Bath Township Zoning

Summit County, Ohio

3864 West Bath Road - P.O. Box 1188 - Bath, Ohio - 44210-1188
Phone: 330.666.4007 - Fax: 330.666.0305
www.bathtownship.org

Zoning Variance Application

For office use only:	ARC File No.:		BZA File No.:
Associated permits:			

Applicant Data

Name: David Koontz, PE

Company Name: Summit County Surface Water Management District

Address: 583 E South St Akron, Ohio 44311

Telephone No.: 330-643-8537 Email: dkoontz@summitengineer.net

Property Data

Zoning District: (circle one) R-1 (R-2) R-3 R-4 B-1 B-2 B-3 B-4 B-5

Corner Lot: ☐ Yes ☑ No Note: Corner lots are required to meet the front setback on both streets.

Property Address: N Hametown Rd Parcel No.: 0402593, 0401179, 0401180

Allotment Name: _____ Lot No.: 83

Owner(s): County of Summit

Owner Address: 175 South Main Street, Akron OH 44308

Telephone No.: _____

Variance(s) Requested

Below list the specific section from the Zoning Resolution from which the variance is being sought along with a description of each variance. The Zoning Resolution is available online at www.bathtownship.org through the zoning link.

1. Section: 602-C-(2)(B) Description: Changing of topography including grading, excavating, and filling for the construction of new, and enhancement of existing, wetland areas.

2. Section: 602-C-(2)(E) Description: Temporary removal of natural vegetation from the riparian area, including noxious weeds and native plants, which will be replaced with native species.

3. Section: _____ Description: _____

4. Section: _____ Description: _____

Contiguous Property Owners

The Township will notify all property owners within a 300' buffer of the parcel in question.

Required Site Plan Data and Architectural/Construction Drawings

1. Six (6) copies of site plan and plans along with a digital copy (ex: .pdf) of site plan and plans (11 x 17 preferred). The site plan must show the following:
   - ❑ A North arrow and scale
   - ❑ Existing structures and dimensions
   - ❑ Driveway and road access locations (existing and/or proposed)
   - ❑ Proposed structure(s) and dimensions
   - ❑ All setbacks
   - ❑ Roads
   - ❑ Lot dimensions
   - ❑ Easements and details
   - ❑ Septic system and well location (if applicable)
   - ❑ Indicate the location of lakes, ponds, wetlands, ravines, or other unusual topography
   - ❑ Riparian Corridor(s) must be clearly indicated on all lots containing applicable watercourses
   - ❑ All slopes greater than 18% must be indicated on a two (2) foot contour interval map with the contours extending at least 100 feet beyond the lot lines

2. If applicable, Six (6) copies of the building/construction plans along with a digital copy (ex: .pdf) showing major details including height data must be submitted with the application (11 x 17 preferred).

3. The "Bath Township Area Variance Supplemental Form" shall be filled out completely for each variance requested.

4. Digital copy of all required documents (i.e. emailed .pdf file)

Applicant Certification

Applicant Signature: David Koons Date: 6/9/25

Fee – due at time of application (make check payable to *Bath Township Trustees*)

- for residential applications – two hundred and fifty dollars ($250.00)
- for commercial/business applications – three hundred and fifty dollars ($350.00)
- for major subdivisions or use variances – five hundred dollars ($500.00)

For Office Use Only

Appearance Review Commission File No.: ARC - -

Board of Zoning Appeals File No.: BZA - -

Hearing Date: _____ Public Notice Date: _____

Published In: _____ Abutting Property Owners Notification Date: _____

❑ Approved ❑ Approved with Conditions ❑ Denied

Comments: _____

_____

Zoning Inspector Signature: _____ Date: _____

Bath Township Area Variance Supplemental Form

Project Overview

Provide an overview of the project:

To enhance storage capacity and reduce erosive flows, four bankfull wetlands will be designed and constructed on county parcels within the Idle Brook sub-watershed, providing approximately 25 acre-feet of total storage. The establishment of wetland vegetation and hydrology will improve habitat quality and water conditions both on-site and downstream by minimizing erosion and subsequently reducing sedimentation further downstream.

Practical Difficulties

The following factors shall be considered and weighed by the BZA to determine practical difficulty. If a factor is not applicable, please note that factor as "Not Applicable":

A. Explain special conditions or circumstances that exist which are peculiar to your land or structure involved and which are not applicable generally to other lands or structures in the same Zoning District. (Examples of this are: exceptional irregularity, narrowness, shallowness or steepness of the lot, or adjacency to nonconforming and inharmonious uses, structures or conditions):

n/a

B. Explain how the property in question would not yield a reasonable return on investment or there could not be any beneficial use of the property without the variance.

Impact within the riparian area is essential to construct new, and enhance existing, *Wetland areas to improve floodplain storage and connection.*

C. Explain whether the variance is substantial or not:

The variance is not substantial as the intent and purpose of the riparian ordinance is to reduce flood impacts and stabilize the banks of watercourses, which this project will accomplish.

D. Explain whether the essential character of the neighborhood would be substantially altered or if adjoining properties would suffer a substantial detriment as a result of the variance.

Water quality and flooding conditions will be improved with this project.

E. Explain whether the variance would adversely affect the delivery of governmental services (e.g., water, sewer, garbage, fire, street services,).

No, this variance would not adversely affect the delivery of governmental services.

F. Did the applicant purchase the property with or without knowledge of the applicable zoning restriction?

Property is owned by applicant, who is aware of the applicable zoning restriction.

G. Explain whether the special conditions or circumstances (listed in response to question A *above) were a result of actions of the applicant or prior owners.*

n/a

H. Demonstrate whether the applicant's predicament feasibly can be resolved through a method other than a variance (e.g., a zone-conforming but unworkable example, or by minimizing the variance).

Without a variance, new wetlands cannot be constructed and existing wetlands cannot be enhanced.

I. Explain whether the spirit and intent behind the zoning requirement would be observed and/or substantial justice done by granting the variance.

The spirit and intent of this zoning requirement is observed as the purpose of the riparian ordinance is to reduce flood impacts and stabilize the banks of watercourses, which this project will accomplish.

No single factor listed above may control, and not all factors may be applicable in each case. Each case shall be determined on its own facts.

IDLE BROOK BANKFULL WETLANDS

Fact Sheet

The Proposed Project

The Idle Brook Bankfull Wetland Project will restore the degraded floodplain in this publicly-owned parcel. By removing earthen fill and invasive species, the project will lower the floodplain and restore a more natural hydrologic connection between the streams and the restored wetlands. Restoration of more natural wetland hydrology will promote the growth of native plant species and provide habitat for aquatic fauna, amphibians, and birds. The restored floodplain wetlands will also expand the available space for flood waters during large rain events helping to reduce flooding and erosion in the downstream portions of Yellow Creek. Reduced stream erosion in Yellow Creek will improve both the water quality and habitat for native fish such as rainbow darters and the aquatic insects they need for food such as mayfly and damselfly larvae. In sum, this project will not only restore a functioning floodplain wetland, but will provide benefits for many miles of the downstream creek!

What is a Wetland?

Wetlands are areas of ground that remain saturated with water for extended periods of time. They are critical sources of biodiversity and habitat. The National Audubon Society has identified many Ohio wetlands as Important Bird Areas for the valuable habitat they provide to both land birds and waterfowl. Unfortunately, over 90 percent of Ohio's wetlands have been drained or filled for agriculture and development.

Benefits of Wetlands

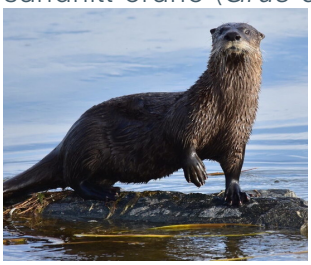
- Act as "nature's kidneys" to filter pollutants and sediment to improve water quality.
- Help stabilize shorelines and reduce erosion.
- Encourage groundwater infiltration and act as storage for snowmelt runoff.
- Help control floods by storing large amounts of water during large rain events.
- Provide habitat to many species of plants and animals around the world.
- Benefit people by reducing flooding and erosion and providing recreational opportunities such as nature walks and bird watching.

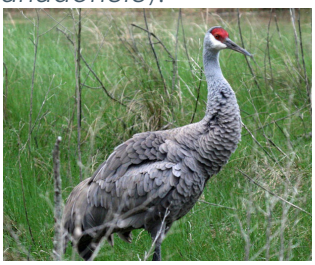
The Problem

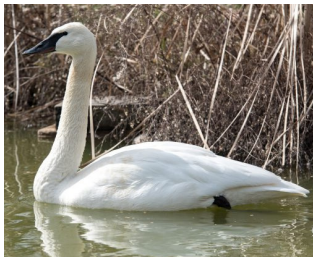
The existing public parcel is a degraded floodplain in need of restoration. Centuries of sediment accumulation from watershed deforestation and other human impacts have filled in former wetlands and disconnected several streams from their floodplains. Large portions of the floodplain are overrun by the invasive plant "common reed" (*Phragmites australis*) that makes the floodplain impenetrable for many native plants and animals and inaccessible for nature walks.

How Do Restored Wetlands Benefit Ohio's Animals?

A wide variety of animals call wetlands home. Wetlands can attract familiar friends like deer, rabbits, turtles, and ducks, as well as provide habitat and food for animals like the North American river otter (*Lontra canadensis*), the state-threatened trumpeter swan (*Cygnus buccinator*), and the state-endangered sandhill crane (*Grus canadensis*).



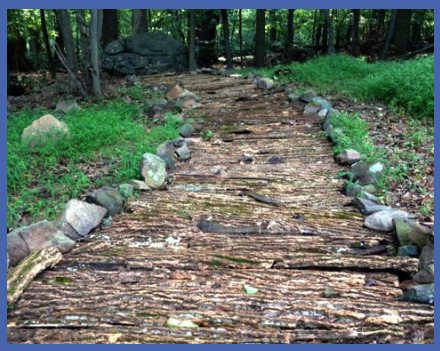




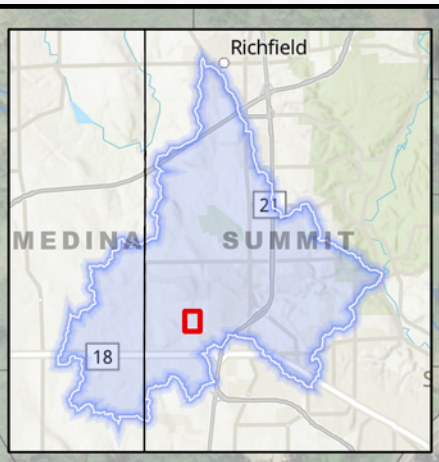
How Do Restored Wetlands Benefit Ohio's Native Plants?

The abundance of water means that many aquatic and moisture-loving plants that you wouldn't normally encounter flourish in wetland ecosystems. Waterfowl and other animals feed on the leaves, seeds, flowers, roots, and tubers of these wetland plants. Ducks aren't the only ones to enjoy these plants; nature lovers will also delight. Many species throw off striking blooms in the spring and summer months, like lizards' tail (*Saururus cernuus*), swamp mallow (*Hibiscus moscheutus*), and pickerelweed (*Pontederia cordata*).

Elevated trails can make recreation and enjoying wetlands fun, safe, and accessible!

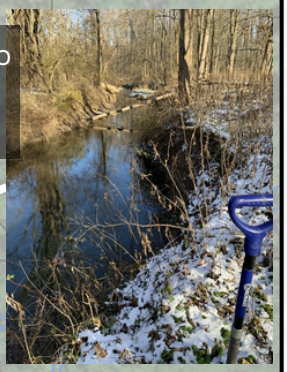


Idle Brook Existing Conditions - Nov 2022



LOIS DR

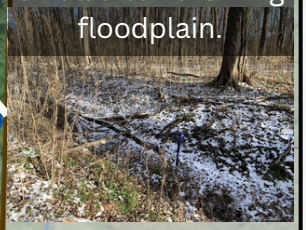
Chronic erosion on West Fork due to channel entrenchment, floodplain berms & floodplain disconnection.



WEST FORK

Some large segments within the power easement are dry with upland vegetation.

Small ditch draining floodplain.



N HAMETOWN RD

YELLOW CREEK

Many of the proposed wetland restoration areas are currently dry & dominated by invasive upland vegetation like bush honeysuckle (shown below) & multiflora rose

YELLOW CREEK

Some segments within the power line easement are infested with Phragmites.

IDLE BROOK

Access path disconnects Idle Brook & floodplain.

Severe erosion on Yellow Creek with post-settlement alluvium & disconnected floodplain.

COLONY HILLS DR

Property Boundary
Parcels
Existing Berms & Access Roads

N

0 250 500 Feet

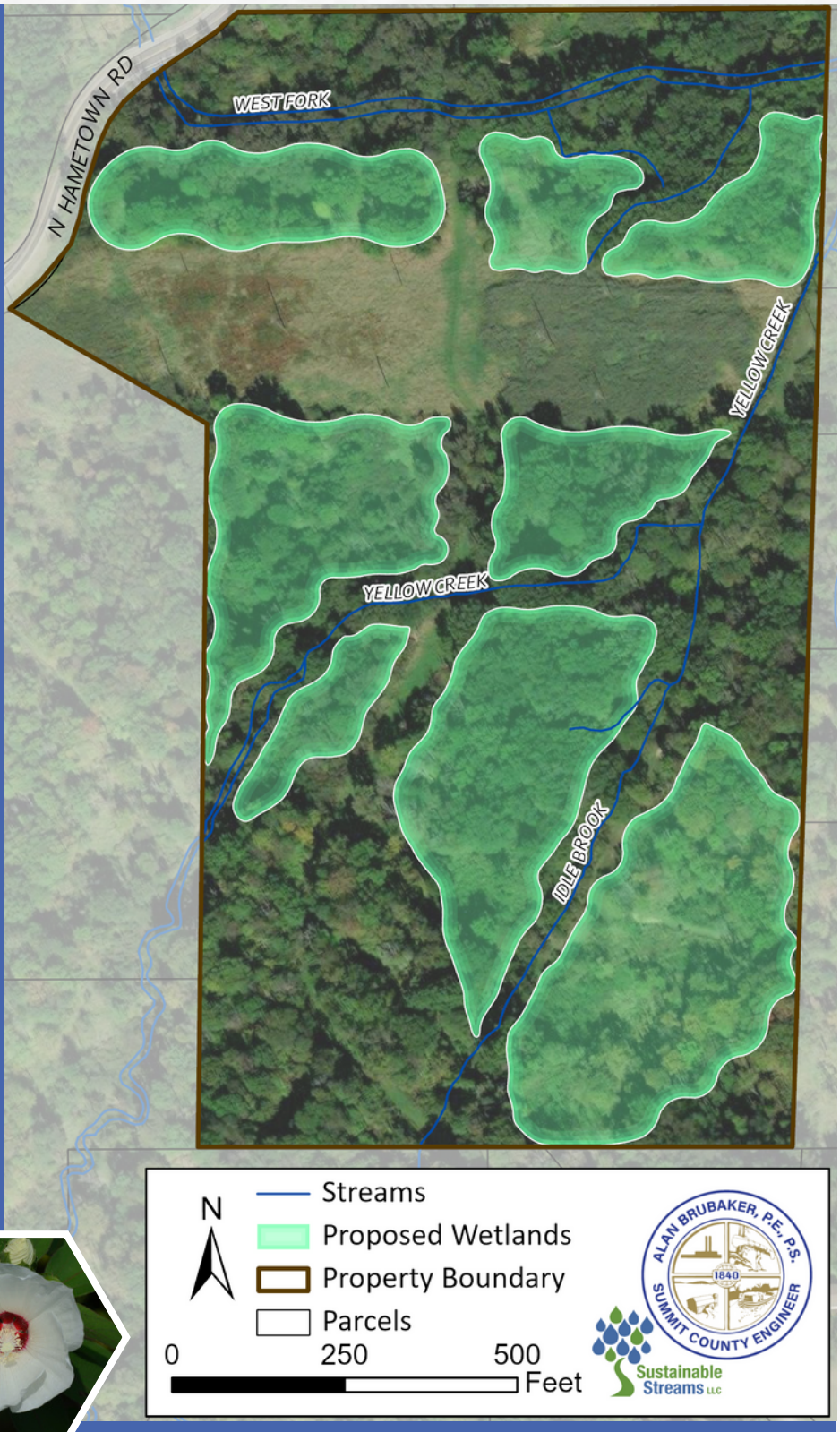
ALAN BRUBAKER, P.E., P.S. SUMMIT COUNTY ENGINEER 1840

Sustainable Streams LLC

Idle Brook Bankfull Wetlands

Project Information

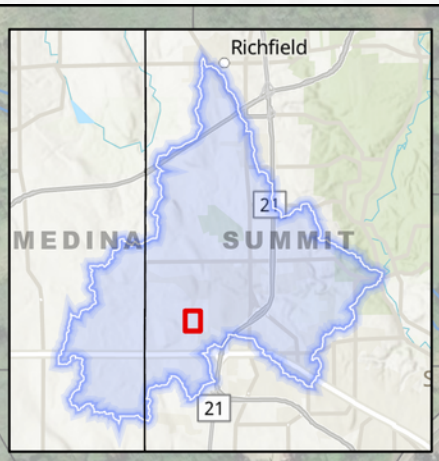
Location: Summit County
Property Owner: Summit County Engineer
Property Area: ~35 acres
Summary of Proposed Work: Restoration of bankfull wetlands with a combined storage volume of up to ~46 acre-feet.



Wetlands can attract a wide variety of mammals, amphibians, reptiles & birds, like the endangered Blanding's turtle (*Emydoidea blandingii*) & the state-threatened trumpeter swan (*Cygnus buccinator*) & sandhill crane (*Grus canadensis*).

The abundance of water means that aquatic & moisture-loving plants flourish in wetland ecosystems. These plants provide food for many animals & create beautiful blooms for nature-lovers to admire.

Idle Brook Bankfull Wetlands



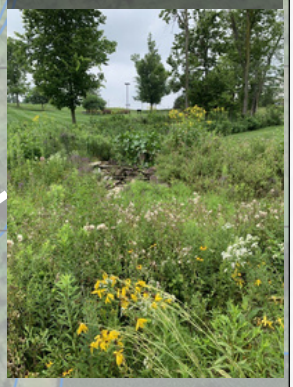
LOIS DR

Re-use of on-site wood provides habitat variability.

WEST FORK

Excavation avoids utility easements.

Stream and floodplain connectivity restored.

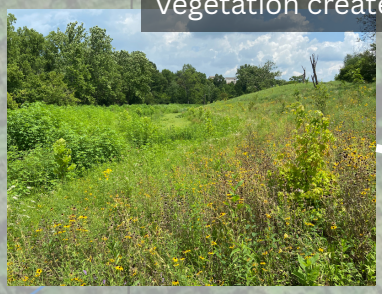


N HAMETOWN RD

YELLOW CREEK

High-quality diverse wetland habitat with native vegetation created.

YELLOW CREEK



IDLE BROOK

Bioengineered stream connections to ensure long-term stability and habitat benefits.

COLONY HILLS DR

N

Streams
Proposed Wetlands
Property Boundary
Parcels
Yellow Creek Watershed

0 250 500 Feet

ALAN BRUBAKER, P.E., P.S.
SUMMIT COUNTY ENGINEER
1840

Sustainable Streams LLC

EXISTING CONDITIONS

LENGTH OF MAPPED STREAMS ON SITE = ~4,084 LF

AREA OF MAPPED WETLANDS ON SITE = ~17.7 ACRES

CRITERIA ENGINEERING PRELIMINARY PLANS BASED ON CURSORY INFORMATION. 1-FOOT CONTOURS GENERATED FROM OGRIP DEM DATA. EXISTING STREAMS AND WETLANDS INFORMED BY DELINEATION BY MAD SCIENTISTS IN JULY 2024. PARCEL LINES WERE SURVEYED BY SUMMIT COUNTY ENGINEER'S OFFICE (SCE). EXISTING TREELINE AND STRUCTURES WERE PROVIDED IN CAD BASEMAPPING PROVIDED BY SCE (JULY 2022). UTILITIES ARE BASED ON MARKERS FOUND IN THE FIELD AND SURVEYED BY SCE.

WILLOW ECHOES ALLOTMENT
PLAT BOOK 50
PAGES 20-21
LOT 2

LOT 1

LOT 3

YELLOW CREEK

APPROX. LOCATION OF EX. LOWHEAD DAM BASED ON FIELD VISIT

PN 0403464
NESTER MARK J AND ELISE M
CRYSTAL LAKE ROAD
DEED RN 56055232

PPN 0402593
COUNTY OF SUMMIT
NORTH HAMETOWN ROAD
DEED NUMBER 533477
OR 365 PG 402-406

RIGHT OF WAY
OHIO EDISON CO
DEED VOLUME 317 PAGES 263-270

PN 0407
OHIO EDISON CO
CRYSTAL LAKE ROAD
DEED VOL 3162 PAGES 679-680

PN 0406591
PHILLIPS RICHARD D AND RITA M
HAMETOWN ROAD
DEED RN 55442813

SEE BOCK & CLARK SURVEY

N. HAMETOWN ROAD

PARCEL 3

PN 0406933
NESTER MARK J AND ELISE M
440 CRYSTAL LAKE ROAD
DEED RN 56206312

PARCEL 2

PPN 0401179
COUNTY OF SUMMIT
NORTH HAMETOWN ROAD
DEED NUMBER 533477
OR 365 PG 402-406

PN 0400713
GRAVES S KEITH AND MICHELE A
404 CRYSTAL LAKE ROAD
DEED RN 56055224

PARCEL 1

EX TRAIL

PN 0401148
GRAVES S KEITH AND MICHELE A
CRYSTAL LAKE ROAD
DEED RN 56055224

PPN 0401180
COUNTY OF SUMMIT
NORTH HAMETOWN ROAD
DEED NUMBER 533477
OR 365 PG 402-406

COLONY HILLS CONDOMINIUM
PLAT BOOK 74
PAGES 39
PN 0406590

COLONY HILLS CONDOMINIUM
PLAT BOOK 74
PAGES 39

LOT 9

LOT 18

LOT 19

435

GAS LINE LOCATION IS BASED ON A PHYSICAL SURVEY PERFORMED BY SUMMIT COUNTY ENGINEERS AND DOES NOT ALIGN WITH DIGITIZED UTILITY LOCATIONS FROM DOMINION ENERGY OHIO, RECEIVED VIA OUPS TICKET. FIELD-CONFIRM GAS LOCATION BEFORE CONSTRUCTION.

LEGEND

EXISTING

- GAS LINE
- FIBER OPTIC CABLE
- UTILITY POLE
- OVER HEAD ELECTRIC
- PARCEL BOUNDARIES
- EASEMENT BOUNDARIES
- PROJECT PARCEL
- TREELINE
- 1-FT CONTOUR
- MAPPED STREAM (ONSITE)
- OFFSITE STREAM
- MAPPED WETLAND (ONSITE)
- STRUCTURE

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
CALL...800-362-2764 (Toll Free)
OHIO UTILITIES
PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

N 0 100 200 300

Sustainable Streams LLC
Science Service Solutions

PROPOSED CONDITIONS PER CRITERIA ENGINEERING EFFORT

NUMBER OF WETLAND CELLS = 5 CELLS (COMBINED TOTAL AREA = ~6.3 ACRES)
ENHANCEMENT OF EX. WETLANDS = ~4.2 ACRES, CREATION OF NEW WETLANDS = ~2.1 ACRES

CRITERIA ENGINEERING PRELIMINARY PLANS BASED ON CURSORY INFORMATION. 1-FOOT CONTOURS GENERATED FROM OGRIP DEM DATA. EXISTING STREAMS AND WETLANDS INFORMED BY DELINEATION BY MAD SCIENTISTS IN JULY 2024. PARCEL LINES WERE SURVEYED BY SUMMIT COUNTY ENGINEER'S OFFICE (SCE). EXISTING TREELINE AND STRUCTURES WERE PROVIDED IN CAD BASEMAPPING PROVIDED BY SCE (JULY 2022). UTILITIES ARE BASED ON MARKERS FOUND IN THE FIELD AND SURVEYED BY SCE.

BIO-ENGINEERED BANK ARMORING EXTENTS ARE BASED ON LiDAR DATA AND SHOULD BE UPDATED FOLLOWING A TOPOGRAPHIC SURVEY, TYP.

YELLOW CREEK

WETLAND A

STREAM 1 / WEST FORK

APPROX. LOCATION OF EX. LOWHEAD DAM BASED ON FIELD VISIT

WETLAND: WEST FORK B1
WETLAND AREA = ~1.3 AC
42 LIVE STAKES AROUND PERIMETER
5 CONTAINER TREES ON WETLAND BED

WETLAND B

WETLAND: WEST FORK B2
WETLAND AREA = ~0.6 AC
29 LIVE STAKES AROUND PERIMETER
5 CONTAINER TREES ON WETLAND BED

WETLAND: YELLOW CREEK B4
WETLAND AREA = ~0.8 AC
36 LIVE STAKES AROUND PERIMETER
5 CONTAINER TREES ON WETLAND BED

TREE VANE, TYP.

WETLAND: YELLOW CREEK B2
WETLAND AREA = ~1.9 AC
55 LIVE STAKES AROUND PERIMETER
10 CONTAINER TREES ON WETLAND BED

WETLAND B

STREAM 2 / YELLOW CREEK

PROP. BRUSH PILE, TYP.
QUANTITY, SIZE, AND LOCATION MAY VARY.

IDLE BROOK B2
WETLAND AREA = ~1.7 AC
49 LIVE STAKES AROUND PERIMETER
10 CONTAINER TREES ON WETLAND BED

N. HAMETOWN ROAD

WINTERING HOLE, TYP.

WETLAND C

STREAM 3 / IDLE BROOK

WETLAND C

EX TRAIL

WETLAND C

GAS LINE LOCATION IS BASED ON A PHYSICAL SURVEY PERFORMED BY SUMMIT COUNTY ENGINEERS AND DOES NOT ALIGN WITH DIGITIZED UTILITY LOCATIONS FROM DOMINION ENERGY OHIO, RECEIVED VIA OUPS TICKET. FIELD-CONFIRM GAS LOCATION BEFORE CONSTRUCTION.

LEGEND

EXISTING

- GAS LINE
- FIBER OPTIC CABLE
- UTILITY POLE
- OVER HEAD ELECTRIC
- PARCEL BOUNDARIES
- EASEMENT BOUNDARIES
- PROJECT PARCEL
- TREELINE
- 1-FT CONTOUR
- MAPPED STREAM (ONSITE)
- OFFSITE STREAM
- MAPPED WETLAND (ONSITE)
- STRUCTURE

PROPOSED

- 1-FT CONTOUR
- WETLAND RESTORATION AREA
- BIO-ENGINEERED BANK ARMORING
- WETLAND CONNECTION ARMORING
- TREE VANE
- LIVE STAKES
- BRUSH PILE

UNDERGROUND UTILITIES
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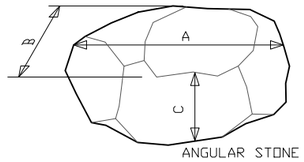
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

N
0 100 200 300

Sustainable Streams LLC
Science Service Solutions

WETLAND DETAILS

WETLAND NAME	APPROXIMATE CONNECTION ELEVATION	WETLAND BED ELEVATION	WINTERING HOLE BED ELEVATION	BOTTOM WIDTH OF CONNECTION	MIN. HEIGHT OF ROCK TOE IN CONNECTION	SIZE OF ROCK TOE ALONG STREAM BANK
WEST FORK B1	987.5 FT	983.0 FT	979.0 FT	35 FT	1.5 FT	ODOT TYPE C
WEST FORK B2	987.0 FT	984.0 FT	N/A	20 FT	1.0 FT	ODOT TYPE C
YELLOW CREEK B2	992.0 FT	989.0 FT	985.0 FT	40 FT	1.0 FT	ODOT TYPE C
YELLOW CREEK B4	987.0 FT	984.0 FT	980.0 FT	20 FT	1.0 FT	ODOT TYPE C
IDLE BROOK B2	990.0 FT	988.0 FT	984.0 FT	20 FT	1.5 FT	ODOT TYPE C



ANGULAR STONE

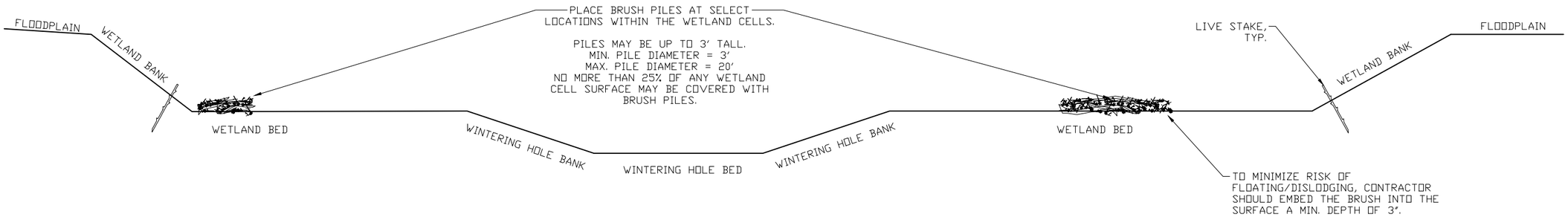
CLASS	MEDIAN (D50) INTERMEDIATE "B" AXIS DIMENSION (IN.)	PARTICLE WEIGHT (LBS)
ODOT TYPE A	24	700
ODOT TYPE B	18	300
ODOT TYPE C	12	90
ODOT TYPE D	6	12

ROCK CLASS SPECIFICATIONS

N.T.S.

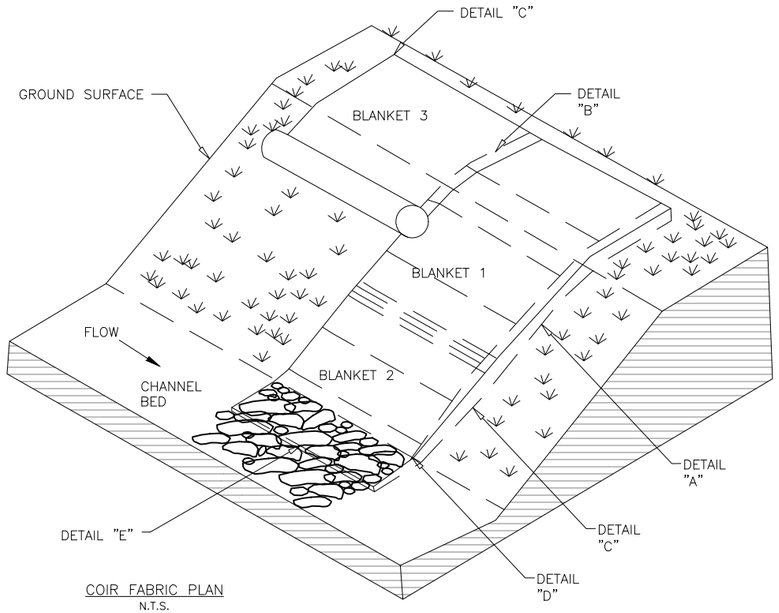
ROCK SIZING NOTES:

1. A MINIMUM OF 70% OF ALL ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER ROCK AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.
2. HARVESTED EXISTING STREAMBED MATERIAL IS OFTEN IDEAL FOR FILLING IN THE GAPS BETWEEN IMPORTED ARMORING ROCK



TYPICAL WETLAND CROSS SECTION VIEW

N.T.S.



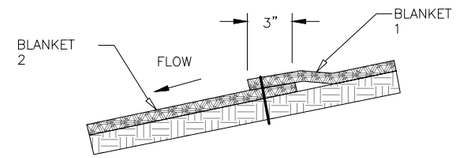
COIR FABRIC PLAN
N.T.S.

NOTES

1. CONSTRUCT A 6" X 12" ANCHOR TRENCH AT THE BEGINNING OF THE SLOPE. LINE THE ANCHOR TRENCH WITH MAT LEAVING 12" EXTENDING PAST THE ANCHOR TRENCH. FASTEN MATERIAL INTO THE ANCHOR TRENCH ON 12" CENTERS. BACKFILL THE TRENCH WITH TOPSOIL AND COMPACT. COVER THE AREA WITH THE REMAINING 12" OF THE MAT'S TERMINAL END LEAVING 6" TO OVERLAP THE MAT. SECURE THE 6" OVERLAP WITH STAKES ON 12" CENTERS.
2. UNROLL THE MAT PERPENDICULAR TO THE VALLEY FLOW DIRECTION AND PLACE IN DIRECT CONTACT WITH THE SOIL SURFACE. DO NOT STRETCH OR ALLOW THE MATERIAL TO BRIDGE OVER SURFACE INCONSISTENCIES.
3. SECURELY FASTEN THE MAT TO THE SOIL BY INSTALLING STAKES AT A MINIMUM RATE OF 1.5 PER SQ. YD. ANCHORS SHALL BE SELECTED SO THAT THEY HAVE SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. INCREASE ANCHORING FREQUENCY FOR SITE CONDITIONS (LOOSE, SANDY, OR WET SOILS) AS DIRECTED BY THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE.
4. OVERLAP EDGES OF PARALLEL AND PERPENDICULAR MATS ALONG THE SLOPE A MINIMUM OF 3" AND SECURE WITH STAKES AT A MAXIMUM SPACING OF 1'.
5. AT THE TOE OF THE SLOPE, PLACE BED MATERIAL A MINIMUM OF TWO LAYERS THICK ATOP THE COIR FABRIC TO ANCHOR FABRIC AND PROVIDE BETTER CONTACT BETWEEN THE SOIL SURFACE AND THE MAT.
6. ENSURE THAT THE MAT IS IN DIRECT CONTACT WITH THE SOIL SURFACE WITH NO PROJECTIONS, PROTRUSIONS OR WRINKLES. MINIMIZE BRIDGING ACROSS LOW AREAS IN SURFACE BY SELECTING STAKING LOCATIONS WITH A PREFERENCE FOR THESE DEPRESSIONS.
7. APPLY SEEDING AND PROTECTION PER SPECIFICATIONS.

COIR FABRIC INSTALLATION DETAIL

N.T.S.



PROFILE VIEW DETAIL "A"
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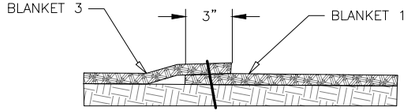

CROSS SECTION DETAIL "B"
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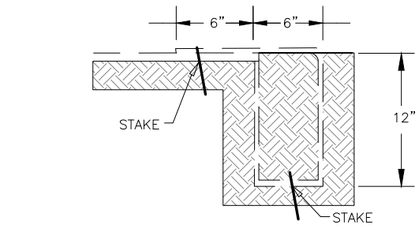

PROFILE DETAIL "C"
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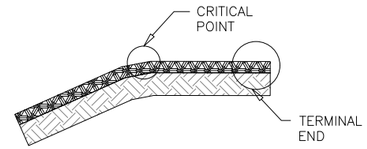

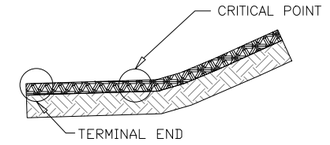

CRITICAL POINTS DETAIL "D"
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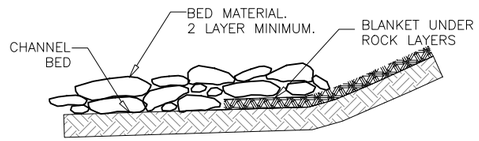

CROSS SECTION DETAIL "E"
N.T.S.

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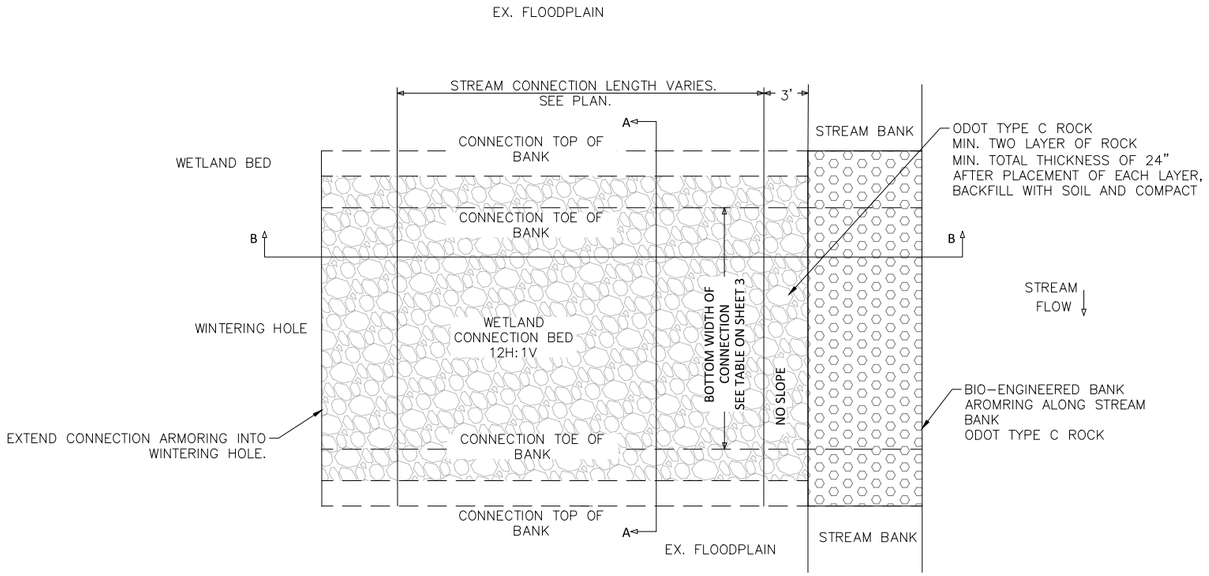
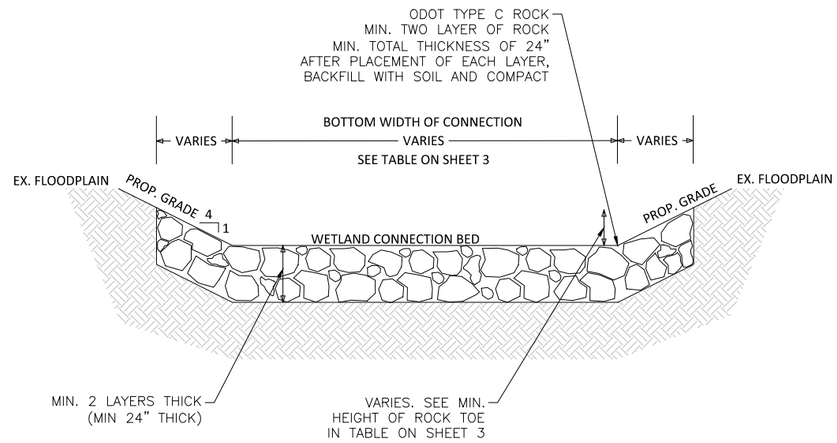


ARMORED WETLAND CONNECTION WITH WINTERING HOLE PLAN VIEW

A MINIMUM OF 70% OF THE ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER MATERIAL AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.

SEE CROSS SECTIONS FOR DIMENSIONS

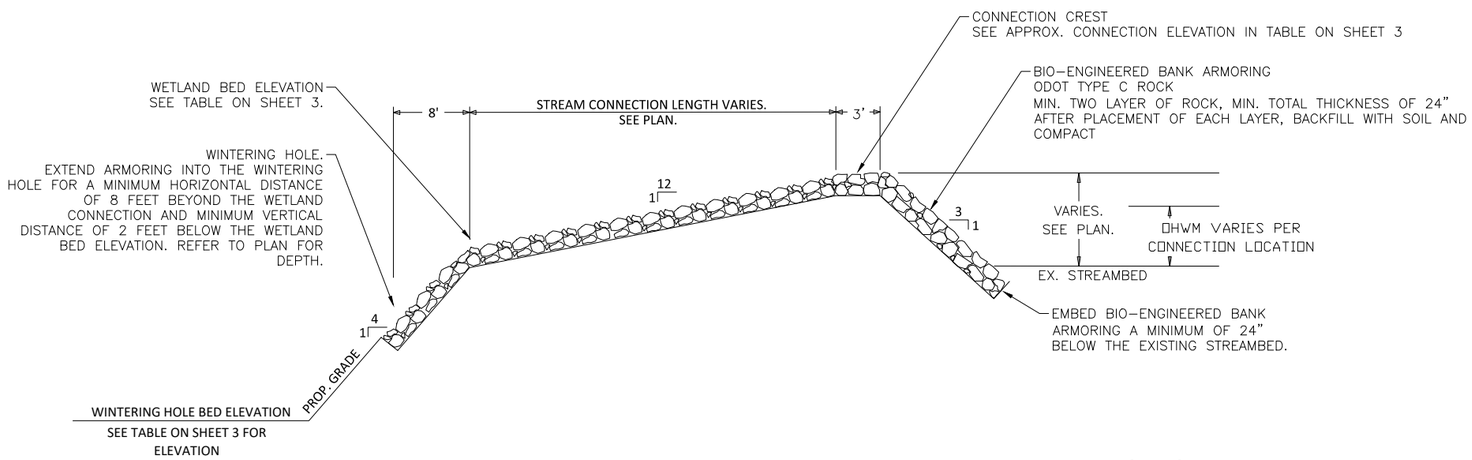
N.T.S.



ARMORED WETLAND CONNECTION CROSS SECTION VIEW (A-A)

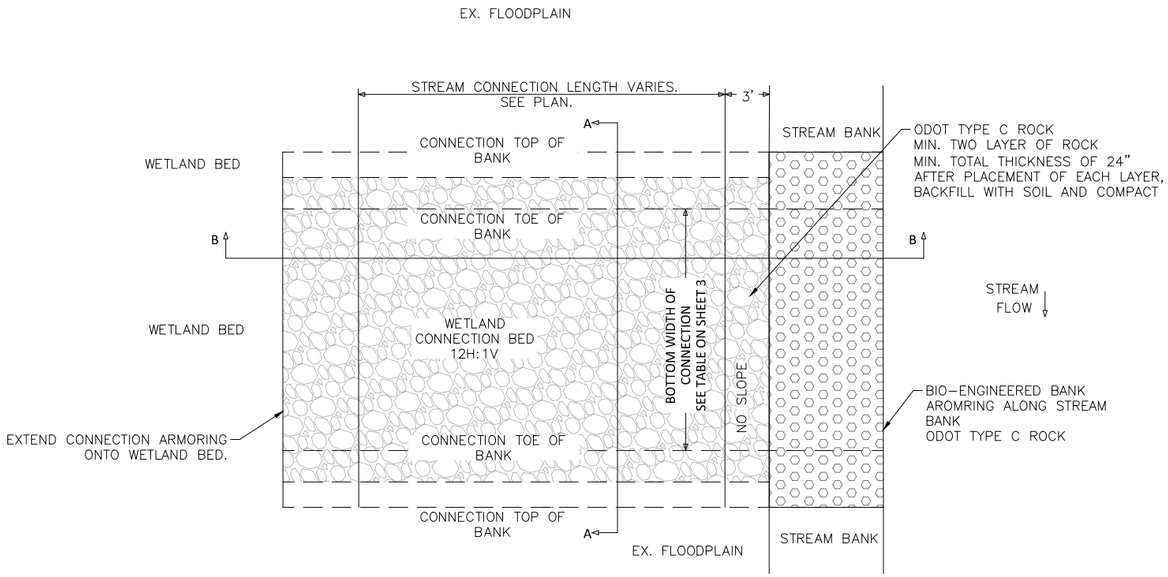
A MINIMUM OF 70% OF THE ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER MATERIAL AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.

N.T.S.



ARMORED WETLAND CONNECTION WITH WINTERING HOLE PROFILE (B-B)

A MINIMUM OF 70% OF THE ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER MATERIAL AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.
N.T.S.

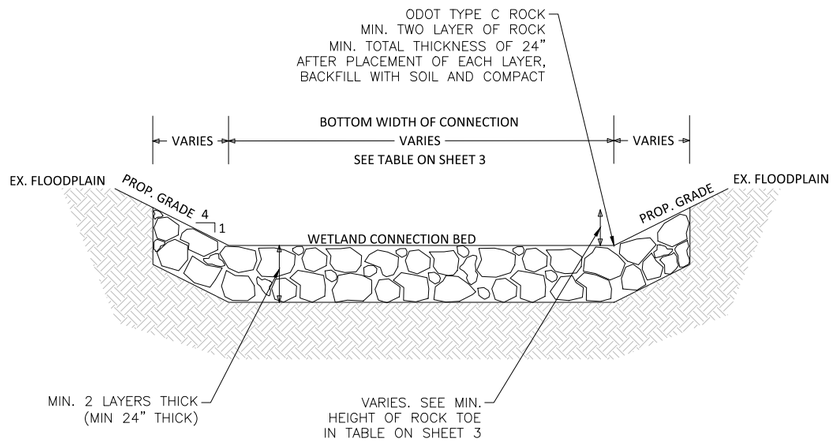


ARMORED WETLAND CONNECTION WITHOUT WINTERING HOLE PLAN VIEW

A MINIMUM OF 70% OF THE ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER MATERIAL AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.

SEE CROSS SECTIONS FOR DIMENSIONS

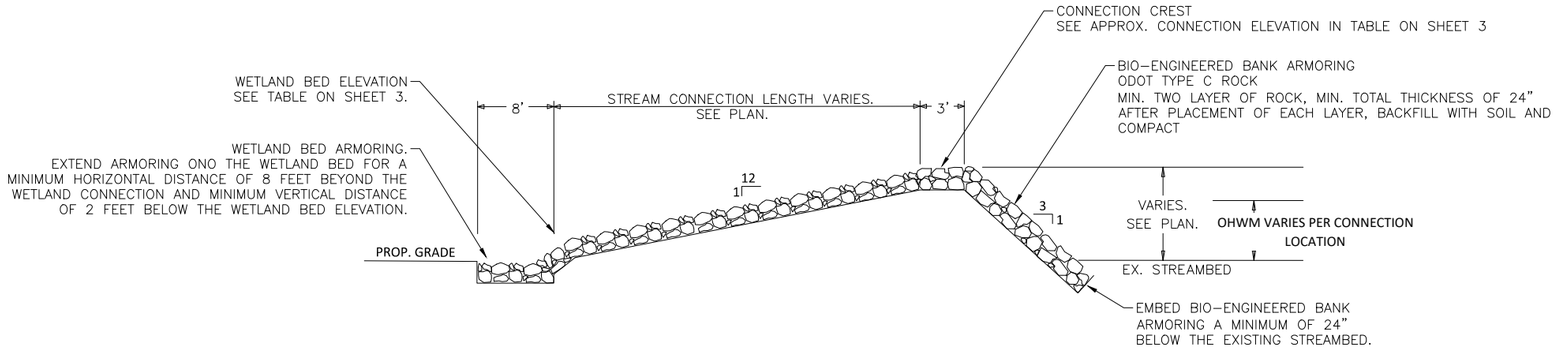
N.T.S.



ARMORED WETLAND CONNECTION CROSS SECTION VIEW (A-A)

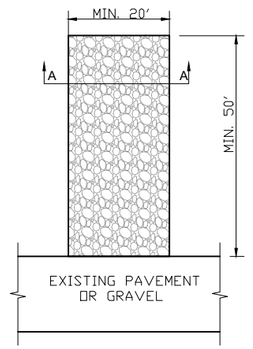
A MINIMUM OF 70% OF THE ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER MATERIAL AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.

N.T.S.

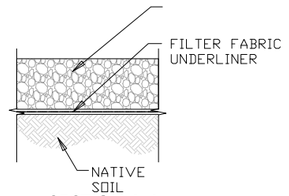


ARMORED WETLAND CONNECTION WITHOUT WINTERING HOLE PROFILE (B-B)

A MINIMUM OF 70% OF THE ARMORING ROCK VOLUME IS TO MEET OR EXCEED THE SPECIFICATIONS FOR THE DESIGNATED ROCK CLASS. VOID SPACES ARE TO BE FILLED WITH SMALLER MATERIAL AND TIGHTLY PACKED SO THAT ALL PARTICLES ARE MECHANICALLY CONNECTED. THERE ARE TO BE NO LOOSE MEMBERS.
N.T.S.



TEMPORARY CONSTRUCTION ENTRANCE PLAN VIEW



SECTION A-A

NOTE:
CONTROL DUST DURING HOT, DRY WEATHER BY SEEDING OR MULCHING BARE AREAS PROMPTLY, WETTING HAUL ROADS AS NEEDED, OR APPLYING APPROVED CHEMICAL SOIL BINDERS.

TEMPORARY CONSTRUCTION ENTRANCE DETAILS

N.T.S.

THIS DETAIL REFERS TO THE MINIMUM DIMENSIONS AT THE ENTRANCE. CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL ACCESS THROUGHOUT THE SITE.

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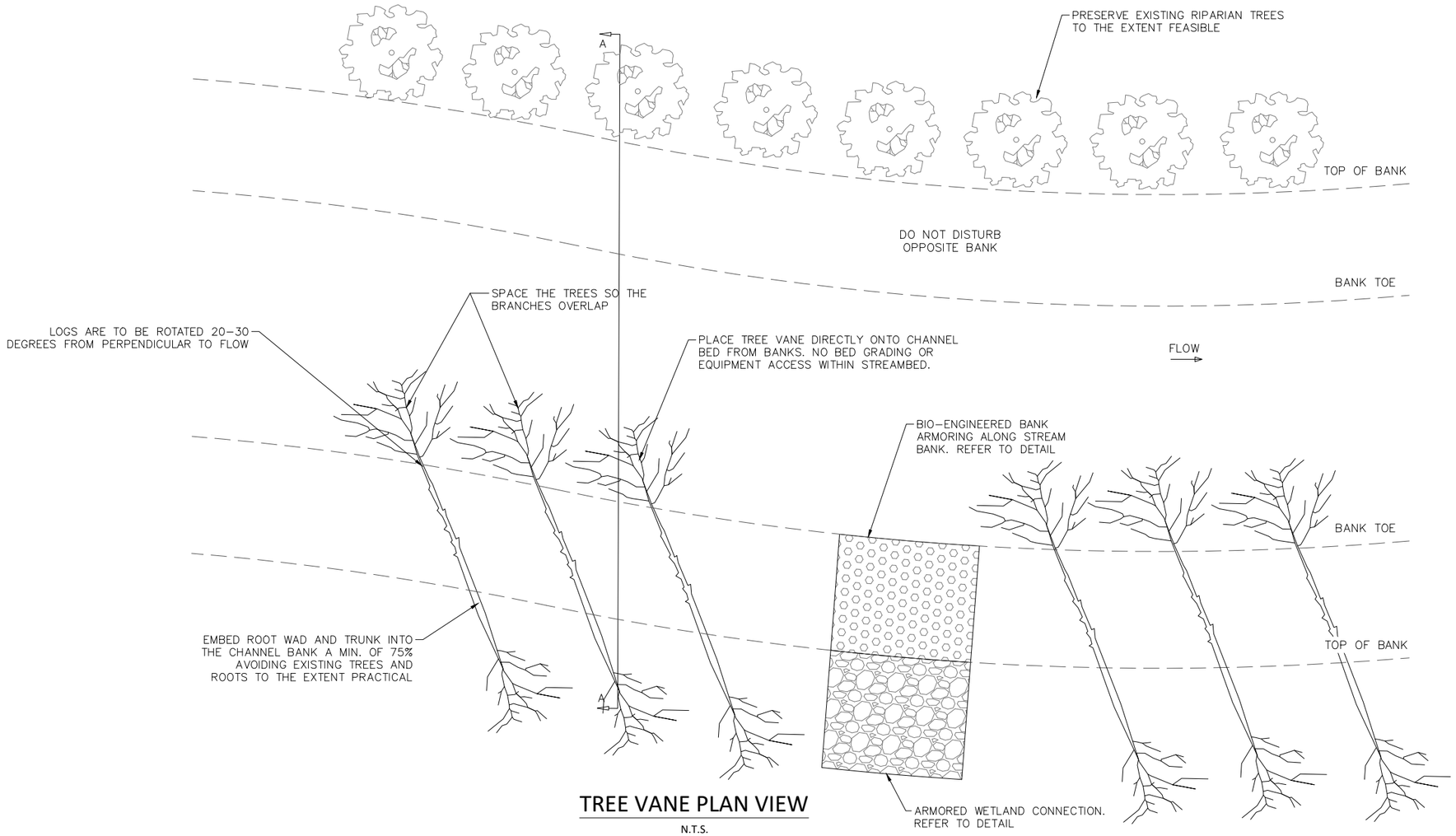
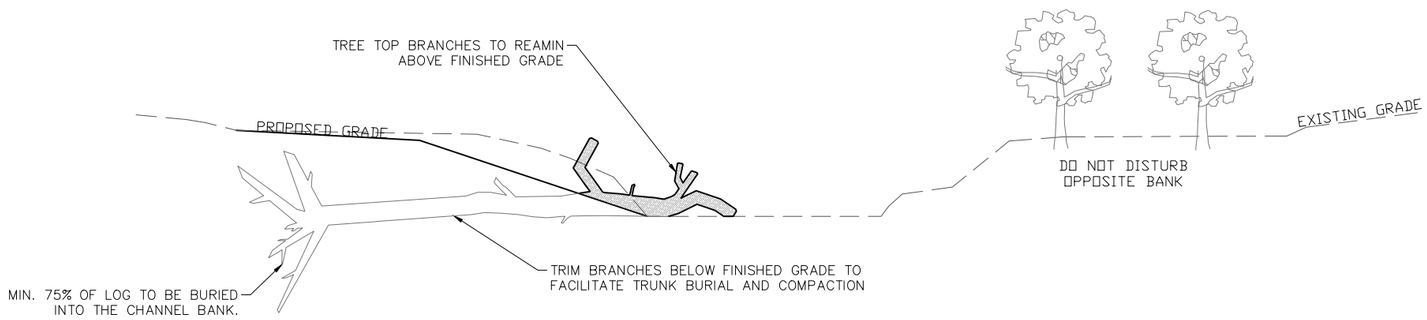


TREE VANE PLAN VIEW

N.T.S.

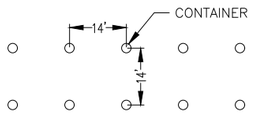


TREE VANE CROSS SECTION VIEW (A-A)

N.T.S.

3-GALLON CONTAINER SPECIES FOR GROVE PLANTING ZONES WITHIN WETLANDS

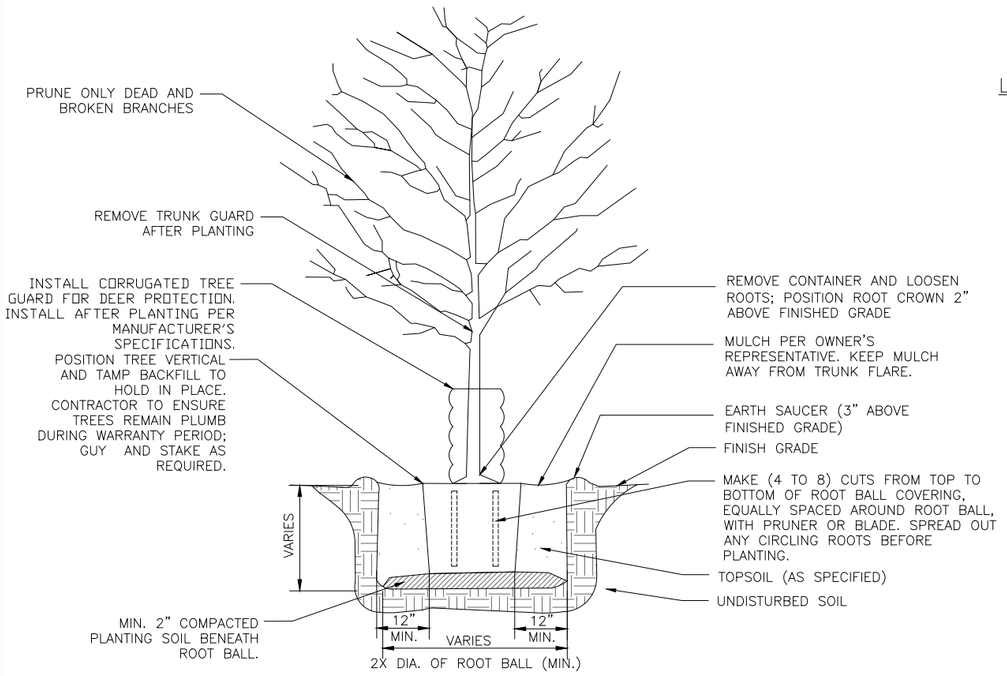
BOTANICAL NAME	COMMON NAME	SITE PREFERENCE	WETLAND STATUS	SHADE TOLERANCE
Quercus bicolor	Swamp White Oak	Wet, Moist	FACW	Intermediate Tolerance
Quercus palustris Münchh.	Pin Oak	Wet, Flat	FACW	Intolerant
Carya laciniosa	Shellbark Hickory	Wet, Moist, Flat	FAC	Tolerant
Quercus macrocarpa Michx.	Bur Oak	Moist	FAC	Intermediate Tolerance
Acer rubrum L.	Red Maple	All	FAC	Intermediate Tolerance
Nyssa sylvatica	Blackgum	All	FAC	Intolerant



3-GALLON CONTAINER SPACING SCHEMATIC - PLAN VIEW

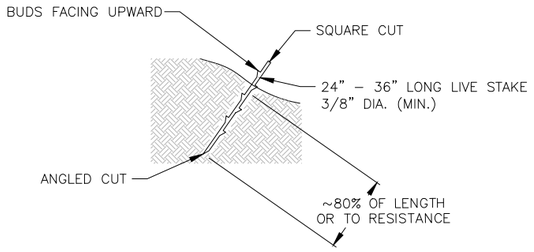
N.T.S.

1. EACH GROVE SHALL CONTAIN ONLY ONE OR TWO SPECIES.
2. SPECIES SHALL BE INTERSPERSED THROUGHOUT THE GROVE AT THE SPECIFIED SPACING.
3. ALL PLANTINGS ARE TO BE 3 GALLON CONTAINER STOCK WITH DEER PROTECTION.
4. NO CONTAINER STOCK SHALL BE ACCEPTED IF IT IS ROOT BOUND.
5. SEE SHEET 2 FOR QUANTITIES OF CONTAINER TREES PER WETLAND AREA.



TYPICAL CONTAINER PLANTING

N.T.S.



LIVE STAKE SPECIES:

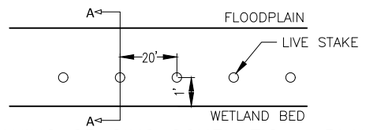
BLACK WILLOW (*Salix nigra*)
SANDBAR WILLOW (*Salix interior*)
SILKY DOGWOOD (*Cornus amomum*)
REDOSIER DOGWOOD (*Cornus sericea*)
ARROWWOOD VIBURNUM (*Viburnum dentatum*)
ELDERBERRY (*Sambucus nigra*)
NINEBARK (*Physocarpus opulifolius*)
BUTTONBUSH (*Cephalanthus occidentalis*)
OR APPROVED EQUAL

NO SPECIES SHALL COMPRISE MORE THAN 20% OF THE TOTAL NUMBER OF LIVE STAKES.

LIVE STAKING DETAIL

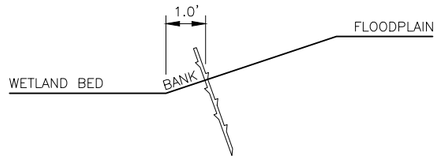
N.T.S.

SEE SHEET 2 FOR QUANTITIES OF LIVE STAKES PER WETLAND AREA.



LIVE STAKING SPACING SCHEMATIC - PLAN VIEW

N.T.S.



LIVE STAKING ADJACENT TO PROPOSED WETLAND BEDS (A-A)

N.T.S.

LIVE STAKE NOTES:

1. HARVEST AND INSTALL STEMS DURING DORMANT SEASON.
2. STEMS DELIVERED IN ADVANCE OF PLANTING SHALL BE STORED APPROPRIATELY.
3. USE LIVE, HEALTHY AND STRAIGHT WOOD STAKES WITH CLEAN CUTS AS DIRECTED ON DETAIL. STEMS SHALL BE FREE OF DEFECTS SUCH AS KNOTS, SUN-SCALING, OR OTHER INJURIES WITH BARK INTACT.
4. STEMS ARE TO BE INSTALLED THROUGH THE COIR FABRIC OR STRAW MAT (IF PRESENT).
5. MAKE PILOT HOLES AS NECESSARY TO AVOID DAMAGING STEMS DURING INSTALLATION. DRIVE INTO PLACE VIA HAND-APPLIED PRESSURE. IF NECESSARY, A DEAD BLOW HAMMER OR APPROVED EQUIVALENT MAY BE USED. THE PILOT HOLE SHALL BE LESS THAN THE DIAMETER OF THE STAKE TO ENSURE FIRM CONTACT BETWEEN THE STAKE AND SOIL.
6. SOAK STEMS IN WATER FOR A MINIMUM OF 24 HOURS PRIOR TO INSTALLATION.
7. AFTER INSTALLATION, TAMP THE SOIL AROUND EACH STEM.

RIPARIAN NATIVE SEED MIX

SCIENTIFIC NAME	COMMON NAME	PLS (OZ/AC)
PERMANENT GRASSES/SEDGES/RUSHES		
Bouteloua curtipendula	SIDE OATS GRAMA	16.00
Calamagrostis canadensis	BLUEJOINT GRASS	1.00
Carex comosa	BRISTLY SEDGE	2.00
Carex cristatella	CRESTED OVAL SEDGE	2.00
Carex frankii	BRISTLY CATTAIL SEDGE	4.00
Carex lupulina	COMMON HOP SEDGE	3.00
Carex hystericina	BOTTLEBRUSH SEDGE	4.00
Carex stipata	AWLFRUIT SEDGE	1.00
Carex vulpinoidea	BROWN FOX SEDGE	4.00
Elymus virginicus	VIRGINIA WILD RYE	30.00
Glyceria striata	FOWL MANNA GRASS	2.00
Juncus effusus	COMMON RUSH	2.00
Leersia oryzoides	RICE CUTGRASS	1.00
Panicum virgatum	SWITCH GRASS	1.00
Schizachyrium scoparium	LITTLE BLUESTEM	32.00
Schoenoplectus tabernaemontani	SOFTSTEM BULRUSH	1.00
Scirpus atrovirens	DARK GREEN RUSH	0.75
Scirpus pendulus	RED BULRUSH	0.25
Spartina pectinata	PRAIRIE CORD GRASS	2.00
	TOTAL:	109.00
TEMPORARY COVER		
Avena sativa	COMMON OAT	360.00
Lolium multiflorum	ANNUAL RYE	100.00
	TOTAL:	460.00
FORBS & SHRUBS		
Alisma spp.	WATER PLANTAIN (VARIOUS MIX)	2.00
Angelica atropurpurea	GREAT ANGELICA	4.00
Asclepias incarnata	SWAMP MILKWEED	2.00
Bidens cernua	NODDING SWAMP MARIGOLD	2.00
Coreopsis tripteris	TALL COREOPSIS	2.00
Doellingeria unbellata	FLAT-TOPPED ASTER	0.50
Echinacea pallida	PURPLE CONEFLOWER	1.00
Eupatorium perfoliatum	COMMON BONESET	0.50
Eupatoriadelphus maculatus	SPOTTED JOE PYE WEED	1.00
Helenium autumnale	SNEEZEWEED	2.00
Hibiscus moscheutos	ROSEMALLOW	2.00
Iris versicolor	BLUE FLAG	3.00
Liatris spicata	MARSH BLAZING STAR	2.00
Lobelia cardinalis	CARDINAL FLOWER	0.25
Lobelia siphilitica	GREAT BLUE LOBELIA	1.00
Lycopus americanus	COMMON WATER HOREHOUND	0.37
Penthorum sedoides	DITCH STONECROP	0.50
Physostegia virginiana	OBEDIENT PLANT	0.50
Polygonum pensylvanicum	PENNSYLVANIA SMARTWEED	1.00
Pycnanthemum virginianum	COMMON MOUNTAIN MINT	2.00
Sagittaria latifolia	BROADLEAF ARROWHEAD	1.00
Senna hebecarpa	WILD SENNA	4.00
Silphium perfoliatum	CUP PLANT	1.00
Sparganium eurycarpum	COMMON BUR-REED	4.00
Symphyotrichum novae-angliae	NEW ENGLAND ASTER	1.00
Symphyotrichum puniceum	SWAMP ASTER	1.00
Thalictrum dasycarpum	PURPLE MEADOW RUE	1.00
Verbena hastata	BLUE VERVAIN	2.00
Vernonia spp.	IRONWEED (VARIOUS MIX)	1.00
Zizia aurea	GOLDEN ALEXANDERS	1.00
	TOTAL:	46.62

TOTAL: 615.62 PLS OZ/AC
TOTAL: 38.48 PLS #/AC

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SITE ACCESS PER CRITERIA ENGINEERING EFFORT

STRATEGICAL SITE ACCESS AND CONSTRUCTION SEQUENCING IS IMPERATIVE TO THE SUCCESS OF THE PROJECT AND REQUIRED FOR COMPLIANCE WITH PROJECT PERMITS. CONSTRUCTION ACTIVITIES WILL TAKE PLACE DURING SUITABLE DRY CONDITIONS TO FACILITATE SITE ACCESS WITH MINIMAL IMPACTS TO THE EXISTING WETLANDS THAT ARE OUTSIDE THE PROPOSED GRADING ZONES. TIMBER MATTING SHALL BE USED THROUGH EXISTING WETLANDS AS WELL AS LOW OR PERSISTENTLY WET AREAS AS NECESSARY TO AVOID IMPACTS TO EXISTING WETLANDS. ROCK-ARMORED LOW WATER CROSSINGS SHALL BE USED FOR STREAM CROSSINGS AS NEEDED TO MINIMIIZE IMPACTS TO AQUATIC RESOURCES AND FACILITATE SITE RESTORATION TO EQUAL OR BETTER CONDITION FOLLOWING CONSTRUCTION.

BIO-ENGINEERED BANK ARMORING EXTENTS, TYP.

WETLAND: WEST FORK B2

YELLOW CREEK

WETLAND A

STREAM 1 / WEST FORK

WETLAND: WEST FORK B1

WETLAND B

WETLAND: YELLOW CREEK B4

TREE VANE, TYP.

SITE ACCESS ROUTE. TO REMAIN WITHIN UTILITY EASEMENTS AND BE RESTORED FOLLOWING CONSTRUCTION.

WETLAND B

STREAM 2 / YELLOW CREEK

PROP. TEMPORARY LOW WATER CROSSING, AS NECESSARY

PROP. BRUSH PILE, TYP.

IDLE BROOK B2

WETLAND: YELLOW CREEK B2

WINTERING HOLE, TYP.

WETLAND C

N. HAMETOWN ROAD

STREAM 2 / YELLOW CREEK

STREAM 3 / IDLE BROOK

WETLAND C

EX TRAIL

WETLAND C

GAS LINE LOCATION IS BASED ON A PHYSICAL SURVEY PERFORMED BY SUMMIT COUNTY ENGINEERS AND DOES NOT ALIGN WITH DIGITIZED UTILITY LOCATIONS FROM DOMINION ENERGY OHIO, RECEIVED VIA OUPS TICKET. FIELD-CONFIRM GAS LOCATION BEFORE CONSTRUCTION.

LEGEND

EXISTING

- GAS LINE
- FIBER OPTIC CABLE
- UTILITY POLE
- OVER HEAD ELECTRIC
- PARCEL BOUNDARIES
- EASEMENT BOUNDARIES
- PROJECT PARCEL
- TREELINE
- 1-FT CONTOUR
- MAPPED STREAM (ONSITE)
- OFFSITE STREAM
- MAPPED WETLAND (ONSITE)
- STRUCTURE

PROPOSED

- 1-FT CONTOUR
- WETLAND RESTORATION AREA
- BIO-ENGINEERED BANK ARMORING
- WETLAND CONNECTION ARMORING
- TREE VANE
- BRUSH PILE
- ACCESS ROUTE
- TEMPORARY LOW WATER CROSSING

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
CALL...800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

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Sustainable Streams LLC
Science Service Solutions

ACCESS