# AUGUST 21, 2018 (REVISED JUNE 8, 2021)

# CEDAR LAKE DAM (#16603) COMMUNITY CONNECTIVITY GRANT PROJECT # 0170-3513 DAM & ROADWAY IMPROVEMENTS

# NORTH STREET WOLCOTT, CONNECTICUT

HRP PROJECT NO. WOL2026.CE

#### **Prepared By:**



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#### **Prepared For:**

Mark Possidento, P.E., Town Engineer Town of Wolcott 1 Kenea Street Wolcott, CT

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#### **GENERAL NOTES**

HORIZONTAL AND VERTICAL CONTROLS AND EXISTING CONDITIONS ARE BASED ON INFORMATION OBTAINED FROM "EXISTING CONDITIONS PLAN, NORTH STREET DAM" 1"=10' PREPARED BY MILONE AND MACBROOM, CHESHIRE, CT DATED MAY 2011 AND SUPPLEMENTED WITH FIELD SURVEY BY HRP ASSOCIATES, DATED JULY 2012. THE NORTH ARROW AND BEARINGS ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1983/1987 (NAD 83/87). THE ELEVATIONS ARE BASED UPON THE NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).

- 2. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE ENGINEER.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING, PRIOR TO BIDDING, THE LOCATIONS OF ALL UTILITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (1-800-922-4455), AT LEAST 72 HOURS PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH INDIVIDUAL UTILITY COMPANIES.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT PROPER STORM DRAINAGE IS MAINTAINED THROUGHOUT CONSTRUCTION.
- 5. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AS OUTLINED HEREIN. INSPECTION AND MAINTENANCE SHALL BE CARRIED OUT THROUGHOUT THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH VEGETATION OR PAVING. THE MINIMUM INSPECTION PERIOD SHALL BE WEEKLY AND AFTER MAJOR STORMS.
- 6. CONSTRUCTION ACTIVITIES SHALL CONFORM TO APPLICABLE SECTIONS OF THE TOWN OF WOLCOTT STANDARDS AND APPLICABLE SECTIONS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION," FORM 818, AS AMENDED.
- 7. ALL CONSTRUCTION ACTIVITIES SHALL BE IN CONFORMANCE WITH THE DEEP DAM SAFETY PERMIT FOR THE PROJECT, PERMIT NO. DS-201810624, DATED APRIL 28, 2020, INCLUDING CHANGES TO THE AUTHORIZED WORK SPECIFIED IN THE DE MINIMIS DETERMINATION LETTER, DATED MARCH 1, 2021. THE PERMIT PROHIBITS CERTAIN STORAGE IN THE FLOODPLAIN INCLUDING EQUIPMENT FUEL STORAGE.
- 8. CEDAR LAKE WATER LEVEL SHALL BE DROPPED PRIOR TO START OF CONSTRUCTION ACTIVITIES INVOLVING WORK ON THE EXISTING OUTLETS AND PROPOSED NEW OUTLETS INCLUDING THE BOX CULVERT AND 36 INCH PIPE. THE WATER LEVEL IN THE LAKE WILL BE THE RESPONSIBILITY OF THE TOWN AND THE LAKE ASSOCIATION. THE CONTRACTOR ONLY NEEDS TO COORDINATE THEIR SCHEDULE WITH THEM SO WATER LEVEL IS AT APPROPRIATE LEVEL.
- 9. THE CONTRACTOR SHALL REVIEW THE FLOOD CONTINGENCY PLAN SUBMITTED WITH DAM PERMIT APPLICATION. IF ANY REVISIONS ARE ANTICIPATED OR ARE MADE, THE CONTRACTOR SHOULD IMMEDIATELY NOTIFY THE ENGINEER.

#### CONSTRUCTION SEQUENCE AND WATER HANDLING PLAN

CONTRACTOR NOTE: ANY REVISIONS TO THE SEQUENCE MADE BY THE CONTRACTOR CONSTRUCTING THE DAM REHABILITATION MUST BE SUBMITTED TO THE DAM SAFETY PROGRAM AT ITS EMAIL ADDRESS: DEEP.DAMSAFETY@CT.GOV BEFORE BEGINNING CONSTRUCTION OR WITHIN 48 HOURS OF ITS REVISION AFTER CONSTRUCTION HAS STARTED.

NOTIFY THE ENGINEERING DEPARTMENTS OF THE TOWNS OF WOLCOTT AND BRISTOL BY WRITING (INCLUDES EMAIL) WITHIN 10 DAYS OF STARTING WORK ON THE PROJECT. THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL WRITTEN NOTIFICATION WITHIN 10 DAYS OF LOWERING THE WATER LEVEL OF THE LAKE.

- 1. CALL CBYD AT LEAST 3 DAYS PRIOR TO COMMENCEMENT OF WORK.
- 2. MOBILIZE TO SITE.
- 3. INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING TURBIDITY CURTAIN. SEE SHEETS C3.1 AND C3.2.
- 4. SEE SESC SHEETS FOR STOCKPILE STORAGE AREA. THE SITE HAS LIMITED ONSITE AREA AVAILABLE FOR STOCKPILING OF MATERIALS. THE CONTRACTOR SHALL COORDINATE WITH TOWN OF WOLCOTT FOR OFF SITE STOCKPILE STORAGE AREAS AVAILABLE FOR POSSIBLE USE.
- 5. REMOVE RIPRAP IN SELECT AREAS ON EMBANKMENT AS PART OF SITE REMOVAL ACTIVITIES AS SHOWN ON C1.1 AND STOCKPILE FOR REUSE.
- 6. INSTALL UNDERDRAINS WITH ENDWALLS IN EMBANKMENT AND BEGIN ROUGH GRADING OF EMBANKMENT AS SHOWN ON C2.1.
- 7. INSTALL ARTICULATED CONCRETE CHUTE AND ASSOCIATED SCOUR HOLE.
- 8. PERFORM REMAINDER OF SITE REMOVAL ACTIVITIES AS SHOWN ON C1.1.
- 9. LOWER WATER LEVEL IN LAKE (AFTER PROPER NOTIFICATIONS HAVE BEEN MADE) TO ALLOW WORK ON DAM STRUCTURE TO BE PERFORMED. IT IS ANTICIPATED THAT WATER MAY NEED TO BE LOWERED TO APPROXIMATELY 885.00 FEET ELEVATION. COORDINATE WITH TOWN OF WOLCOTT THE CLOSING OF LOW LEVEL OUTLET AT GATE VALVE IN GATE HOUSE.
- 10. INSTALL PRECAST CONCRETE BOX CULVERT. CARE SHALL BE TAKEN TO PREVENT EXCESSIVE DISTURBANCE OF THE EXISTING DAM AND EMBANKMENT TO REMAIN IN PLACE.
- 11. INSTALL OUTLET PROTECTION FOR 12 INCH PIPE THEN INSTALL 12 INCH PIPE EXTENSION.
- 12. INSTALL 36 INCH DIP PIPE ALONG WITH OUTLET PROTECTION.
- 13. FINALIZE GRADES ON EMBANKMENT AND ALONG ROADWAY.
- 14. INSTALL PERMANENT TRENCH REPAIR WITH PAVEMENT MARKINGS PER SHEET C1.2.
- 15. INSTALL EROSION CONTROL MATTING ALONG WITH SEEDING
- 16. INSTALL NEW SIDEWALK, RAMPS, AND FENCE.
- 17. RESTORE SITE PER SHEET C1.2.
- 18. CONDUCT FINAL WALK THROUGH INSPECTION WITH TOWN AND ENGINEER.
- 18. ONCE SITE IS STABILIZED, REMOVE SESC MEASURES.

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818 (2020), SUPPLEMENTAL SPECIFICATIONS DATED JANUARY 2021, AND SPECIAL PROVISIONS.

<u>DESIGN SPECIFICATIONS</u>: AASHTO LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 7TH EDITION (2013) AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL (2003) EDITION WITH REVISIONS UP TO AND INCLUDING 2011.

#### ALLOWABLE DESIGN STRESSES:

CLASS "A" CONCRETE:	f'c =	3,300	psi
CLASS "F" CONCRETE:	f'c =	4,400	psi
CLASS "50" CONCRETE:	f'c =	5,000	psi
REINFORCEMENT (ASTM 615 GRADE 60)	fy =	60,000	psi

#### SALVAGE: NONE

<u>DIMENSIONS AND ELEVATIONS</u>: WHEN DECIMAL DIMENSIONS AND ELEVATIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZERO. ALL ELEVATIONS ARE GIVEN IN DECIMAL FEET AND ARE BASED ON NAVD 88.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

UTILITIES: THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE VICINITY OF THE SITE DURING CONSTRUCTION. THE METHOD OF SUPPORTING AND PROTECTING UTILITIES SELECTED BY THE CONTRACTOR MUST BE APPROVED BY THE UTILITY COMPANY. UTILITY MODIFICATIONS SHALL BE MADE BY THE RESPECTIVE UTILITY COMPANIES EXCEPT WHERE NOTED OTHERWISE.

#### CONCRETE NOTES

<u>CLASS "A" CONCRETE</u>: CLASS "A" CONCRETE SHALL BE USED FOR THE CUT-OFF WALLS, RETURN WALLS, HEADWALLS, ENDWALLS AND WINGWALL FOOTINGS.

CLASS "F" CONCRETE: CLASS "F" CONCRETE SHALL BE USED FOR THE SLAB ABOVE 36 INCH PIPE, ARTICULATED CONCRETE MAT, AND SIDEWALK.

5,000 PSI TYPE III SCC CONCRETE: 5,000 PSI TYPE III SCC CONCRETE SHALL BE USED FOR THE PRECAST CONCRETE BOX CULVERT.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1", UNLESS DIMENSIONED OTHERWISE.

EPOXY COATED REINFORCEMENT BARS: ALL REINFORCEMENT IN THE PRECAST CONCRETE BOX CULVERT SHALL BE EPOXY COATED AND INCLUDED IN THE PAY ITEM "PRECAST CONCRETE BOX CULVERT". ALL REINFORCEMENT IN THE CUT-OFF WALLS, AND RETURN WALLS SHALL BE PAID FOR IN THE PAY ITEM "DEFORMED STEEL BARS". ALL REINFORCEMENT IN THE HEADWALLS SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM "DEFORMED STEEL BARS (EPOXY COATED)".

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSION JOINT FILLERS SHALL BE INCLUDED IN THE ITEM "CLASS 'A' CONCRETE".

AGGREGATES - CONFORM TO DOT FORM 818 M.08.03--AGGREGATES

- 1. BEDDING MATERIAL: MATERIAL FOR PIPE BEDDING SHALL BE SAND OR SANDY SOIL, ALL OF WHICH PASSES A 3/8-IN SIEVE, AND NOT MORE THAN 10% PASSES A NO. 200 SIEVE. WHEN GROUND WATER IS ENCOUNTERED, THE ENGINEER MAY ALLOW NO. 6 STONE CONFORMING TO ARTICLE M.01.01 TO BE USED INSTEAD OF SAND OR SANDY SOIL.
- AGGREGATES FOR UNDERDRAINS: MATERIALS FOR FILLING THE TRENCH SHALL CONSIST OF WELL-GRADED, CLEAN, NON-PLASTIC ANDS OR WELL-GRADED, CLEAN, DURABLE BROKEN STONE OR SCREENED GRAVEL. UNLESS OTHERWISE NOTED, THE TYPE OF MATERIAL TO BE USED SHALL BE SAND.

SAND: THIS MATERIAL SHALL MEET THE REQUIREMENTS OF SUBARTICLE M.03.01-2. BROKEN STONE OR SCREENED GRAVEL: THIS MATERIAL SHALL CONFORM TO THE GRADATION REQUIREMENTS FOR SIZE NO. 8 UNDER ARTICLE M.01.01.

#### DRAINAGE

POLYVINYL CHLORIDE PLASTIC PIPE (PVC PIPE): IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM D 1785. COUPLINGS AND ELBOWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM D 2466 OR D 2467. PERFORATED PIPE SHALL BE SCHEDULE 40 STANDARD PATTERN AND CONFORM TO THE REQUIREMENTS OF ASTM D 2729.

#### **ENDWALLS**

THEY SHALL BE BUILT IN THE LOCATION AND TO THE DIMENSIONS AND DETAILS SHOWN ON THE PLANS; OR AS ORDERED, AND THEY SHALL BE NEATLY AND ACCURATELY FINISHED, TRUE TO THE LINES AND GRADES GIVEN. PIPES SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EXPOSED FACE OF THE ENDWALL, AND THE END SHALL BE FINISHED TO PROVIDE NEAT, WATERTIGHT JOINTS. THE ENDS OF PIPE CULVERTS WHICH ENTER ENDWALLS ON A SKEW SHALL BE CUT TO THE ANGLE OF THE SKEW; OR THE SHORT SIDE OF THE PIPE MAY BE BUILT OUT WITH ADEQUATE FORMS, IF THIS METHOD IS APPROVED BY THE ENGINEER.

#### SPECIFICATIONS

#### FILL MATERIALS

ALL OFF-SITE MATERIAL BROUGHT TO THE SITE SHALL BE FREE OF CONTAMINANTS. THE CONTRACTOR SHALL IDENTIFY THE SOURCE OF THE MATERIAL AND PROVIDE RESULTS OF ENVIRONMENTAL TESTING PERFORMED ON COMMON FILL AND LOW PERMEABILITY FILL.

RECYCLED AGGREGATE PRODUCT (RAP) CONTAINING ASPHALT SHALL NOT BE USED AS FILL MATERIAL, NOR SHALL ANY FILL CONTAIN CONCRETE OR FORMER BUILDING MATERIALS.

#### 1. COMMON FILL MATERIAL

COMMON FILL FROM ON-SITE SOURCES USED AS BACKFILL OF EXCAVATIONS/ROOT BALL VOIDS AND TO REGRADE WORK AREAS AS APPLICABLE SHALL CONSIST OF MATERIAL PREVIOUSLY EXCAVATED BY THE CONTRACTOR FROM THE PROJECT SITE. EXCAVATED MATERIAL WILL BE EXAMINED BY THE ENGINEER TO JUDGE ITS SUITABILITY FOR RE-USE ON THE PROJECT SITE AS BACKFILL MATERIAL. EXCAVATED MATERIAL SHALL BE JUDGED SUITABLE IF IT GENERALLY MEETS THE STANDARDS FOR COMMON FILL, BEING A NON-FRIABLE, NON-SOLUBLE, WELL GRADED SOIL, FREE OF RUBBISH, ICE, SNOW, TREE STUMPS, ROOTS AND ORGANIC MATTER, WITH NO LESS THAN FIFTEEN PERCENT (15%) AND NO MORE THAN THIRTY PERCENT (30%) PASSING THE NO. 200 SIEVE. THERE SHALL BE NO STONES GREATER THAN 3 INCHES IN SIZE. THERE SHALL ALSO BE NO OBSERVABLE INDICATIONS OF CONTAMINATION.

THE ENGINEER SHALL BE THE SOLE JUDGE OF THE SUITABILITY OF EXCAVATED MATERIAL FOR USE AS ON-SITE BACKFILL. PEAT OR OTHER ORGANICS ARE NOT ACCEPTABLE FOR COMMON FILL. EXCAVATED BOULDERS OR BEDROCK ARE NOT ACCEPTABLE FOR USE OF COMMON FILL. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, CHOOSE TO MODIFY THE EXCAVATED MATERIAL (BY SCREENING, MIXING, ETC.) TO ATTEMPT TO MAKE THE MATERIAL MORE SUITABLE FOR RE-USE. MIXING OF PEAT WITH OTHER MATERIAL WILL NOT BE PERMITTED TO PRODUCE COMMON FILL MATERIAL. SOME ADDITIONAL HANDLING OF SUITABLE MATERIAL (DRYING, MIXING, CULLING OF OVERSIZED STONES) MAY BE NECESSARY AND SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.

MATERIAL JUDGED TO BE UNSUITABLE OR EXTRA MATERIAL SHALL BE SEPARATED FROM THE REST. MATERIAL UNSUITABLE FOR USE IN THE PRIMARY WORK AREAS MAY BE USED ELSEWHERE ON SITE IN LESS CRITICAL AREAS, AT THE JUDGMENT OF THE ENGINEER OR MAY BE REMOVED FROM THE SITE BY THE CONTRACTOR.

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3-INCH	100
NO. 10	70 - 95
NO. 40	40 - 65
NO. 200	15 - 30

#### 2. LOW PERMEABILITY FILL

LOW PERMEABILITY FILL SHALL BE A WELL GRADED MATERIAL, FREE OF RUBBISH, ICE, SNOW, TREE STUMPS, ROOTS, ORGANIC MATERIAL, OR OTHER DELETERIOUS MATERIALS. THERE SHALL BE NO STONES GREATER THAN THREE INCHES IN DIAMETER. MATERIALS SHALL HAVE A PERMEABILITY OF NO MORE THAN 1X10-5 CENTIMETERS PER SECOND AT 95% OF THE STANDARD PROCTOR DENSITY, AS DETERMINED BY A COMPACTED PERMEABILITY TEST (ASTM D5084). MATERIAL SHALL BE PLACED WITHIN ±2% OF ITS OPTIMUM MOISTURE CONTENT.

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3-INCH	100
NO. 10	30 - 90
NO. 40	10 - 70
NO. 200	20 - 40

#### 3. GRANULAR FILL - CONFORM TO DOT FORM 818 SECTION 2.13

IT SHALL CONSIST OF GRAVEL OR RECLAIMED MISCELLANEOUS AGGREGATE CONTAINING NO MORE THAN 2% BY WEIGHT (MASS) OF ASPHALT CEMENT CONFORMING TO THE REQUIREMENTS OF THESE SPECIFICATIONS GRANULAR FILL SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE M.02.01 WHEN GRANULAR FILL IS USED FOR FOUNDATION FOR STRUCTURES OR TO REPLACE ROCK OR UNSUITABLE MATERIAL IN TRENCHES, IT SHALL BE DEPOSITED IN LAYERS NOT OVER 6 INCHES IN DEPTH, WITH EACH LAYER THOROUGHLY COMPACTED BEFORE THE ADDITION OF OTHER LAYERS.

RIPRAP SHALL BE CONSTRUCTED ACCORDING TO FORM 818 SECTION 7.03

CONSTRUCTION METHODS: THE AREA TO BE PROTECTED BY RIPRAP SHALL BE ACCURATELY SHAPED PRIOR TO PLACING OF ANY BEDDING MATERIAL OR RIPRAP. WHERE BEDDING MATERIAL IS CALLED FOR, IT SHALL BE PLACED ON THE PREPARED AREA AND COMPACTED TO THE DEPTH, LINES AND GRADES INDICATED ON THE PLANS. THE RIPRAP SHALL BE PLACED TO ITS FULL COURSE THICKNESS IN ONE OPERATION IN SUCH A MANNER AS TO PRODUCE A REASONABLY WELL-GRADED MASS OF ROCK WITHOUT CAUSING DISPLACEMENT OF THE UNDERLYING MATERIAL. THE FINISHED SURFACE SHALL BE FREE FROM POCKETS OF SMALL STONES AND CLUSTERS OF LARGER STONES. PLACING THIS MATERIAL BY METHODS LIKELY TO CAUSE SEGREGATION OF THE VARIOUS SIZES OF STONE WILL NOT BE PERMITTED. REARRANGING OF INDIVIDUAL STONES BY MECHANICAL OR HAND METHODS WILL BE REQUIRED TO THE EXTENT NECESSARY TO OBTAIN A REASONABLY WELL-GRADED DISTRIBUTION OF THE SPECIFIED STONE SIZES. THE COMPLETED COURSE SHALL BE OF THE SPECIFIED THICKNESS AND TO THE LINES AND GRADES AS SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.

RIPRAP SHALL BE CONFORM TO CT DOT FORM 818 SECTION M.12.02--RIPRAP: MATERIALS FOR THIS ITEM SHALL CONSIST OF SOUND, TOUGH, DURABLE AND ANGULAR ROCK, FREE FROM DECOMPOSED STONES OR OTHER DEFECTS IMPAIRING ITS DURABILITY. THE SIZE OF A STONE AS HEREINAFTER SPECIFIED SHALL BE ITS LEAST DIMENSION. BROKEN CONCRETE OR ROUNDED STONES ARE NOT ACCEPTABLE. THE TYPE OF MATERIAL TO BE USED SHALL BE AS NOTED ON THE PLANS, IN THE SPECIAL PROVISIONS OR AS MAY BE ORDERED BY THE ENGINEER.

- STANDARD RIPRAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. NOT MORE THAN 15% OF THE RIPRAP SHALL BE SCATTERED SPALLS AND STONES LESS THAN 6 INCHES IN SIZE.
- B. NO STONE SHALL BE LARGER THAN 30 INCHES IN SIZE, AND AT LEAST 75% OF THE WEIGHT (MASS) SHALL BE STONES AT LEAST 15 INCHES IN SIZE.
- 2. INTERMEDIATE RIPRAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION:

STONE SIZE	% OF THE WEIGHT (MASS)
18 IN. (460 MM OR OVER)	0
10 IN. TO 18 IN. (255 MM TO 460 MM)	30 - 50
6 IN. TO 10 IN. (150 MM TO 255 MM)	30 - 50
4 IN. TO 6 IN. (100 MM to 150 MM)	20 - 30
2 IN. TO 4 IN. (50 MM to 100 MM)	10 - 20
LESS THAN 2 IN. (LESS THAN 50 MM)	0 - 10

#### 3. MODIFIED RIPRAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION:

% OF THE WEIGHT (MASS)
0
20 - 50
30 - 60
30 - 40
10 - 20
0 - 10

#### ARTICULATED CONCRETE BLOCK (ACB) CHUTE

ALL ACB MATS SHALL BE PREFABRICATED AS AN ASSEMBLY OF CONCRETE BLOCKS HAVING SPECIFIC HYDRAULIC CAPACITIES, AND LACED WITH REVETMENT CABLES. THE ACB SYSTEM MAY ALSO BE ASSEMBLED ON-SITE BY HAND-PLACING THE INDIVIDUAL UNITS EITHER WITH OR WITHOUT SUBSEQUENT INSERTION OF CABLES. INDIVIDUAL UNITS IN THE SYSTEM SHALL BE STAGGERED AND INTERLOCKED FOR ENHANCED STABILITY. THE MATS SHALL BE CONSTRUCTED OF AS SHOWN ON THE CONTRACT DRAWINGS.

CASTING: THE ACB UNITS SHALL BE PRODUCED USING A DRY CAST METHOD. DRY CAST UNITS OBTAIN STRENGTH MORE QUICKLY THAN WET CAST BLOCKS, AND WILL ALSO ACHIEVE A GREATER UNIFORMITY OF QUALITY AND GREATER DURABILITY.

PHYSICAL REQUIREMENTS: AT THE TIME OF DELIVERY TO THE WORK SITE, THE ACB UNITS SHALL CONFORM TO THE PHYSICAL REQUIREMENTS PRESCRIBED IN TABLE LISTED BELOW.

	RENGTH NET AREA . psi	WATER ABSORPTION MAX. lb/ft <sup>3</sup>		
AVG. OF 3 UNITS	INDIVIDUAL UNIT	AVG. OF 3 UNITS	INDIVIDUAL UNIT	
4,000	3,500	9.1	11.7	

ARTICULATING CONCRETE BLOCKS (ACB'S) SHALL BE ARMORFLEX BLOCK AND A HALF AS MANUFACTURED AND SOLD BY:

#### ARMORTEC, A CONTECH COMPANY

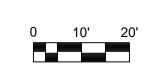
9025 CENTRE POINTE DR., SUITE 400, WEST CHESTER, OH 45269 PHONE: 1-800-645-7000, FAX: 1-513-645-7993

THE SELECTED ARMORFLEX BLOCKS (OR APPROVED EQUAL) SHALL HAVE THE FOLLOWING

N	OMINAL CH	HARACTERIS	STICS:	`	,		
	CLASS	TYPE	MIN. WEIGHT		BLOCK SIZE		OPEN
	CLASS	ITPE	(LBS)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	AREA %
	85 BAAH	CLOSED	135	17.4	15.5	8.5	10

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ROADWAY IMPROVEME
TOWN OF WOLCOTT
NOLCOTT, CONNECTICUT

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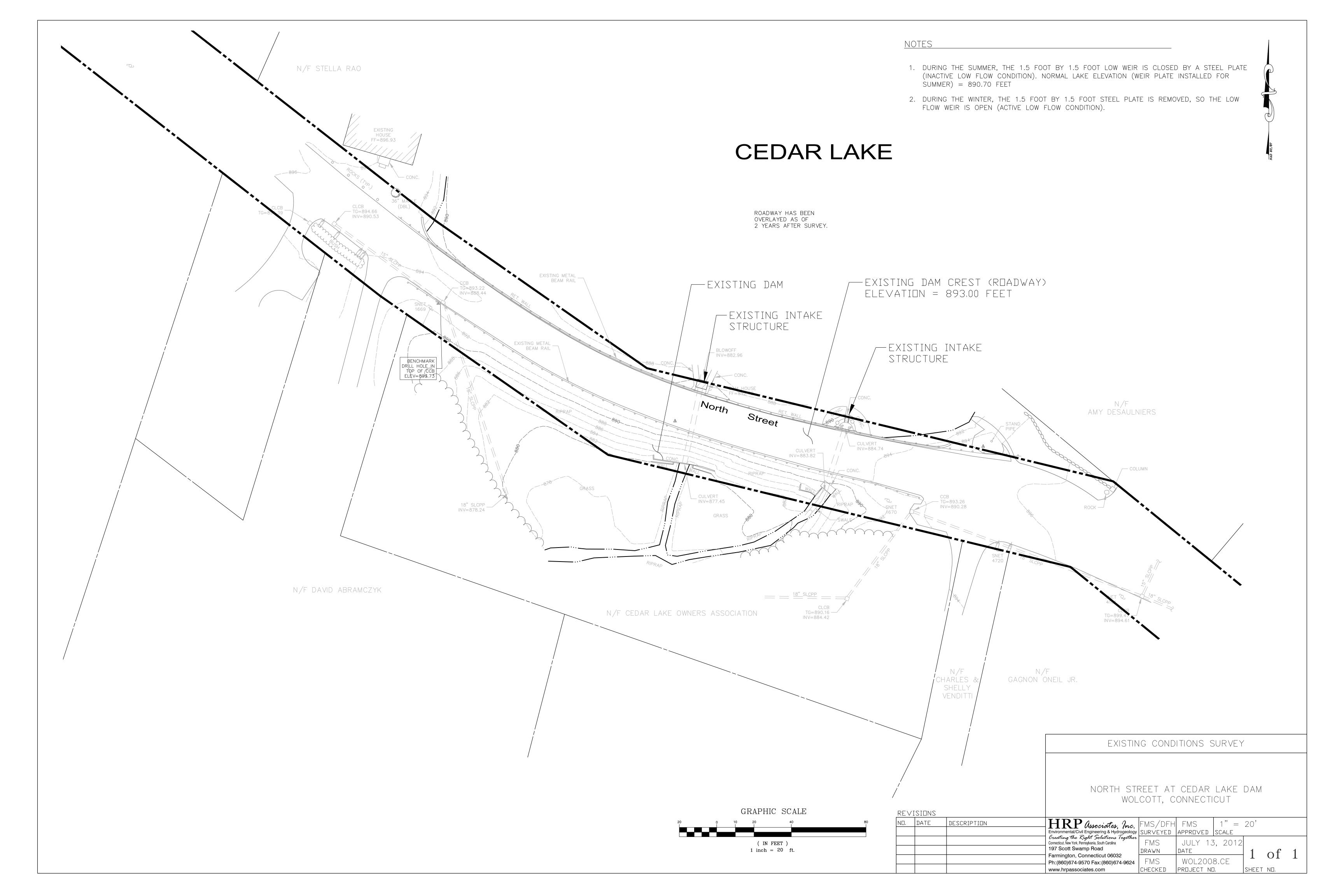
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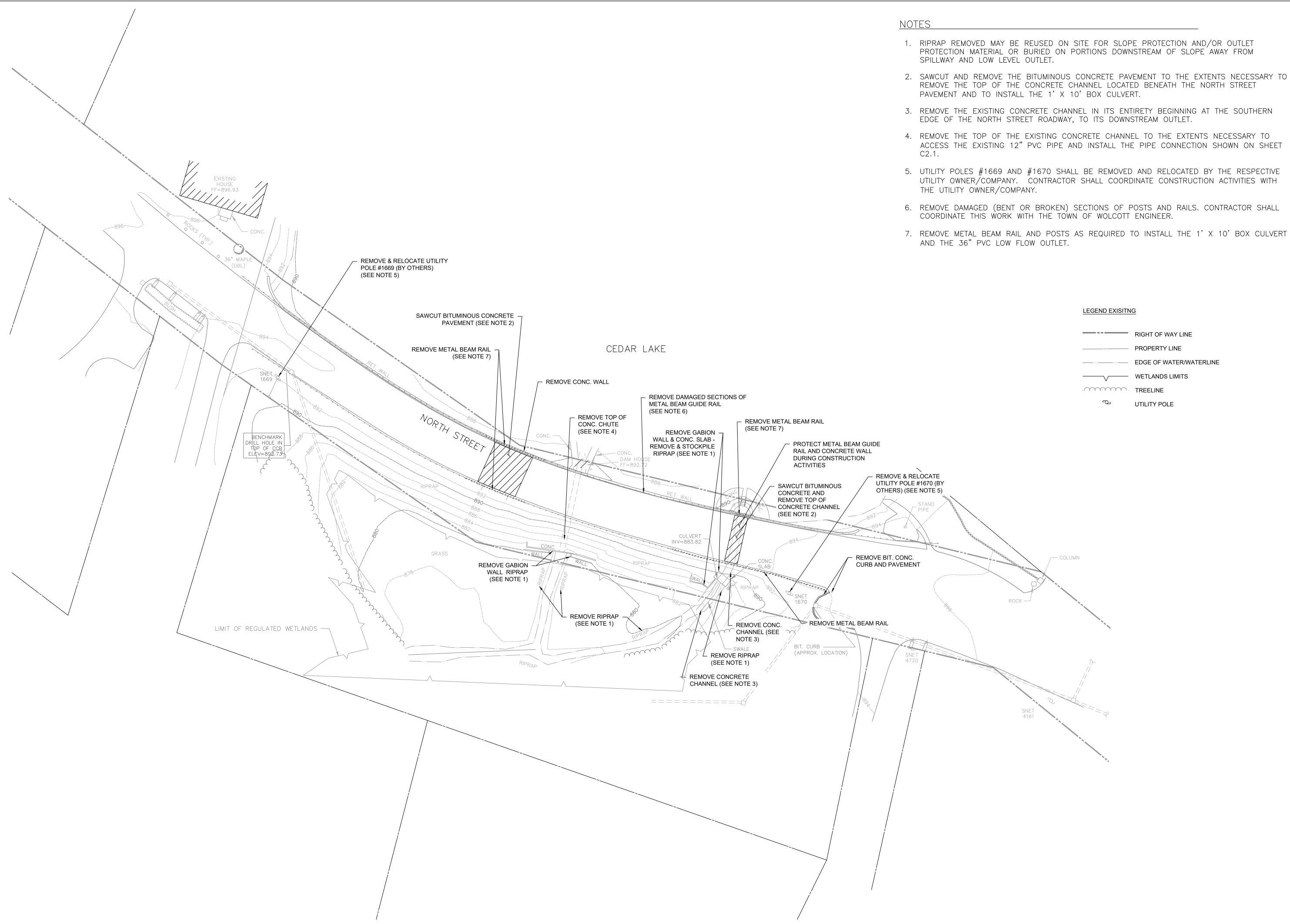
ENERAL NOTES

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GN-1

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- PROTECTION MATERIAL OR BURIED ON PORTIONS DOWNSTREAM OF SLOPE AWAY FROM
- 2. SAWCUT AND REMOVE THE BITUMINOUS CONCRETE PAVEMENT TO THE EXTENTS NECESSARY TO REMOVE THE TOP OF THE CONCRETE CHANNEL LOCATED BENEATH THE NORTH STREET
- 3. REMOVE THE EXISTING CONCRETE CHANNEL IN ITS ENTIRETY BEGINNING AT THE SOUTHERN
- ACCESS THE EXISTING 12" PVC PIPE AND INSTALL THE PIPE CONNECTION SHOWN ON SHEET
- 5. UTILITY POLES #1669 AND #1670 SHALL BE REMOVED AND RELOCATED BY THE RESPECTIVE UTILITY OWNER/COMPANY. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH
- 6. REMOVE DAMAGED (BENT OR BROKEN) SECTIONS OF POSTS AND RAILS. CONTRACTOR SHALL

NORTH

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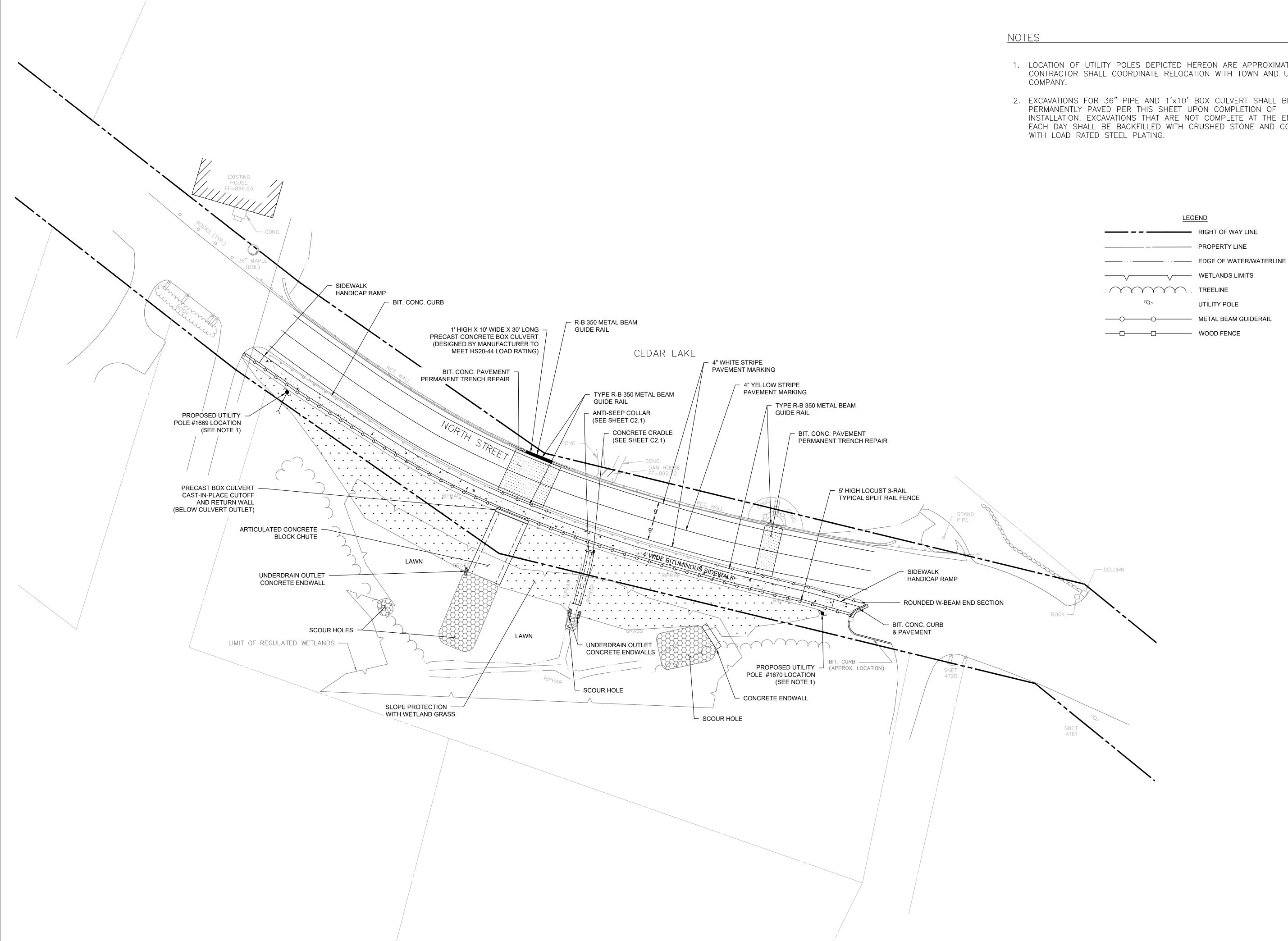
PATE DESCRIPTION

12/18/2020 REVISED PER TOWN COMMENTS

DAM (#16603) **CEDAR LAKE** 

SHEET NO.

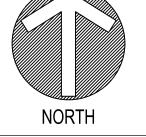
SHEET 04 OF 12

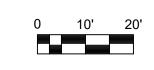


- 1. LOCATION OF UTILITY POLES DEPICTED HEREON ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE RELOCATION WITH TOWN AND UTILITY
- 2. EXCAVATIONS FOR 36" PIPE AND 1'x10' BOX CULVERT SHALL BE PERMANENTLY PAVED PER THIS SHEET UPON COMPLETION OF INSTALLATION. EXCAVATIONS THAT ARE NOT COMPLETE AT THE END OF EACH DAY SHALL BE BACKFILLED WITH CRUSHED STONE AND COVERED

UTILITY POLE







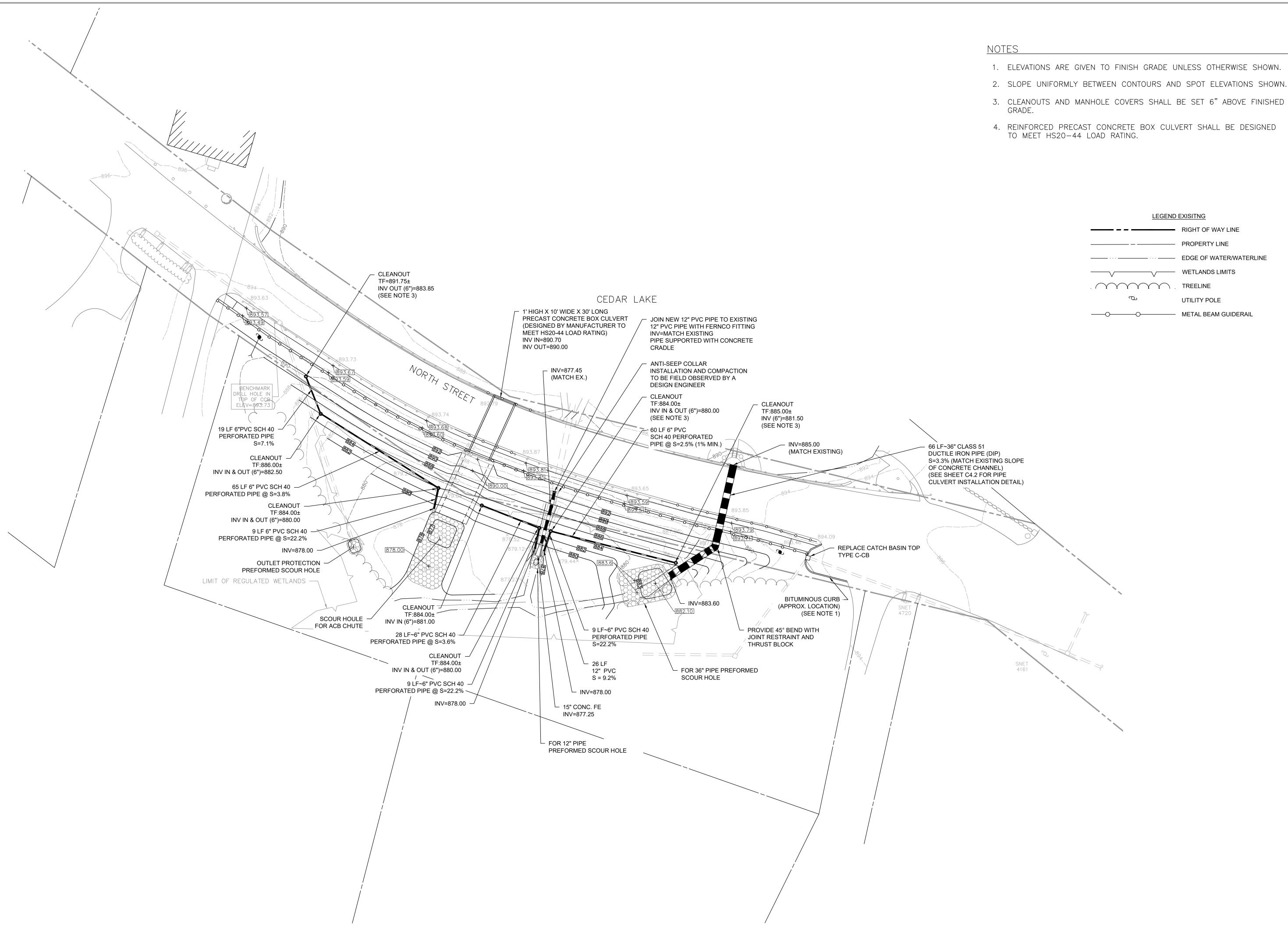
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	REVISIONS	DESCRIPTION	REVISED PER TOWN COMMENTS	UPDATED FOR 2021 SUBMISSION						
	RE	DATE	12/18/2020	2 06/08/2021						
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SHEET NO.

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- 3. CLEANOUTS AND MANHOLE COVERS SHALL BE SET 6" ABOVE FINISHED
- 4. REINFORCED PRECAST CONCRETE BOX CULVERT SHALL BE DESIGNED

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0 10' 20'

& ROADWAY IMPROVEMENTS CEDAR LAKE DAM (#16603)

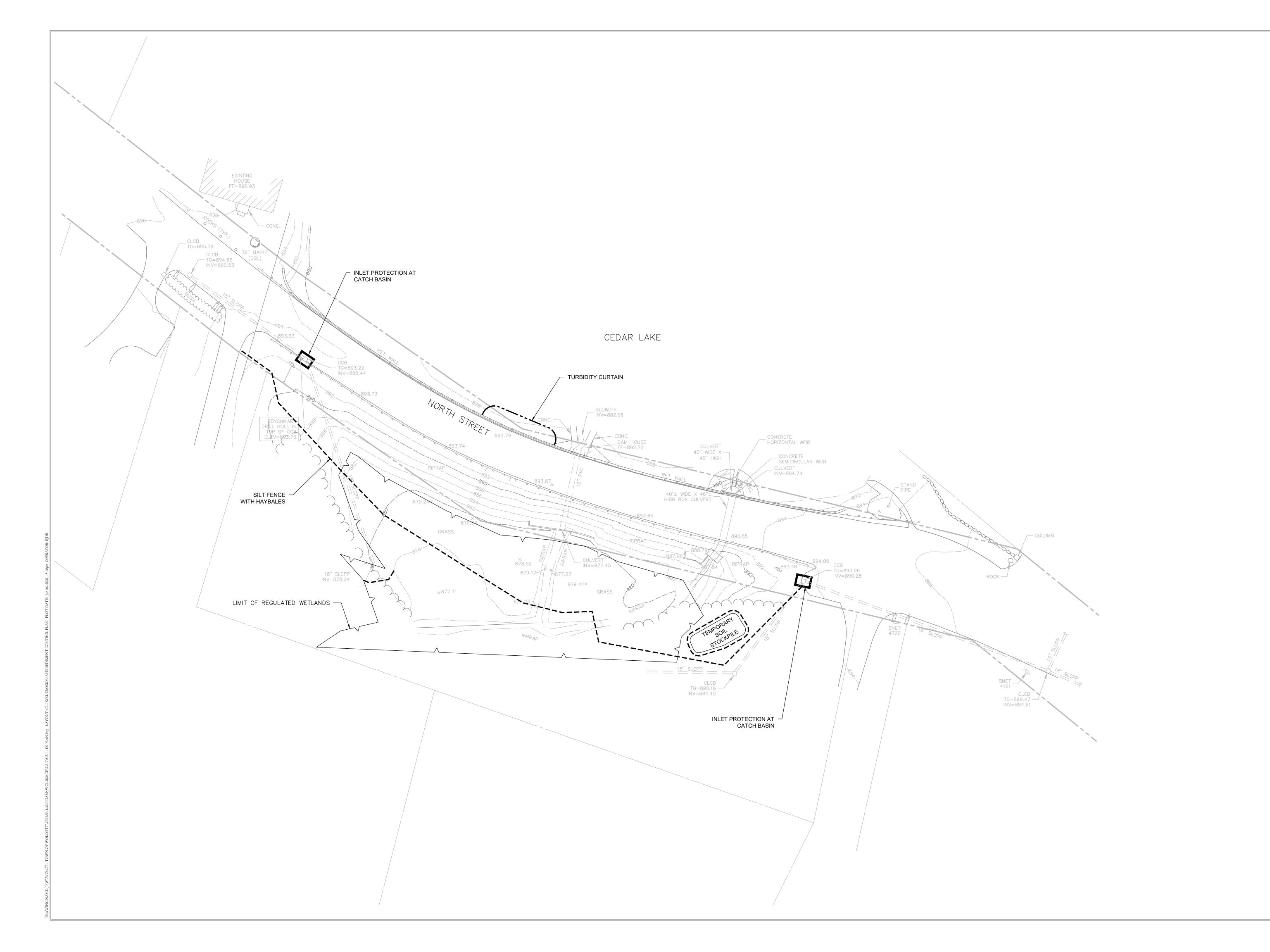
DAM

GRADING & DRAINAGE PLA

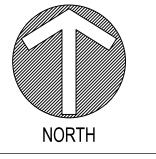
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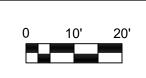
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SHEET 06 OF 12









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CEDAR LAKE DAM (#16603)

DAM & ROADWAY IMPROVEMENTS
TOWN OF WOLCOTT
10 KENEA AVENUE
WOLCOTT, CONNECTICUT

SOIL EROSION AND DEPT.
SEDIMENT

SHEET NO.

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SHEET 07 OF 12

#### SEDIMENTATION AND EROSION CONTROL PLAN

#### **GENERAL**

THE PLAN PROPOSES EROSION CONTROL MEASURES TO ADEQUATELY CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACITIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.

EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTUBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE A SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES.

REFERENCE IS MADE TO THE 2002 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", AS AMENDED. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION, STATE OFFICE BUILDING, HARTFORD, CONNECTICUT, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THESE PLANS.

THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMPS) TO CONTROL STORM WATER DISCHARGES, TO PREVENT EROSION AND SEDIMENTATION, AND TO OTHERWISE PREVENT POLLUTION OF WETLANDS AND OTHER WATERS OF THE STATE. BMPS INCLUDE, BUT ARE NOT LIMITED TO, PRACTICES IDENTIFIED IN THE CT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL AS REVISED, 2004 CT STORMWATER QUALITY MANUAL, CT DOT'S DRAINAGE MANUAL AS REVISED, AND THE PROJECT SPECIFICATIONS.

SEDIMENTATION CONTROL

ALL AREAS SHALL BE PROTECTED FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATION, AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENT CONTROL MATERIAL (I.E. HAY BALES AND/OR GEOTEXTILE).

STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 2:1 SHALL BE PROTECTED WITH JUTE MESH EROSION PROTECTION. ALL OTHER AREAS SHALL BE MULCHED WITH HAY OR STRAW AS REQUIRED UNDER TURF ESTABLISHMENT.

#### EROSION CONTROL PLAN

SEDIMENTATION CONTROL SYSTEM - THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF GEOTEXTILE BARRIER FENCE OR STACKED HAY BALES AND SILT SACKS AT CATCH BASINS.

GEOTEXTILE BARRIER FENCE - THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED AND AS INDICATED ON THE PLANS. THE SYSTEM IS DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLAND AREAS, OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FOR THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM AREAS IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STACKED HAY BALES - HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE PLACED AS INDICATED ON THE PLANS, STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASINS, OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE BUILT OR PAVED ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. EROSION CHECKS ARE TO REMAIN IN PLACE AND MAINTAINED TO ENSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

SILT SACKS - INSTALL AND MAINTAIN PER MANUFACTURER'S RECOMMENDATIONS.

IN ALL AREAS, REMOVAL OF TREES, BUSHES AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABLIZE SOIL BY SEEDING AND MULCHING SO AS TO PREVENT EROSION.

#### SEDIMENTATION AND EROSION CONTROL MAINTENANCE PROCEDURES

ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A WEEKLY BASIS, AND FOLLOWING ALL STORMS, BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED WITH 24 HOURS OF THE REQUEST AND THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES AT THE COMPLETION OF CONSTRUCTION, AND AS REQUESTED BY THE ENGINEER TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION. THE CONTRACTOR SHALL SWEEP ADJACENT ROADWAYS AS REQUIRED OR REQUESTED BY THE ENGINEER. FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

#### SEEDING SCHEDULE

A TEMPORARY STAND OF GRASS AND/OR LEGUMES WILL BE PROVIDED ON ALL AREAS OF THE SITE EXPOSED FOR A PERIOD GREATER THAN 1 MONTH BUT LESS THAN 12 MONTHS. REFER TO FIGURE TS-2 IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL AND SEDIMENT CONTROL FOR TEMPORARY SEEDING RATES AND DATES.

PERMANENT SEEDING FOR ESTABLISHING VEGETATION ON DISTURBED AREAS SHALL USE ONE OF THE THREE FOLLOWING MIXTURES:

1. NEW ENGLAND WET MIX (NEW ENGLAND WETLAND PLANTS, INC.) SHOULD BE USED AT A RATE OF 1.0 LB / 2,500 SF.

NEW ENGLAND WET MIX CONTAINS THE FOLLOWING SPECIES:

FOX SEDGE, BLUNT BROOM SEDGE, LURID SEDGE, HOP SEDGE, FOWL BLUEGRASS, BEGGAR TICKS, GREEN BULRUSH, SWAMP MILKWEED, FRINGED SEDGE, NEW YORK IRONWEED, SOFT RUSH, STARVED/CALICO ASTER, BLUE FLAG, AMERICAN MANNAGRASS, SQUARE STEMMED MONKEY FLOWER, SPOTTED JOE PYE WEED

2. OBL WETLAND MIX (ERNST CONSERVATION SEEDS, INC.) SHOULD BE USED AT A RATE OF 1.0 LB / 2,000 SF.

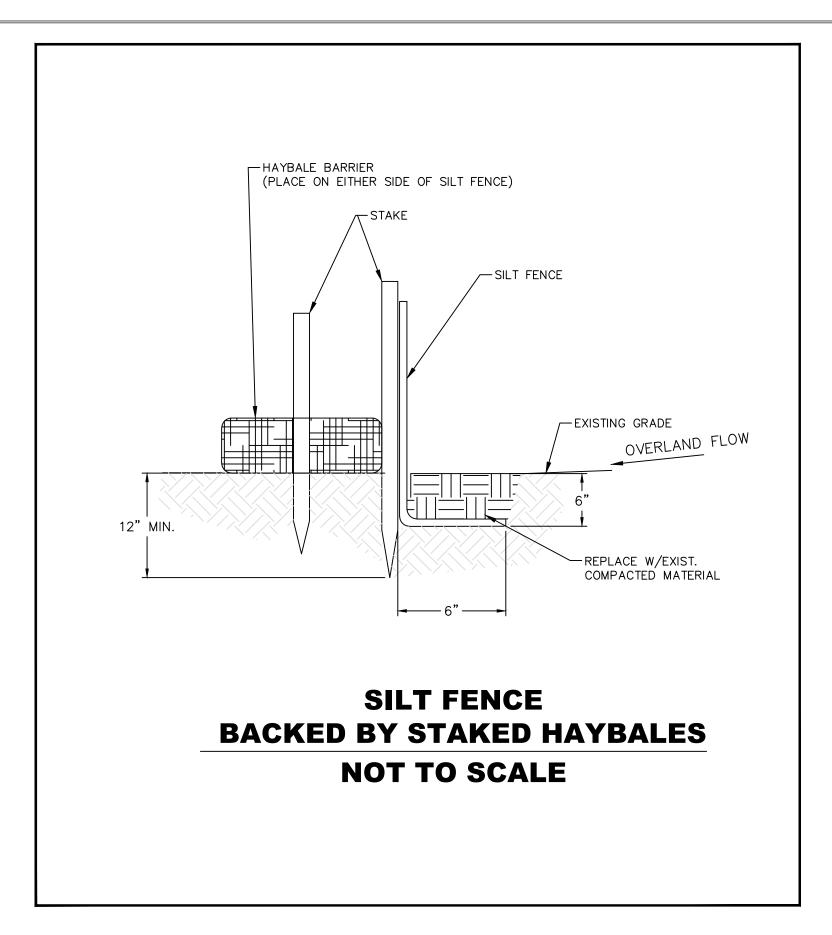
#### OBL WETLAND MIX CONTAINS THE FOLLOWING SPECIES:

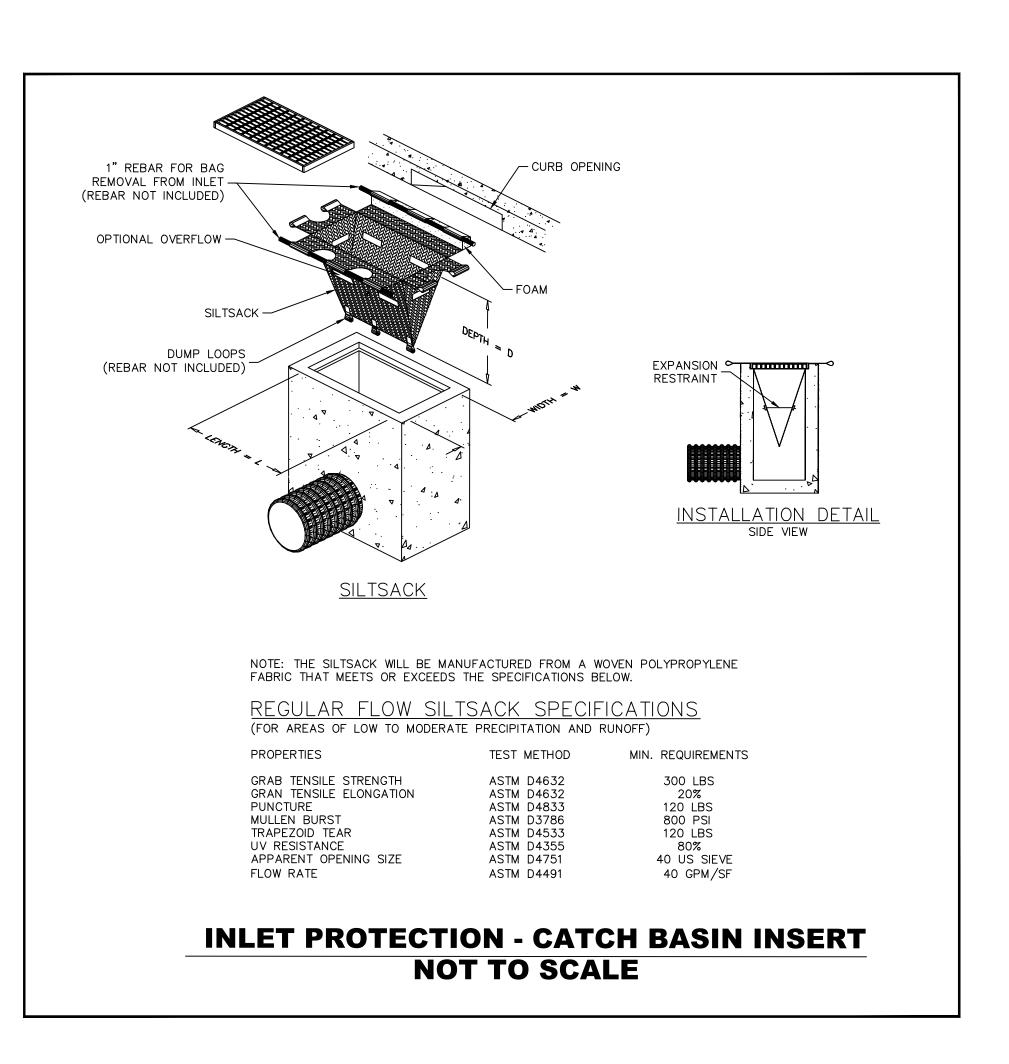
FOX SEDGE, LURID SEDGE, HOP SEDGE, BLUNT BROOM SEDGE, VIRGINIA WILDRYE, BLUE VERVAIN, GIANT BUR REED, AWL SEDGE, SOFT RUSH, SWAMP MILKWEED, BLUE FLAG, EASTERN BUR REED, NODDING BUR MARIGOLD, BONESET, COMMON SNEEZEWEED, NEW YORK IRONWEED, GREAT BLUE LOBELIA, WOOLGRASS, NEW ENGLAND ASTER, PURPLESTEM ASTER, FLAT TOPPED WHITE ASTER, JOE PYE WEED, DITCH STONECROP

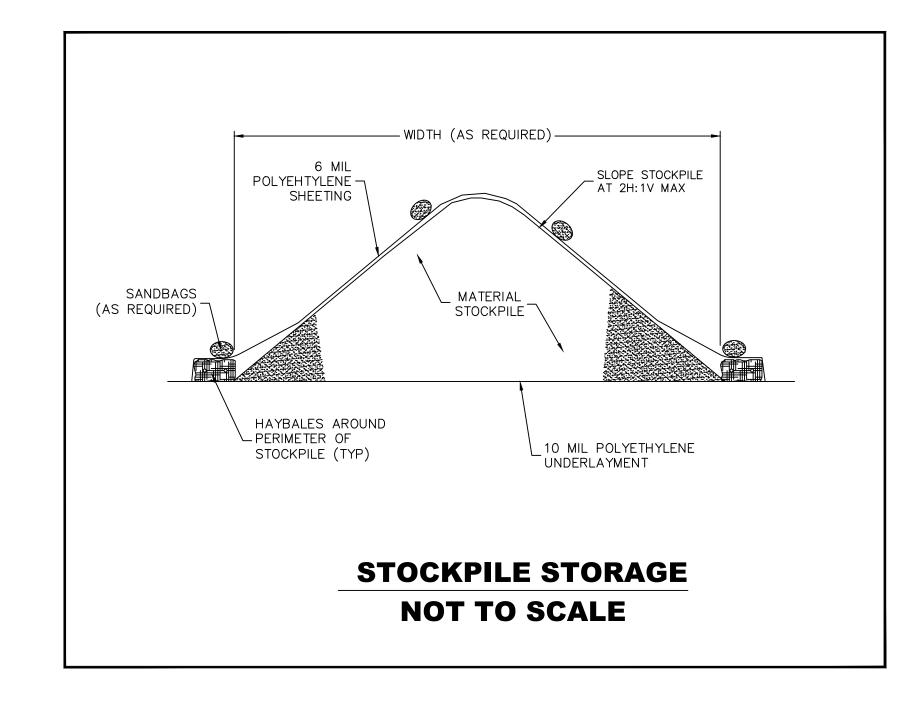
3. VERMONT WETLAND SHRUB MIX (VERMONT WETLAND PLANT SUPPLY, LLC) SHOULD BE USED AT A RATE OF 1.0 LB / 2,420 SF.

VERMONT WETLAND SHRUB MIX CONTAINS THE FOLLOWING SPECIES:

BLUE VERVAIN, JOE PYE WEED, GREEN BULRUSH, NODDING SEDGE, BUTTONBUSH, REDOSIER DOGWOOD, ELDERBERRY, NODDING BUR MARIGOLD, SILKY DOGWOOD, BLUEFLAG IRIS, GREATER BLADDER SEDGE









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REVISIONS

Description

12/18/2020 REVISED PER TOWN COMMENTS

06/08/2021 UPDATED FOR 2021 SUBMISSION

DRAWN: ISSUE DATE:

JAS/EJD 08/21/2018

REVIEWED: PROJECT NUMBER:

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APPROVED: SHEET SIZE:

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OF WOLCOTT

CEDAR LAKE I

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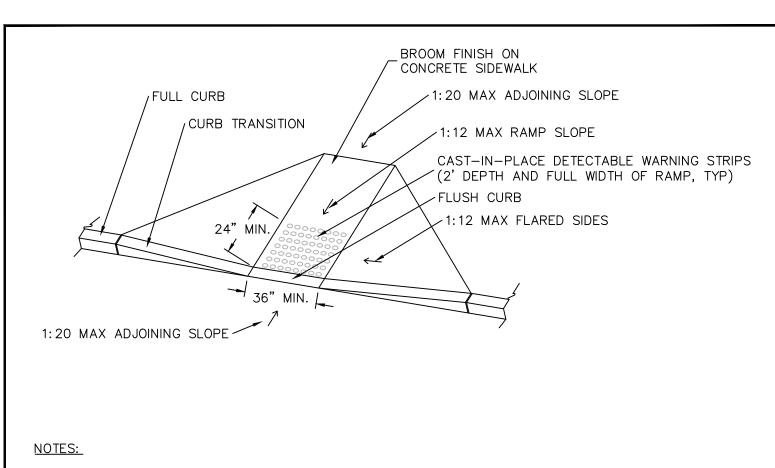
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SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES AND DETAILS

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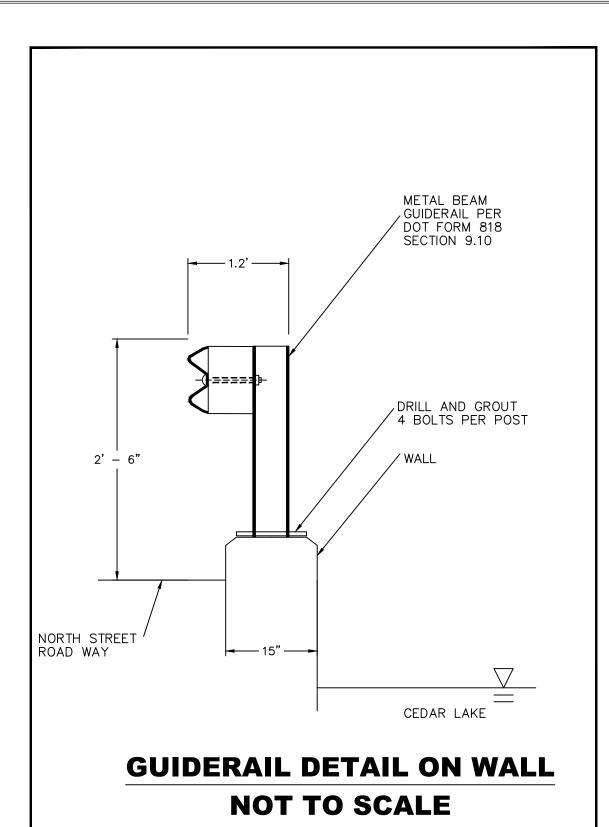
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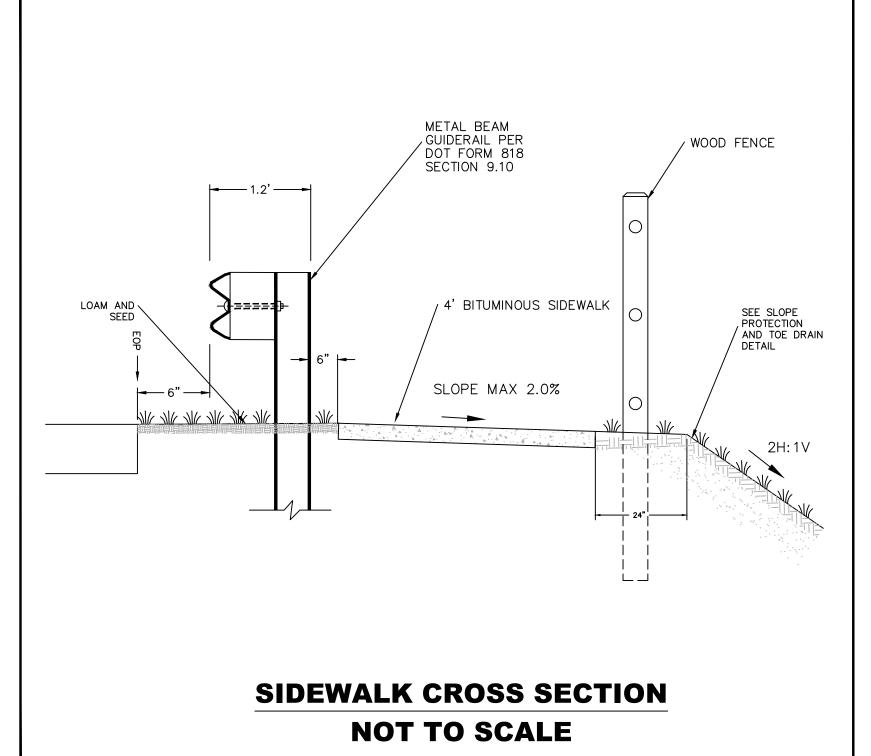
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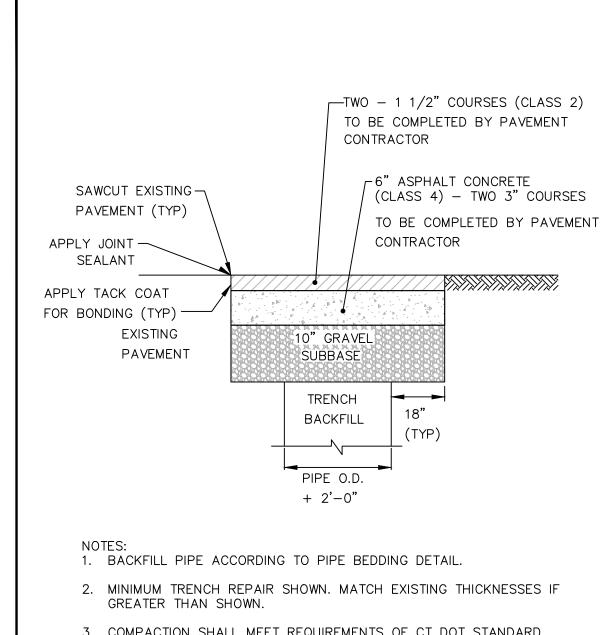


- 1. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
- 2. THE BOTTOM OF THE RAMP SHALL MEET THE GUTTER LINE AT THE CURB FACE.
- 3. DETAIL FOR SITE WORK RELATED TO SIDEWALKS.
- 4. DETAIL MUST CONFORM TO STATE, CITY, AND ADA STANDARDS WHERE APPLICABLE.
- 5. DIMENSIONS SHOWN ALONG CURB LINE ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
- 6. CONTRACTOR TO VERIFY ACCEPTABLE COLOR/FINISH FOR RAMPS WITH LOCAL AND STATE REQUIREMENTS AS APPLICABLE.

### SIDEWALK RAMP NOT TO SCALE

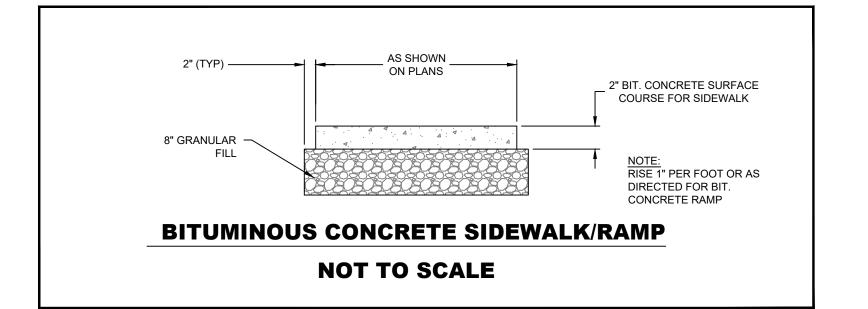


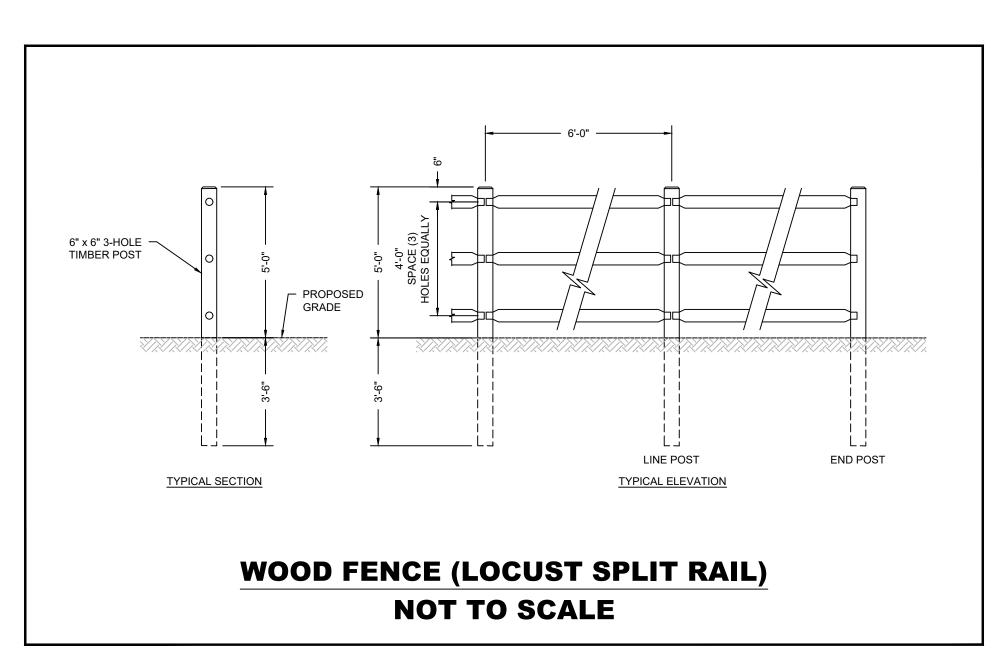


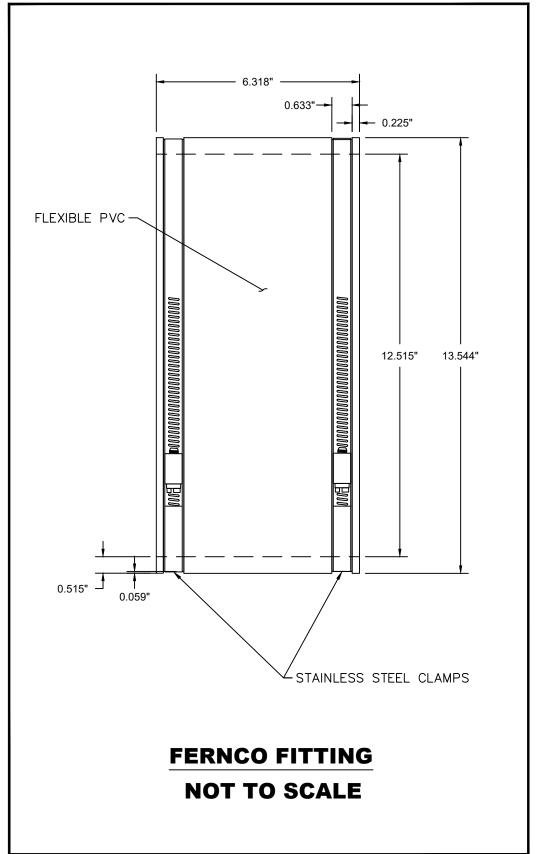


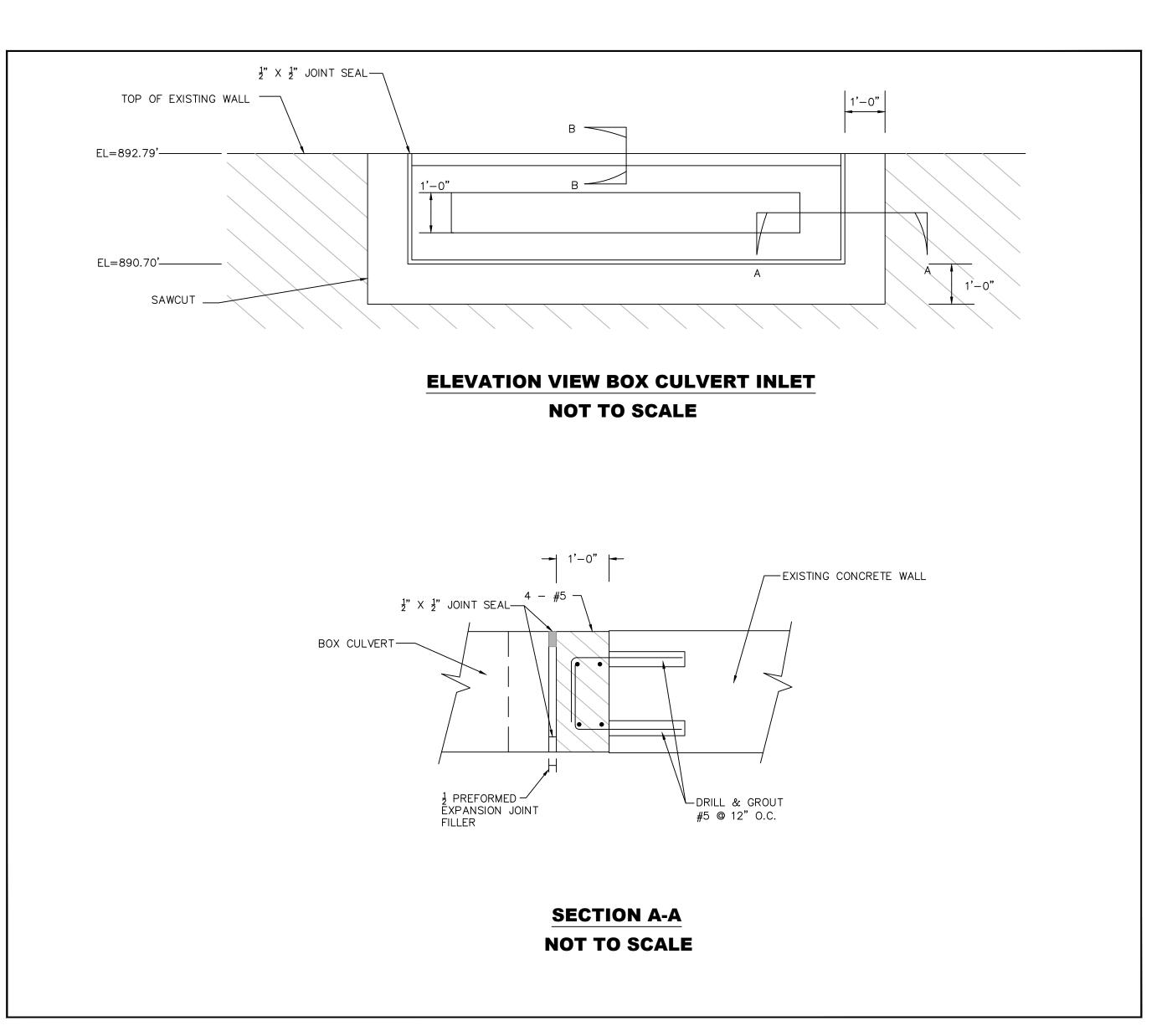
3. COMPACTION SHALL MEET REQUIREMENTS OF CT DOT STANDARD SPECIFICATIONS FORM 818.

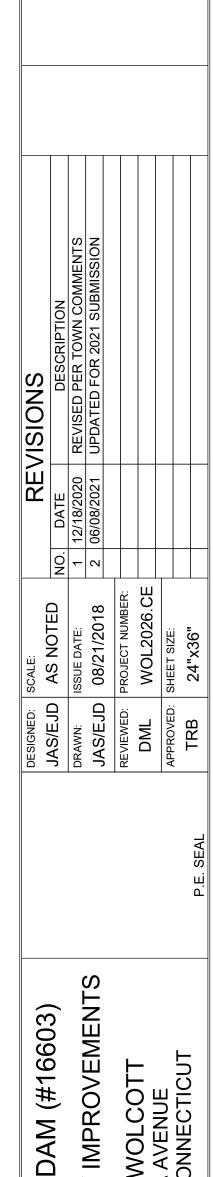
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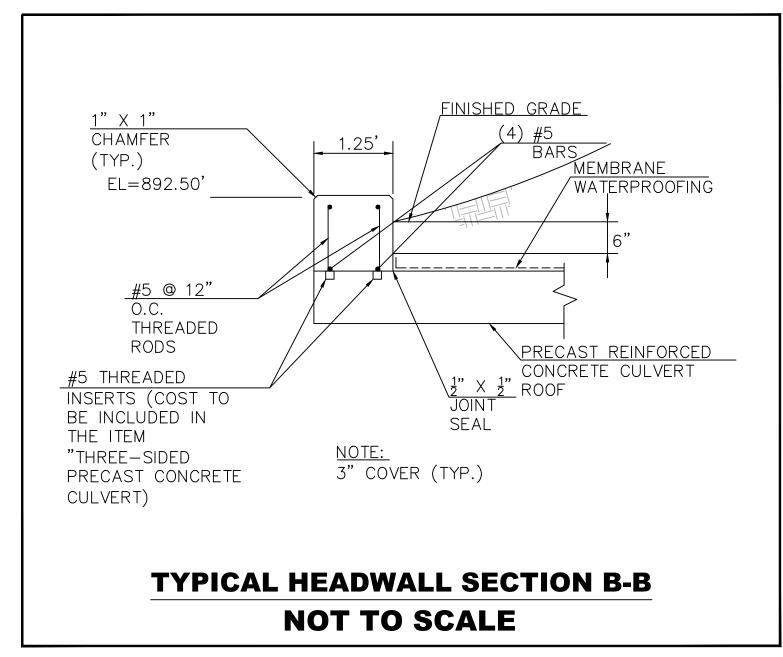
CEDAR LAKE DAM (#16
DAM & ROADWAY IMPROVE
TOWN OF WOLCOTT
10 KENEA AVENUE

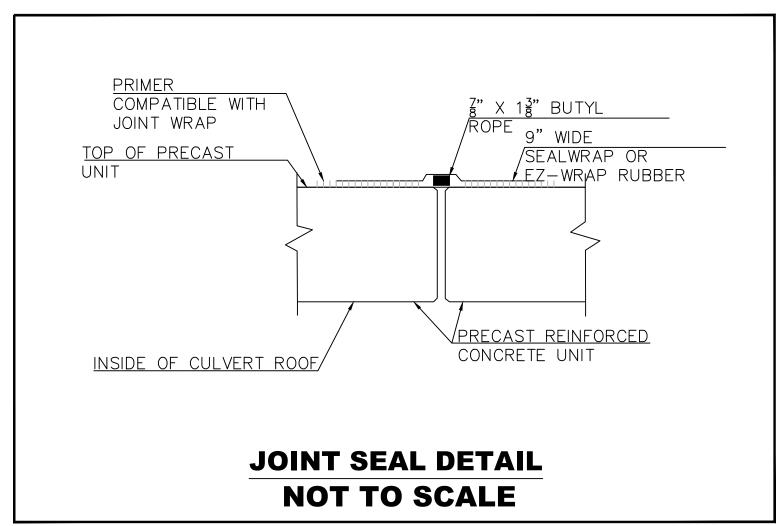
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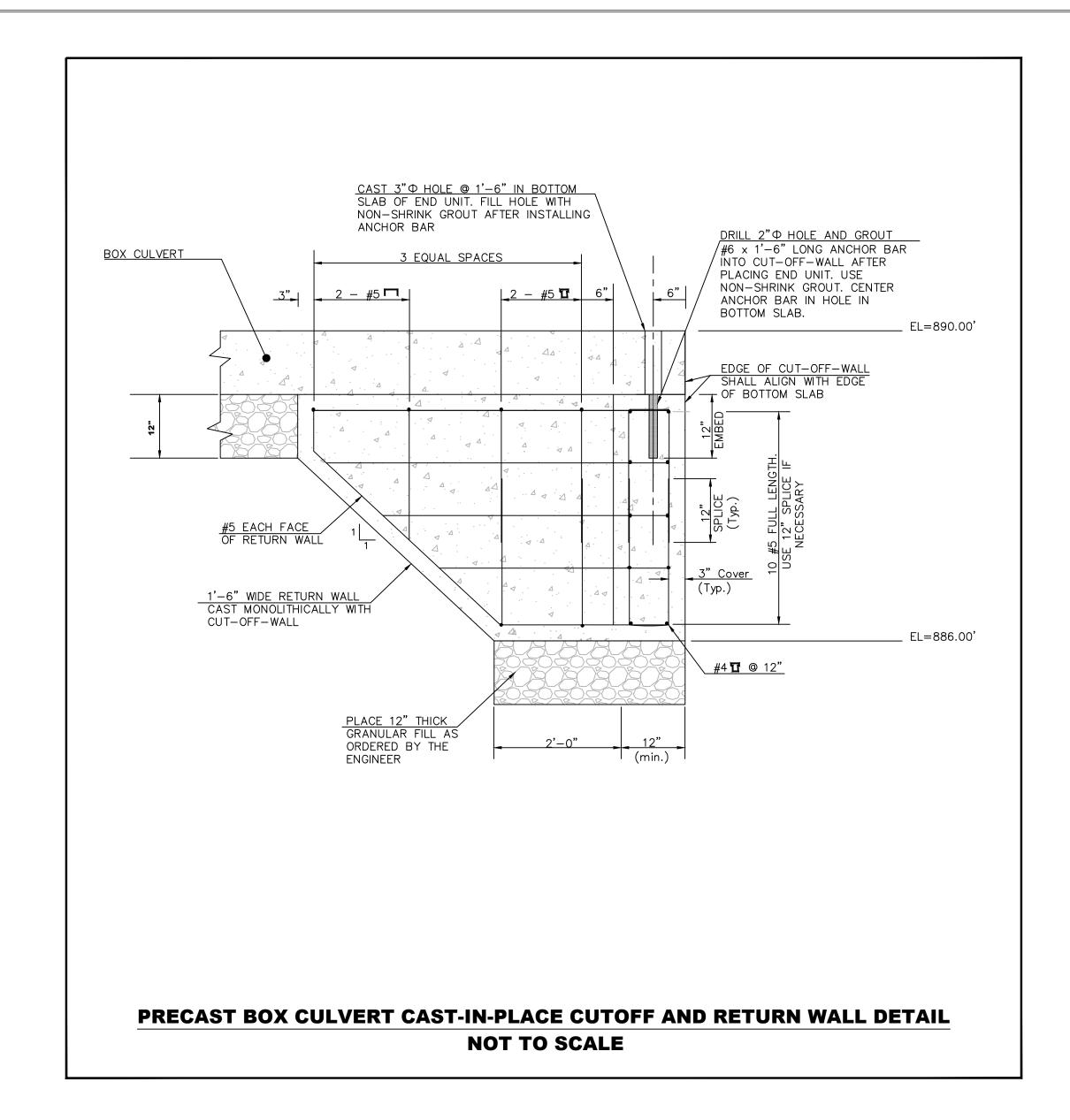
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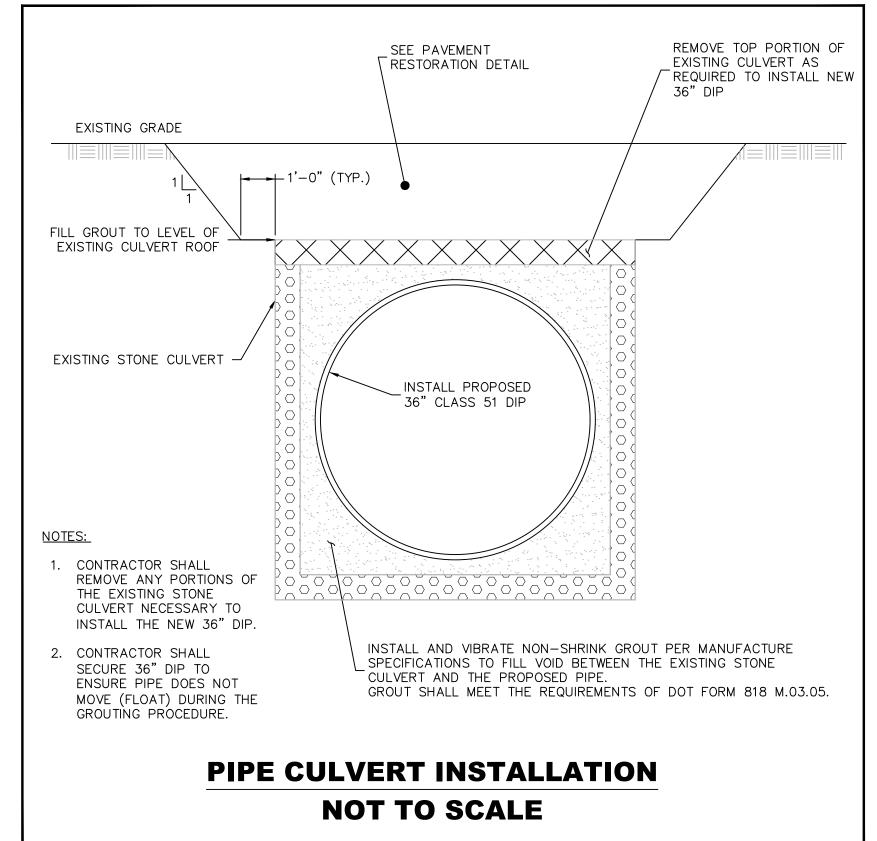
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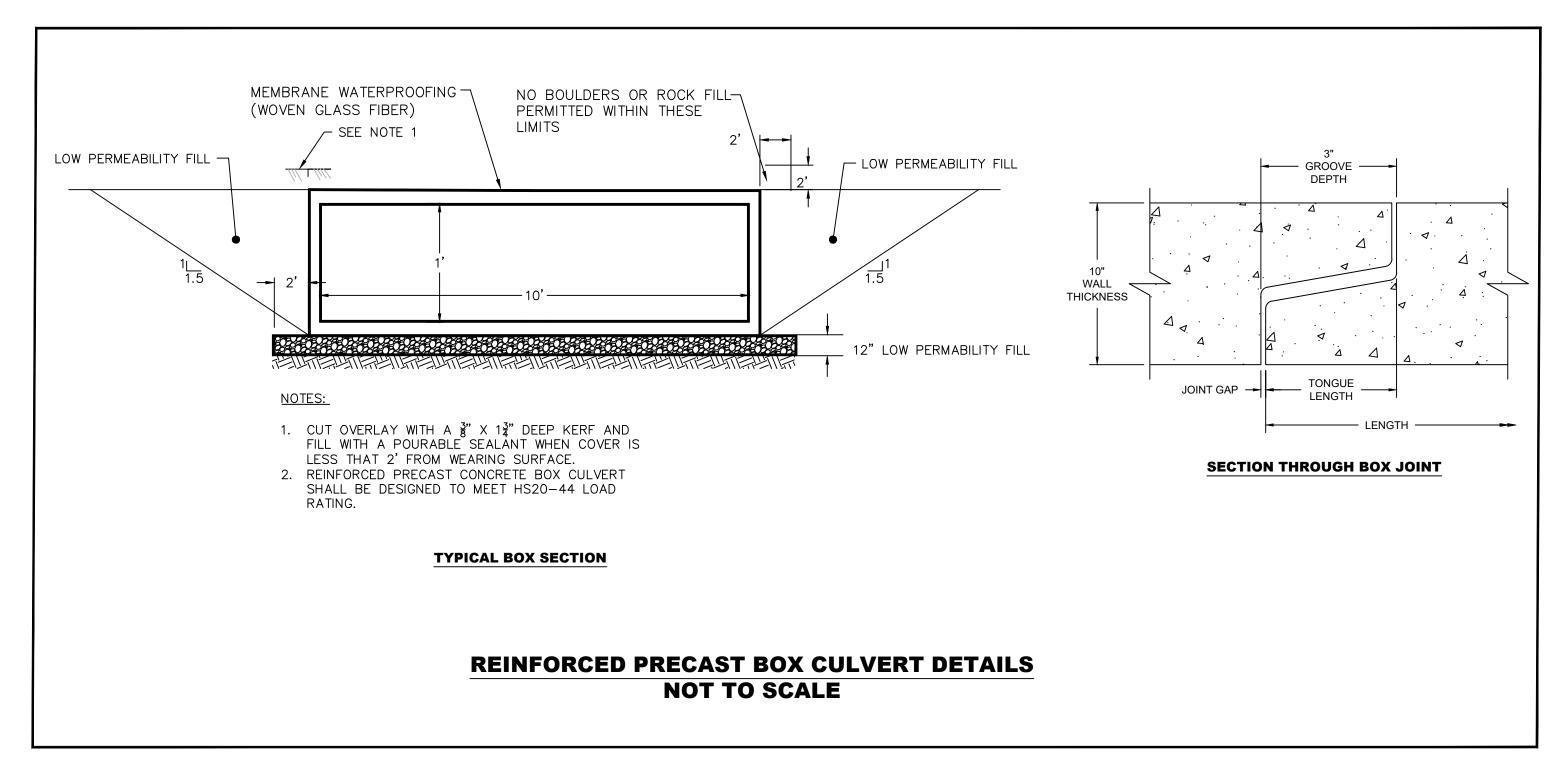
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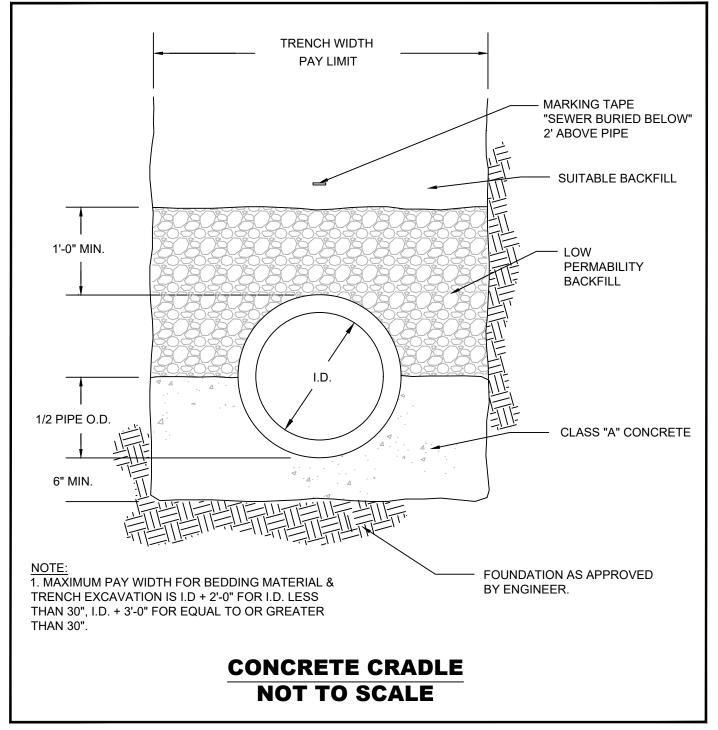


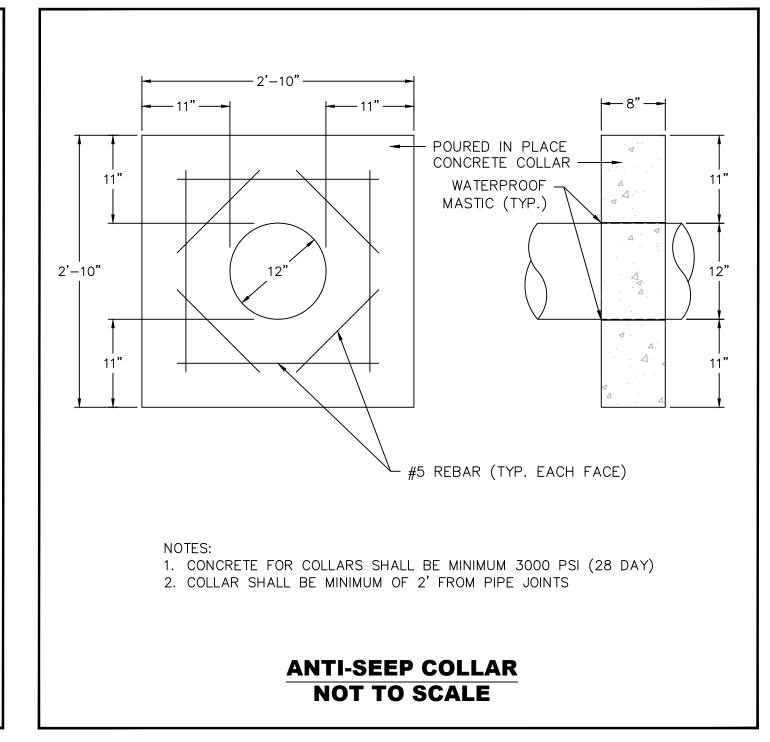












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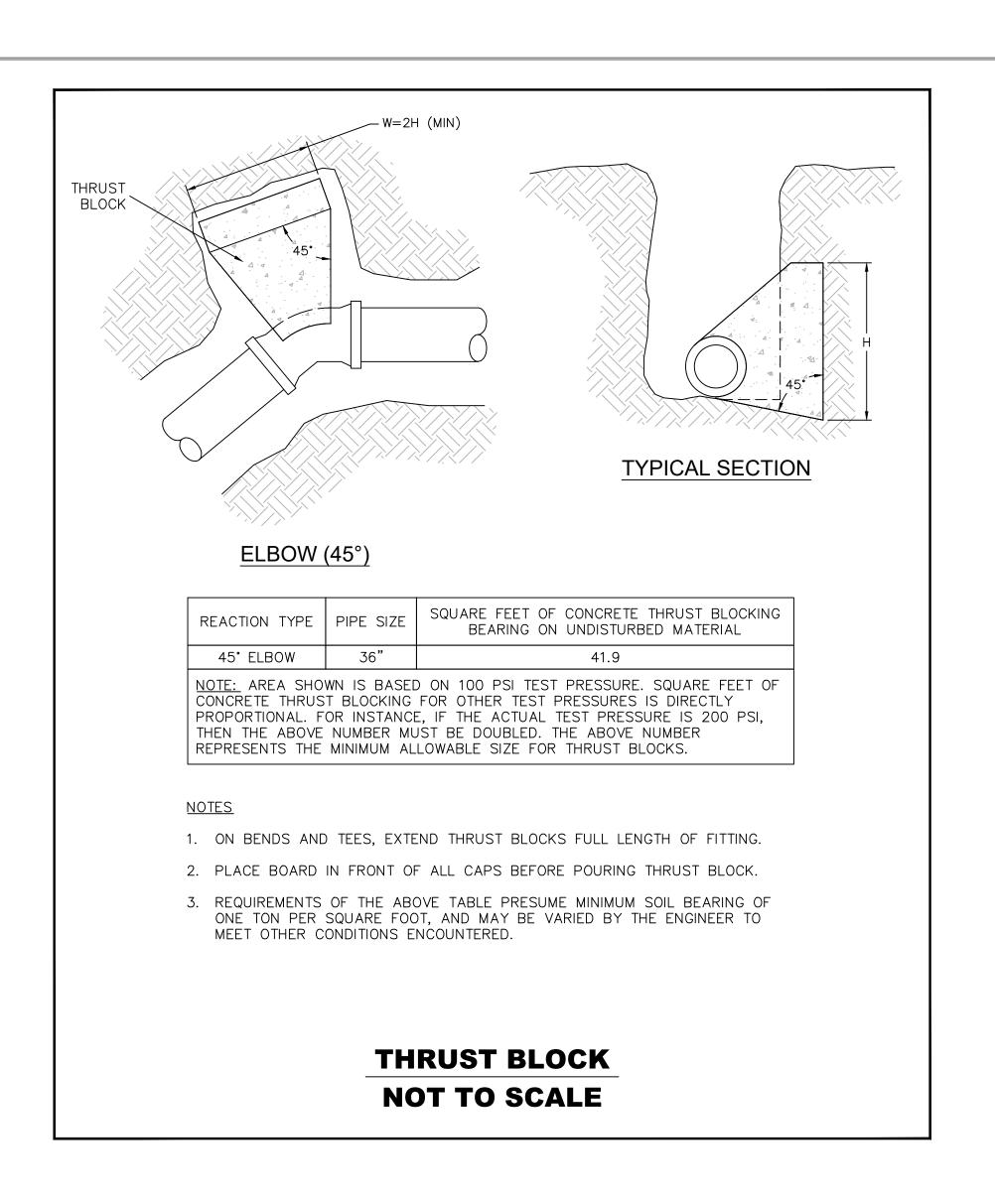
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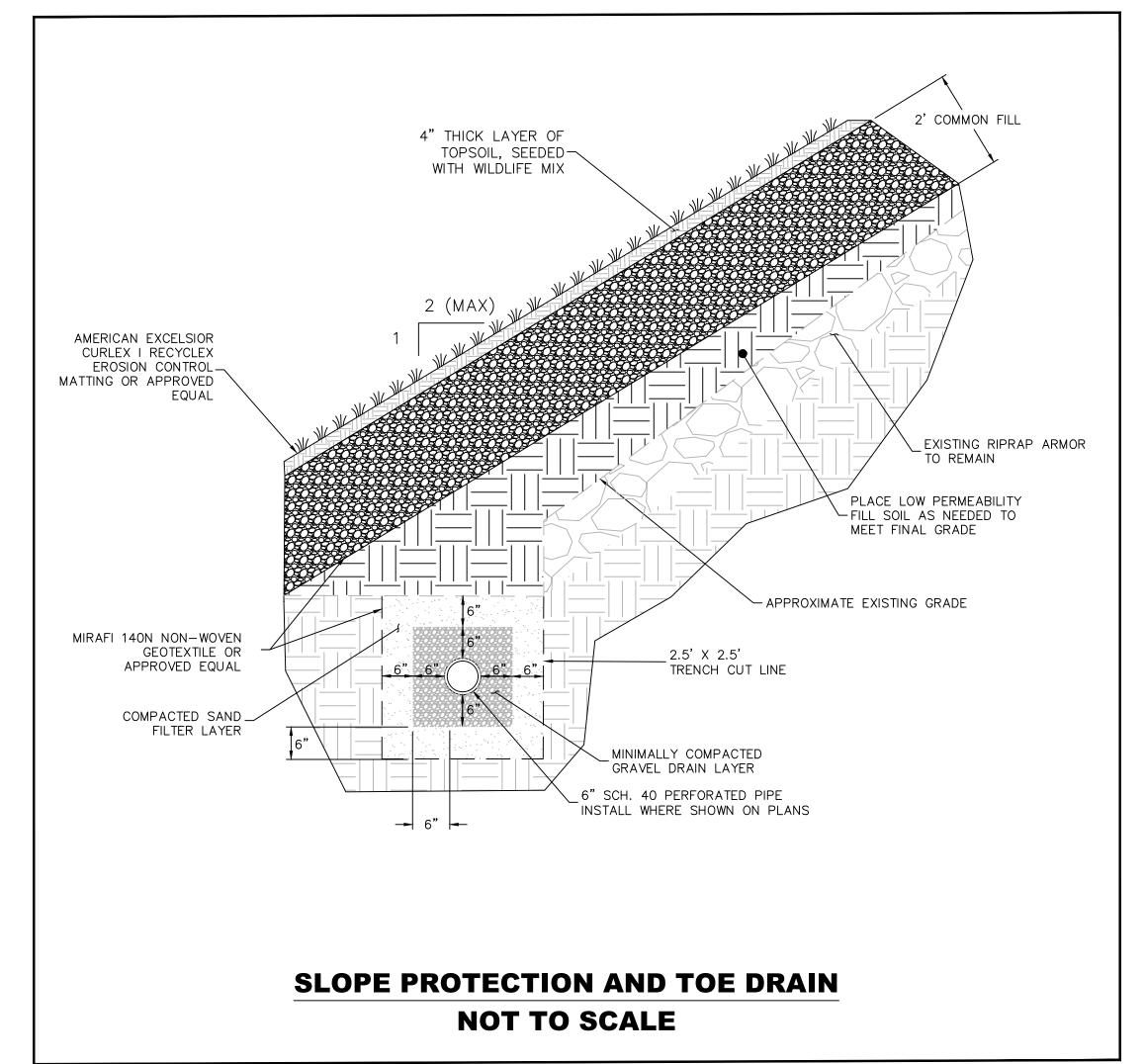
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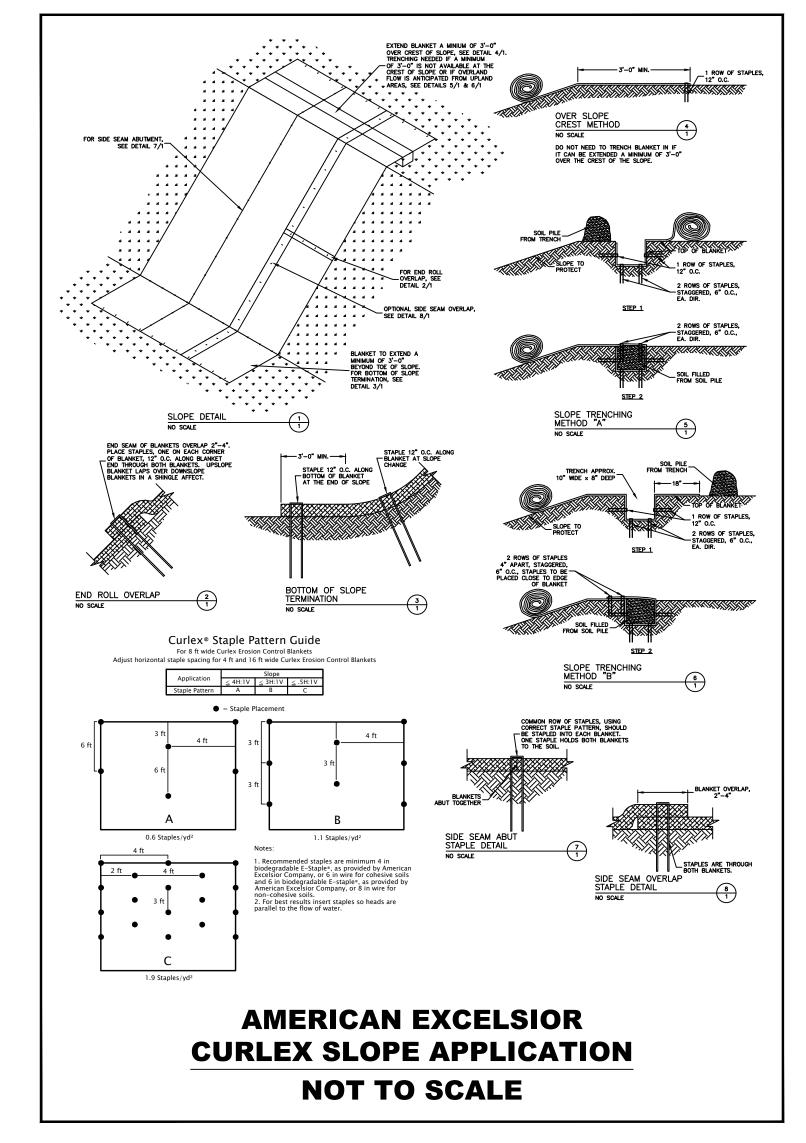
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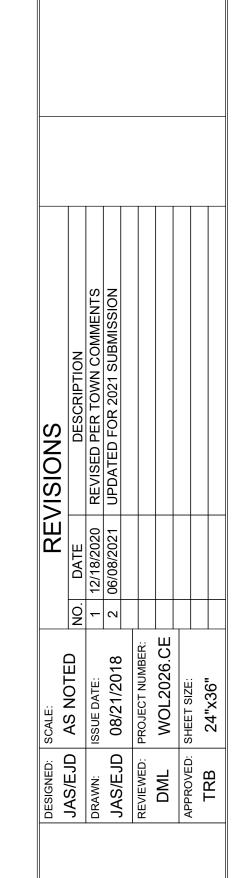
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SHEET 10 OF 12





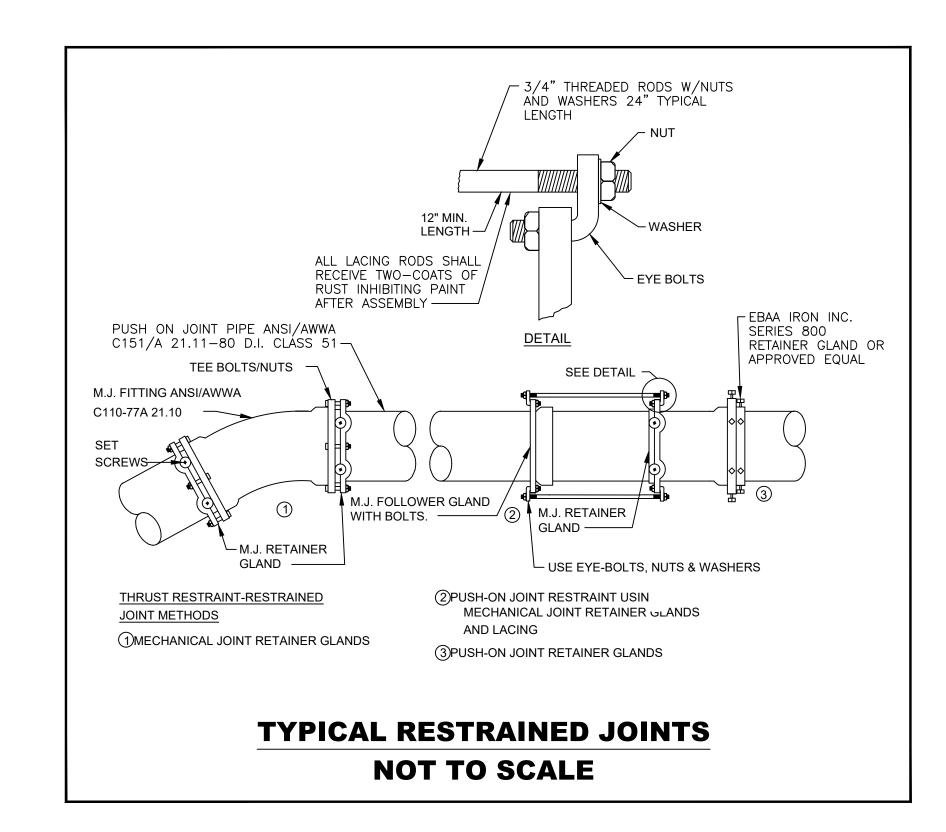


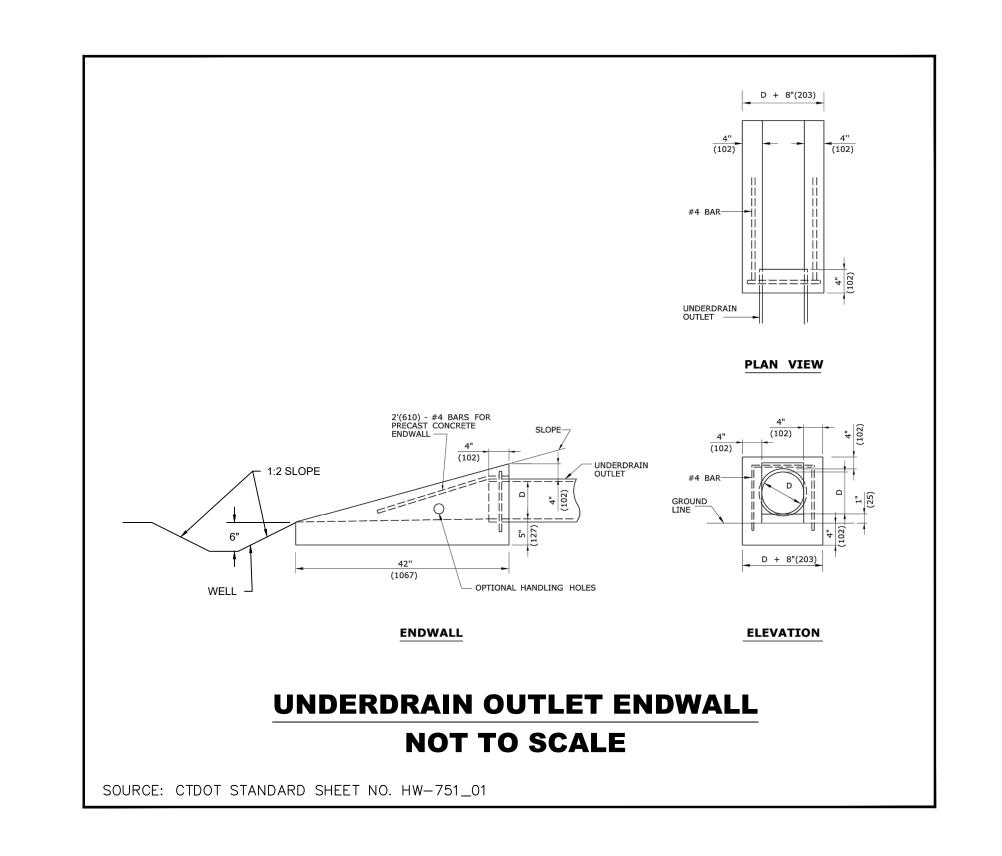


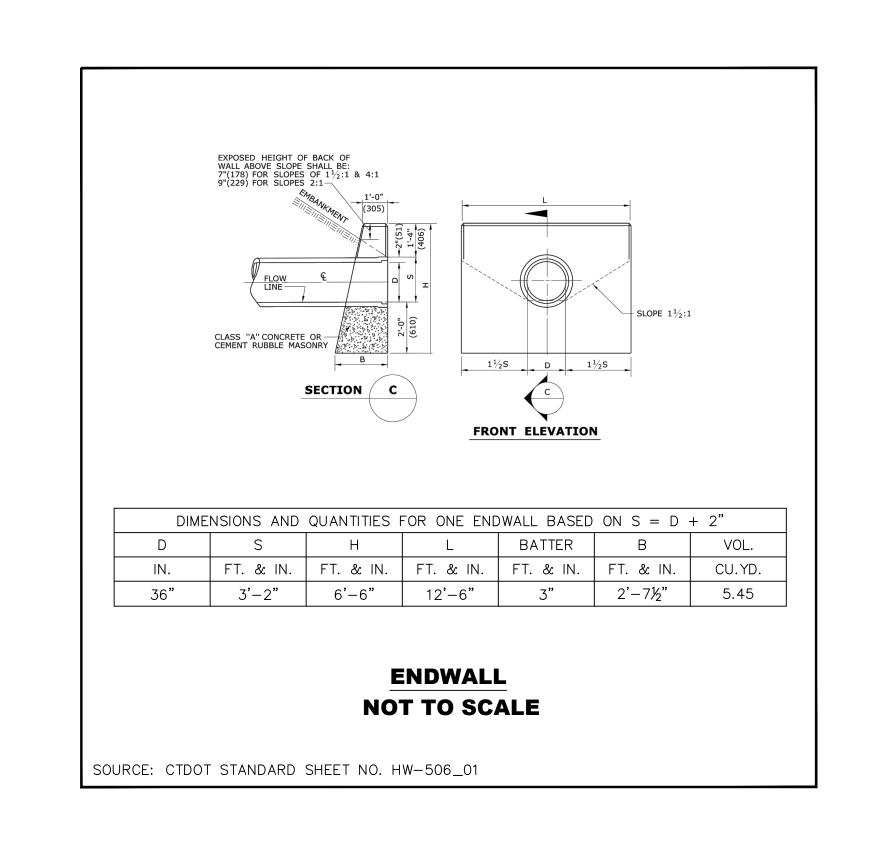
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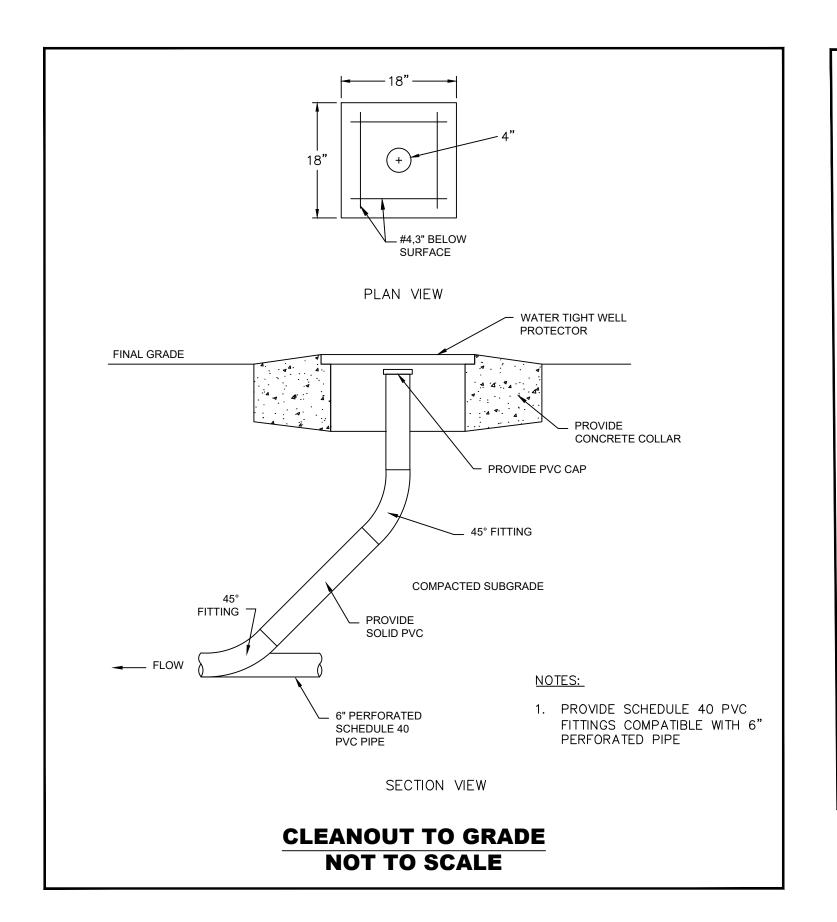


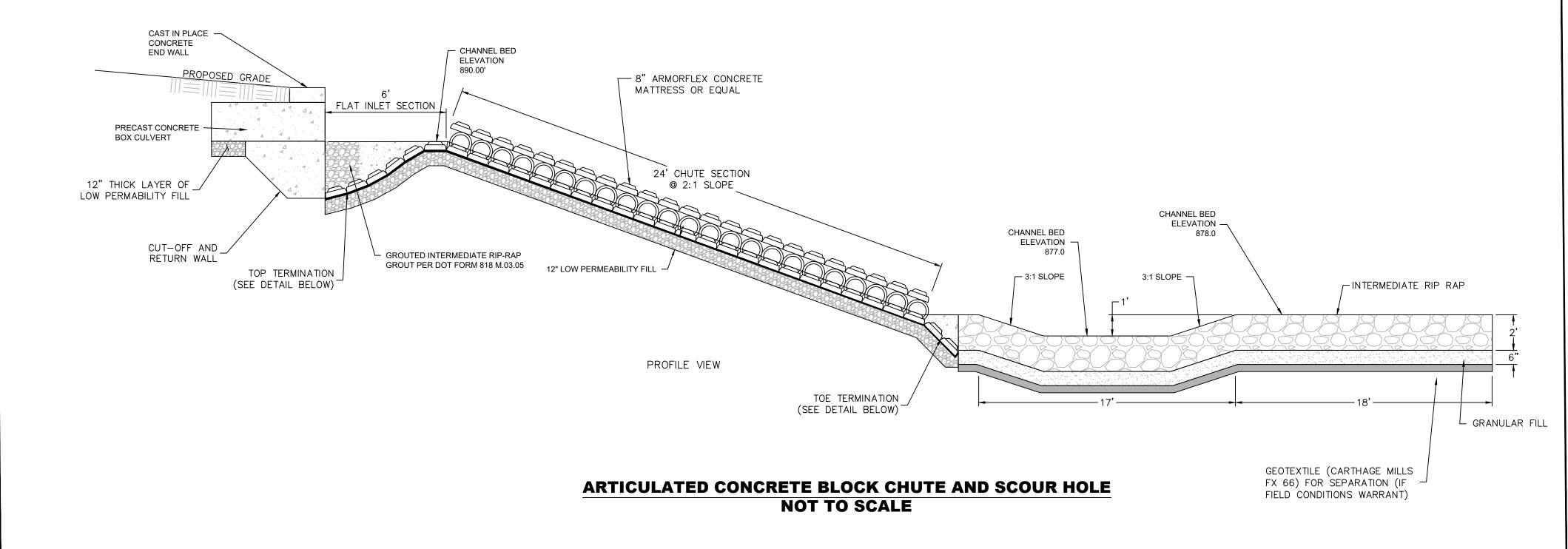
CEDAR LAKE DAM (#16603)
DETAILS

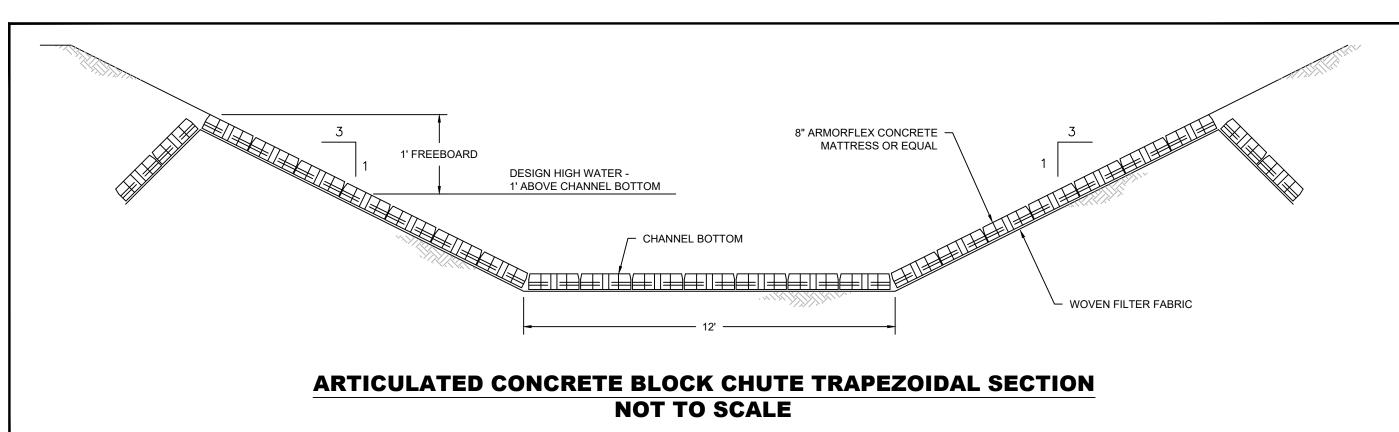
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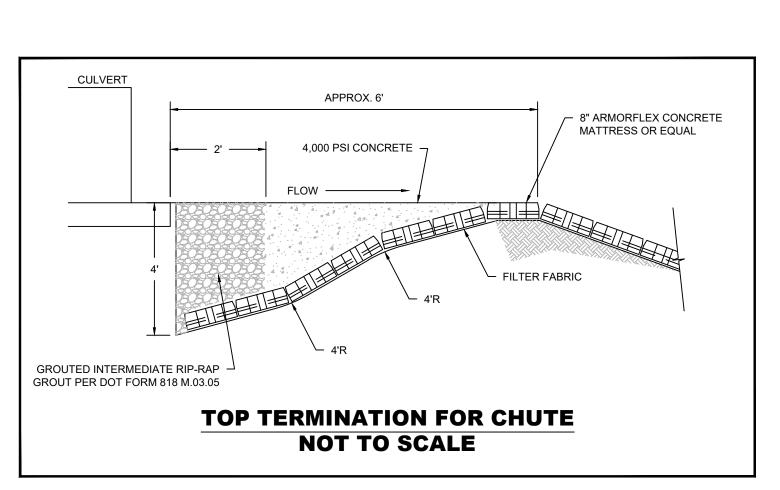
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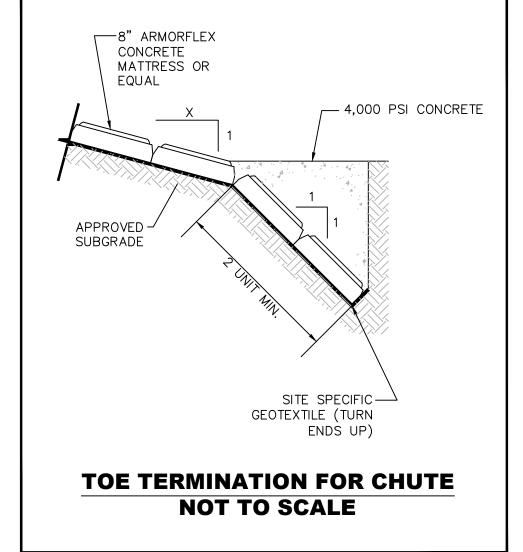
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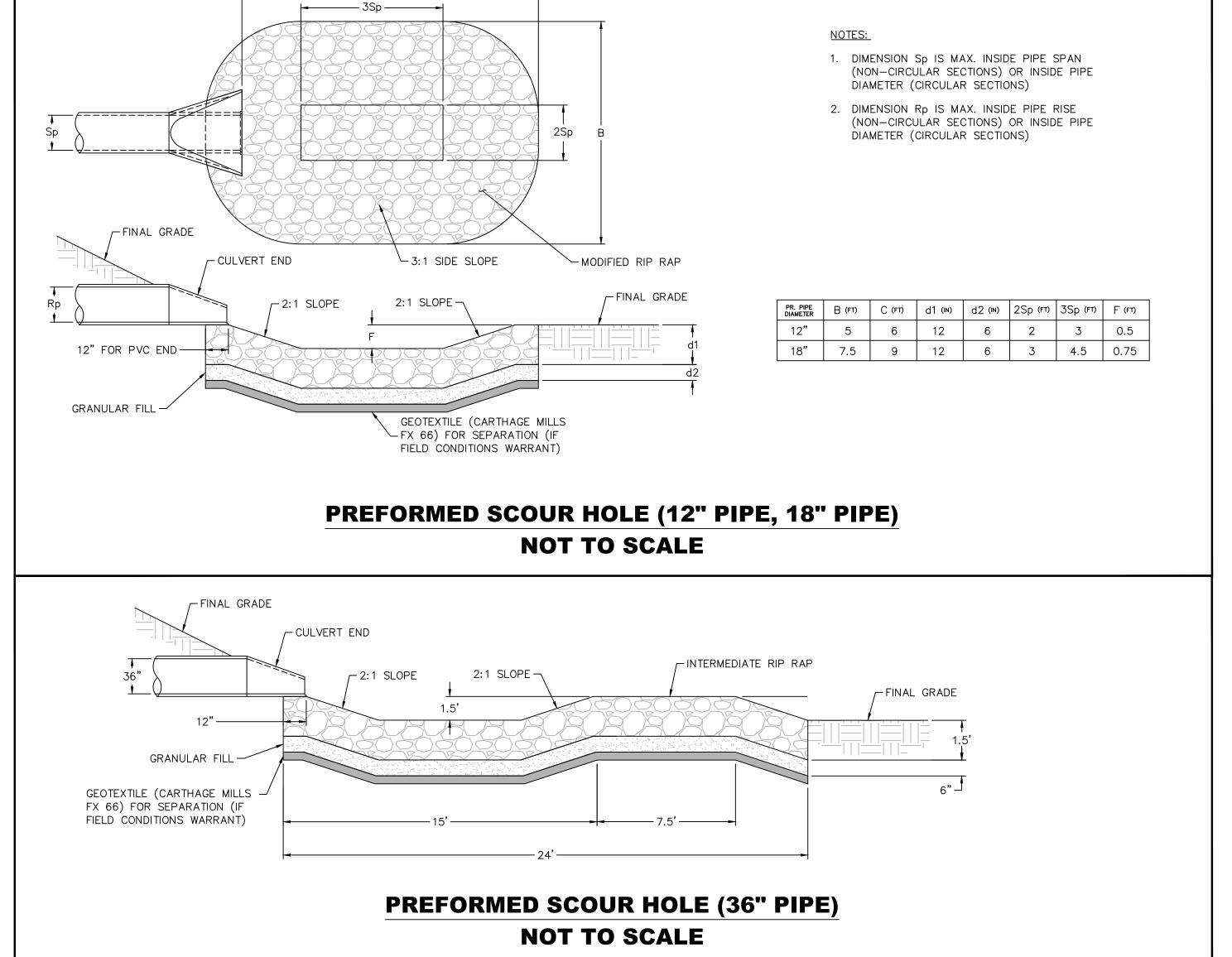












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2 06/08/2021 UPDATED FOR 2021 SUBMISSION
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