

Appendix C

City of Canton
MIDDLE BRANCH NIMISHILLEN CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349
RM 14.17 SUPPLEMENTAL ENVIRONMENTAL PROJECT

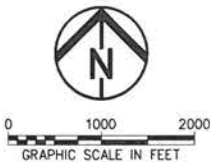
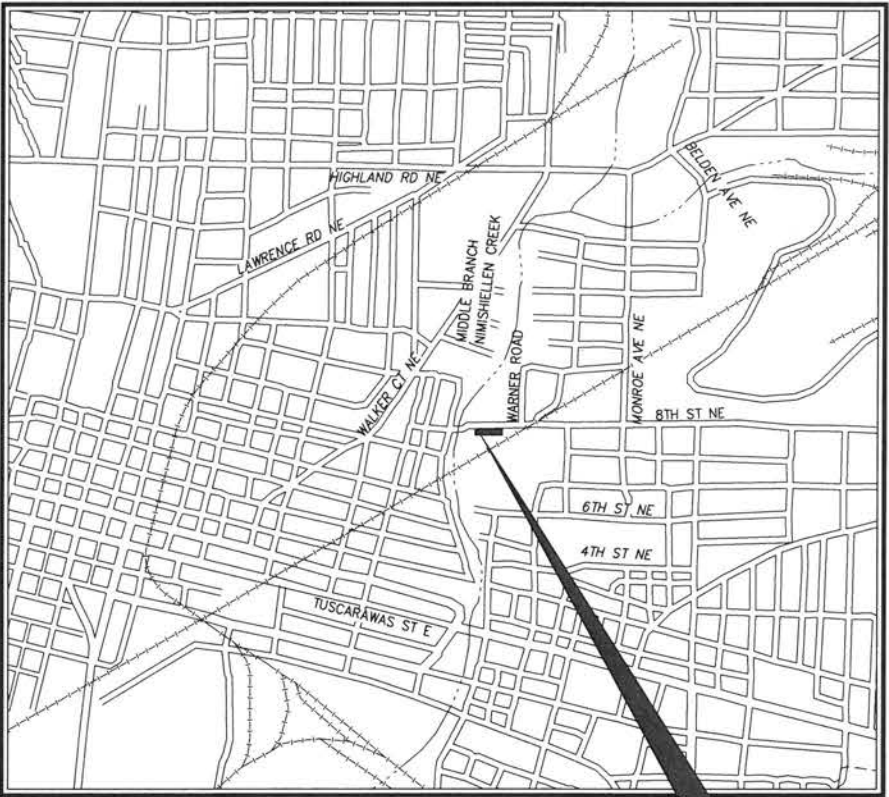
STARK COUNTY, OHIO

City of Canton Project 22-00125-020

100% DESIGN : 8/31/2022

SITE PLAN LEGEND

EXISTING	PROPOSED	
-----P-----	-----10-----	CENTERLINE/BASELINE CONSTRUCTION
-----Ex R/W-----		PROPERTY LINE
-----1000-----	-----1000-----	RIGHT OF WAY
		CONTOUR
-----X-----X-----X-----		STREAM CENTERLINE
-----ST-----X" STM-----ST-----		ORDINARY HIGH WATER MARK (1024.83)
-----SA-----X" SAN-----SA-----		NORMAL WATER ELEVATION
-----G-----X" GAS-----G-----		FENCELINE
-----E-----E-----E-----		GUARDRAIL
		RAILROAD TRACKS
		STORM SEWER
		SANITARY SEWER
		GAS LINE
		OVERHEAD ELECTRIC LINE
		STORM MANHOLES, CATCH BASINS, CURB INLETS
		SANITARY MANHOLE, CLEANOUT, MARKER, VENT PIPE, SEPTIC TANK LID
		POWER POLE, TELEPHONE POLE, LIGHT POLE, COMBINATION POLES, GENERIC/GUY POLE, GUY WIRE
		STREET SIGNS, STREET NAME SIGN, POST, MAILBOX, FLAG POLE, FLAG
		DECIDUOUS TREE, EVERGREEN, SHRUB, STUMP, ROCK, TREE REMOVED/PRUNED
		MONUMENT BOX, IRON PIN/PIPE
		PAVEMENT REMOVED
		FEMA FLOODPLAIN, FEMA FLOODWAY



LOCATION MAP

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APPROVALS:

James Benekos
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JAMES BENEKOS PE, PS, CITY ENGINEER Date

PLANS PREPARED AND RECOMMENDED BY:

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REVISED PLANS FOR RE-BID

2/1/23



2019 SPECIFICATIONS

THE 2019 STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THESE PLAN BID DOCUMENTS OR IN THE CITY OF CANTON STANDARDS SHALL GOVERN THIS IMPROVEMENT. FOR PURPOSES OF THIS PLAN, REFERENCES TO DIRECTOR OR ENGINEER SHALL BE CONSTRUED TO MEAN THE CITY ENGINEER AND/OR HIS REPRESENTATIVES.

REVISED:		SET NO.	
PROJ. NUMBER	22-00125-020	TITLE SHEET	1 of 15
DESIGNED BY:	AL		
DRAWN BY:	WRMT		
FILE NO.	ZTITL 22-00125-020.dwg		

ITEM NUMBERS REFER TO THE 2019 STATE OF OHIO, DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. ALL EQUIPMENT, MATERIAL AND WORKMANSHIP SHALL BE PERFORMED ACCORDING TO THESE SPECIFICATIONS AND THE REFERENCED OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CITY OF CANTON ENGINEERING STANDARDS AND/OR BY THESE PLANS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY THE EXTENT OF THE WORK TO BE PERFORMED, TO IDENTIFY THE NECESSARY CONSTRUCTION MEANS AND METHODS TO ACCOMPLISH ALL WORK ITEMS, AND TO NOTIFY THE OWNER OF ANY IDENTIFIED CONFLICTS, ERRORS, OR OMISSION FROM THE CONSTRUCTION PLANS.

MATERIAL STORAGE/EQUIPMENT STORAGE

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE APPROPRIATE EQUIPMENT AND MATERIAL STORAGE AREA TO SUIT HIS NEEDS. ENGINEER TO APPROVE LOCATION IF DIFFERENT THAN LOCATION SHOWN ON PLANS.

PERMITS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR THIS PROJECT PRIOR TO CONSTRUCTION THAT HAVE NOT ALREADY BEEN OBTAINED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL TESTING AND INSPECTION FEES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR THE PROJECT THAT HAVE NOT BEEN OBTAINED BY THE OWNER/ENGINEER. THE OWNER/ENGINEER WILL OBTAIN AND PROVIDE COPIES OF APPROVAL LETTER FOR: NOI AND SWP. CONTRACTOR IS RESPONSIBLE FOR REGISTERING AS CO-PERMITTEE FOR NOI.

OHIO EPA FACILITY PERMIT #3GC13845*AG

3. THE CONTRACTOR SHALL BE RESPONSIBLE TO FULFILL ANY MUNICIPAL PERMITTING REQUIREMENTS.

UNDERGROUND UTILITIES

1. THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO THE OHIO UTILITIES PROTECTION SERVICE, THE OHIO OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE, AND OWNERS OF UNDERGROUND FACILITIES THAT ARE NOT MEMBERS OF A REGISTERED PROTECTION SERVICE IN ACCORDANCE WITH 153.64 OF THE OHIO REVISED CODE. THE ABOVE MENTIONED NOTICE SHALL BE GIVEN AT LEAST TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

OHIO UTILITY PROTECTION SERVICE 1-800-362-2764

OHIO OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-614-715-2984
NON MEMBERS MUST BE CALLED DIRECTLY.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN OR IN CLOSE PROXIMITY TO THE WORK LIMITS OF THE PROJECT. CONTRACTOR TO CONTACT OUPS FOR MORE INFORMATION.

SANITARY/STORM SEWER CITY OF CANTON 2436 30TH STREET NE BUILDING A CANTON, OH 44702 (330) 489-3381	UTILITY ENERGY TRANSFER (AKA SUNOCO PIPELINE LOGISTICS) ATTN: NICHOLAS RAY 234-231-7482 (OFFICE) 330-316-9037 (CELL) NICHOLAS.RAY@ENERGYTRANSFER.COM
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PROTECTION AND RESTORATION OF PROPERTY

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING IN KIND ANY DAMAGE TO EXISTING FEATURES SCHEDULED TO REMAIN OR ARE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER, DURING THE EXECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE, OR MISCONDUCT OF HIS MANNER OR METHOD OF EXECUTING THE WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY WILL NOT BE RELEASED UNTIL THE PROJECT SHALL HAVE BEEN COMPLETED AND ACCEPTED.

3. WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY OCCURS TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLIGENCE, OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NON-EXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.

4. WHEN SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND ERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION IN A MANNER SATISFACTORY TO AND AS DIRECTED BY ENGINEER. AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE SIGNS AND SUPPORTS IN THEIR ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY ENGINEER OR THESE PLANS.

DUST NUISANCE ORIGINATION

DUST PRODUCED FROM ANY OPERATIONS INSIDE OR OUTSIDE THE RIGHT-OF-WAY SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH ODOT ITEM 616. COST SHALL BE INCIDENTAL TO THE PROJECT.

CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL ENGAGE IN THE CONSTRUCTION OF THE PROJECT SUCH THAT ADEQUATE ACCESS TO ADJACENT RESIDENCES AND ALL BUSINESSES IS MAINTAINED AT ALL TIMES. ONCE THE CONTRACTOR IS ENGAGED IN THE PROJECT, WORK SHALL BE CONTINUOUS USING FULL CREWS.

EXISTING CONDITIONS

THE EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO LOCATE AND PROTECT EXISTING UTILITY SERVICES AND MAINS, ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.

SPECIAL ENVIRONMENTAL CONDITIONS

A LIMITED PHASE II ENVIRONMENTAL ASSESSMENT WAS PERFORMED BY ENVROSCIENCE UNDER A SEPARATE PROJECT ENTITLED "MIDDLE BRANCH REDEVELOPMENT AND GREENSPACE AREAS". THEIR REPORT, DATED JULY 30, 2021, HAS BEEN PROVIDED WITHIN THE BIDDING DOCUMENTS FOR CONTRACTOR'S REFERENCE. CONTRACTOR SHALL REVIEW THIS REPORT/INFORMATION AND TAKE INTO ACCOUNT THE DESCRIBED SITE AND SOIL CONDITIONS WHILE PROVIDING HIS/HER UNIT BID PRICES FOR THIS PROJECT. CONTRACTOR SHALL INCLUDE IN HIS/HER UNIT BID PRICES ANY SPECIAL NEEDS REQUIRED BY LAW IN ORDER TO PERFORM THE PROPOSED WORK.

CONSTRUCTION

FAILURE TO SPECIFICALLY MENTION ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY PRECAUTIONS AND PROGRAMS. THE CONTRACTOR IS RESPONSIBLE FOR TRANSITIONS TO DRIVEWAYS, DRAINAGE STRUCTURES AND OTHER FEATURES.

DEMOLITION

CONTRACTOR SHALL REMOVE ITEMS AS SHOWN ON THE PLANS PER ODOT ITEM 202, 203 AND PER PLANS.

CONSTRUCTION VIDEO

THE CONTRACTOR SHALL PROVIDE VIDEO ADEQUATE TO ILLUSTRATE EXISTING CONDITIONS WITHIN AND SURROUNDING THE PROJECT LIMITS. THE VIDEO (TWO COPIES) SHALL ALSO BE PROVIDED TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THE COST OF THE VIDEO IS INCIDENTAL TO ITEM 624 - MOBILIZATION.

REMOVAL OF DEBRIS AND SITE CLEANUP

THE PROJECT SITE MUST BE KEPT FREE OF CONSTRUCTION DEBRIS, TRASH, PAPER AND OTHER WASTE ITEMS. COLLECT AND REMOVE THESE ITEMS AT THE END OF EACH WORK DAY.

PAVEMENT SWEEPING

AS REQUIRED DURING THE COURSE OF EACH WORK DAY, THE CONTRACTOR SHALL SWEEP ALL PAVED AREAS AFFECTED BY THE DAY'S WORK. PAVEMENT SHALL BE CLEANED AND SWEEPED TO REMOVE ALL DIRT, MUD AND DEBRIS.

CLEARING AND GRUBBING

ALL TREES, STUMPS, ROOTS, SHRUBS AND DEBRIS REMOVED FROM THE WORK LIMITS THAT ARE NOT BEING USED TO CONSTRUCT THE PROPOSED WORK SHALL BE DISPOSED OF BY THE

ALL CLEARING, GRUBBING, AND TREE REMOVAL IS TO BE PERFORMED BY OTHERS AND WILL BE COMPLETED PRIOR TO CONSTRUCTION OF THIS PROJECT.

BYPASS PUMPING

1. WORK SHOULD BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. THE FOLLOWING PEAK RUNOFF/FLOW INFORMATION WAS ESTIMATED BY THE ENGINEER AND IS PROVIDED FOR THE CONTRACTOR'S REFERENCE:

1. (WATER QUALITY FLOW)/0.9-INCH, 24-HR STORM EVENT PEAK RUNOFF - 21 CFS
- 1.2. (1-YEAR EVENT)/2.03-INCH, 24-HR STORM EVENT PEAK RUNOFF - 99 CFS
- 1.3. (2-YEAR EVENT)/2.43-INCH, 24-HR STORM EVENT PEAK RUNOFF - 129 CFS
- 1.4. (5-YEAR EVENT)/3.03-INCH, 24-HR STORM EVENT PEAK RUNOFF - 175 CFS
- 1.5. (10-YEAR EVENT)/3.53-INCH, 24-HR STORM EVENT PEAK RUNOFF - 215 CFS

2. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING/SIZING PUMPS TO SUIT HIS/HER OWN NEEDS AND SHALL NOT SOLELY RELY UPON INFORMATION PROVIDED ABOVE IN HIS/HER DESIGN FOR BYPASS PUMPING. CONTRACTOR SHALL SUBMIT BYPASS PUMPING PLAN FOR OWNER REVIEW AND APPROVAL PRIOR TO IMPLEMENTING.

3. CONTRACTOR SHALL INCLUDE THE COST OF ANY BYPASS PUMPING NEEDED IN THEIR BID PRICE FOR ITEM SPECIAL - ~~DIVERSION MANHOLE~~

EXISTING MANHOLE MODIFICATION

TOPSOIL STRIPPING, STOCKPILING, AND RESPREADING

1. CONTRACTOR SHALL STRIP AND STOCKPILE TOPSOIL ON SITE FOR RESPREADING PER ODOT ITEM 651. CONTRACTOR SHALL STOCKPILE SUFFICIENT QUANTITY TO ALLOW RESPREADING OF 4" OF TOPSOIL IN FLOODPLAIN AREA AND SLOPES FROM FLOODPLAIN AREA TO EXISTING GRADE. STOCKPILE LOCATION SHALL BE APPROVED BY OWNER. STOCKPILE MAY BE NO TALLER THAN 8 FEET ABOVE ADJACENT GRADE. CONTRACTOR SHALL PLACE SILT FENCE AROUND STOCKPILE AND MAINTAIN SILT FENCE THROUGH THE CONSTRUCTION PERIOD.

2. AFTER FINAL SUBGRADE IS REACHED, TOPSOIL SHALL BE SPREAD AT A DEPTH OF 4" OVER FLOODPLAIN BENCHES AND SIDE SLOPES ABOVE FLOODPLAIN ELEVATION.

3. REMOVE ROCKS AND OTHER FOREIGN MATERIAL 1-INCH OR GREATER IN ANY DIMENSION FROM SURFACE OF SOIL. FINE GRADE SURFACES PER ODOT 659. ANY TOPSOIL STOCKPILED BUT NOT USED SHALL BE LEFT ON SITE IN THE APPROVED STOCKPILE/DISPOSAL AREAS.

EXCAVATION

1. PRIOR TO CONSTRUCTION, PLACE EROSION CONTROL MEASURES AS SHOWN ON THE SITE STORMWATER POLLUTION PREVENTION PLAN. CONTRACTOR TO PERFORM/STAGE EXCAVATION WORK IN A MANNER THAT REDUCES POTENTIAL FOR EROSION AND SEDIMENT MIGRATION.

2. EXCESS SOIL MATERIALS REMAINING AFTER COMPLETION OF EARTH MOVING ACTIVITIES SHALL BE DISPOSED OF ON-SITE IN AREAS AS SHOWN ON THE PLANS OR HAULED OFF SITE, AS NEEDED. CONTRACTOR SHALL GRADE AND SEED EXCAVATED SPOILS AREA TO PROVIDE POSITIVE DRAINAGE AND STABILIZATION.

3. CONTRACTOR TO PERFORM ALL EXCAVATION AND EMBANKMENT ACTIVITIES IN CONFORMANCE WITH ODOT CMS ITEM 203 AND THE DRAWINGS.

4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE BY ROUTING FLOWS THAT ARE INTERRUPTED BY CONSTRUCTION. CONTRACTOR SHALL MAKE MINOR GRADING ADJUSTMENT AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.

STORM SEWER

1. STORM SEWER PIPE SHALL BE CORRUGATED HIGH DENSITY POLYETHYLENE PIPE (SOLID WALL HDPE) WITH A SMOOTH INTERIOR LINER, ITEM 707.33, WITH GASKETED JOINTS.

2. ALL STORM SEWER LENGTHS SHOWN ON THE DRAWINGS ARE HORIZONTAL DISTANCES MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

3. INSTALLATION SHALL BE PER CITY OF CANTON STANDARD DRAWING NO 19, ODOT 611, AND/OR PER MANUFACTURERS RECOMMENDATIONS BASED ON COVER REQUIREMENTS FOR PROPOSED SEWER, WHICHEVER IS MORE RESTRICTIVE.

4. BEDDING MATERIAL SHALL BE CLASS 1 PER CITY OF CANTON STANDARD DRAWING NO 19. BACKFILL MATERIAL AND COMPACTION SHALL MEET OR EXCEED MANUFACTURERS RECOMMENDATIONS FOR THE PROPOSED SEWER BASED ON COVER REQUIREMENTS.

5. CONTRACTOR SHALL NOTIFY OWNER/ENGINEER ABOUT ANY UNSUITABLE FOUNDATION MATERIALS PRIOR TO PLACING BEDDING AND BACKFILL. CONTRACTOR SHALL REVIEW THE SOIL BORINGS PROVIDED IN THE BID DOCUMENTS AND INCLUDE THIS IN HIS/HER UNIT BID PRICE.

6. MAINTAIN FLOWS AND DRAINAGE AT ALL TIMES UNTIL THE NEW FACILITIES ARE COMPLETED AND IN SERVICE. MAINTAINING FLOWS WITHIN THE EXISTING SEWER, INCLUDING ANY REQUIRED BYPASS PUMPING TO BE INCLUDED IN THE COST OF ITEM SPECIAL - ~~DIVERSION MANHOLE~~. ANY ADDITIONAL TEMPORARY DIVERSION OF FLOWS AND DRAINAGE IS THE RESPONSIBILITY OF THE CONTRACTOR. MAINTAIN FLOWS AND DRAINAGE OR PROVIDE TEMPORARY DIVERSION AT NO ADDITIONAL COST TO THE OWNER.

7. VISUALLY INSPECT ALL CONDUIT IN THE PRESENCE OF THE ENGINEER BEFORE IT IS PLACED IN THE TRENCH. REPLACE ALL CONDUIT THAT IS DAMAGED AS DETERMINED BY THE ENGINEER. BEFORE INSTALLATION, MEASURE AND RECORD THE WIDEST INSIDE DIMENSION OF EACH LAY LENGTH OF CONDUIT. THIS MEASUREMENT IS TO BE TAKEN THREE TIMES ALONG EACH RUN OF CONDUIT.

8. LAY THE CONDUIT IN THE CENTER OF THE TRENCH AT THE INVERT ELEVATION SHOWN ON THE

PLANS. ANY DEVIATION MUST BE APPROVED BY THE ENGINEER. IF THE ENGINEER DOES NOT APPROVE THE DEVIATION, STOP ALL RELATED WORK UNTIL THE CONDUIT IS RE-LAID. ENSURE THAT THE CONDUIT IS IN CONTACT WITH THE BEDDING FOR ITS FULL LENGTH AND MAINTAIN THE LINE AND GRADE OF THE CONDUIT. THE CONTRACTOR'S REPRESENTATIVE DOING THE INSPECTION WILL VISUALLY INSPECT ALL CONDUIT BEFORE PLACING ANY BACKFILL. REJOIN, RE-LAY, OR REPLACE CONDUITS THAT HAVE SETTLED, OR THAT ARE DAMAGED.

ROCK CHANNEL PROTECTION

ROCK CHANNEL PROTECTION SHALL INSTALLED PER ODOT 601 AND PLANS. MATERIAL SHALL CONFORM TO 703.19, TYPE C. INSTALL ON TOP OF A 6-INCH AGGREGATE FILTER PER ODOT 713.19.

EROSION CONTROL BLANKET

INSTALL EROSION CONTROL BLANKET PER ODOT 671 AND PER PLAN/MANUFACTURERS RECOMMENDATIONS. BLANKET SHALL BE BIONET S75BN OR APPROVED EQUAL. BLANKET SHALL BE INSTALLED IN LOCATIONS SHOWN ON PLAN OR AS DIRECTED BY OWNER/ENGINEER.

FINE GRADING AND PREPARATION FOR PLANTING AND SEEDING

1. AREAS TO RECEIVE RESPREAD TOPSOIL SHALL BE INSPECTED BY THE ENGINEER TO ASSURE THAT WORK HAS BEEN COMPLETED. DO NOT PROCEED TO PLANTING UNTIL THE AREA HAS BEEN APPROVED BY THE ENGINEER. TOPSOIL SHALL BE 4 INCHES DEEP.

2. ASCERTAIN LOCATIONS OF UTILITIES AND SUBSURFACE DRAINAGE SO THAT PROPER PRECAUTIONS MAY BE TAKEN NOT TO DISTURB OR DAMAGE ANY SUBSURFACE IMPROVEMENTS. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MAKING, AT HIS OWN EXPENSE, ALL REPAIRS TO SUBSURFACE IMPROVEMENTS DAMAGED BY THE WORK OF THIS SECTION. CONTACT ALL UTILITIES AS REQUIRED BY SECTION 153.64 ORC BEFORE DIGGING. ALL KNOWN UTILITIES ARE LISTED ON THE DRAWINGS.

3. RESPREAD TOPSOIL PER ODOT ITEM 652. CONTRACTOR SHALL RECEIVE ENGINEER'S APPROVAL FOR TOPSOIL STOCKPILE LOCATION PRIOR TO CONSTRUCTION.

4. DO NOT WORK THE SOIL WHEN MUDDY OR FROZEN CONDITIONS EXIST. FINE GRADE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. FILL IN ALL LOW SPOTS NOT DRAINING TO OUTLET. REMOVE ALL ROCKS LARGER THAN 1" IN ANY DIMENSION FROM THE FINISH SURFACE. BREAK UP ALL CLODS AND REMOVE ANY REMAINING SOD SO THAT THE FINISH SURFACE IS UNIFORMLY SMOOTH AND LOOSENEED IN PREPARATION FOR SEEDING AND MATTING.

QUALITY ASSURANCE

1. LANDSCAPE INSTALLER QUALIFICATIONS: THE SUBMITTING BIDDER(S) SHALL BE, AND HAVE BEEN, ACTIVELY AND DIRECTLY ENGAGED IN NATIVE SEED AND PLANTING INSTALLATION FOR A PERIOD OF TWO (2) OR MORE YEARS. PROVIDE PROOF OF TWO (2) OR MORE SUCCESSFUL NATIVE SEED AND PLANTING INSTALLATIONS.

LIVE STAKES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AND PREPARING TOPSOIL, LAWN AND OTHER SEEDED AREAS. THIS INCLUDES REMOVAL OF ROCKS, ROOTS, DEBRIS, ETC. AND FINE GRADING.

2. LIVE STAKES SHALL BE LIVE, 1/2-INCH TO 1-INCH DIAMETER, 3-FOOT TO 4-FOOT LENGTHS OF CUTTINGS FROM RED-OSIER DOGWOOD TREES. PUSH LIVE STAKES INTO THE GROUND AS FAR AS THEY WILL GO WITHOUT BREAKING. LIVE STAKES SHALL BE INSTALLED UPRIGHT AND FIRM IN THE SOIL WITH MINIMUM EMBEDEDMENT DEPTH OF 1 FOOT.

LIVE STAKES ARE AVAILABLE FROM THE FOLLOWING OR APPROVED EQUIVALENT:
ERNST CONSERVATION SEEDS, INC.
8884 MERCER PIKE
MEADVILLE, PA 16335
(800) 873-3321

3. WARRANTY LIVE STAKES FOR A PERIOD OF ONE FULL GROWING SEASON AFTER DATE OF ACCEPTANCE BY THE OWNER. AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM A LACK OF ADEQUATE MAINTENANCE, NEGLIGENCE OR ABUSE BY OWNER, ABNORMAL WEATHER CONDITIONS UNUSUAL FOR WARRANTY PERIOD, OR INCIDENTS THAT ARE BEYOND THE CONTRACTOR'S CONTROL. ALL STAKES SHALL EXHIBIT VIGOROUS GROWTH AND BE THOROUGHLY ROOTED BY THE END OF THE FIRST FULL GROWING SEASON AND A MINIMUM OF 90% OF LIVE STAKES SHALL BE ALIVE AND GROWING AT THE END OF THE FIRST FULL GROWING SEASON. ~~DO NOT PERFORM LIVE STAKES AS PART OF THIS PROJECT. LIVE STAKES MAY BE PERFORMED BY OTHERS AT A LATER TIME.~~

PLANTING PERIODS WITH MAINTENANCE PERIODS TO PROVIDE REQUIRED MAINTENANCE FROM DATE OF SEEDING.

4.1. LIVE STAKE PLANTING SHALL BE INSTALLED DURING THE WET SEASON WHEN SOIL IS SATURATED AND WHEN WATER DEPTHS CORRESPOND WITH THE APPROPRIATE PLANTING LEVELS. INSTALLATION OF LIVE STAKES MAY BE PERFORMED BETWEEN MAY 15 AND JUNE 15 AND BETWEEN SEPTEMBER 1 AND SEPTEMBER 30.

5. LIVE STAKE MAINTENANCE

5.1. DURING THE WARRANTY PERIOD, ERADICATE PLANTS OF THE FOLLOWING SPECIES DEEMED DETRIMENTAL TO LIVE STAKES:

- (1) TYPHA SPECIES (CATTAILS);
- (2) PHRAGMITES AUSTRALIS (COMMON REED);
- (3) LYTHRUM SALICARIA (PURPLE LOOSESTRIPE);
- (4) PHALARIS ARUNDINACEA (REED CANARY GRASS);
- (5) RHAMNUS CATHARTICA (COMMON BUCKTHORN);
- (6) RHAMNUS FRANGULA (GLOSSY BUCKTHORN);
- (7) POLYGONUM CUSPIDATUM (JAPANESE KNOTWEED);
- (8) DIPSACUS FULLONUM (COMMON TEASEL);
- (9) CIRSIUM ARVENSE (CANADIAN THISTLE); (10) RUMEX CRISPUS (CURLY DOCK).

SEEDING

1. PERMANENT SEED AND MULCH PER ODOT ITEM 659 AND THESE SPECIFICATIONS.

2. INSTALL SPECIFIED SEED MIXES IN LOCATIONS SHOWN ON PLANS.

3. PURE LIVE SEED (PLS): PURE LIVE SEED IS A MEASURE OF VIABLE SEED STATED AS A PERCENTAGE. IT IS THE PRODUCT OF TOTAL GERMINATION TIMES PURITY. (EXAMPLE: 96% GERMINATION X 93% PURITY = 89% PLS).

4. SEED PLANTING RESTRICTIONS - PLANT DURING ONE OF FOLLOWING PERIODS. COORDINATE PLANTING PERIODS WITH MAINTENANCE PERIODS TO PROVIDE REQUIRED MAINTENANCE FROM DATE OF SEEDING.

4.1. LAWN SEED MIX PLANTING RESTRICTIONS: (1) SPRING PLANTING: MAY 1 TO JUNE 15; (2) FALL PLANTING: OCTOBER 1 TO OCTOBER 31; (3) SUMMER PLANTING: JUNE 15 THROUGH SEPTEMBER 1, WHEN WATER IS AVAILABLE.

4.2. FLOODPLAIN AND RIPARIAN BUFFER PLANTING RESTRICTIONS: (1) SPRING PLANTING - APRIL 20 TO JUNE 1; (2) SUMMER PLANTING - JUNE 1 TO SEPTEMBER 1; CONTRACTOR SHALL BE REQUIRED TO PROVIDE IRRIGATION OF THE SEEDED AREAS AT THE MINIMUM RATE OF 1/2-INCH OF WATER PER WEEK; (4) DORMANT PLANTING (WINTER SEEDING): PLANT WHEN SOIL TEMPERATURES ARE EXPECTED TO STAY BELOW 50-DEGREE FAHRENHEIT TO NOT ALLOW SEED TO GERMINATE UNTIL THE SPRING OF THE FOLLOWING GROWING SEASON.

5. RIPARIAN BUFFER SEED MIX SHALL BE RIPARIAN BUFFER MIX (ERNMX-178) FROM ERNST CONSERVATION SEEDS, INC OR APPROVED EQUAL.

6. FLOODPLAIN SEED MIX SHALL BE FLOODPLAIN SEED MIX (ERNMX-154) FROM ERNST CONSERVATION SEEDS, INC OR APPROVED EQUAL.

7. FINAL MIX MAY VARY DEPENDING ON SEED AVAILABILITY. FINAL MIX, INCLUDING COVER CROP SEED AND INERT SEED CARRIER IS TO BE DETERMINED BY SEED SUPPLY SPECIALIST AND APPROVED BY ENGINEER. CONTRACTOR TO PROVIDE SUBMITTALS OF SEED MIXES FOR REVIEW AND APPROVAL PRIOR TO PROCURING.

8. DO NOT USE LIME OR FERTILIZER FOR FLOODPLAIN AND RIPARIAN SEED MIXES. FOLLOW SEED SUPPLIER'S RECOMMENDATIONS FOR SOIL PREPARATION AND SEEDING INSTALLATION.

9. CLASS 1 SEED MAINTENANCE

9.1. CONTRACTOR SHALL BEGIN MAINTENANCE OF SEEDED AREAS BY WATERING, MOWING AND RESEEDING AS NECESSARY UNTIL THE THIRD CUTTING, AT MINIMUM, OR AS NECESSARY TO ESTABLISH A UNIFORMLY DENSE STAND OF SPECIFIED GRASS AND UNTIL ACCEPTED. MAKE THE FIRST CUTTING WHEN GRASS HAS REACHED THE HEIGHT OF THREE (3") INCHES, CUT TO 2 1/2 INCHES. CONTRACTOR SHALL MAINTAIN LAWN AREAS FOR THE FOLLOWING PERIOD: EIGHTEEN MONTHS FOLLOWING ACCEPTANCE OF INITIAL INSTALLATION.

9.2. CONTRACTOR SHALL NOT MOW ONSITE SPOIL MOUNDS.

10. FLOODPLAIN AND RIPARIAN SEEDING MAINTENANCE

10.1. CONTRACTOR SHALL BEGIN MAINTENANCE OF SEEDED AREAS IMMEDIATELY FOLLOWING SEEDING AND CONTINUE FOR THE FOLLOWING PERIOD: 18 MONTHS FOLLOWING ACCEPTANCE OF INITIAL INSTALLATION.

10.2. MAINTAIN SEEDED AREAS BY WATERING, RE-MULCHING AND RESEEDING AS NECESSARY TO ESTABLISH A UNIFORMLY DENSE STAND OF THE SPECIFIED SEED MIX UNTIL 18 MONTHS FOLLOWING ACCEPTANCE OF INITIAL INSTALLATION. CONTRACTOR SHALL SUPPLY HIS/HER OWN SUPPLY AND MEANS FOR WATERING.

10.3. DURING THE FIRST GROWING SEASON, MAINTAIN RIPARIAN SEEDING AREAS BY MOWING AT A HEIGHT OF 6 INCHES, EVERY SIX WEEKS OR WHENEVER WEED GROWTH REACHES EIGHT INCHES IN HEIGHT AND CONTINUE MOWING AS DESCRIBED ABOVE THROUGHOUT THE FIRST GROWING SEASON UNTIL MID-SEPTEMBER OF THE FIRST GROWING SEASON. AT WHICH TIME, THE EXISTING STAND OF VEGETATION IS TO REMAIN IN PLACE AND NOT BE MOWED. LEAVE THE GROWTH IN PLACE TO PROTECT THE YOUNG PLANTS OVER THE WINTER. SPOT-APPLY HERBICIDE ON AGGRESSIVE WEEDS THROUGHOUT THE FIRST GROWING SEASON UNTIL THE END OF THE SEASON.

10.4. CONTINUE MAINTENANCE OF RIPARIAN SEEDED AREAS IN EARLY MAY, JUST PRIOR TO THE BEGINNING OF THE SECOND GROWING SEASON, BY MOWING THESE SEEDING AREAS DOWN TO ONE INCH ABOVE WITH MULCHING OR FLAIL TYPE MOWER TO MIMIC THE EFFECTS OF BURNING (ENSURE SOIL SURFACE IS NOT SCALPED OR OTHERWISE DISTURBED BY MOWING ACTIVITIES). CONTINUE MOWING THESE SEEDING AREAS THROUGHOUT THE SECOND GROWING SEASON, MAINTAIN VEGETATION BY MOWING AT A HEIGHT OF TWELVE INCHES, EVERY SIX WEEKS OR WHENEVER VEGETATION GROWTH REACHES FOURTEEN INCHES IN HEIGHT AND CONTINUE MOWING AS DESCRIBED ABOVE UNTIL MID-SEPTEMBER OF THE SECOND GROWING SEASON. AT WHICH TIME, THE EXISTING STAND OF VEGETATION IS TO REMAIN IN PLACE AND NOT BE MOWED. LEAVE THE GROWTH IN PLACE TO PROTECT THE YOUNG PLANTS OVER THE WINTER. CONTINUE SPOT-APPLICATION OF HERBICIDE ON AGGRESSIVE WEEDS THROUGHOUT THE SECOND GROWING SEASON UNTIL THE END OF THE SEASON.

10.5. ERADICATE PLANTS OF THE FOLLOWING SPECIES DEEMED DETRIMENTAL TO FLOODPLAIN AND RIPARIAN AREAS: (1) TYPHA SPECIES (CATTAILS); (2) PHRAGMITES AUSTRALIS (COMMON REED); (3) LYTHRUM SALICARIA (PURPLE LOOSESTRIPE); (4) PHALARIS ARUNDINACEA (REED CANARY GRASS); (5) RHAMNUS CATHARTICA (COMMON BUCKTHORN); (6) RHAMNUS FRANGULA (GLOSSY BUCKTHORN); (7) POLYGONUM CUSPIDATUM (JAPANESE KNOTWEED); (8) DIPSACUS FULLONUM (COMMON TEASEL); (9) CIRSIUM ARVENSE (CANADIAN THISTLE); (10) RUMEX CRISPUS (CURLY DOCK).

11. FOR ACCEPTANCE OF LAWN INSTALLATION PRIOR TO END OF THE FIRST FULL GROWING SEASON, SCATTERED BARE SPOTS, SMALLER THAN ONE SQUARE FOOT WILL BE ALLOWED UP TO FIVE (5%) PERCENT OF THE SEEDED AREAS.

11.1. ANY AREAS FAILING TO ESTABLISH A STAND SHALL BE RESEED, REFERTILIZED AND REMULCHED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER. RESEEDING SHALL CONFORM TO ODOT ITEM 659.

11.2. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE WORK AREAS RESULTING FROM EROSION AND/OR EQUIPMENT. NO ADDITIONAL PAYMENT SHALL BE ALLOWED FOR EROSION AND/OR EQUIPMENT MAINTENANCE. THE CONTRACTOR SHALL REPAIR DAMAGE, INCLUDING REGRADING, RESEEDING, ETC. AS NECESSARY, BEFORE SIGNIFICANT DAMAGE OCCURS.

12. FOR ACCEPTANCE OF FLOODPLAIN AND RIPARIAN SEED INSTALLATION PRIOR TO THE END OF THE SECOND FULL GROWING SEASON, THE FOLLOWING CONDITIONS SHALL BE MET: (1) COVERAGE - 75% COVERAGE OF RIPARIAN SEEDING SHALL BE VISIBLE; (2) PRESENCE - 50% OF THE SPECIES PLANTED SHOULD BE ALIVE AND PRESENT;

12.1. THE CONTRACTOR SHALL REESTABLISH PRAIRIE AND WETLAND PLANTINGS AND CORRECT DEFICIENCIES IN AREAS THAT DO NOT COMPLY WITH REQUIREMENTS STATED ABOVE, AND SHALL CONTINUE MAINTENANCE UNTIL PRAIRIES MEET THE COVERAGE AND PRESENCE REQUIREMENTS.

12.2. ENGINEER WILL MAKE OBSERVATION OF THE WORK OF SEEDED AREAS TO DETERMINE COMPLETION OF CONTRACT WORK AT CONCLUSION OF MAINTENANCE PERIOD, UPON SUBMITTAL OF WRITTEN NOTICE REQUESTING SUCH OBSERVATION.

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PROJECT NO.: 22-00125-020

DRAWN BY: WRMT

CHECKED BY: AWL

DATE ISSUED: 8/31/2022

GENERAL NOTES

2 OF 15

PAY ITEM DESCRIPTIONS
THE PRICES BID SHALL INCLUDE THE FOLLOWING:

ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND TRANSPORTATION NECESSARY FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IN SOME CASES, ITEMS OF WORK MAY BE SHOWN AND/OR CALLED OUT ON THE PLANS TO BE COMPLETED WITHOUT A SPECIFIC BID ITEM REFERENCE IN THE PROPOSAL OR CONTRACT FOR PAYMENT PURPOSES. IN SUCH CASES, THE CONTRACTOR SHALL INCLUDE THE COSTS FOR THOSE ITEMS IN THE UNIT PRICE BID FOR OTHER ITEMS OF WORK. ADDITIONALLY, THESE ITEMS SHALL BE INCIDENTAL TO THE OVERALL PROJECT AND INCLUDED BY THE CONTRACTOR:

ALL DISPOSAL OF WASTE MATERIAL, CLEANING UP, DUST, ODOR, AND NOISE CONTROL.

ALL FIELD STAKING AS NECESSARY FOR CONSTRUCTION, EXCEPT AS PROVIDED HEREIN.

ANY INSPECTION FEES CHARGED BY THE CITY OF CANTON AND ANY OTHER REGULATING AGENCIES.

~~ODOT ITEM 201 - CLEARING AND GRUBBING, INCLUDING TREE REMOVAL (LUMP SUM)~~
THIS PAY ITEM INCLUDES ALL EQUIPMENT, LABOR, AND MATERIAL NEEDED TO PERFORM CLEARING AND GRUBBING OF THE REQUIRED PROJECT AREA(S) AS PER ODOT 201 AND THE PLAN NOTES. BID ITEM SHALL CONFORM TO THE REQUIREMENTS OF ODOT 201.00 AND PLAN NOTES WHICH INCLUDES CLEARING AND GRUBBING OF ALL TREES, TREE ROOTS, AND VEGETATION WITHIN THE PROJECT LIMITS. THIS ALSO INCLUDES ROOT REMOVAL, CLAY, AND BACKFILLING FOR TREE ROOTS IF REQUIRED. NOT ALL TREES TO BE REMOVED ARE SHOWN/INDICATED ON THE DEMOLITION PLAN.

ALL CLEARING, GRUBBING, AND TREE REMOVAL IS TO BE PERFORMED BY OTHERS AND WILL BE COMPLETED PRIOR TO CONSTRUCTION OF THIS PROJECT.

CONSTRUCTION CONTRACTOR SHALL STOCKPILE MATERIAL ON-SITE UNTIL READY TO INSTALL. CONTRACTOR TO INCLUDE THE COST OF REMOVING ALL TREES REQUIRED FOR THE MUD LOG SILL UNDER THE BID ITEM FOR MUD LOG SILL AND ANY OTHER TREE REMOVAL/DISPOSAL SHALL BE INCLUDED UNDER THIS BID ITEM.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ODOT ITEM 203 - EXCAVATION AND EMBANKMENT, AS PER PLAN (LUMP SUM)~~
THIS PAY ITEM INCLUDES ALL EQUIPMENT, MATERIAL, AND LABOR NEEDED TO PERFORM EXCAVATIONS AND CREATE EMBANKMENTS AS PER ODOT 203 AND ACCORDING TO THE PLAN SHEETS AND NOTES. MATERIAL UNSUITABLE FOR EMBANKMENT SHALL BE HAULED OFF SITE AND DISPOSED OF AT AN APPROPRIATE DISPOSAL FACILITY. AS PER ODOT ITEM 203.01, ALL EXCAVATION IS CONSIDERED UNCLASSIFIED EXCAVATION AND PAY ITEM 203 MAY INCLUDE REMOVAL OF INCIDENTAL DEMOLITION MATERIALS. MATERIAL TO BE EXCAVATED IN THIS PAY ITEM INCLUDES THOSE EXCAVATIONS REQUIRED TO MEET THE PROPOSED GRADES OF THE TWO-STAGE CHANNEL DESIGN FROM EXISTING GRADES, WHICH INCLUDES OVEREXCAVATION FOR AREAS THAT ARE TO RECEIVE RESPREAD TOPSOIL. THIS QUANTITY TO BE EXCAVATED IS ESTIMATED TO BE APPROXIMATELY 12,500 CUBIC YARDS, WHICH INCLUDES A FILL FACTOR OF 1.2 (20%). CONTRACTOR SHALL USE THIS INFORMATION AT HIS/HER OWN DISCRETION IN PREPARING THEIR BID. EXCAVATIONS REQUIRED FOR THE DIVERSION MANHOLE AND STORM SEWER SHALL BE INCLUDED IN THE COST OF THOSE ITEMS. ALL EXCAVATION SHALL BE HAULED IN A CLEAN MANNER TO THE DESIGNATED ON-SITE EMBANKMENT AREAS OR OFF SITE IF NOT SUITABLE FOR EMBANKMENTS AS PER ODOT 203. A LIMITED PHASE II ENVIRONMENTAL ASSESSMENT WAS PERFORMED BY ENVIROSCIENCE UNDER A SEPARATE PROJECT ENTITLED "MIDDLE BRANCH REDEVELOPMENT AND GREENSPACE AREAS". THEIR REPORT, DATED JULY 30, 2021, HAS BEEN PROVIDED WITHIN THE BIDDING DOCUMENTS FOR CONTRACTOR'S REFERENCE. CONTRACTOR SHALL REVIEW THIS REPORT/INFORMATION AND TAKE INTO ACCOUNT THE DESCRIBED SITE AND SOIL CONDITIONS WHILE PROVIDING HIS/HER UNIT BID PRICES FOR THIS PROJECT. CONTRACTOR SHALL INCLUDE IN HIS/HER UNIT BID PRICES ANY SPECIAL NEEDS REQUIRED BY LAW IN ORDER TO PERFORM THE WORK PROPOSED HEREIN.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ODOT ITEM 601 - ROCK CHANNEL PROTECTION TYPE C, WITH AGGREGATE FILTER (CUBIC YARD)~~
THIS PAY ITEM INCLUDES ALL EQUIPMENT, MATERIALS, AND LABOR NEEDED TO INSTALL FULLY FUNCTIONAL ROCK CHANNEL PROTECTION AS PER ODOT ITEM 601 WITH AGGREGATE FILTER AFTER THE HEADWALL WITH WINGWALL AND AT THE PROPOSED TWO-STAGE CHANNEL OUTLET NEAR MIDDLE BRANCH NIMISHILLEN CREEK. THIS INCLUDES FURNISHING AND INSTALLING THE AGGREGATE FILTER WHICH SHALL BE CONSIDERED INCIDENTAL TO PAY ITEM. ROCK CHANNEL PROTECTION USED FOR RIFFLES SHALL BE INCLUDED IN THAT BID ITEM. BID ITEM SHALL CONFORM TO THE REQUIREMENTS OF ODOT 601.00 AND PLAN NOTES. WHEN PLACING ROCK, EXERCISE REASONABLE CARE TO ENSURE THAT THE FINISHED SURFACE OF THE PROTECTED CHANNEL CONFORMS TO THE CHANNEL SECTIONS SHOWN ON THE PLANS AND THAT NO NET FILL IS PLACED WITHIN THE FLOODPLAIN OR DISTURBANCE IS MADE WITHIN/BELOW THE ORDINARY HIGH WATER MARK OF THE STREAM.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER CUBIC YARD OF MATERIAL PLACED, SHAPED, AND APPROVED. THE OWNER/ENGINEER WILL MEASURE DUMPED ROCK FILL AND ROCK CHANNEL PROTECTION BY THE CUBIC YARD, COMPLETED AND ACCEPTED IN PLACE ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS, EXCLUDING ROCK FILTER. THE OWNER/ENGINEER MAY DETERMINE QUANTITIES BY VOLUME IN THE VEHICLE OR BY A JOB CONVERSION WEIGHT OF ACCEPTABLE MATERIAL DELIVERED OR OTHER METHOD AT HIS/HER DISCRETION.

~~ODOT ITEM 611 - 24" HDPE CONDUIT, AS PER PLAN (LINEAR FOOT)~~
THIS PAY ITEM INCLUDES ALL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO INSTALL THE PROPOSED STORM SEWER(S) AS PER ODOT CMS 611.00, THE CITY OF CANTON STANDARD DRAWING NO 19, MANUFACTURERS RECOMMENDATIONS, AND THESE PLANS.

COST OF STORM SEWER INSTALLATION SHALL INCLUDE ANY EXCAVATING AND SHEETING/BRACING/CRIBBING OR OTHER SUPPORTS REQUIRED FOR INSTALLING THE PIPE, FURNISHING AND PLACING OF BEDDING AND BACKFILL AS REQUIRED BY THE CONTRACT DOCUMENTS, PUMPING AND DEWATERING THAT MAY BE REQUIRED FOR CONSTRUCTING THE SEWER NOT ALREADY INCLUDED IN OTHER ITEMS, JOINING/SEALING ALL PIPE JOINTS, JOINING THE PIPE TO THE EXISTING AND PROPOSED APPURTENANCES AS REQUIRED, AND PERFORMING LEAKAGE TESTS AS REQUIRED BY THE ENGINEER.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER LINEAR FOOT OF STORM SEWER INSTALLED AND BACKFILLED TO FINAL GRADES. MEASUREMENT WILL OCCUR PER ODOT 611.

~~ODOT ITEM 614 - MAINTAINING TRAFFIC (LUMP SUM)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED FOR MAINTAINING TRAFFIC THROUGHOUT THE PROJECT AS PER ODOT 614 AND/OR AS REQUIRED BY THESE PLANS OR THE OWNER/ENGINEER. THIS SHALL INCLUDE ITEMS SUCH AS FLAGGING, TEMPORARY SIGNAGE, TEMPORARY LANE CLOSURES, TEMPORARY BARRELS, CONES, AND TEMPORARY FENCING AROUND THE PROJECT LIMITS AND/OR STAGING AREAS REQUIRED AS PER ODOT MUTCD AND CITY OF CANTON. ALL MOT SIGNED, BARRELS, ETC. SHALL BE IN NEW OR LIKE NEW CONDITION.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ODOT ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING (LUMP SUM)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED FOR THE CONTRACTOR TO SURVEY AND LAYOUT/STAKE THE PROJECT AS PER ODOT 623.00 AND AS REQUIRED BY THE PLAN NOTES.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ODOT ITEM 624 - MOBILIZATION (LUMP SUM)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED FOR THE CONTRACTOR TO MOBILIZE AS PER ODOT 624.00. THIS SHALL ALSO INCLUDE CONSTRUCTION VIDEO AS REQUIRED PER THE GENERAL NOTES.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ODOT ITEM 651 - STRIPPING AND STOCKPILING TOPSOIL (CUBIC YARD)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED TO STRIP TOPSOIL AND STOCKPILE TOPSOIL AS PER ODOT 651.00 AND THESE PLAN NOTES IN THE QUANTITY REQUIRED FOR RESPREADING AS INDICATED ON THE PLANS.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER CUBIC YARD OF TOPSOIL STRIPPED AND STOCKPILED.

~~ODOT ITEM 652 - PLACING STOCKPILED TOPSOIL (CUBIC YARD)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO HAUL TOPSOIL FROM THE STOCKPILE AREA, PLACE STOCKPILED TOPSOIL, AND PREPARE SURFACES, IN THE AREAS AND TO THE THICKNESSES SPECIFIED ON THE PLANS, AS PER ODOT 652.00 AND THESE PLAN NOTES.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER CUBIC YARD OF TOPSOIL PLACED AND APPROVED.

~~ODOT ITEM 659 - SEEDING AND MULCHING, CLASS 1 (SQUARE YARD)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE SPECIFIED SEED MIX AS PER ODOT 659.00 AND THESE PLAN NOTES. THIS PAY ITEM SHALL INCLUDE TEMPORARY WATERING AND MOWING OF SEEDING AREAS DURING CONSTRUCTION AS NEEDED FOR PROPER ESTABLISHMENT AND/OR AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL ESTIMATE WATERING NEEDS BASED ON CONSTRUCTION SCHEDULE AND ODOT 659.17. THIS SHALL ALSO INCLUDE WARRANTY AND MAINTENANCE REQUIRED AS PER THE PLAN NOTES.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER SQUARE YARD OF MATERIAL PLACED AND APPROVED.

~~ODOT ITEM 659 - SEEDING AND MULCHING, FLOODPLAIN MIX (SQUARE YARD)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE SPECIFIED SEED MIX AS PER ODOT 659.00 AND THESE PLAN NOTES. THIS PAY ITEM SHALL INCLUDE TEMPORARY WATERING AND MOWING OF SEEDING AREAS DURING CONSTRUCTION AS NEEDED FOR PROPER ESTABLISHMENT AND/OR AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL ESTIMATE WATERING NEEDS BASED ON CONSTRUCTION SCHEDULE AND ODOT 659.17. THIS SHALL ALSO INCLUDE WARRANTY AND MAINTENANCE REQUIRED AS PER THE PLAN NOTES.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER SQUARE YARD OF MATERIAL PLACED AND APPROVED.

~~ODOT ITEM 659 - SEEDING AND MULCHING, RIPARIAN BUFFER MIX (SQUARE YARD)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE SPECIFIED SEED MIX AS PER ODOT 659.00 AND THESE PLAN NOTES. THIS PAY ITEM SHALL INCLUDE TEMPORARY WATERING AND MOWING OF SEEDING AREAS DURING CONSTRUCTION AS NEEDED FOR PROPER ESTABLISHMENT AND/OR AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL ESTIMATE WATERING NEEDS BASED ON CONSTRUCTION SCHEDULE AND ODOT 659.17. THIS SHALL ALSO INCLUDE WARRANTY AND MAINTENANCE REQUIRED AS PER THE PLAN NOTES.

PAYMENT FOR THE BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER SQUARE YARD OF MATERIAL PLACED AND APPROVED.

~~ODOT ITEM 671 - EROSION CONTROL BLANKET, AS PER PLAN (SQUARE YARD)~~
THIS PAY ITEM INCLUDES THE EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO FURNISH, INSTALL, AND MAINTAIN DURING CONSTRUCTION THE SPECIFIED EROSION CONTROL BLANKET AS PER ODOT 671.00, THE PLAN NOTES/DETAILS, AND PER MANUFACTURER'S RECOMMENDATIONS. THIS SHALL INCLUDE THE PURCHASE OF ADDITIONAL MATERIAL AS NEEDED TO TRENCH IN AND INSTALL THE MATERIAL PER THE MANUFACTURER'S INSTRUCTIONS AND/OR THESE PLANS.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER SQUARE YARD OF MATERIAL INSTALLED ON THE FINAL SURFACE AND APPROVED.

~~ITEM SPECIAL - DIVERSION MANHOLE (LUMP SUM)~~
THE PAY ITEM INCLUDES ALL MATERIAL, EQUIPMENT AND LABOR REQUIRED TO DESIGN AND CONSTRUCT THE PROPOSED DIVERSION MANHOLE SHOWN ON THE PLANS, NOTES, AND DETAILS. THIS ITEM INCLUDES ALL INVESTIGATION WORK, THE DESIGN AND STAMPED SHOP DRAWINGS OF THE DIVERSION MANHOLE BY A PROFESSIONAL ENGINEER REGISTERED IN OHIO, ANCILLARY MATERIAL SUBMITTALS, EXCAVATION REQUIRED TO INSTALL THE MANHOLE AND BACKFILLING THE EXCAVATIONS TO FINISHED GRADE, ANY SHORING/BRACING/SHEETING/ETC REQUIRED TO CONSTRUCT THE DIVERSION MANHOLE, EARTH SUBGRADE PREPARATION/INSPECTION AND BASE AGGREGATE, ANY CONCRETE MASONRY, STEEL OR OTHER REINFORCING REQUIRED TO INSTALL THIS MANHOLE AND PROTECT THE INTEGRITY OF THE EXISTING AND PROPOSED SEWERS (INCLUDING SADDLES/CRADLES/COLLARS), AND ANY OTHER INCIDENTALS THAT ARE REQUIRED TO COMPLETE THE WORK. THIS WORK SHALL ALSO INCLUDE THE COST OF ALL MATERIAL, EQUIPMENT AND LABOR REQUIRED FOR MAINTAINING ALL FLOW(S) THROUGH THE EXISTING STORM SEWER, INCLUDING ANY REQUIRED BY-PASS PUMPING, UNTIL THE PROPOSED TWO-STAGE CHANNEL HAS BEEN CONSTRUCTED AND IS STABILIZED. THIS ITEM SHALL ALSO INCLUDE THE REMOVAL AND APPROPRIATE OFF-SITE DISPOSAL OF THE ASPHALT ROADWAY REQUIRED TO INSTALL THIS DIVERSION MANHOLE.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ITEM SPECIAL - HEADWALL WITH WINGWALLS (LUMP SUM)~~
THIS PAY ITEM SHALL INCLUDE ALL MATERIAL, LABOR, AND EQUIPMENT NEEDED TO INSTALL A FULLY FUNCTIONAL HEADWALL STRUCTURE AS PER ODOT CMS 611 AND THESE PLANS. THIS INCLUDES WINGWALLS, CONCRETE BASE/FOOTER/PAVEMENT, CONCRETE MASONRY, REINFORCING STEEL, GROUT, MORTAR, CONNECTIONS, AGGREGATE BASE, AND ANY OTHER INCIDENTALS NEEDED TO INSTALL THE HEADWALL WITH WINGWALLS THAT ARE NOT INCLUDED IN OTHER PAY ITEMS. THIS ITEM SHALL INCLUDE SUBMITTAL OF SHOP DRAWINGS STAMPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. THIS ITEM SHALL INCLUDE EXCAVATION AND BACKFILL REQUIRED TO INSTALL THE HEADWALL WITH WINGWALLS AND SECURING/GROUTING PIPE CONNECTIONS. THIS BID ITEM SHALL CONFORM TO THE PLAN NOTES AND DETAILS.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

~~ITEM SPECIAL - LIVE STAKES (EACH)~~
THIS PAY ITEM SHALL INCLUDE ALL MATERIAL, LABOR, AND EQUIPMENT NEEDED TO INSTALL LIVE STAKES AS PER THESE PLANS. THIS PAY ITEM SHALL ALSO INCLUDE MAINTAINING, WARRANTY, AND REPLACEMENT OF LIVE STAKES DURING THE DEFINED PERIOD OF ESTABLISHMENT. THE

MINIMUM PERIOD OF ESTABLISHMENT IS ONE COMPLETE GROWING SEASON, BEGINNING JUNE 1 AND ENDING THE FOLLOWING OCTOBER 1. DURING THE PERIOD OF ESTABLISHMENT, FOLLOW STANDARD HORTICULTURAL PRACTICES TO ENSURE THE VIGOR AND GROWTH OF THE LIVE STAKES INCLUDING WATERING, RE-MULCHING, RE-STAKING, AND CULTIVATING AS NECESSARY. THIS PAY ITEM ALSO INCLUDES THE REMOVAL OF WEEDS FROM THE PLANTED AREA AT LEAST TWICE DURING THE GROWING SEASON.

LIVE STAKE MATERIAL SHALL BE SOURCED FROM A LICENSED NURSERY BY THE OHIO DEPARTMENT OF AGRICULTURE OR STATE EQUIVALENT. SUPPLY THE ENGINEER WITH COMPLETE AND DETAILED INFORMATION CONCERNING THE SOURCE OF THE SUPPLY PRIOR TO PURCHASE OF THE MATERIAL. NOTIFY THE ENGINEER WHEN LIVE STAKE MATERIALS ARE DELIVERED TO THE PROJECT SITE. DO NOT INSTALL ANY LIVE STAKE MATERIALS UNTIL APPROVAL OF THE MATERIAL IS RECEIVED. DO NOT INSTALL PLANT MATERIALS IN FROZEN SOIL CONDITIONS.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE PER EACH LIVE STAKE PLACED AND APPROVED.

~~ITEM SPECIAL - MUD LOG SILL WITH COIR LOG (LINEAR FOOT)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NEEDED FOR CONSTRUCTING A FULLY FUNCTIONAL MUD LOG SILL AS SHOWN ON THE PLAN. THIS INCLUDES ALL THE VARIOUS SILL AND FACE LOGS (TO BE OBTAINED FROM ON-SITE CLEARING ACTIVITIES), THE COIR LOG AND WOOD STAKES, REBAR PINS, THE NATURAL STONE/AGGREGATE, AND ANY OTHER INCIDENTALS NEEDED TO INSTALL THE MUD LOG SILL NOT INCLUDED IN OTHER PAY ITEMS. THIS INCLUDES EXCAVATIONS BELOW THE PROPOSED TWO-STAGE CHANNEL GRADE THAT ARE REQUIRED TO INSTALL/KEY IN THIS WORK AND THE DISPOSAL OF THIS EXCAVATED MATERIAL IN THE AREA SHOWN ON THE PLAN OR AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL DETERMINE QUANTITY OF MUD LOG AND FACE LOG SILLS REQUIRED FOR THE PROJECT AND MARK IN FIELD PREFERRED LOGS FOR USE ON THE PROJECT PRIOR TO CLEARING ACTIVITIES. MARKED QUANTITIES OF TREES SHOULD INCLUDE A 20% INCREASE FOR ADDITIONAL MATERIAL USE DURING CONSTRUCTION. CONTRACTOR SHALL STOCKPILE MATERIAL ON-SITE UNTIL READY TO INSTALL. COST FOR THIS WORK TO BE INCLUDED IN THIS ITEM. BID ITEM SHALL CONFORM TO THE PLAN NOTES AND DETAILS.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BASED ON THE LINEAR FOOT OF MUD LOG SILL INSTALLED AND APPROVED. LENGTH WILL BE MEASURED ALONG CENTERLINE OF CHANNEL.

~~ITEM SPECIAL - RIFFLE (EACH)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NEEDED FOR A FULLY FUNCTIONAL RIFFLE FEATURE AS SHOWN ON THE PLANS. THIS INCLUDES ALL NATURAL STONE/RIPRAP AND ANY OTHER INCIDENTALS NEEDED TO INSTALL THE RIFFLE NOT INCLUDED IN OTHER PAY ITEMS. THIS INCLUDES EXCAVATIONS BELOW THE PROPOSED TWO-STAGE CHANNEL GRADE THAT ARE REQUIRED TO INSTALL THE RIFFLE AND THE EMBANKMENT OF THIS EXCAVATED MATERIAL IN THE AREA SHOWN ON THE PLAN OR AS DIRECTED BY THE OWNER/ENGINEER. BID ITEM SHALL CONFORM TO THE PLAN NOTES AND DETAILS.

CONTRACTOR SHALL IDENTIFY AND PROVIDE THE SOURCE OF THE ROCK MATERIAL AND PROVIDE ENGINEER WITH PICTURES/SAMPLES OF THE MATERIAL AS A SUBMITTAL FOR APPROVAL PRIOR TO PROCURING SAID MATERIAL. AGGREGATE/RIPRAP SHALL BE NATURAL STONE, WITHOUT ANY SLAG OR RECYCLED MATERIALS. RIFFLES SHALL BE INSTALLED ACCORDING TO THE LOCATIONS, LINES, GRADES, AND ELEVATIONS AS SHOWN ON THE PROJECT DRAWINGS. RIFFLES SHALL BE CONSTRUCTED SO THE ROCK SLOPES UPWARD IN AN UPSTREAM DIRECTION. FINAL ELEVATIONS AND GRADES SHALL BE APPROVED BY THE ENGINEER. FOOTER ROCKS OR BOULDERS MAY BE REQUIRED AND SHALL BE FIRMLY KEYED INTO THE STREAMBED.

CONTRACTOR WILL BE PAID AT THE CONTRACT PRICE FOR EACH RIFFLE INSTALLED COMPLETE AND APPROVED.

~~ITEM SPECIAL - TEMPORARY SEDIMENT CONTROLS (LUMP SUM)~~
THIS PAY ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NEEDED TO INSTALL, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL TEMPORARY EROSION CONTROL ITEMS DESIGNATED ON THE STORMWATER POLLUTION PREVENTION PLAN, INCLUDING NOTES AND DETAILS, OR THOSE ADDITIONAL ITEMS THAT MAY BE REQUIRED BASED ON SITE CONDITIONS. THIS INCLUDES IMPLEMENTATION, MAINTENANCE, INSPECTIONS, DOCUMENTATION, AND TERMINATION OF SWPPP CONTROL MEASURES, STORM WATER MANAGEMENT PLANS, OFF-SITE VEHICLE TRACKING, AND OTHER APPROPRIATE PRACTICES. CONTRACTOR SHALL BE REQUIRED TO REGISTER AS A CO-PERMITTEE NOTICE OF INTENT FOR COVERAGE UNDER OHIO EPA CONSTRUCTION STORM WATER GENERAL PERMIT AND MAINTAIN APPROPRIATE DOCUMENTATION ON-SITE THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO THE SWPPP BASED ON INSPECTIONS PERFORMED BY REGULATORY AGENCY REQUESTS AND/OR THE OWNER. THE PRICE FOR THIS WORK SHOULD BE INCLUDED IN THIS BID ITEM. BID ITEM SHALL CONFORM TO THE PLAN, NOTES, AND DETAILS.

PAYMENT FOR THIS BID ITEM WILL BE MADE AT THE CONTRACT PRICE BY LUMP SUM. PAYMENTS WILL BE BASED ON PERCENTAGES OF THE WORK COMPLETED AND APPROVED.

CONTRACTOR SHALL ASSUME THAT SOILS ARE NOT REQUIRED TO BE HAULED OFF SITE WHEN DETERMINING BID PRICE FOR EXCAVATION AND EMBANKMENT. IF, DURING EXCAVATION, THE ENGINEER DETERMINES THAT SOILS SHOULD BE HAULED OFF SITE, APPROPRIATE NEGOTIATIONS SHALL OCCUR FOR ADDITIONAL COSTS INCURRED TO THE CONTRACTOR.

~~ITEM SPECIAL - EXISTING MANHOLE MODIFICATION (LUMP SUM)~~
THIS PAY ITEM REPLACES THE ORIGINAL PLAN ITEM "ITEM SPECIAL - DIVERSION MANHOLE". THIS ITEM SHALL INCLUDE ALL MATERIAL, EQUIPMENT, AND LABOR REQUIRED TO MODIFY EXISTING STORM MH 2, INCLUDING:
1. CONNECTION OF THE PROPOSED 24" STORM SEWER TO THE MH. TO CONNECT THE PROPOSED 24" STORM SEWER, CONTRACTOR MAY REMOVE THE EXISTING 15" STORM SEWER AND CATCH BASIN THAT TIE INTO THE MH FROM THE SOUTH. ALL COSTS ASSOCIATED WITH SUCH DETACHMENT, REMOVAL, AND PROPER DISPOSAL OF EXISTING 15" STORM SEWER AND CATCH BASIN SHALL BE INCLUDED IN THE COST OF THIS ITEM.
2. CONSTRUCTION OF THE 2'-HIGH WEIR WALL (SEE PLAN SHEET NO. 8) IN THE MH;
3. INSTALLATION AND OPERATION OF ANY BY-PASS PUMPING AS NEEDED;
4. INSTALLATION OF ANY TEMPORARY PLUGS THAT MAY BE NEEDED DURING MODIFICATION OF THE MH;
5. ANY OTHER INCIDENTALS THAT MAY BE REQUIRED TO COMPLETE THE INTENT OF THE MANHOLE MODIFICATION.

AN EQUIVALENT MANUFACTURED HDPE HEADWALL & WINGWALLS MAY BE USED IN LIEU OF A PRECAST CONCRETE HEADWALL & WINGWALLS AS APPROVED BY THE ENGINEER. IF SUCH IS THE CASE, ADDITIONAL ROCK CHANNEL PROTECTION SHALL BE INSTALLED ACCORDINGLY WITHIN THE APRON AREA OF THE HEADWALL AND WINGWALLS. CONTRACTOR SHALL INCLUDE COSTS ACCORDINGLY IN BID PRICES FOR RESPECTIVE ITEMS.

DO NOT PERFORM LIVE STAKES AS PART OF THIS PROJECT. LIVE STAKES MAY BE PERFORMED BY OTHERS AT A LATER TIME.

MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND,
GP1349
CITY OF CANTON



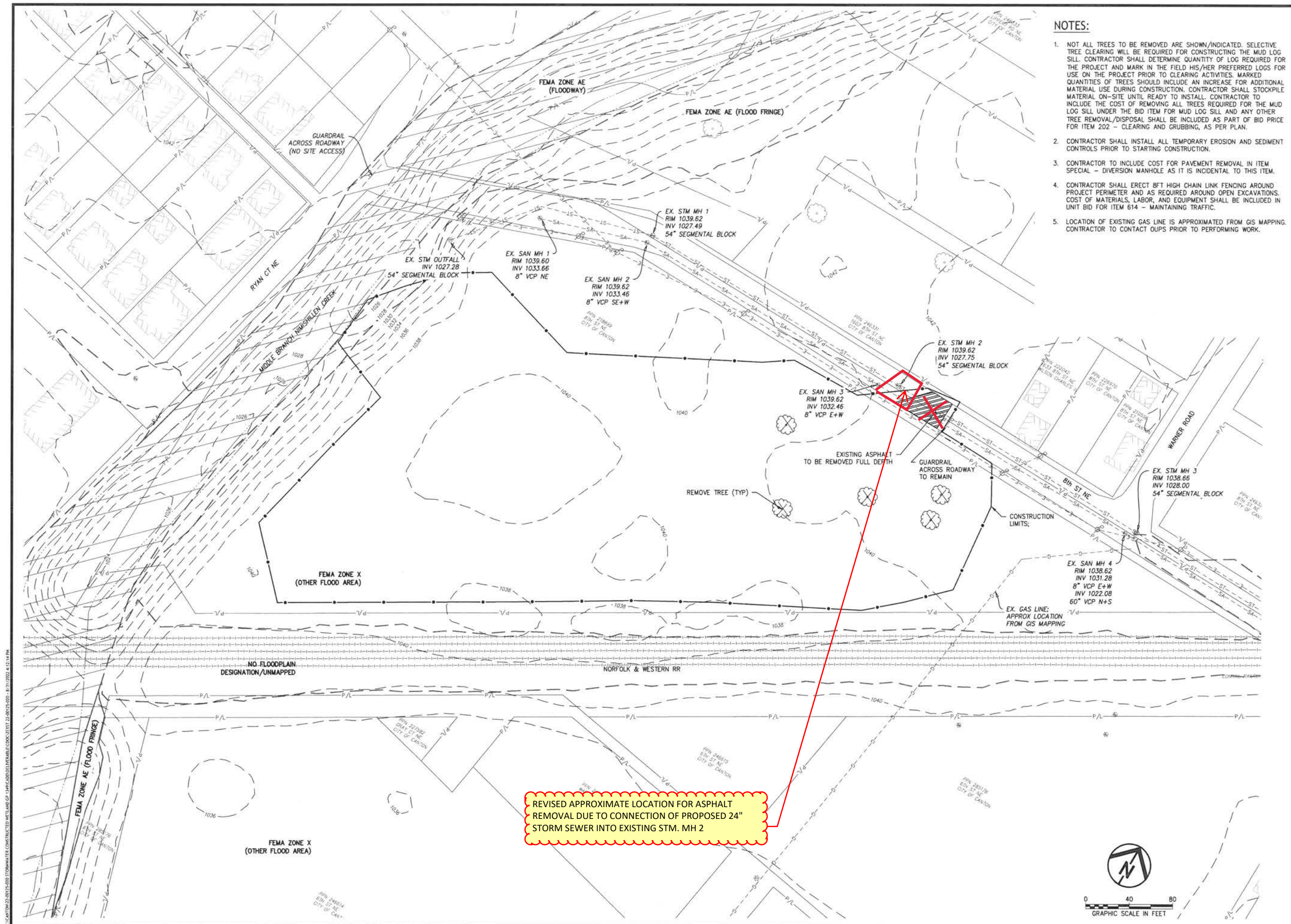
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PROJECT NO.:		22-00125-020
DRAWN BY:		WRMT
CHECKED BY:		AML
DATE ISSUED:		8/31/2022

GENERAL NOTES



NOTES:

1. NOT ALL TREES TO BE REMOVED ARE SHOWN/INDICATED. SELECTIVE TREE CLEARING WILL BE REQUIRED FOR CONSTRUCTING THE MUD LOG SILL. CONTRACTOR SHALL DETERMINE QUANTITY OF LOG REQUIRED FOR THE PROJECT AND MARK IN THE FIELD HIS/HER PREFERRED LOGS FOR USE ON THE PROJECT PRIOR TO CLEARING ACTIVITIES. MARKED QUANTITIES OF TREES SHOULD INCLUDE AN INCREASE FOR ADDITIONAL MATERIAL USE DURING CONSTRUCTION. CONTRACTOR SHALL STOCKPILE MATERIAL ON-SITE UNTIL READY TO INSTALL. CONTRACTOR TO INCLUDE THE COST OF REMOVING ALL TREES REQUIRED FOR THE MUD LOG SILL UNDER THE BID ITEM FOR MUD LOG SILL AND ANY OTHER TREE REMOVAL/DISPOSAL SHALL BE INCLUDED AS PART OF BID PRICE FOR ITEM 202 - CLEARING AND GRUBBING, AS PER PLAN.
2. CONTRACTOR SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROLS PRIOR TO STARTING CONSTRUCTION.
3. CONTRACTOR TO INCLUDE COST FOR PAVEMENT REMOVAL IN ITEM SPECIAL - DIVERSION MANHOLE AS IT IS INCIDENTAL TO THIS ITEM.
4. CONTRACTOR SHALL ERECT 8FT HIGH CHAIN LINK FENCING AROUND PROJECT PERIMETER AND AS REQUIRED AROUND OPEN EXCAVATIONS. COST OF MATERIALS, LABOR, AND EQUIPMENT SHALL BE INCLUDED IN UNIT BID FOR ITEM 614 - MAINTAINING TRAFFIC.
5. LOCATION OF EXISTING GAS LINE IS APPROXIMATED FROM GIS MAPPING. CONTRACTOR TO CONTACT DUPS PRIOR TO PERFORMING WORK.

MIDDLE BRANCH NIMISHILLEN CREEK STORMWATER CONSTRUCTED WETLAND, GP1349 CITY OF CANTON



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DATE: 8/26/2022

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DATE	DESCRIPTION	

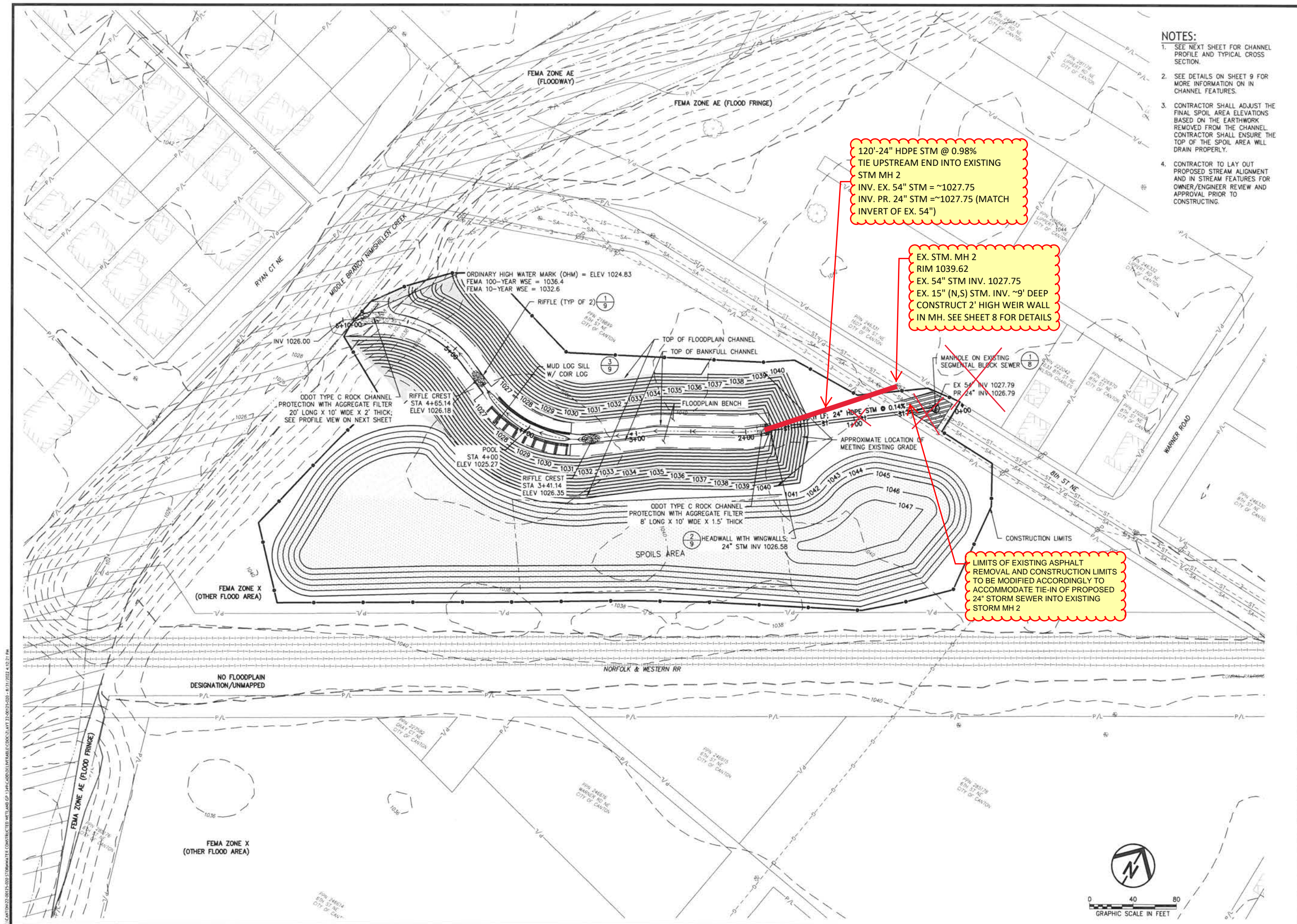
PROJECT NO.: 22-00125-020

DRAWN BY: WRMT

CHECKED BY: AML

DATE ISSUED: 8/31/2022

EXISTING CONDITIONS
PLAN AND
DEMOLITION



NOTES:

1. SEE NEXT SHEET FOR CHANNEL PROFILE AND TYPICAL CROSS SECTION.
2. SEE DETAILS ON SHEET 9 FOR MORE INFORMATION ON IN CHANNEL FEATURES.
3. CONTRACTOR SHALL ADJUST THE FINAL SPOIL AREA ELEVATIONS BASED ON THE EARTHWORK REMOVED FROM THE CHANNEL. CONTRACTOR SHALL ENSURE THE TOP OF THE SPOIL AREA WILL DRAIN PROPERLY.
4. CONTRACTOR TO LAY OUT PROPOSED STREAM ALIGNMENT AND IN STREAM FEATURES FOR OWNER/ENGINEER REVIEW AND APPROVAL PRIOR TO CONSTRUCTING.

120'-24" HDPE STM @ 0.98%
TIE UPSTREAM END INTO EXISTING
STM MH 2
INV. EX. 54" STM = ~1027.75
INV. PR. 24" STM = ~1027.75 (MATCH
INVERT OF EX. 54")

EX. STM. MH 2
RIM 1039.62
EX. 54" STM INV. 1027.75
EX. 15" (N,S) STM. INV. ~9' DEEP
CONSTRUCT 2' HIGH WEIR WALL
IN MH. SEE SHEET 8 FOR DETAILS

LIMITS OF EXISTING ASPHALT
REMOVAL AND CONSTRUCTION LIMITS
TO BE MODIFIED ACCORDINGLY TO
ACCOMMODATE TIE-IN OF PROPOSED
24" STORM SEWER INTO EXISTING
STORM MH 2

**MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349**
CITY OF CANTON



100% DESIGN



DATE: 8/26/2022

REVISIONS		
DATE	DESCRIPTION	

PROJECT NO.: 22-00125-020

DRAWN BY: WRMT

CHECKED BY: AWL

DATE ISSUED: 8/31/2022

LAYOUT, GRADING,
AND UTILITY PLAN



MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349
CITY OF CANTON



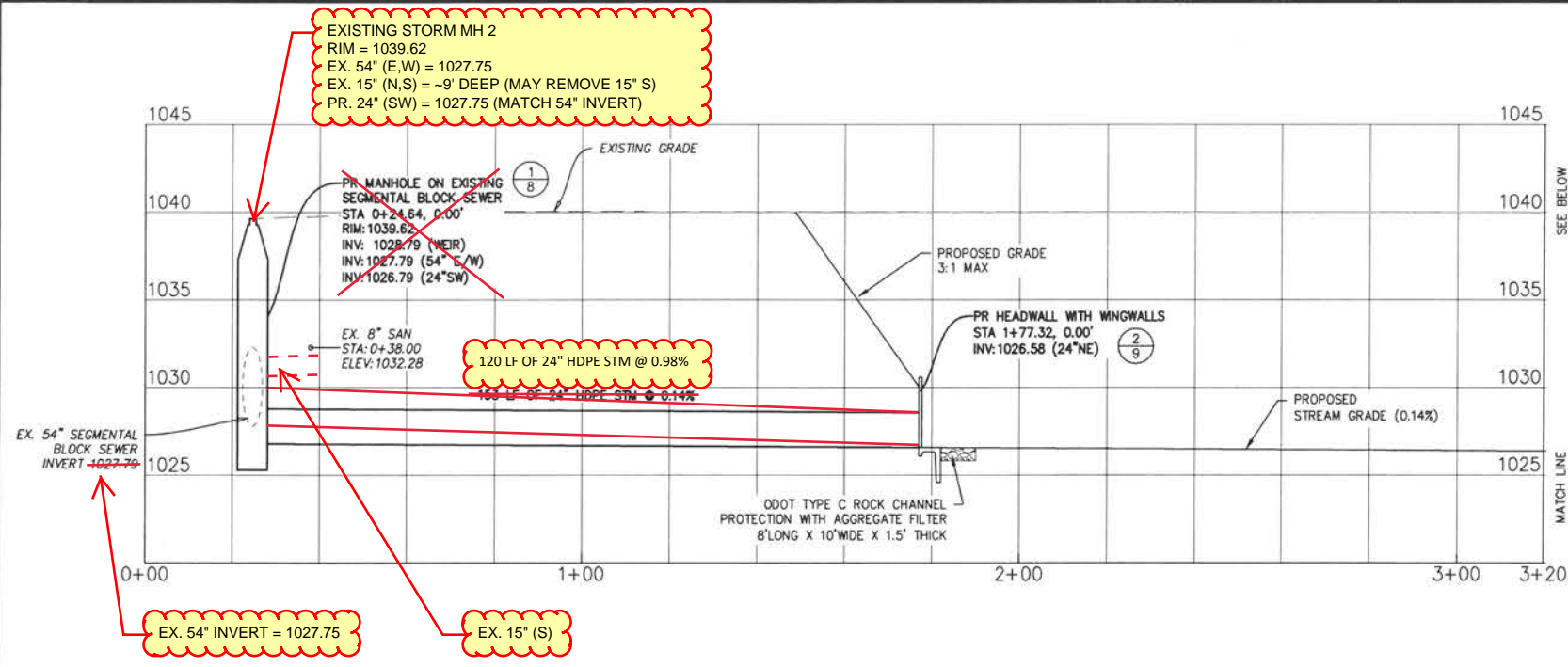
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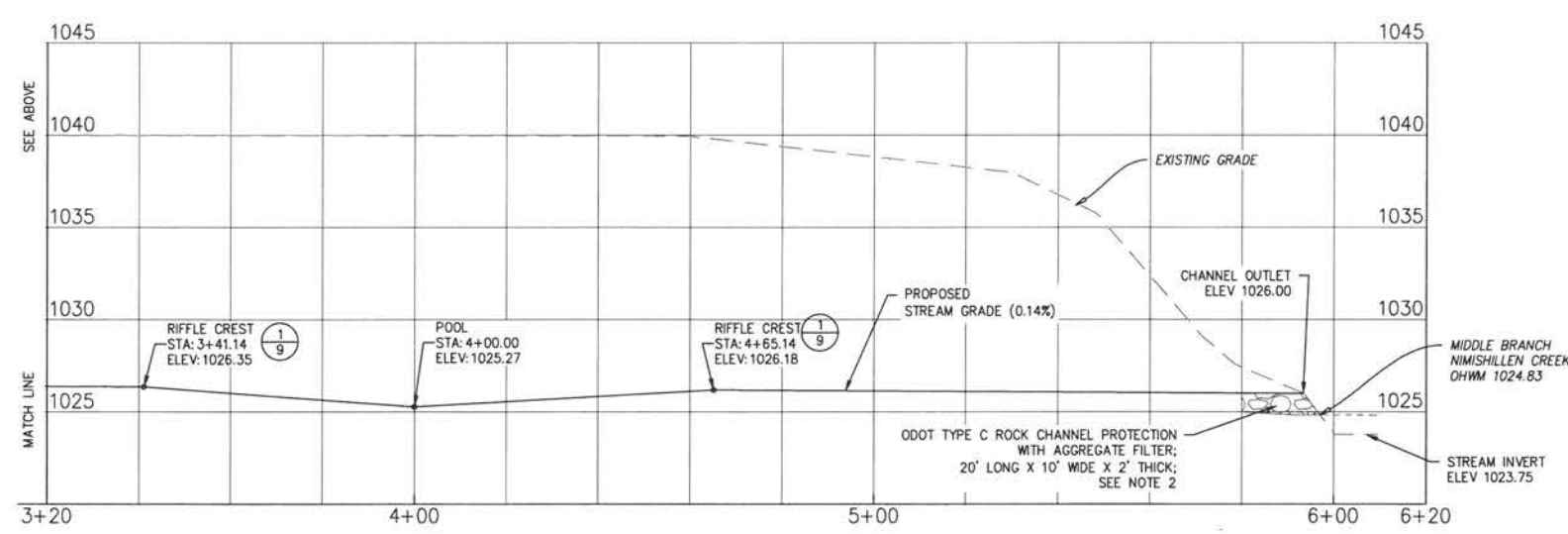
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PROJECT NO.: 22-00125-020		
DRAWN BY: WRMT		
CHECKED BY: AML		
DATE ISSUED: 8/31/2022		

PROFILE AND TYPICAL
SECTION



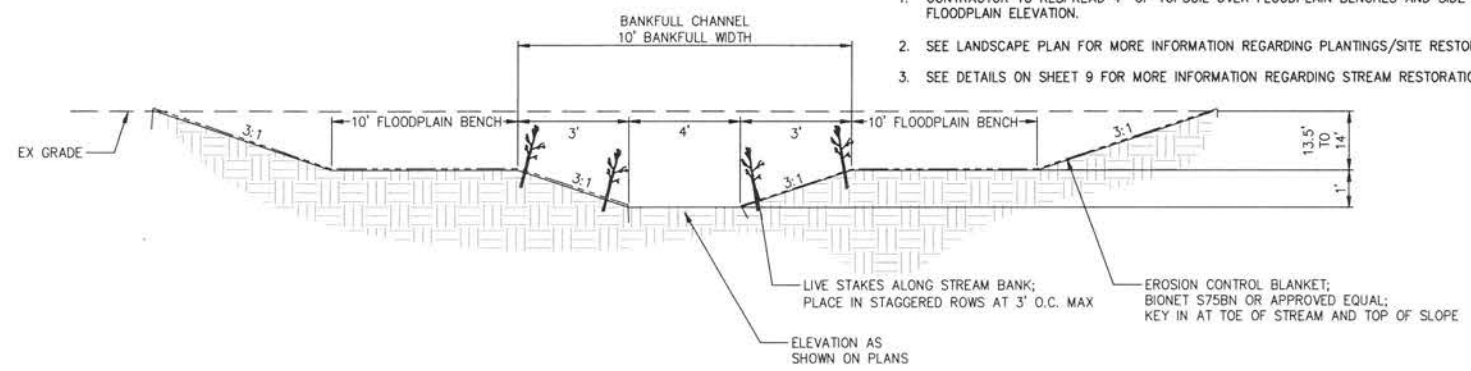
NOTES:

- NO NET FILL TO BE PLACED IN FLOODWAY/FLOODPLAIN OF THE MIDDLE BRANCH NIMISHILLEN CREEK; ALL GRADING WORK IN FLOODPLAIN TO BE EXCAVATION.
- DO NOT DISTURB MIDDLE BRANCH NIMISHILLEN CREEK BEYOND/BELOW OHWM ELEVATION.

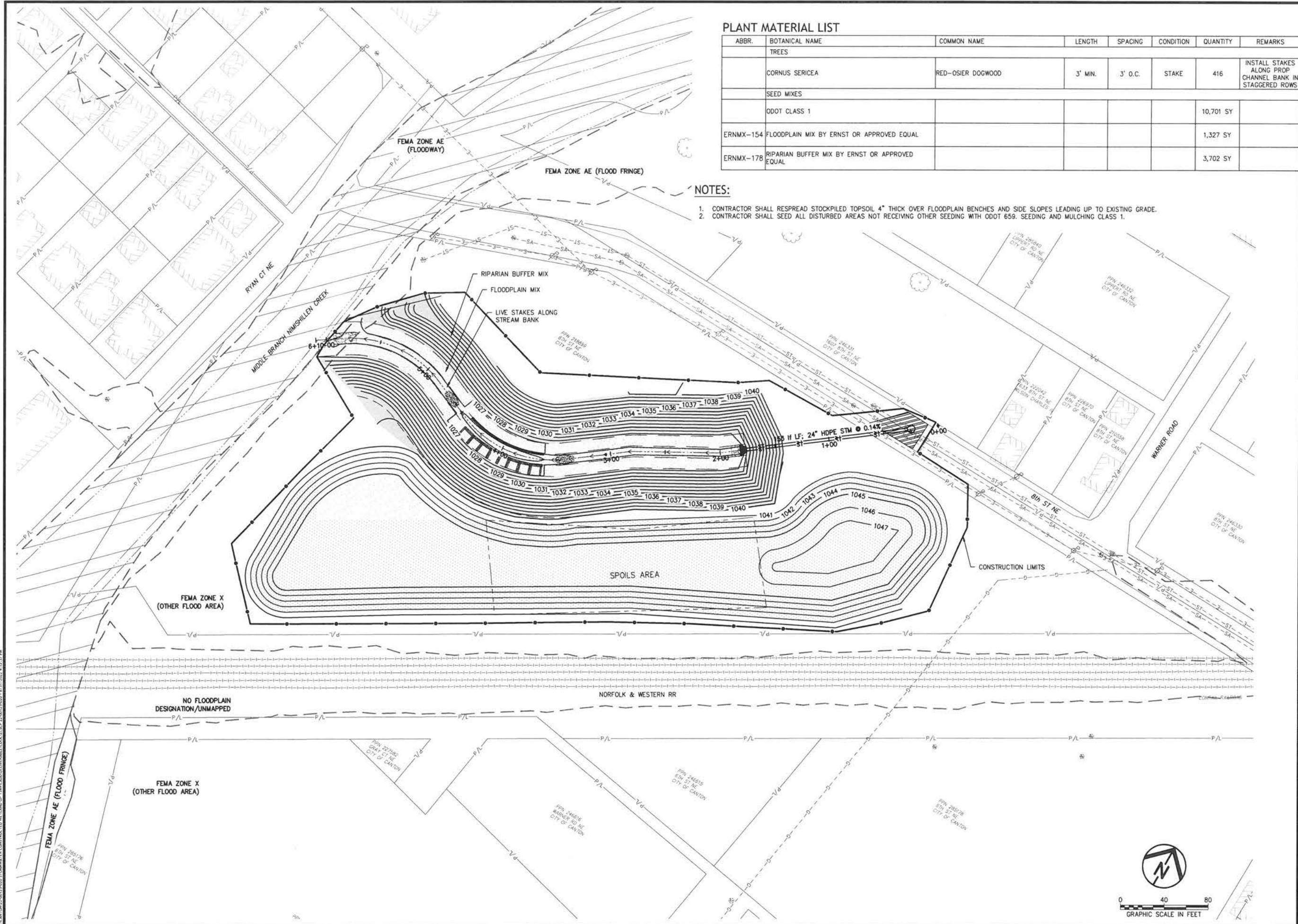


TYPICAL SECTION NOTES:

- CONTRACTOR TO RESPREAD 4" OF TOPSOIL OVER FLOODPLAIN BENCHES AND SIDE SLOPES ABOVE FLOODPLAIN ELEVATION.
- SEE LANDSCAPE PLAN FOR MORE INFORMATION REGARDING PLANTINGS/SITE RESTORATION
- SEE DETAILS ON SHEET 9 FOR MORE INFORMATION REGARDING STREAM RESTORATION FEATURES.



1 TYPICAL TWO-STAGE CHANNEL SECTION
6 NOT TO SCALE



PLANT MATERIAL LIST

ABBR.	BOTANICAL NAME	COMMON NAME	LENGTH	SPACING	CONDITION	QUANTITY	REMARKS
TREES							
	CORNUS SERICEA	RED-OSIER DOGWOOD	3' MIN.	3' O.C.	STAKE	416	INSTALL STAKES ALONG PROP CHANNEL BANK IN STAGGERED ROWS
SEED MIXES							
	ODOT CLASS 1					10,701 SY	
ERNMX-154	FLOODPLAIN MIX BY ERNST OR APPROVED EQUAL					1,327 SY	
ERNMX-178	RIPARIAN BUFFER MIX BY ERNST OR APPROVED EQUAL					3,702 SY	

NOTES:

1. CONTRACTOR SHALL RESPREAD STOCKPILED TOPSOIL 4" THICK OVER FLOODPLAIN BENCHES AND SIDE SLOPES LEADING UP TO EXISTING GRADE.
2. CONTRACTOR SHALL SEED ALL DISTURBED AREAS NOT RECEIVING OTHER SEEDING WITH ODOT 659. SEEDING AND MULCHING CLASS 1.



MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349
CITY OF CANTON



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DATE: 8/26/2022

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DATE	DESCRIPTION

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LANDSCAPING PLAN

MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349
CITY OF CANTON



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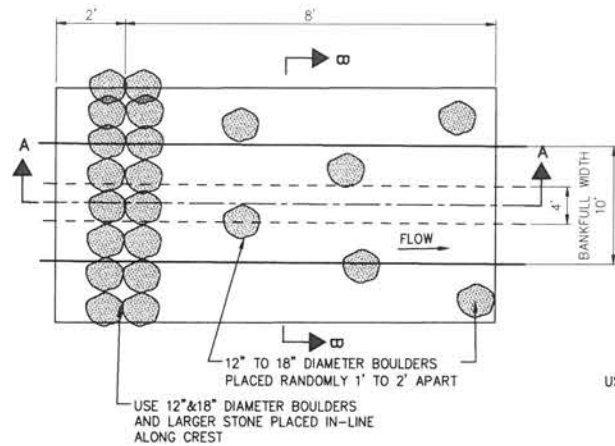


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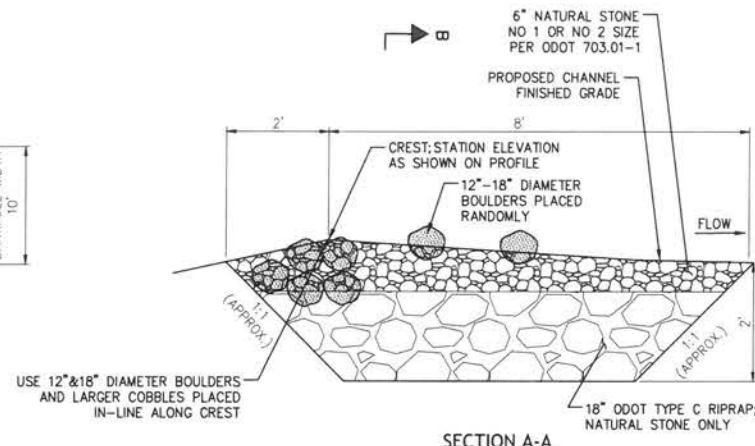
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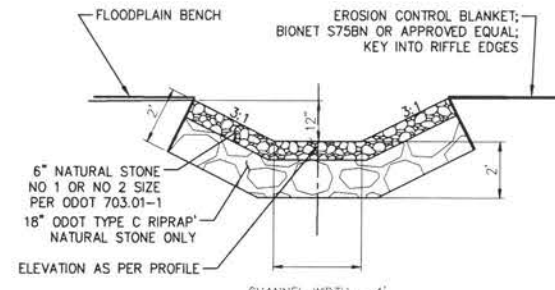
CONSTRUCTION
DETAILS



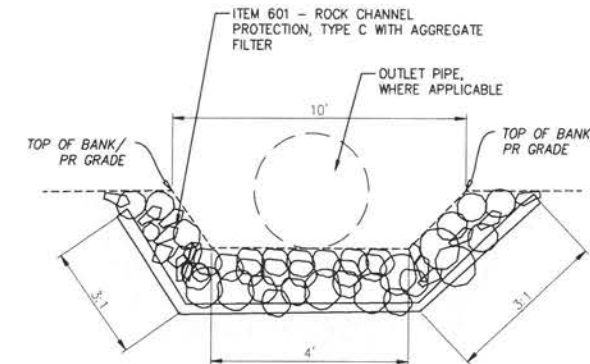
1 RIFFLE SECTION
9 NOT TO SCALE



SECTION A-A



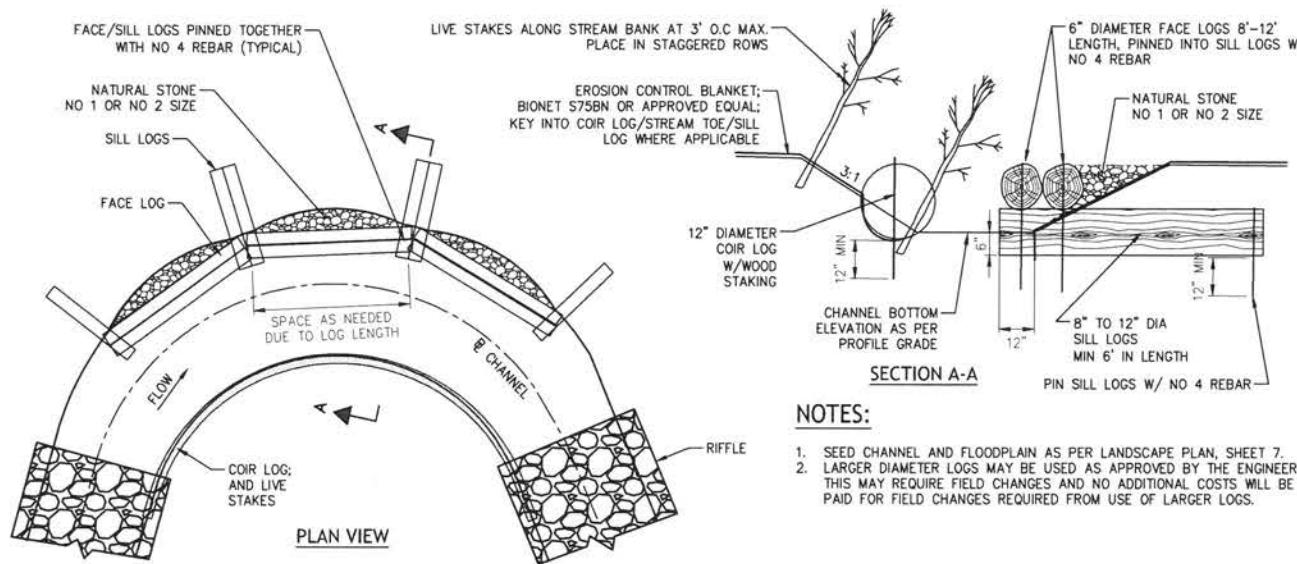
SECTION B-B



(SECTION B-B)/
TYPICAL ROCK CHANNEL PROTECTION

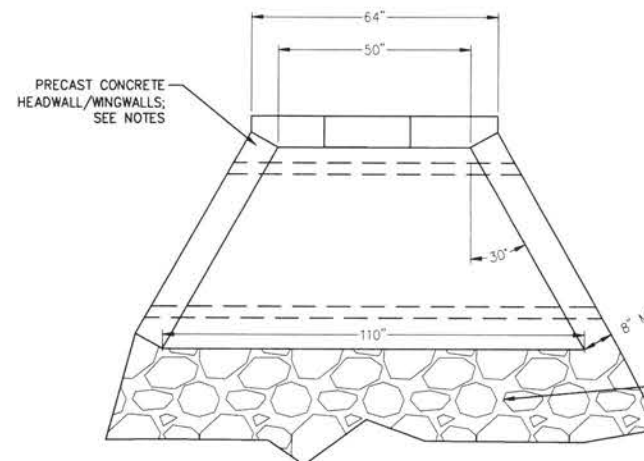
NOTES:

1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH $F'_c = 5,000$ PSI AT 28 DAYS
2. STEEL REINFORCEMENT: ASTM A-615, GRADE 60, $F_y = 60,000$ PSI
3. MINIMUM REINFORCING COVER - 2"
4. $\frac{3}{4}$ " CHAMFER ON ALL EXPOSED EDGES
5. GROUT 24" HDPE CULVERT TO HEADWALL USING NON-SHRINK GROUT PER ODOT OMS 611. MAKE THE GROUT BY MIXING ONE PART PORTLAND CEMENT, THREE PARTS SAND, AND ENOUGH WATER TO FLOW INTO THE JOINTS.
6. CONTRACTOR TO PROVIDE SHOP DRAWING, INCLUDING REBAR LAYOUT, TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PRECAST FABRICATION. SHOP DRAWING TO BE STAMPED BY PROFESSIONAL ENGINEER REGISTERED IN OHIO.

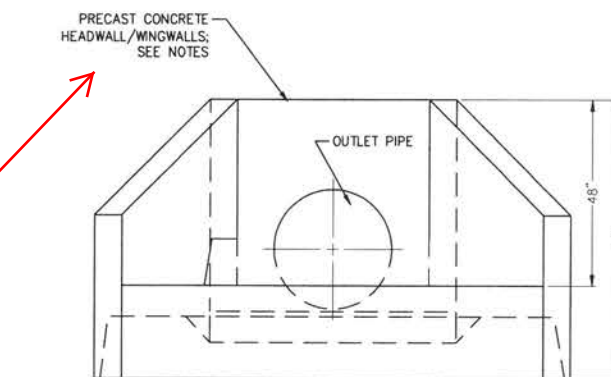


NOTES:

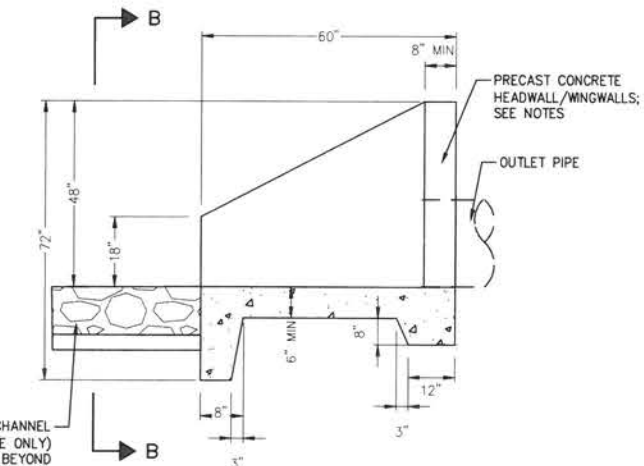
1. SEED CHANNEL AND FLOODPLAIN AS PER LANDSCAPE PLAN, SHEET 7.
2. LARGER DIAMETER LOGS MAY BE USED AS APPROVED BY THE ENGINEER. THIS MAY REQUIRE FIELD CHANGES AND NO ADDITIONAL COSTS WILL BE PAID FOR FIELD CHANGES REQUIRED FROM USE OF LARGER LOGS.



PLAN VIEW



FRONT VIEW

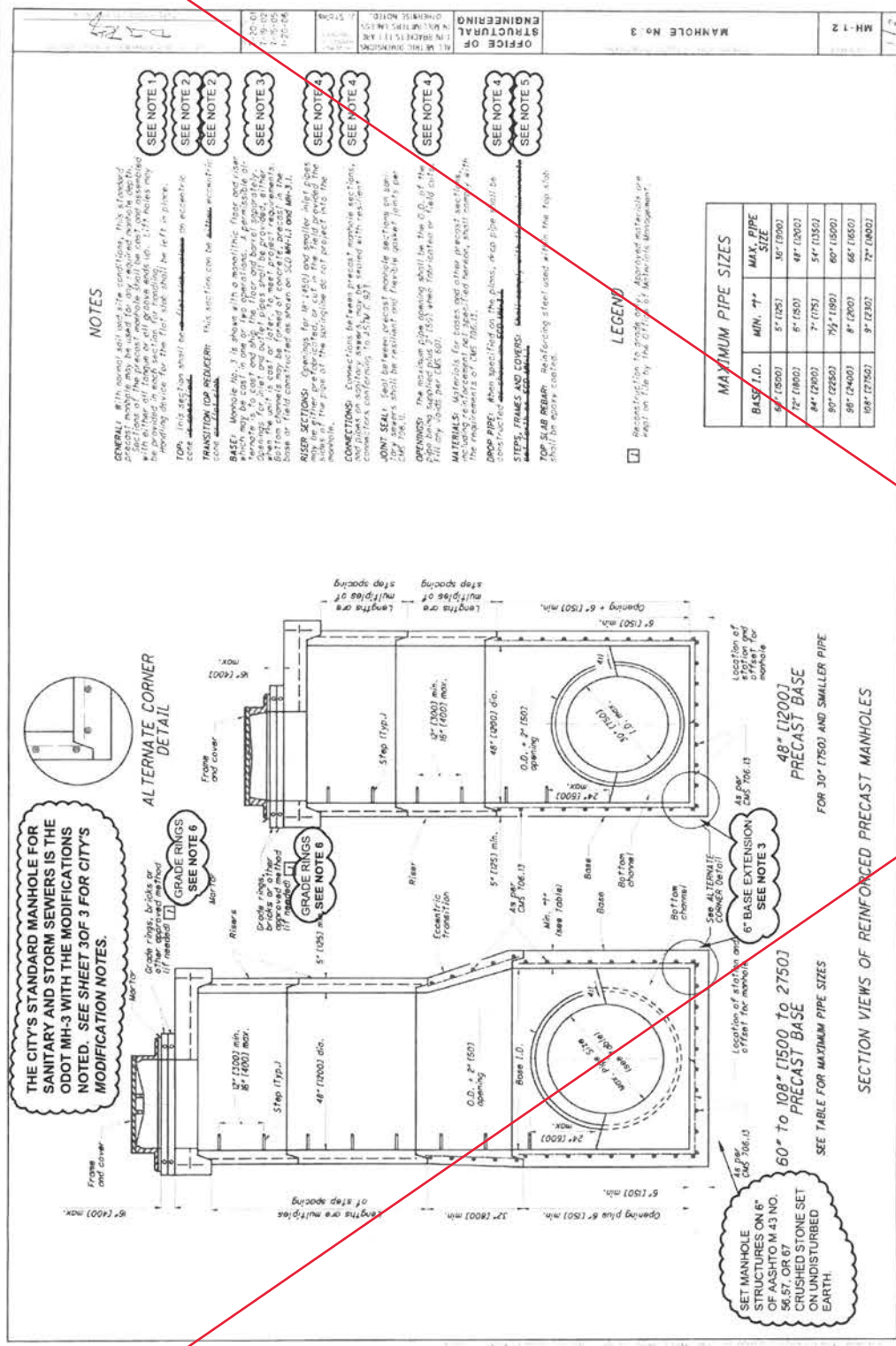


SECTION A-A

2 HEADWALL WITH WINGWALLS
9 NOT TO SCALE

AN EQUIVALENT MANUFACTURED HDPE HEADWALL & WINGWALLS MAY BE USED IN LIEU OF A PRECAST CONCRETE HEADWALL & WINGWALLS AS APPROVED BY THE ENGINEER. IF SUCH IS THE CASE, ADDITIONAL ROCK CHANNEL PROTECTION SHALL BE INSTALLED ACCORDINGLY WITHIN THE APRON AREA OF THE HEADWALL AND WINGWALLS. CONTRACTOR SHALL INCLUDE COSTS ACCORDINGLY IN BID PRICES FOR RESPECTIVE ITEMS.

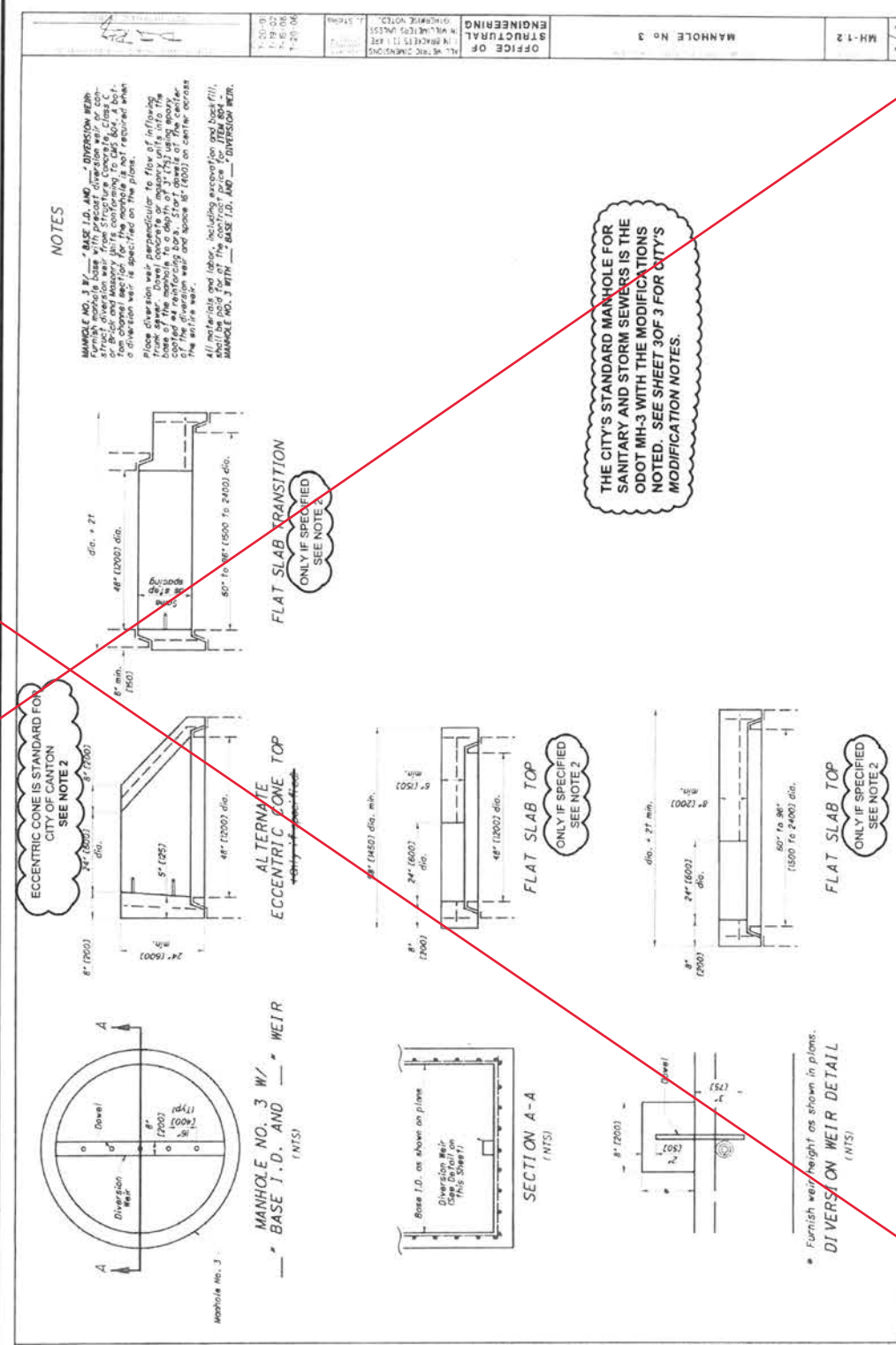
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OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2435 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

DESCRIPTION	DATE	BY
CAD DRAWING	JAN 2017	CDB
MODIFIED GRADE RING NOTE 6	09/23/2020	RMB
TITLE BLOCK REVISION	02/26/2021	GML

STANDARD DRAWING NO. 10
PRECAST STORM OR
SANITARY MANHOLE
CE_10_20210226.DWG



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STANDARD DRAWING NO. 10
PRECAST STORM OR
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CE_10_20210226.DWG

Environmental Design Group
AKRON / CLEVELAND / COLUMBUS
160 450 GRANT ST., AKRON, OH. 44311
330.378.1390 / F. 800.835.1390
WWW.ENVDESIGNGROUP.COM

Know what's below. Call before you dig.

MIDDLE BRANCH NIMISHILLEN CREEK STORMWATER CONSTRUCTED WETLAND, GP1349
CITY OF CANTON

EST. 1805
CANTON, OHIO

100% DESIGN

STATE OF OHIO
ANDREW M. LONG
REGISTERED PROFESSIONAL ENGINEER
No. 84478

DATE: 8/26/2022

REVISIONS	DATE	DESCRIPTION
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PROJECT NO.: 22-00125-020
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DATE ISSUED: 8/31/2022

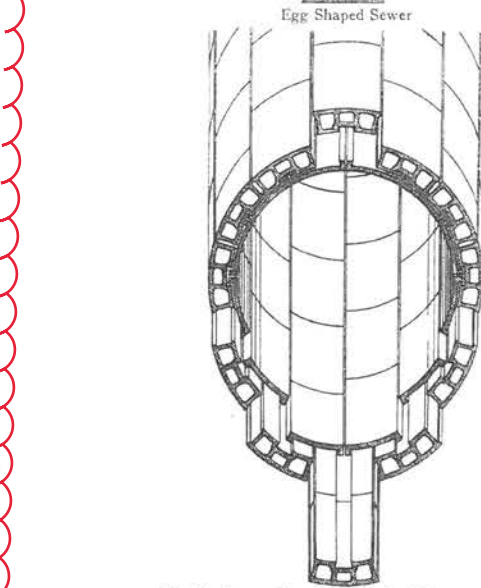
CITY STANDARD CONSTRUCTION DRAWINGS

10 OF 15

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DIMENSIONS

joint b

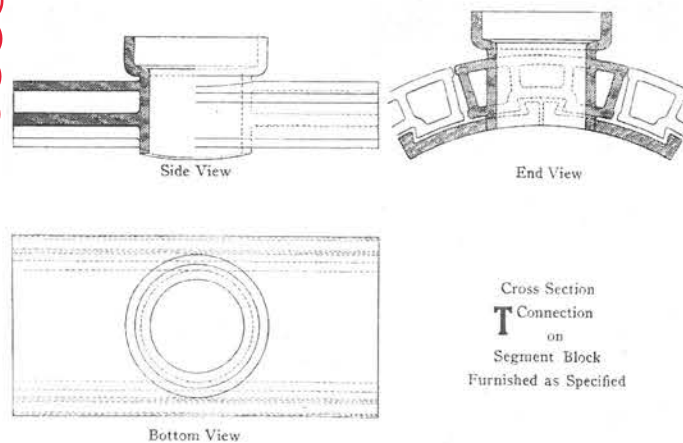


Measurements of Ferguson Segment Sewer Blocks

PATENTED MARCH 1, 1916—MAY 26, 1916

Diameter Inches	Number of Blocks to Cylinders	DIMENSIONS								Weight Per Foot
		A Inside Block		B Outside Block		Completed Thickness Thicknesses	Completed Veneer Thicknesses	9		
		Thickness Inches	Width Inches	Thickness Inches	Width Inches					
1	2	3	4	5	6	7				
20	10	3/4	3.0	3 1/4	9.6	4 1/4	1 1/4	250		
22	11	3/4	3.0	3 1/4	9.6	4 1/4	1 1/4	276		
24	12	3/4	3.0	3 1/4	9.6	4 1/4	1 1/4	300		
26	13	3/4	3.1	4 1/4	9.8	5 1/4	1 1/4	325		
28	14	3/4	3.1	4 1/4	9.8	5 1/4	1 1/4	348		
30	15	3/4	3.1	4 1/4	9.8	5 1/4	1 1/4	365		
32	16	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	387		
34	17	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	407		
36	18	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	427		
38	19	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	447		
40	20	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	467		
42	21	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	487		
44	22	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	507		
46	23	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	527		
48	24	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	547		
50	25	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	567		
52	26	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	587		
54	27	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	607		
56	28	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	627		
58	29	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	647		
60	30	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	667		
62	31	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	687		
64	32	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	707		
66	33	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	727		
68	34	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	747		
70	35	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	767		
72	36	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	787		
74	37	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	807		
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78	39	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	847		
80	40	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	867		
82	41	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	887		
84	42	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	907		
86	43	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	927		
88	44	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	947		
90	45	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	967		
92	46	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	987		
94	47	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	1007		
96	48	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	1027		
98	49	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	1047		
100	50	3/4	3.2	4 1/2	10.0	5 1/2	1 1/4	1067		

Note: In figuring total thickness of sewer allow $\frac{1}{4}$ " for cement joint between Blocks A and B.



THE ROBINSON CLAY PRODUCT CO.
AKRON, OHIO
AM. 12-15 Rev. Photo. 1959

Specifications for Ferguson
Segment Block Sewer

MATERIAL

All segment sewer blocks shall be of the best quality of clay ware, thoroughly burned and true in form. The blocks shall be thoroughly vitrified and smoothly glazed over their entire surface. Both the outer and inner blocks shall correspond to dimensions given in accompanying table and the completed thickness of the wearing surface shall not be less than given in column 8 of said table. The sides and inner faces of the outside or B block and the outer face of the inside or A block shall be scarified or scratched over the entire length of same.

CONNECTIONS

T or Y branches shall be furnished where necessary in accordance with the attached drawings.

EXCAVATIONS

All excavation shall be made to a depth and width to accommodate segment blocks of the size specified, and the bottom of the trench shall be made to conform as nearly as possible to the outside dimensions of the sewer. Should soft or treacherous ground or rock be encountered, fine earth, sand, or a suitable bed shall be provided for the block by the contractor in accordance with the engineer's instructions.

CONSTRUCTION

The bottom or invert block shall be laid first in conformity with lines and levels given by the engineer, and subsequent blocks laid along the flow line for a distance of from ten to twenty feet. Alternate rows of the outside or B block will then be laid up to the spring line of the sewer; all joints being staggered and laid with a longitudinal joint of Class A mortar. All blocks will be settled together as closely as possible. On reaching the spring line a coating of Class A mortar shall be applied entirely covering the inside surface of the block. The inside or A blocks are then laid in place and imbedded in the mortar, care being taken that all longitudinal and transverse joints between the blocks are staggered. A form will be used in the construction of the arch, the process being reversed; the A or inside block being laid first, and a coating of mortar applied followed by the B or outside block completing the sewer. Fine earth shall be thoroughly tamped behind all outside blocks to a point one foot above the spring line of the sewer.

MORTAR

Class A mortar shall consist of one part of Portland Cement acceptable to the engineer and three parts sharp, clean sand.

FORM AND TEMPLATES

Templates shall be used in laying the invert and a form shall be used in laying the arch.

POINTING

After forms have been removed all joints shall be struck, and all accumulation of sand or cement shall be removed from the inner surface of the sewer.

BACKFILLING

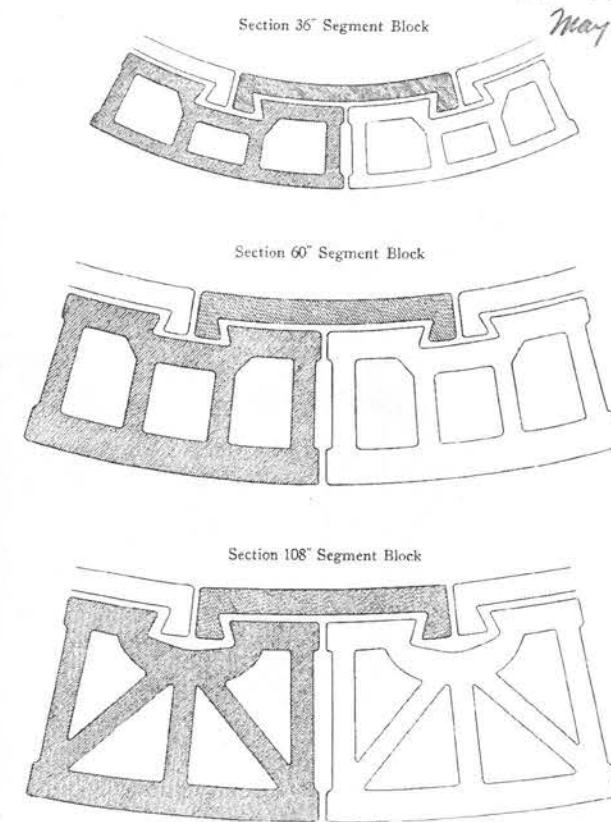
Backfilling shall begin immediately after the removal of the forms, or as soon thereafter as possible, and the earth shall be thoroughly tamped to fill all voids caused by pulling sheeting. In covering the arch at least twelve inches of soft earth shall be replaced with shovels, after which backfilling can be done as engineer may direct.

Types of Ferguson Segment Sewer Blocks

PATENTED MARCH 1, 1910—MAY 26, 1914

F. A. DOWNS CONST. Co.
8th ST. NE. & CARNAHAN AV. NE

May 10-1916



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MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349
CITY OF CANTON



100% DESIGN

DATE: 8/26/2022

REVISIONS		
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PROJECT NO.:	22-00125-020
DRAWN BY:	WRMT
CHECKED BY:	AML
DATE ISSUED:	8/31/2022

EXISTING STORM SEWER DETAILS

MIDDLE BRANCH NIMISHILLEN
CREEK STORMWATER
CONSTRUCTED WETLAND, GP1349
CITY OF CANTON



100% DESIGN



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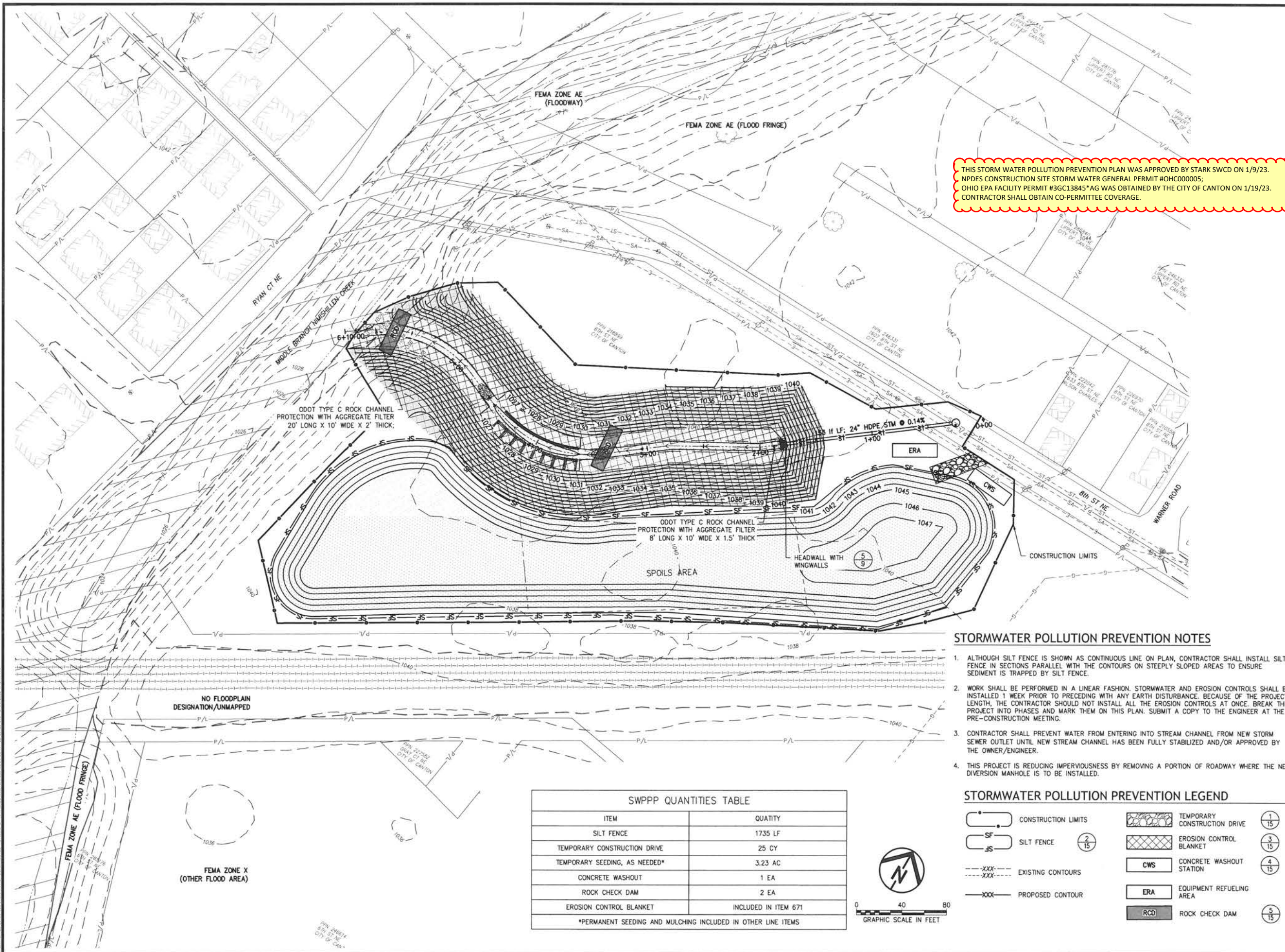
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STORMWATER
POLLUTION
PREVENTION PLAN



THIS STORM WATER POLLUTION PREVENTION PLAN WAS APPROVED BY STARK SWCD ON 1/9/23.
NPDES CONSTRUCTION SITE STORM WATER GENERAL PERMIT #OHC000005;
OHIO EPA FACILITY PERMIT #3GCL3845*AG WAS OBTAINED BY THE CITY OF CANTON ON 1/19/23.
CONTRACTOR SHALL OBTAIN CO-PERMITTEE COVERAGE.

STORMWATER POLLUTION PREVENTION NOTES

- ALTHOUGH SILT FENCE IS SHOWN AS CONTINUOUS LINE ON PLAN, CONTRACTOR SHALL INSTALL SILT FENCE IN SECTIONS PARALLEL WITH THE CONTOURS ON STEEPLY SLOPED AREAS TO ENSURE SEDIMENT IS TRAPPED BY SILT FENCE.
- WORK SHALL BE PERFORMED IN A LINEAR FASHION. STORMWATER AND EROSION CONTROLS SHALL BE INSTALLED 1 WEEK PRIOR TO PRECEDING WITH ANY EARTH DISTURBANCE. BECAUSE OF THE PROJECT LENGTH, THE CONTRACTOR SHOULD NOT INSTALL ALL THE EROSION CONTROLS AT ONCE. BREAK THE PROJECT INTO PHASES AND MARK THEM ON THIS PLAN. SUBMIT A COPY TO THE ENGINEER AT THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL PREVENT WATER FROM ENTERING INTO STREAM CHANNEL FROM NEW STORM SEWER OUTLET UNTIL NEW STREAM CHANNEL HAS BEEN FULLY STABILIZED AND/OR APPROVED BY THE OWNER/ENGINEER.
- THIS PROJECT IS REDUCING IMPERVIOUSNESS BY REMOVING A PORTION OF ROADWAY WHERE THE NEW DIVERSION MANHOLE IS TO BE INSTALLED.

STORMWATER POLLUTION PREVENTION LEGEND

	CONSTRUCTION LIMITS		TEMPORARY CONSTRUCTION DRIVE	1/15
	SILT FENCE		EROSION CONTROL BLANKET	3/15
	EXISTING CONTOURS		CONCRETE WASHOUT STATION	4/15
	PROPOSED CONTOUR		EQUIPMENT REFUELING AREA	5/15
			ROCK CHECK DAM	5/15

SWPPP QUANTITIES TABLE	
ITEM	QUANTITY
SILT FENCE	1735 LF
TEMPORARY CONSTRUCTION DRIVE	25 CY
TEMPORARY SEEDING, AS NEEDED*	3.23 AC
CONCRETE WASHOUT	1 EA
ROCK CHECK DAM	2 EA
EROSION CONTROL BLANKET	INCLUDED IN ITEM 671
*PERMANENT SEEDING AND MULCHING INCLUDED IN OTHER LINE ITEMS	

STORMWATER POLLUTION PREVENTION PLAN NOTES

1. CONSTRUCT IN ACCORDANCE WITH THESE PLANS AND THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (MOST RECENT EDITION). THE IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL SHALL ALSO CONFORM TO THE REQUIREMENTS OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) UNDER NPDES PERMIT #0HC000005. IF CONFLICTS EXIST REGARDING THE SOIL AND SEDIMENT CONTROL PRACTICES, THE MORE RESTRICTIVE SHALL APPLY.
2. STABILIZATION OF DISTURBED AREAS - DISTURBED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN FOURTEEN (14) DAYS. FOR AREAS WITHIN FIFTY (50) FEET OF ANY LIVE STREAM, SOIL STABILIZATION PRACTICES SHALL BE INITIATED WITHIN TWO (2) DAYS ON ALL INACTIVE, DISTURBED AREAS. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MULCHING AND MATTING SHALL BE USED.
3. INSTALL ALL TEMPORARY EROSION/SEDIMENT CONTROL ITEMS BEFORE ANY CLEARING/GRUBBING OR EARTHWORK HAS STARTED.
4. PROTECT UNDISTURBED AREAS THROUGHOUT CONSTRUCTION. DO NOT STORE EQUIPMENT, VEHICLES OR MATERIALS IN THESE PROTECTED AREAS.
5. TEMPORARY SEEDING SHALL BE PER ODMR RAINWATER AND LAND DEVELOPMENT MANUAL.
6. SEEDING, MULCHING, AND FERTILIZER FOR PERMANENT COVER SHALL BE AS SPECIFIED ON THE LANDSCAPE PLAN.
7. MULCHING SHALL BE AS SPECIFIED IN ODOT CMS ITEM 659.
8. TOPSOILING SHALL BE STOCKPILED THEN RESPREAD IN AREAS AND AT THICKNESSES SHOWN ON PLAN PER ODOT CMS 651 AND 652, RESPECTIVELY.
9. EROSION CONTROL BLANKETS SHALL BE PER THE CONSTRUCTION DETAILS.
10. SILT FENCE BE AS DETAILED ON THE DRAWINGS.
11. ROCK CHANNEL PROTECTION SHALL BE AS SPECIFIED ON THE DRAWINGS.
12. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORMWATER RUNOFF.
13. OFF-SITE VEHICLE TRACKING OF SEDIMENTS WILL BE MINIMIZED. ALL OFF-SITE TRACKING OF SEDIMENT SHALL BE CLEANED UP AS IT OCCURS.
14. OTHER EROSION CONTROL AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
15. A PRE-CONSTRUCTION MEETING IS REQUIRED WITH STARK S.W.C.D. (330-451-7645) PRIOR TO BEGINNING WORK.
16. TRUCK WASHOUT AND DISCHARGE OF SURPLUS WASH WATER ON SITE IS PERMITTED EXCLUSIVELY IN THE DESIGNATED AREA.
17. WINTERIZATION - ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 14 DAYS OR MORE MUST BE SEEDING AND MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.
18. TRENCH WATER MUST BE PUMPED THROUGH A SEDIMENT SETTLING FACILITY OR EQUALLY EFFECTIVE DEVICE PRIOR TO DISCHARGE FROM THE SITE.
19. STAGING, STORAGE, FUELING AND VEHICLE PARKING ARE SHOWN ON THE SWPP PLAN. IF THE CONTRACTOR WANTS TO UTILIZE A DIFFERENT LOCATION FOR THESE FUNCTIONS, HE SHALL REVISE THE SWPP PLAN AND SUBMIT IT TO STARK S.W.C.D. FOR APPROVAL.
20. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING, AND REMOVING (AS NECESSARY), ALL EROSION AND SEDIMENT CONTROL MEASURES.
21. DISTURBED AREAS REMAINING DORMANT FOR OVER A YEAR AT THE FINAL GRADE WILL HAVE A PERMANENT COVER APPLIED WITHIN 7 DAYS OF LAST DISTURBANCE.

MAINTENANCE AND INSPECTION:

PERMANENT RECORDS OF MAINTENANCE AND INSPECTION MUST BE MAINTAINED THROUGHOUT CONSTRUCTION A MINIMUM OF ONCE EVERY 7 DAYS AND AFTER STORM EVENTS GREATER THAN 0.5 INCH IN A 24 HOUR PERIOD. PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION, CERTIFICATION OF COMPLIANCE AND CORRECTIVE MEASURES TAKEN.

REPAIRS:

ANY EROSION CONTROL MEASURES, STRUCTURES, DEVICES, OR RELATED ITEMS IN NEED OF REPAIR WILL BE MADE WITHIN 7 DAYS.

MATERIAL MANAGEMENT PRACTICES:

THE FOLLOWING PRACTICES SHALL BE EXECUTED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUN-OFF. THE JOB SITE SUPERINTENDENT IS RESPONSIBLE FOR ENSURING THESE PRACTICES ARE FOLLOWED:

1. STORE THE MINIMUM AMOUNT OF PRODUCT REQUIRED TO COMPLETE THE JOB, IF POSSIBLE, UNDER ROOF OR IN A CONTAINMENT AREA. PRODUCTS SHALL REMAIN IN THEIR ORIGINAL CONTAINER. LABEL MUST BE LEGIBLE.
2. MANUFACTURER'S RECOMMENDATION SHALL BE FOLLOWED FOR USE AND DISPOSAL.
3. PRODUCT TO BE USED ENTIRELY (WHEN POSSIBLE) PRIOR TO DISPOSING.
4. MATERIAL SAFETY DATA SHEETS (MSDS) FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES USED ON THE SITE SHALL BE OBTAINED AND POSTED IN THE IMMEDIATE AREA OF PRODUCT STORAGE AND SHALL BE USED FOR PROPER MANAGEMENT OF POTENTIAL WASTE.
5. ALL HAZARDOUS WASTE MATERIAL WILL BE DISPOSED BY THE CONTRACTOR IN A MANNER SPECIFIED BY LOCAL, STATE OR FEDERAL REGULATIONS AND PER MANUFACTURER'S RECOMMENDATIONS.
6. ALL PERSONNEL SHALL BE TRAINED IN THE PROPER HANDLING AND CLEAN UP OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIALS OR WASTE SHALL BE ALLOWED TO COME IN CONTACT WITH STORMWATER DISCHARGES. IF NECESSARY, THE CONTAMINATED STORMWATER WILL BE HELD ON SITE UNTIL IT MEETS LOCAL, STATE AND FEDERAL REGULATIONS.
7. IN THE EVENT OF A SPILL THE FOLLOWING PROCEDURES MUST BE FOLLOWED:
 - A. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
 - B. THE PROJECT MANAGER AND ENGINEER OF RECORD IMMEDIATELY NOTIFIED.
 - C. ANY SPILLS OF TOXIC OR HAZARDOUS MATERIALS MUST BE REPORTED TO THE APPROPRIATE LOCAL, STATE AND FEDERAL AGENCY. THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) MUST BE NOTIFIED WHEN A SPILL EXCEEDS THE REPORTABLE QUANTITY OF A SUBSTANCE. THE SUBSTANCES AND AMOUNTS ARE LOCATED IN FEDERAL REGULATIONS (40 CFR 110, 114 AND 302).
 - D. IF A SPILL EXCEEDS A REPORTABLE QUANTITY, THE SWPP PLAN MUST BE MODIFIED WITHIN 7 DAYS PROVIDING A DESCRIPTION, DATE AND INCIDENT OF THE RELEASE.
8. THE MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, SOAPS AND SOLVENTS USED IN CLEANING VEHICLES, WASHOUT OF CONCRETE, PAINT OR STUCCO, FORM RELEASE OILS, OR CURING COMPOUNDS SHALL BE AWAY FROM STORM WATER DRAINAGE WAYS.
9. FUEL TANKS MUST HAVE SECONDARY CONTAINMENT IN THE EVENT OF A LEAK OR SPILL.
10. OPEN BURNING ON SITE IS A PROHIBITED ACTIVITY.
11. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&D) WASTE SHALL BE DISPOSED OF AT AN OHIO EPA APPROVED C&D LANDFILL AS REQUIRED BY OHIO REVISED CODE 3714 AND LOCAL REGULATIONS.

PRODUCT SPECIFIC PRACTICES:

1. PETROLEUM - PETROLEUM PRODUCTS WILL BE STORED IN CLEARLY LABELED TIGHTLY SEALED CONTAINERS. ANY ON SITE PETROLEUM STORAGE TANKS WILL HAVE A CONTAINMENT STRUCTURE AROUND IT FOR POTENTIAL SPILLS. DRIP PANS SHALL BE PROVIDED FOR ALL DISPENSERS. MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED WHEN ANY ASPHALT SUBSTANCES ARE USED ON SITE.
2. FERTILIZERS - THE MANUFACTURER'S RECOMMENDED MINIMAL AMOUNTS SHALL BE APPLIED AND WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER. THE CONTENTS OF ANY PARTIALLY USED BAGS WILL BE TRANSFERRED TO SEALABLE PLASTIC BINS AND STORED UNDER COVER, AWAY FROM STORMWATER DRAINAGE WAYS.

EARTHWORK SEQUENCING NOTES:

1. INSTALL SILT FENCE AND OTHER REQUIRED SWPP MEASURES.
2. STRIP AND STOCKPILE TOPSOIL.
3. INSTALL UNDERGROUND UTILITIES.
4. PERFORM ROUGH GRADING.
5. PERFORM FINISH GRADING.
6. UPON APPROVAL OF FINISH GRADE, INSTALL EROSION CONTROL BLANKET AND PERFORM SEEDING AND PLANTING.
7. REMOVE ALL SILT FENCE AND TEMPORARY SWPP MEASURES UPON ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

SITE LOCATION INFORMATION

CITY OF CANTON	LATITUDE: 40°48'04"N
CITY, VILLAGE, TOWNSHIP	LONGITUDE: 81°21'21"W
MIDDLE BRANCH NIMISHILLEN CREEK	STARK OHIO
NAME OF WATERSHED/IMMEDIATE RECEIVING WATER(S)	COUNTY STATE
8TH ST NE, CANTON, OH, 44704	
SITE ADDRESS	
CITY OF CANTON	330-438-4307
DEVELOPER	PHONE
218 CLEVELAND AVE SW CANTON, OH, 44702	
DEVELOPER ADDRESS	
HYDROLOGIC SOIL GROUPS:	
CuB - CHILI-URBAN LAND COMPLEX, UNULATING	
Ma - MADE LAND	
W - WATER	

SITE DESCRIPTION

MARK ONE	CONSTRUCTION LIMITS	- 3.25 AC
SUBDIVISION	AREA OF DISTURBANCE	- 3.25 AC
COMMERCIAL	AREA TO BE CLEARED	- 3.22 AC
RESIDENTIAL	AREA TO BE EXCAVATED	- 1.23 AC
PUD	PRE-DEV IMPERVIOUSNESS	- ~0.9%
OTHER	POST DEV IMPERVIOUSNESS	- ~0%
	IN PROJECT LIMITS	
	IN PROJECT LIMITS	

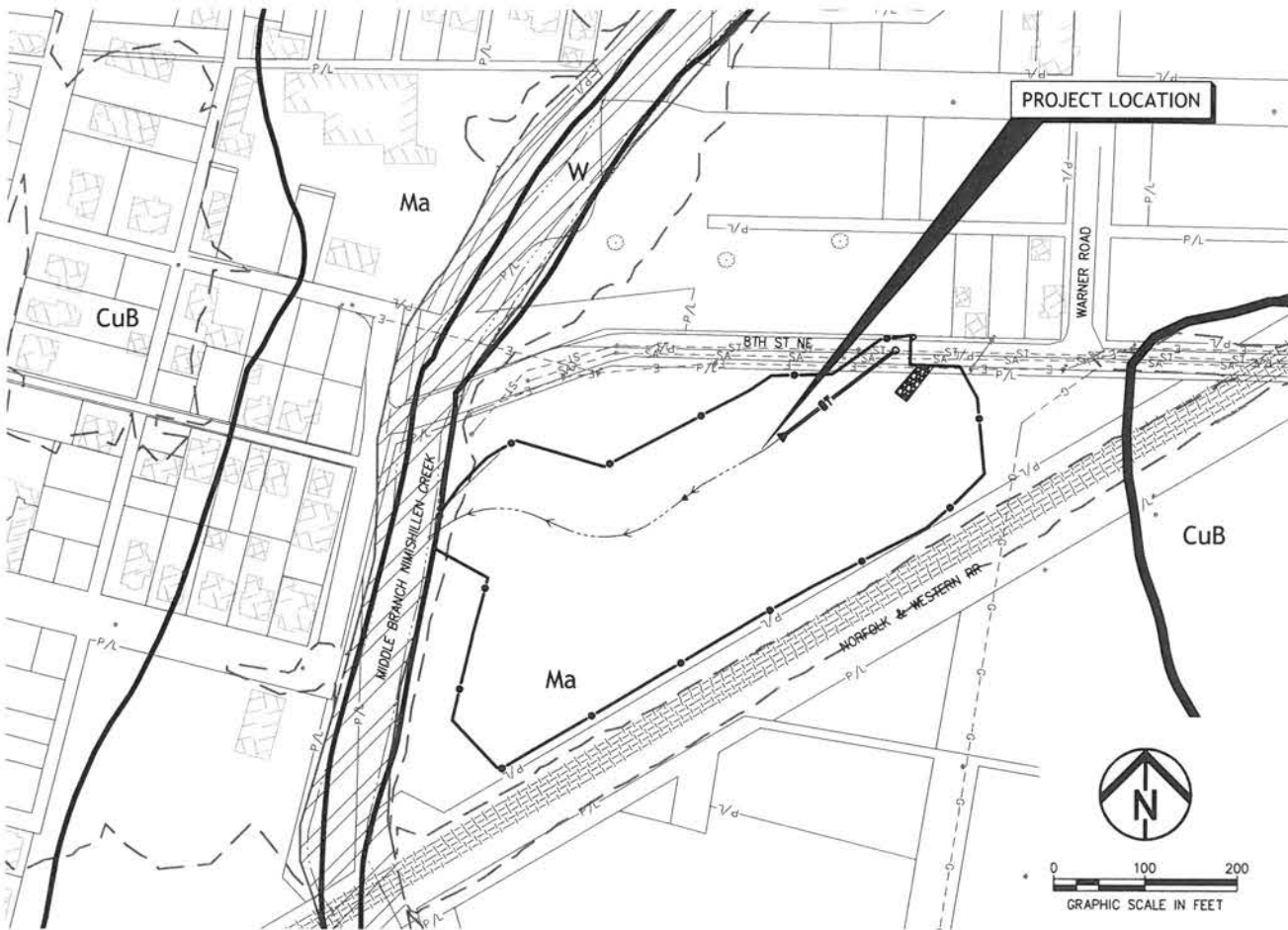
SCHEDULE OF MAJOR CONSTRUCTION OPERATIONS

2023

	M	A	M	J	J	A	S	O	N	D	J	F
CLEARING/DEMOLITION	•	•										
ROUGH GRADING	•	•										
STRUCTURE												
UTILITIES												
FINE GRADING												
TOPSOIL AND SEEDING												
LANDSCAPING												
TEMPORARY EROSION CONTROL	•	•	•	•	•	•	•	•	•	•	•	•

ACCEPTABLE EROSION CONTROL TIMETABLE

	S	O	N	D	J	F	M	A	M	J	J	A
TEMPORARY SEEDING	•	•	•	•	•	•	•	•	•	•	•	•
PERMANENT SEEDING	•	•	•	•	•	•	•	•	•	•	•	•
LANDSCAPING	•	•	•	•	•	•	•	•	•	•	•	•
MULCHING	•	•	•	•	•	•	•	•	•	•	•	•
MAINTENANCE	•	•	•	•	•	•	•	•	•	•	•	•



SOILS MAP

LONG TERM INSPECTION AND MAINTENANCE ITEMS*

ITEM	OPERATION, INSPECTION, AND MAINTENANCE ITEM(S)	FREQUENCY
CHANNEL AND FLOODPLAIN	INSPECT VEGETATION AS DISCUSSED IN GENERAL NOTES	MONTHLY
	INSPECT FOR TRASH/DEBRIS; REMOVE AS DISCOVERED	MONTHLY
	INSPECT FOR EROSION ALONG FULL LENGTH; REPAIR AS NEEDED	MONTHLY AND/OR AFTER STORMS THAT EXCEED 1-INCH IN TOTAL RAINFALL
	CHECK RIFFLES FOR EROSION OR DISPLACED ROCK; REPAIR AS NEEDED	MONTHLY AND/OR AFTER STORMS THAT EXCEED 1-INCH IN TOTAL RAINFALL
	CHECK FOR MUD LOG SILL W/COIR LOG FOR EROSION OR DISPLACED LOGS/ROCK; REPAIR AS NEEDED	MONTHLY AND/OR AFTER STORMS THAT EXCEED 1-INCH IN TOTAL RAINFALL
24" INLET SEWER AND HEADWALL	INSPECT FOR CLOGGING; UNCLOG AS NEEDED	MONTHLY AND/OR AFTER STORMS THAT EXCEED 1-INCH IN TOTAL RAINFALL
	CHECK HEADWALL FOR INSTABILITY AND/OR EROSION; REPAIR AS NEEDED	MONTHLY
DIVERSION MANHOLE	INSPECT CONDITION AND FOR LEAKS; REPAIR AS NEEDED	YEARLY

*ITEMS LISTED HEREIN WILL BE PERFORMED BY CITY OF CANTON AFTER WARRANTY/MAINTENANCE PERIOD REQUIRED BY CONTRACTOR.

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CONSTRUCTED WETLAND, GP1349
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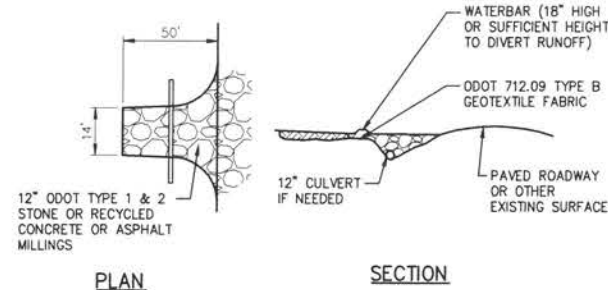
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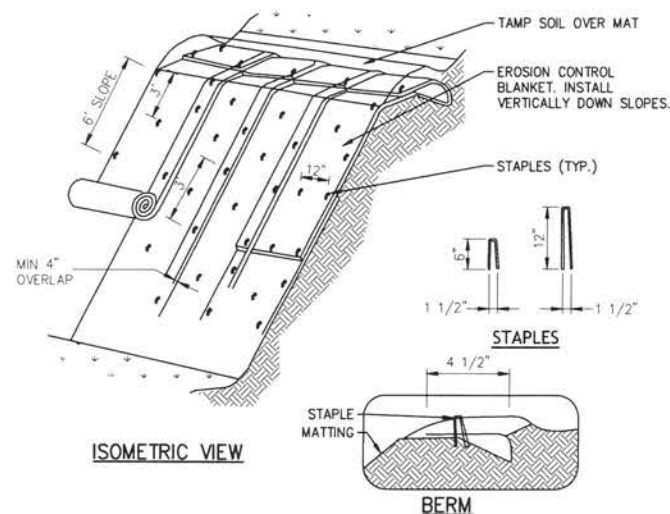
STORMWATER
POLLUTION
PREVENTION PLAN
NOTES

E:\CANTON\22-00125-000 STORMWATER CONSTRUCTION DETAIL GP 15.dwg (A001) (15) 8/31/2022 4:13:27 PM

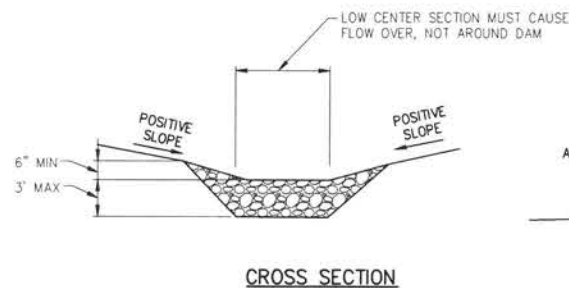


- NOTES:
1. MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED AWAY ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
 2. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
 3. WHEN THE CONSTRUCTION HAUL ROAD IS NO LONGER NEEDED, THE CONTRACTOR SHALL REMOVE THE AGGREGATE AND RESTORE GRADE TO ITS ORIGINAL ELEVATION OR AS SHOWN ON THE PLANS.

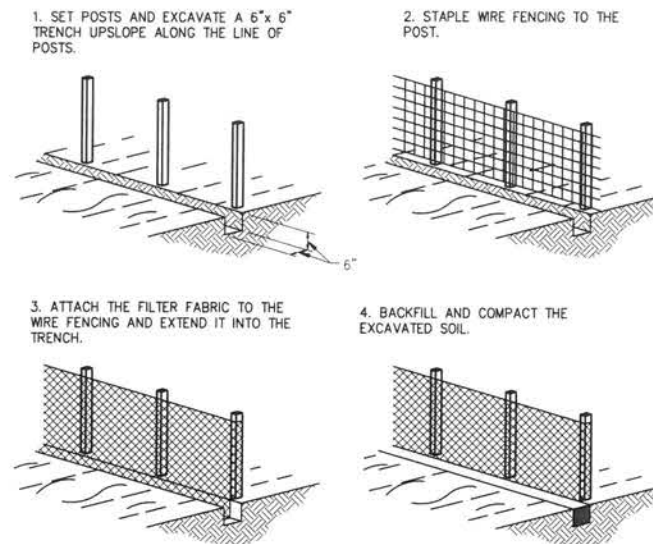
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TEMPORARY CONSTRUCTION DRIVE DETAIL
NOT TO SCALE



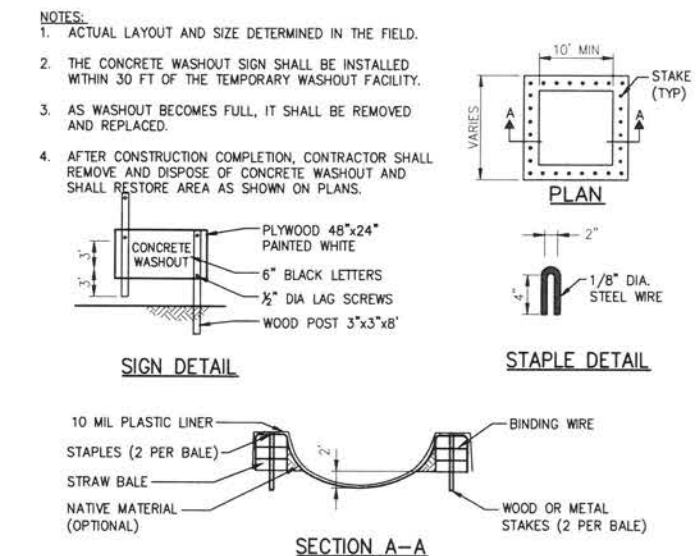
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EROSION CONTROL BLANKET DETAIL
NOT TO SCALE



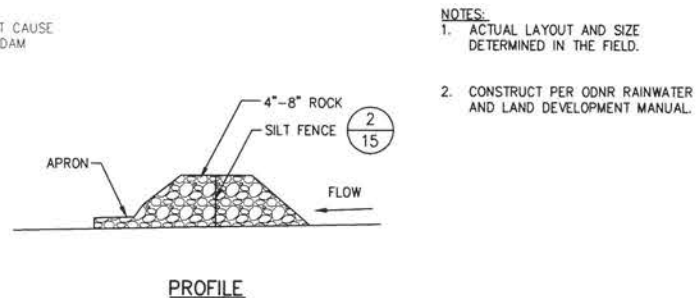
5
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ROCK CHECK DAM
NOT TO SCALE



2
15
SILT FENCE INSTALLATION DETAIL
NOT TO SCALE



4
15
CONCRETE WASHOUT STATION DETAIL
NOT TO SCALE



- NOTES:
1. ACTUAL LAYOUT AND SIZE DETERMINED IN THE FIELD.
 2. CONSTRUCT PER ODNR RAINWATER AND LAND DEVELOPMENT MANUAL.

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