINARY HIGH WATER MARK (H) | 1 | FT. |
| | | | | FLOW DEPTH (I) | 0.25 | FT. |
| | | | | APPROX. SURFACE VELOCITY | 5 | FT./SEC |

| | | | | |
|--|---|--|-------------------------------------|--|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | <input type="checkbox"/> WARM WATER | |
| | STREAM ORIGIN | | CATCHMENT AREA | |
| <input type="checkbox"/> GLACIAL | | SQ. MI. | | |
| <input type="checkbox"/> NON-GLACIAL MONTANE | | <input checked="" type="checkbox"/> SPRING FED | | |
| <input type="checkbox"/> SWAMP AND BOG | | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| | | <input type="checkbox"/> OTHER | | |

STREAM ID: S-JHS-20

not dominant but present Japanese Knot Weed

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | |
|--|--|---|--|---|--|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input checked="" type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input type="checkbox"/> RESIDENTIAL | | LOCAL WATERSHED NPS POLLUTION <input type="checkbox"/> NO EVIDENCE <input checked="" type="checkbox"/> SOME POTENTIAL SOURCES <input type="checkbox"/> OBVIOUS SOURCES | | |
| | LOCAL WATERSHED EROSION <input checked="" type="checkbox"/> NONE <input type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | | | | |
| RIPARIAN VEG. (18 M. BUFFER) | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input checked="" type="checkbox"/> GRASSES <input checked="" type="checkbox"/> HERBACEOUS | | | | |
| | DOMINANT SPECIES PRESENT? <i>giant reed, small willow, willow, mustard, goldenrod, dandelion, grass (see previous), crown vetch, red fescue</i> | | | | |
| INSTREAM FEATURES | STUDY LENGTH | | FT. | CANOPY COVER | |
| | STREAM WIDTH | 2.5 | FT. | <input type="checkbox"/> OPEN <input type="checkbox"/> PARTLY OPEN <input type="checkbox"/> PARTLY SHADED <input type="checkbox"/> SHADED | |
| | STUDY REACH AREA | | AC. | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES | |
| | EST. DRAINAGE AREA | | SQ. MI. | <input checked="" type="checkbox"/> RIFFLE 100% <input type="checkbox"/> RUN <input type="checkbox"/> POOL <input type="checkbox"/> % | |
| MACROINVERTEBRATES PRESENT? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | CHANNELIZED | <input type="checkbox"/> YES <input type="checkbox"/> NO | |
| TAXA PRESENT | <i>Caddis + stoneflies</i> | | DAM PRESENT | <input type="checkbox"/> YES <input type="checkbox"/> NO | |
| LARGE WOODY DEBRIS | LWD | | FT. ² | | |
| | DENSITY OF LWD | | FT. ² /MI. ² | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING | | | | |
| | DOMINANT SPECIES PRESENT PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | | |
| WATER QUALITY | TEMPERATURE | | °C | WATER ODORS | |
| | SPEC. CONDUCTANCE | | | <input checked="" type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE | |
| | DISSOLVED OXYGEN | | | <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL | |
| | pH | | | <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER | |
| TURBIDITY | | | WATER SURFACE OILS | | |
| WQ INSTRUMENT USED | | | <input type="checkbox"/> SLICK <input type="checkbox"/> SHEEN - Oily | | |
| | | | <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS | | |
| | | | <input checked="" type="checkbox"/> NONE <input type="checkbox"/> OTHER | | |
| | | | TURBIDITY (IF NOT MEASURED) | | |
| | | | <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID | | |
| | | | <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE | | |
| | | | <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER | | |
| SEDIMENT/SUBSTRATE | ODORS | | DEPOSITS | | |
| | <input checked="" type="checkbox"/> NORMAL | <input type="checkbox"/> ANAEROBIC | <input checked="" type="checkbox"/> SLUDGE | <input type="checkbox"/> SAWDUST | |
| | <input type="checkbox"/> SEWAGE | <input type="checkbox"/> NONE | <input type="checkbox"/> PAPER FIBER | <input type="checkbox"/> SAND | |
| | <input type="checkbox"/> PETROLEUM | <input type="checkbox"/> CHEMICAL | <input type="checkbox"/> RELICT SHELLS | | |
| <input type="checkbox"/> OTHER | | <input type="checkbox"/> OTHER | | | |
| OILS | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? | | | |
| <input checked="" type="checkbox"/> ABSENT | <input type="checkbox"/> SLIGHT | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | | |
| <input type="checkbox"/> MODERATE | <input type="checkbox"/> PROFUSE | | | | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|---|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | 10 | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (CPOM) | - |
| BOULDER | 256 MM (10"+) | 15 | | | |
| COBBLE | 64 - 256 MM (2.5 - 10") | 25 | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | 30 | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | 20 | | | |
| SILT | 0.004 - 0.06 MM | 20 | MARL | GREY, SHELL FRAGMENTS | - |
| CLAY | <0.004 MM (SLICK) | - | | | |



S-JHS-20 overview, facing upstream.



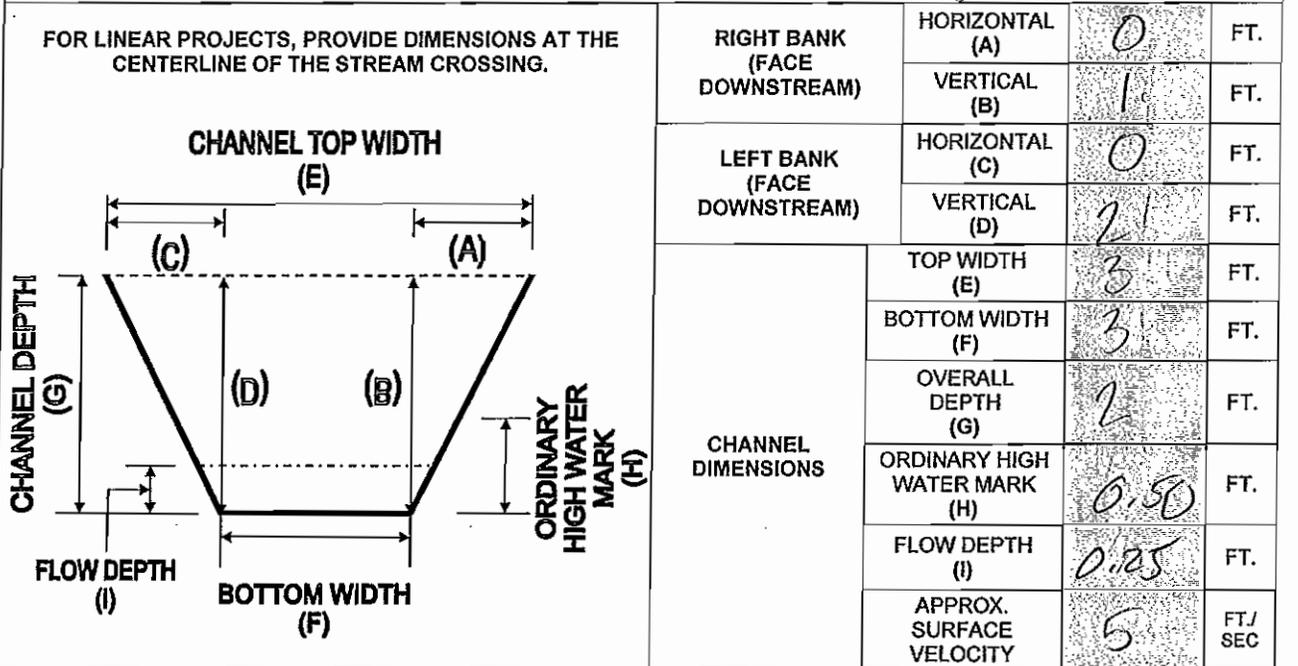
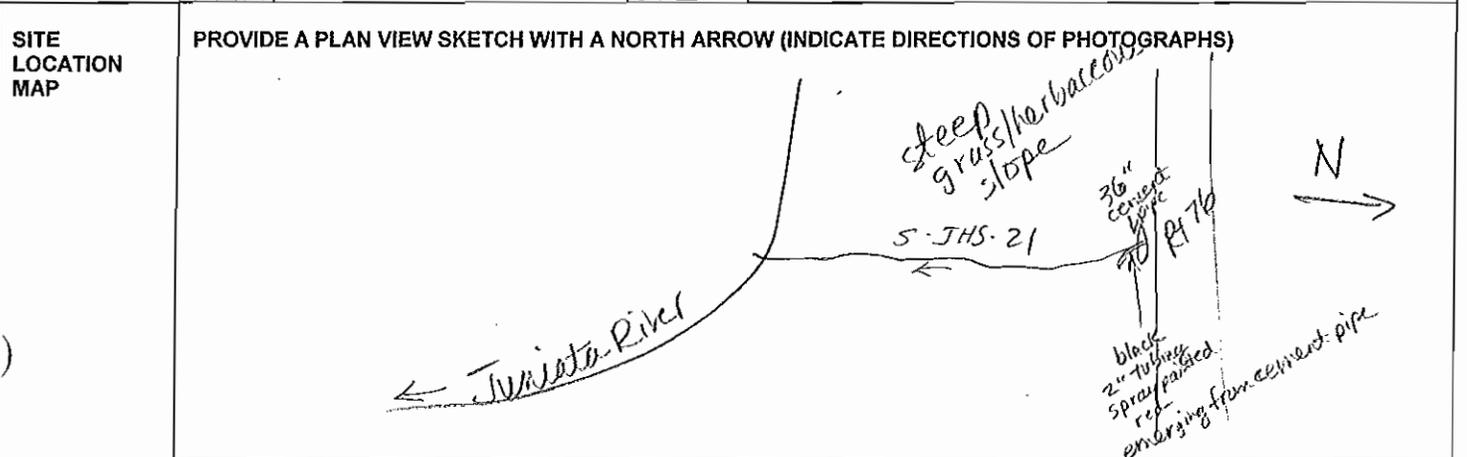
S-JHS-20 overview, facing downstream.

STREAM S-JHS-21

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | | |
|---------------|---------------|-------------------------|---------|-------------|----------------------------|--|
| STREAM NAME | | S-JHS-21 | | CLIENT | PTC | |
| STREAM CLASS | | perennial based on flow | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | SRC, DLM, LAU | DATE | 5/23/12 | LOCATION | Somerset County, PA | |
| | | TIME | 10:25 | | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Raystown Branch of Juniata | |
| STATION # | | RIVERMILE | | STORET # | | |

| | | | | | |
|--------------------|--|------------------------|--------------------------|-----------------|--|
| WEATHER CONDITIONS | NOW | | PAST 24 HOURS | | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | <input type="checkbox"/> | | |
| | <input checked="" type="checkbox"/> 90 | % CLOUD COVER | 90 | AIR TEMPERATURE | 65 °F |
| | <input type="checkbox"/> | CLEAR/SUNNY | <input type="checkbox"/> | OTHER | |



| | | | | |
|-------------------------|---|--|--|-------------------------------------|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input checked="" type="checkbox"/> COLD WATER | <input type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| | STREAM ORIGIN | | OTHER | |
| | <input type="checkbox"/> GLACIAL | <input checked="" type="checkbox"/> SPRING FED | | |
| | <input type="checkbox"/> NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> MIXTURE OF ORIGINS | | |
| | <input type="checkbox"/> SWAMP AND BOG | <input checked="" type="checkbox"/> OTHER | storm runoff | |

STREAM ID: S-JHS-21

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | |
|--------------------|---|--|---|---|
| WATERSHED FEATURES | PREDOMINANT SURROUNDING LANDUSE <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> COMMERCIAL <input checked="" type="checkbox"/> FIELD/PASTURE <input type="checkbox"/> INDUSTRIAL <input checked="" type="checkbox"/> AGRICULTURAL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> RESIDENTIAL <i>Transportation</i> | | LOCAL WATERSHED NPS POLLUTION <input type="checkbox"/> NO EVIDENCE <input checked="" type="checkbox"/> SOME POTENTIAL SOURCES <input checked="" type="checkbox"/> OBVIOUS SOURCES <i>Rt 76</i> LOCAL WATERSHED EROSION <input type="checkbox"/> NONE <input checked="" type="checkbox"/> MODERATE <input type="checkbox"/> HEAVY | |
| | RIPARIAN VEG. (18 M. BUFFER) INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input checked="" type="checkbox"/> TREES <input type="checkbox"/> SHRUBS <input type="checkbox"/> GRASSES <input type="checkbox"/> HERBACEOUS DOMINANT SPECIES PRESENT? <i>orchard grass, daisies, dock, cherry, aspen, bushclover</i> | | | |
| INSTREAM FEATURES | STUDY LENGTH | FT. | CANOPY COVER | |
| | STREAM WIDTH | FT. | <input type="checkbox"/> OPEN <input type="checkbox"/> PARTLY OPEN <input type="checkbox"/> PARTLY SHADED <input type="checkbox"/> SHADED | |
| LARGE WOODY DEBRIS | LWD | FT. ² | PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES <input checked="" type="checkbox"/> RIFFLE <i>30</i> % <input type="checkbox"/> RUN _____ % <input checked="" type="checkbox"/> POOL <i>20</i> % CHANNELIZED <input type="checkbox"/> YES <input type="checkbox"/> NO DAM PRESENT <input type="checkbox"/> YES <input type="checkbox"/> NO | |
| | DENSITY OF LWD | FT. ² /MI. ² | | |
| AQUATIC VEGETATION | INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT <input type="checkbox"/> ROOTED EMERGENT <input type="checkbox"/> ROOTED SUBMERGENT <input type="checkbox"/> ROOTED FLOATING <input type="checkbox"/> FLOATING ALGAE <input type="checkbox"/> ATTACHED ALGAE <input type="checkbox"/> FREE FLOATING DOMINANT SPECIES PRESENT _____ PORTION OF THE REACH WITH AQUATIC VEGETATION _____ % | | | |
| | WATER QUALITY | TEMPERATURE | °C | WATER ODORS <input type="checkbox"/> NORMAL/NONE <input type="checkbox"/> SEWAGE <input type="checkbox"/> SPEC. CONDUCTANCE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input type="checkbox"/> DISSOLVED OXYGEN <input type="checkbox"/> FISHY <input type="checkbox"/> OTHER _____ <input type="checkbox"/> pH <input type="checkbox"/> TURBIDITY WQ INSTRUMENT USED _____ |
| | | WATER SURFACE OILS <input type="checkbox"/> SLICK <input checked="" type="checkbox"/> SHEEN - Oily <input type="checkbox"/> GLOBS <input type="checkbox"/> FLECKS <input type="checkbox"/> NONE <input type="checkbox"/> OTHER _____ TURBIDITY (IF NOT MEASURED) <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> SLIGHTLY TURBID <input type="checkbox"/> TURBID <input type="checkbox"/> OPAQUE <input type="checkbox"/> STAINED <input type="checkbox"/> OTHER _____ | | |
| SEDIMENT/SUBSTRATE | ODORS <input type="checkbox"/> NORMAL <input type="checkbox"/> ANAEROBIC <input type="checkbox"/> SEWAGE <input type="checkbox"/> NONE <input type="checkbox"/> PETROLEUM <input type="checkbox"/> CHEMICAL <input checked="" type="checkbox"/> OTHER _____ | | DEPOSITS <input type="checkbox"/> SLUDGE <input type="checkbox"/> SAWDUST <input type="checkbox"/> PAPER-FIBER <input type="checkbox"/> SAND <input type="checkbox"/> RELICT SHELLS <input type="checkbox"/> OTHER _____ | |
| | OILS <input type="checkbox"/> ABSENT <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> PROFUSE | | UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | |

| INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%) | | | ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%) | | |
|--|-------------------------|---------------------------------|--|--|---------------------------------|
| SUBSTRATE TYPE | DIAMETER | % COMPOSITION IN SAMPLING REACH | SUBSTRATE TYPE | CHARACTERISTIC | % COMPOSITION IN SAMPLING REACH |
| BEDROCK | - | - | DETRITUS | STICKS, WOOD, COARSE PLANT MATERIALS (C POM) | <i>15</i> |
| BOULDER | 256 MM (10"+) | <i>50</i> | MUCK - MUD | BLACK, VERY FINE ORGANIC (FPOM) | - |
| COBBLE | 64 - 256 MM (2.5 - 10") | <i>10</i> | MARL | GREY, SHELL FRAGMENTS | - |
| GRAVEL | 2 - 64 MM (0.1 - 2.5") | <i>20</i> | | | |
| SAND | 0.06 - 0.2 MM (GRITTY) | <i>10</i> | | | |
| SILT | 0.004 - 0.06 MM | <i>10</i> | | | |
| CLAY | <0.004 MM (SLICK) | - | | | |



S-JHS-21 overview, facing upstream.



S-JHS-21 overview, facing downstream.

STREAM S-JHS-22

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

| | | | | | | |
|---------------|-----------------|-----------|---------|----------------------|----------------------------|---------------------|
| STREAM NAME | S-JHS-22 | | | CLIENT | PTC | |
| STREAM CLASS | Perennial | | | PROJECT | Allegheny Tunnel | |
| INVESTIGATORS | SRC, DLM LAU | DATE | 5/23/12 | MM/DD/YR | LOCATION | Somerset County, PA |
| | | TIME | 11:50 | 24 HOUR (I.E. 16:45) | | |
| LATITUDE | | LONGITUDE | | RIVER BASIN | Raystown Branch of Juniata | |
| STATION # | - | RIVERMILE | - | STORET # | - | |

| | | | | | | | | | | |
|--------------------------|-------------------------------------|------------------------|--------------------------|-------------------------------------|---|-------------------------------------|-----|--------------------------|----|--|
| WEATHER CONDITIONS | NOW | | PAST 24 HOURS | | HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? | <input checked="" type="checkbox"/> | YES | <input type="checkbox"/> | NO | |
| | <input type="checkbox"/> | STORM (HEAVY RAIN) | <input type="checkbox"/> | | AIR TEMPERATURE | 105 | °F | | | |
| | <input type="checkbox"/> | RAIN (STEADY RAIN) | <input type="checkbox"/> | | | | | | | |
| | <input type="checkbox"/> | SHOWERS (INTERMITTENT) | <input type="checkbox"/> | | OTHER | | | | | |
| | <input checked="" type="checkbox"/> | 90 % CLOUD COVER | 90 | <input checked="" type="checkbox"/> | | | | | | |
| <input type="checkbox"/> | CLEAR/SUNNY | | <input type="checkbox"/> | | | | | | | |

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------------------------------|----------------|-----|-----|--------------|-----|-----|-----------------------------|----------------|-----|-----|--------------|-----|-----|--------------------|---------------|----|-----|------------------|----|-----|-------------------|-----|-----|------------------------------|-----|-----|----------------|-----|-----|--------------------------|-----|---------|
| <p>FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.</p> <div style="text-align: center;"> </div> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2">RIGHT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (A)</td> <td>7.0</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (B)</td> <td>7.0</td> <td>FT.</td> </tr> <tr> <td rowspan="2">LEFT BANK (FACE DOWNSTREAM)</td> <td>HORIZONTAL (C)</td> <td>6.0</td> <td>FT.</td> </tr> <tr> <td>VERTICAL (D)</td> <td>5.0</td> <td>FT.</td> </tr> <tr> <td rowspan="6" style="text-align: center;">CHANNEL DIMENSIONS</td> <td>TOP WIDTH (E)</td> <td>33</td> <td>FT.</td> </tr> <tr> <td>BOTTOM WIDTH (F)</td> <td>20</td> <td>FT.</td> </tr> <tr> <td>OVERALL DEPTH (G)</td> <td>6.0</td> <td>FT.</td> </tr> <tr> <td>ORDINARY HIGH WATER MARK (H)</td> <td>4.0</td> <td>FT.</td> </tr> <tr> <td>FLOW DEPTH (I)</td> <td>1.0</td> <td>FT.</td> </tr> <tr> <td>APPROX. SURFACE VELOCITY</td> <td>2.0</td> <td>FT./SEC</td> </tr> </table> | RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | 7.0 | FT. | VERTICAL (B) | 7.0 | FT. | LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 6.0 | FT. | VERTICAL (D) | 5.0 | FT. | CHANNEL DIMENSIONS | TOP WIDTH (E) | 33 | FT. | BOTTOM WIDTH (F) | 20 | FT. | OVERALL DEPTH (G) | 6.0 | FT. | ORDINARY HIGH WATER MARK (H) | 4.0 | FT. | FLOW DEPTH (I) | 1.0 | FT. | APPROX. SURFACE VELOCITY | 2.0 | FT./SEC |
| RIGHT BANK (FACE DOWNSTREAM) | HORIZONTAL (A) | | 7.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (B) | 7.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEFT BANK (FACE DOWNSTREAM) | HORIZONTAL (C) | 6.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VERTICAL (D) | 5.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHANNEL DIMENSIONS | TOP WIDTH (E) | 33 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BOTTOM WIDTH (F) | 20 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OVERALL DEPTH (G) | 6.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ORDINARY HIGH WATER MARK (H) | 4.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLOW DEPTH (I) | 1.0 | FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | APPROX. SURFACE VELOCITY | 2.0 | FT./SEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|-------------------------------------|---|---------------------------------------|-------------------------------------|-------------------------------------|
| STREAM CHARACTERIZATION | STREAM SUBSYSTEM | | STREAM TYPE | |
| | <input checked="" type="checkbox"/> PERENNIAL | <input type="checkbox"/> INTERMITTENT | <input type="checkbox"/> COLD WATER | <input type="checkbox"/> WARM WATER |
| | <input type="checkbox"/> EPHEMERAL | <input type="checkbox"/> TIDAL | CATCHMENT AREA _____ SQ. MI. | |
| STREAM ORIGIN | | | | |
| <input type="checkbox"/> | GLACIAL | <input checked="" type="checkbox"/> | SPRING FED | |
| <input checked="" type="checkbox"/> | NON-GLACIAL MONTANE | <input checked="" type="checkbox"/> | MIXTURE OF ORIGINS | |
| <input checked="" type="checkbox"/> | SWAMP AND BOG | <input type="checkbox"/> | OTHER _____ | |