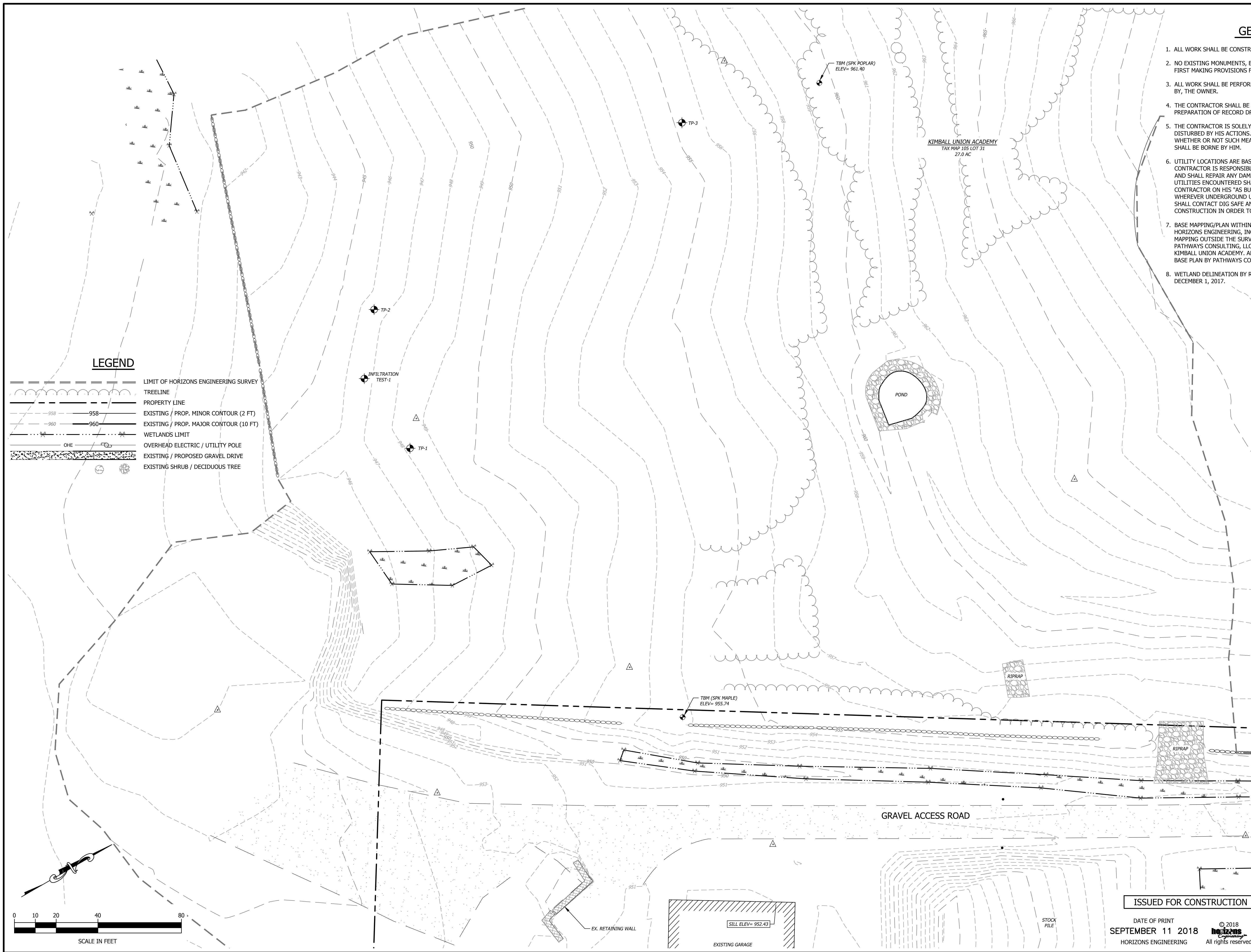


GENERAL NOTES

1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS.
2. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
3. ALL WORK SHALL BE PERFORMED WITHIN THE PROPERTY OF, AND EASEMENTS SECURED BY, THE OWNER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DATA COLLECTION AND PREPARATION OF RECORD DRAWINGS.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY HIM.
6. UTILITY LOCATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION OF EXISTING UTILITIES AND SHALL REPAIR ANY DAMAGE AS QUICKLY AS POSSIBLE AT HIS OWN EXPENSE. ALL UTILITIES ENCOUNTERED SHALL BE LOCATED BY DEPTH AND TIES AND SHOWN BY THE CONTRACTOR ON HIS "AS BUILT" DRAWINGS. HAND EXCAVATION SHALL BE DONE WHEREVER UNDERGROUND UTILITIES ARE SHOWN OR ANTICIPATED. THE CONTRACTOR SHALL CONTACT DIG SAFE AND THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION IN ORDER TO VERIFY EXISTING CONDITIONS AND UTILITY LOCATIONS.
7. BASE MAPPING/PLAN WITHIN THE SURVEY LIMIT BOUNDARY SHOWN WAS PREPARED BY HORIZONS ENGINEERING, INC. BASED ON A SURVEY CONDUCTED JUNE 2017. BASE MAPPING OUTSIDE THE SURVEY LIMIT BOUNDARY IS FROM PLANS PREPARED BY PATHWAYS CONSULTING, LLC., LEBANON, NH AND IS USED WITH PERMISSION FROM KIMBALL UNION ACADEMY. APPROXIMATE PROPERTY LINES DEPICTED AS PROVIDED IN BASE PLAN BY PATHWAYS CONSULTING, LLC.
8. WETLAND DELINEATION BY RAY LOBDELL, CERTIFIED WETLAND SCIENTIST, ON DECEMBER 1, 2017.

LEGEND

- LIMIT OF HORIZONS ENGINEERING SURVEY
- TREELINE
- PROPERTY LINE
- EXISTING / PROP. MINOR CONTOUR (2 FT)
- EXISTING / PROP. MAJOR CONTOUR (10 FT)
- WETLANDS LIMIT
- OVERHEAD ELECTRIC / UTILITY POLE
- EXISTING / PROPOSED GRAVEL DRIVE
- EXISTING SHRUB / DECIDUOUS TREE



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Engineering Inc.

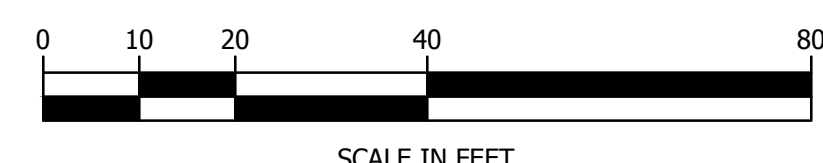
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FACILITIES BUILDING
MERIDEN, NEW HAMPSHIRE

EXISTING CONDITIONS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE:	JUNE 2018	PROJECT #:	17825
ENG'N'D BY:	CEW	DRAWN BY:	CEW
CHECK'D BY:	WTD	ARCHIVE #:	H-___
SHEET 1.01			

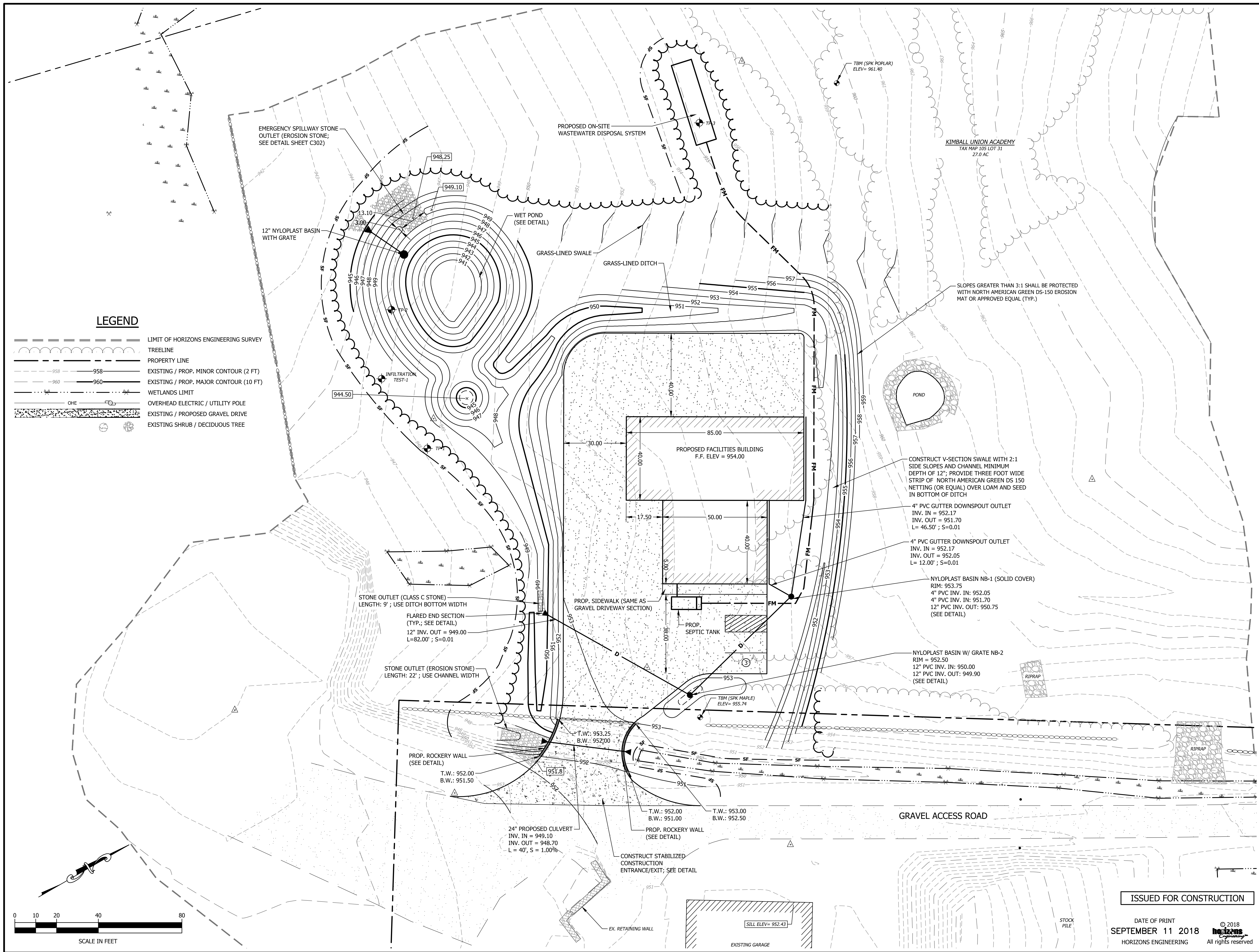


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DATE OF PRINT
SEPTEMBER 11 2018

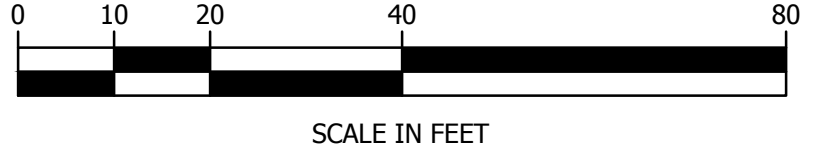
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LEGEND

- LIMIT OF HORIZONS ENGINEERING SURVEY
- TREELINE
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FACILITIES BUILDING
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SITE PLAN LAYOUT & GRADING PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
1	8/16/18	AOT RFMI COMMENT MODIFICATIONS	CEW	CEW

WILLIAM DAVIS
No. 11918
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

DATE: JUNE 2018 PROJECT #: 17825

ENGINEER: CEW DRAWN BY: CEW

CHECK'D BY: WTD ARCHIVE #: H---

ISSUED FOR CONSTRUCTION

DATE OF PRINT: SEPTEMBER 11 2018
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SHEET 2.01

SEEDING RECOMMENDATIONS

- GRADING AND SHAPING**
 - SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME THOROUGHLY INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING VEGETATION**
 - LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ. FT.
 - NITROGEN (N), 50 LBS., PER ACRE OR 1.1 LBS. PER 1,000 SQ. FT.
 - PHOSPHATE (P₂O₅), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
 - POTASH (K₂O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.

(NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10).

- SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

C. SEEDING GUIDE:

USE	SEEDING MIXTURE (SEE 3D)	SOIL TYPE			
		DROUGHTY	WELL DRAINED	MOD. WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	GOOD	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR

D. SEEDING RATES:

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A TALL RESCUE	20	0.45
CREeping RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL:	42	0.95
B TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH OR FLATPEA	15 OR 75	0.35 OR 0.75
TOTAL:	40 OR 55	0.95 OR 1.35
C TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL:	50	1.20

- WHEN SEEDING AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDING AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

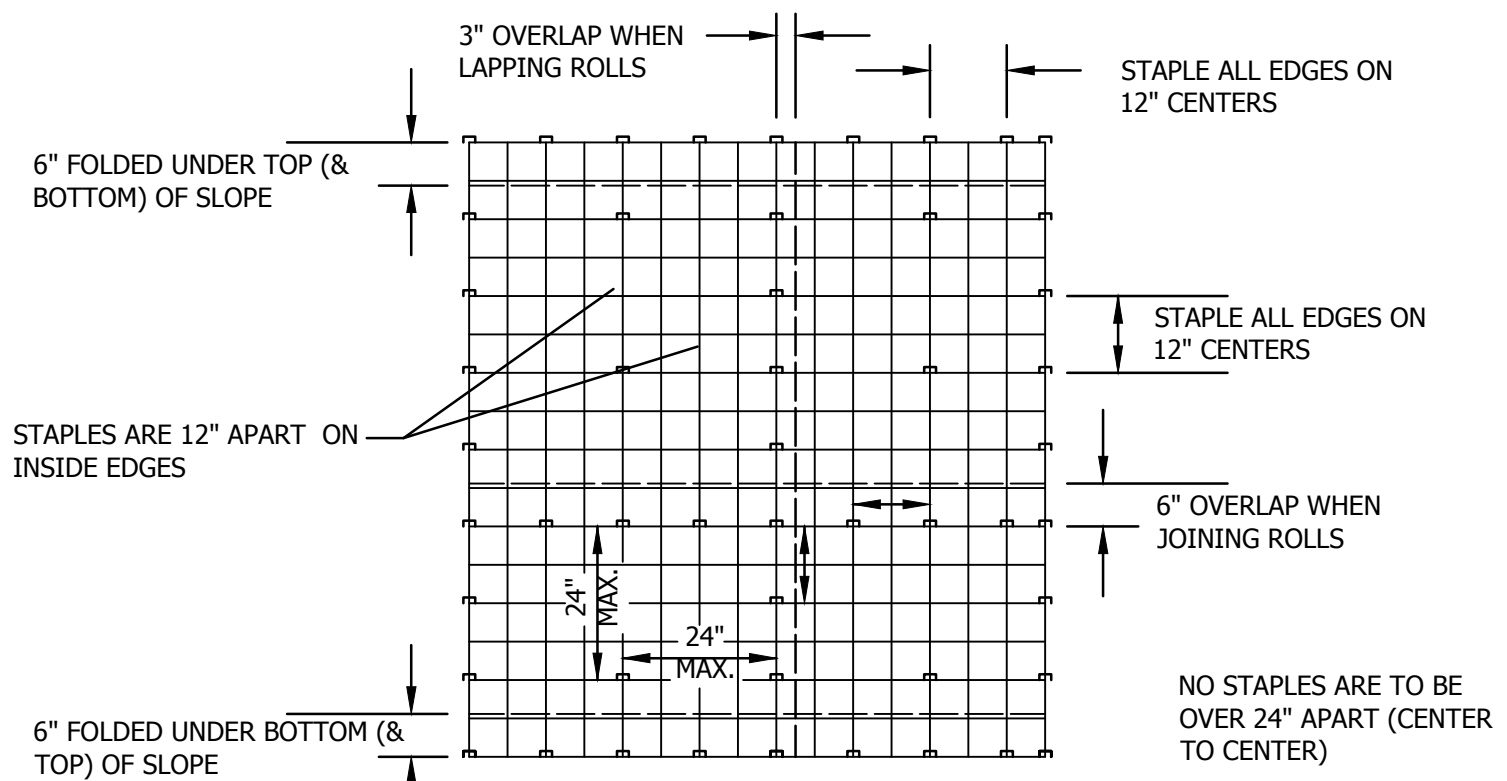
F. TEMPORARY SEEDING RATES:

SPECIES	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.	REMARKS
WINTER RYE	112	2.5	BEST FOR FALL SEEDING. SEED FROM AUGUST TO SEPTEMBER 5TH FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	80	2.0	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15TH FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40	1.0	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. COVER SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30	0.7	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1ST AND JUNE 1ST AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

- MULCH**
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING.

5. MAINTENANCE TO ESTABLISH A STAND

- PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
- FERTILIZATION NEEDS SHOULD BE DETERMINED BY ON SITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
- IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.



MULCH NETTING DETAIL

NO SCALE SOURCE: USDA SOIL CONSERVATION SERVICE

EROSION CONTROL GENERAL NOTES

A. KEEP SITE MODIFICATION TO A MINIMUM

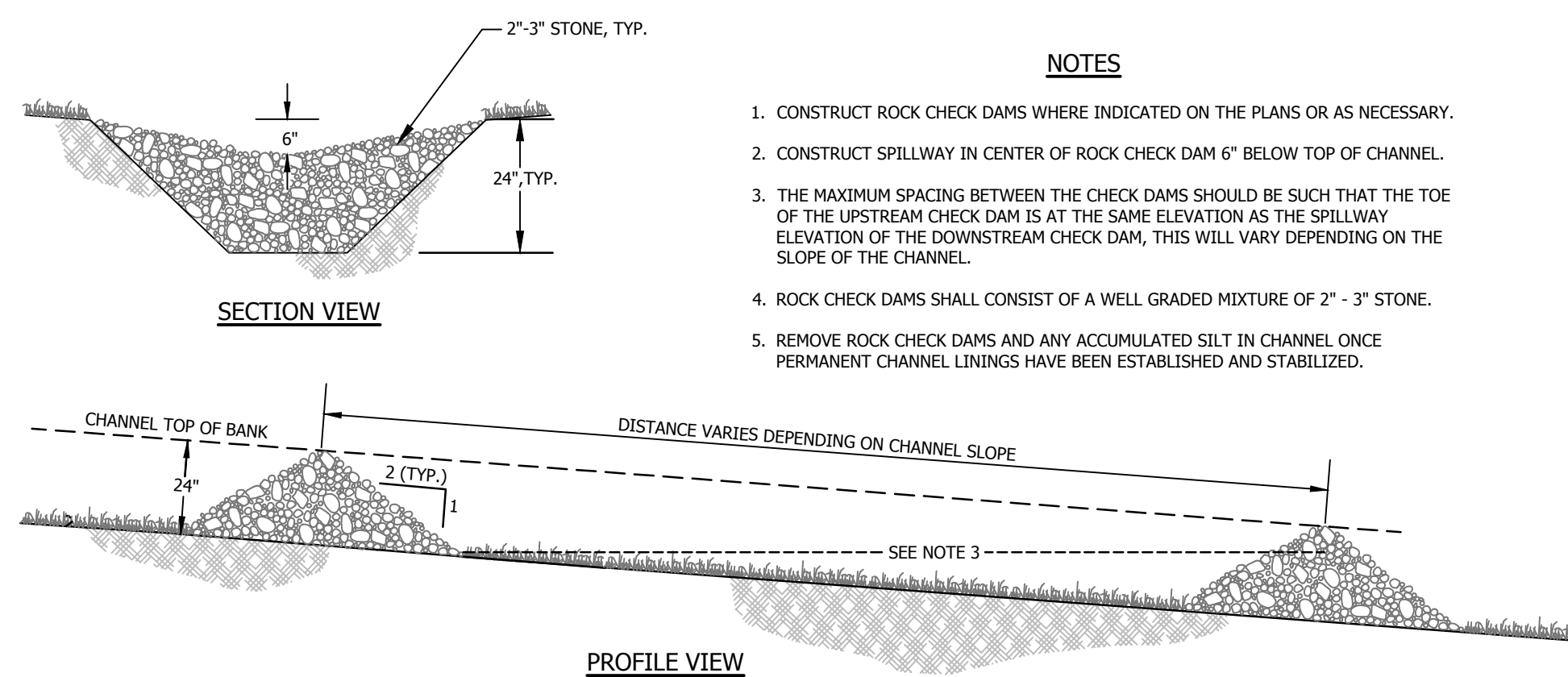
- CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
- EXPOSE AREAS OF BARE SOIL TO EROSION ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
- SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
- LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
- AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.

B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES

- STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
- PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
- USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
- USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
- USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
- PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.

C. PROTECT AREA AFTER CONSTRUCTION

- ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
- MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
- MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
- DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
- IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, GRADED AREAS ARE TO BE STABILIZED WITH NORTH AMERICAN GREEN D5150 MATTING OR EQUAL.

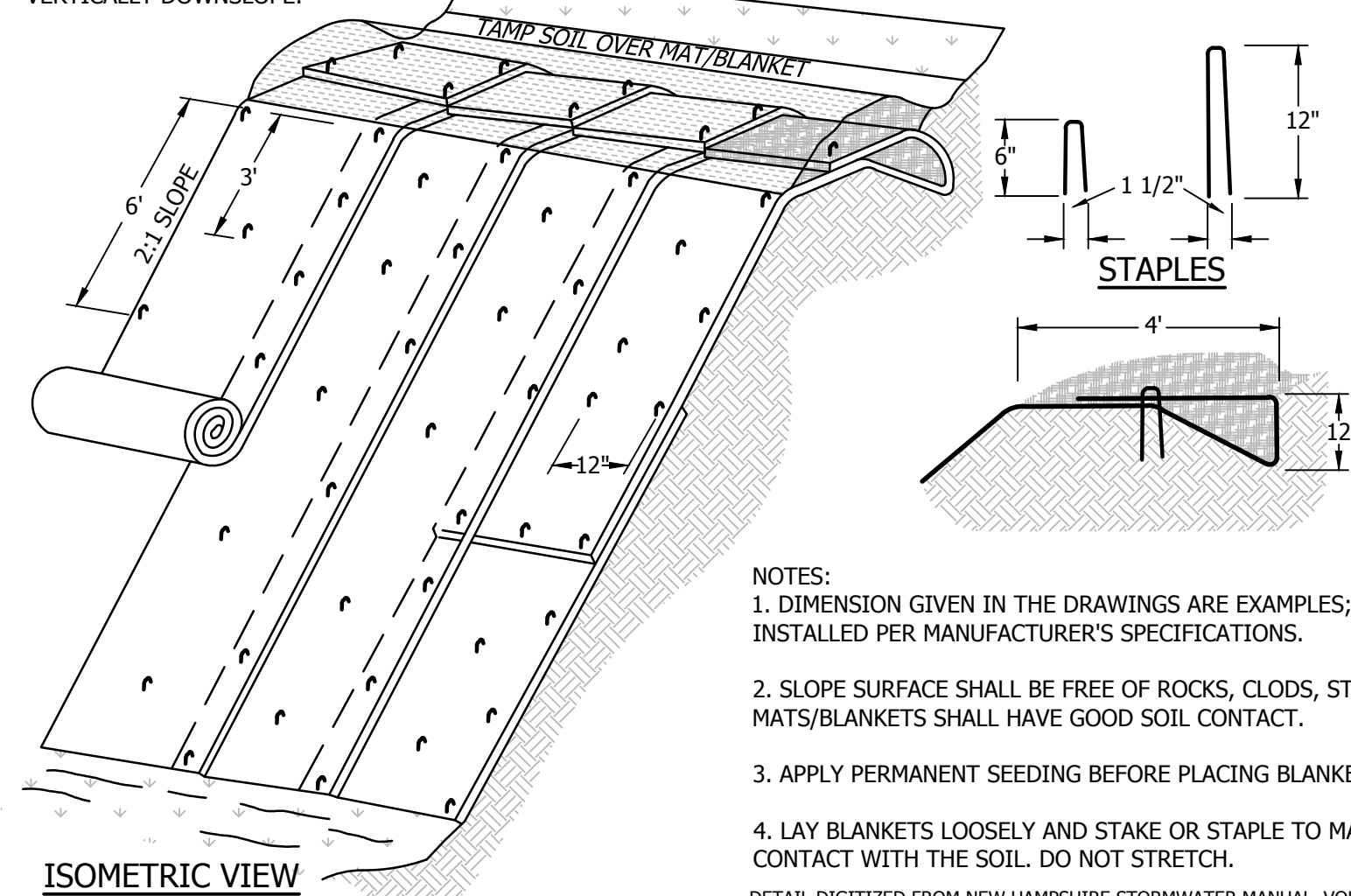


ROCK CHECK DAM DETAIL

NO SCALE

- ### NOTES
- CONSTRUCT ROCK CHECK DAMS WHERE INDICATED ON THE PLANS OR AS NECESSARY.
 - CONSTRUCT SPILLWAY IN CENTER OF ROCK CHECK DAM 6" BELOW TOP OF CHANNEL.
 - THE MAXIMUM SPACING BETWEEN THE CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM CHECK DAM IS AT THE SAME ELEVATION AS THE SPILLWAY ELEVATION OF THE DOWNSTREAM CHECK DAM, THIS WILL VARY DEPENDING ON THE SLOPE OF THE CHANNEL.
 - ROCK CHECK DAMS SHALL CONSIST OF A WELL GRADED MIXTURE OF 2" - 3" STONE.
 - REMOVE ROCK CHECK DAMS AND ANY ACCUMULATED SILT IN CHANNEL ONCE PERMANENT CHANNEL LININGS HAVE BEEN ESTABLISHED AND STABILIZED.

BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.



EROSION CONTROL BLANKET INSTALLATION DETAIL

NOT TO SCALE

EROSION CONTROL BLANKET SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS

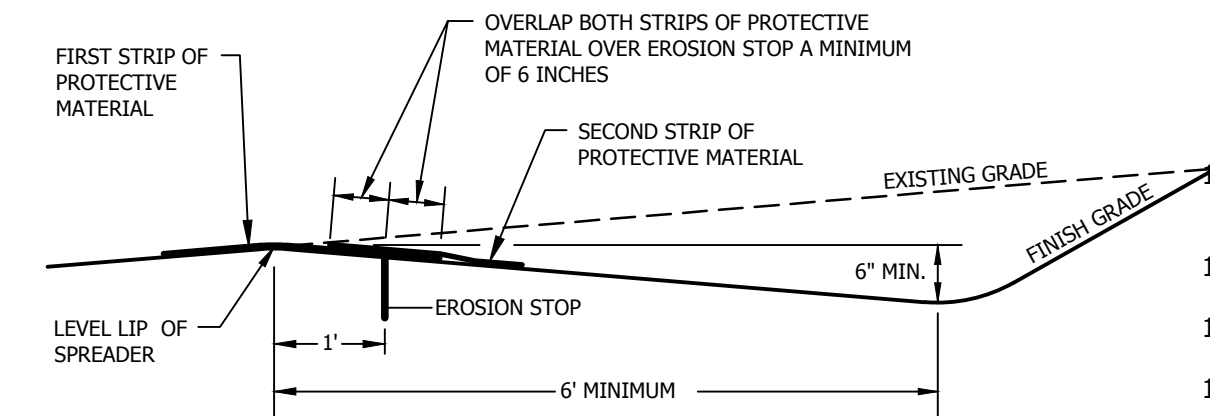
COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:

- THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE, SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER NOVEMBER 30, SHALL BE SEED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
- ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
- AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REQUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM NO. 304.1 OR 304.2.

LEVEL LIP SPREADER INSTALLATION

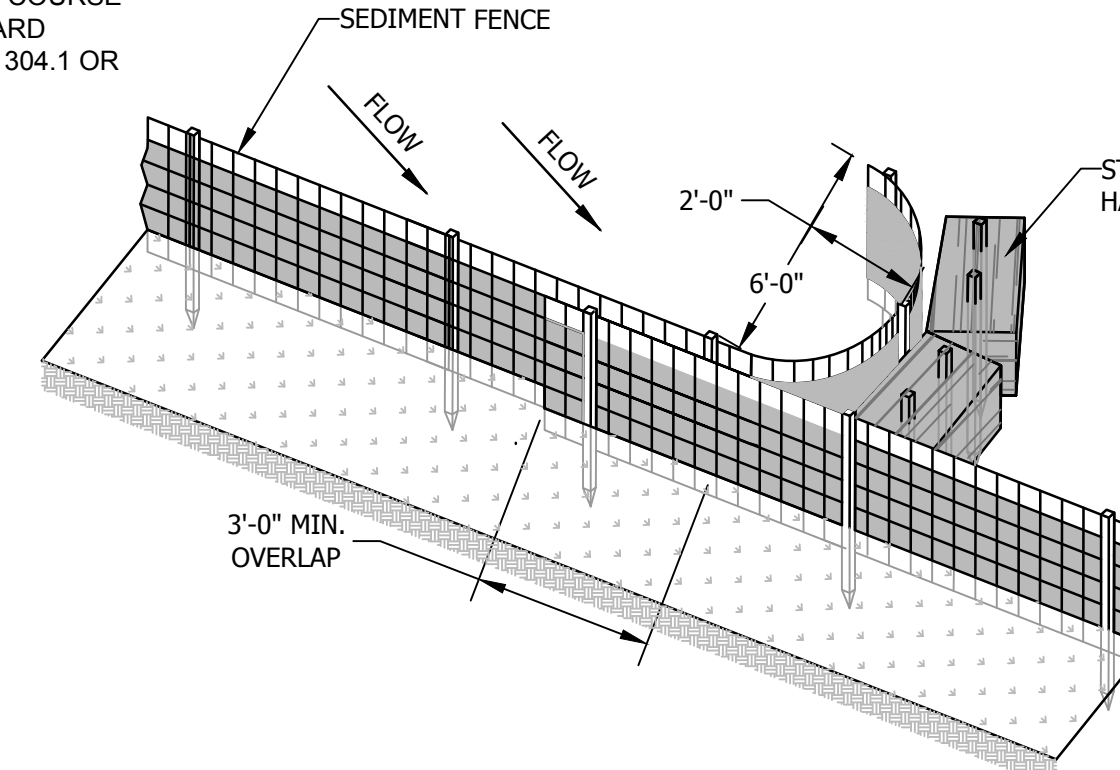
- CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
- LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
- AN EROSION STOP SHALL BE PLACED VERTICALLY A MINIMUM OF SIX INCHES DEEP IN A SLIT TRENCH ONE FOOT BACK OF THE LEVEL LIP AND PARALLEL TO THE LIP. THE EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP.
- THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING TWO STRIPS OF JUTE OR EXCELSTOR MATTING ALONG THE LIP. EACH STRIP SHALL OVERLAP THE EROSION STOP BY AT LEAST SIX INCHES.
- THE ENTRANCE CHANNEL TO THE LEVEL SPREADER SHALL NOT EXCEED A 1 PERCENT GRADE FOR AT LEAST 50 FEET BEFORE ENTERING INTO THE SPREADER.
- THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.
- PROTECTIVE MATERIAL AND EROSION STOP SHALL BE NORTH AMERICAN GREEN C125 EROSION CONTROL BLANKET OR APPROVED EQUAL.



LEVEL SPREADER DETAIL

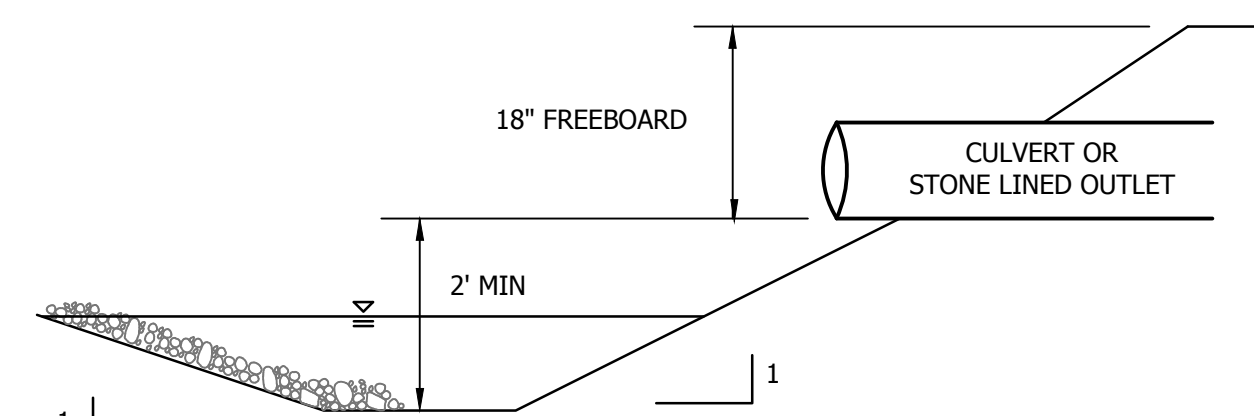
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SOURCE: ROCKINGHAM COUNTY CONSERVATION SERVICE



SEDIMENT FENCE POCKET

NO SCALE



TEMPORARY SEDIMENTATION BASIN DETAIL

NO SCALE

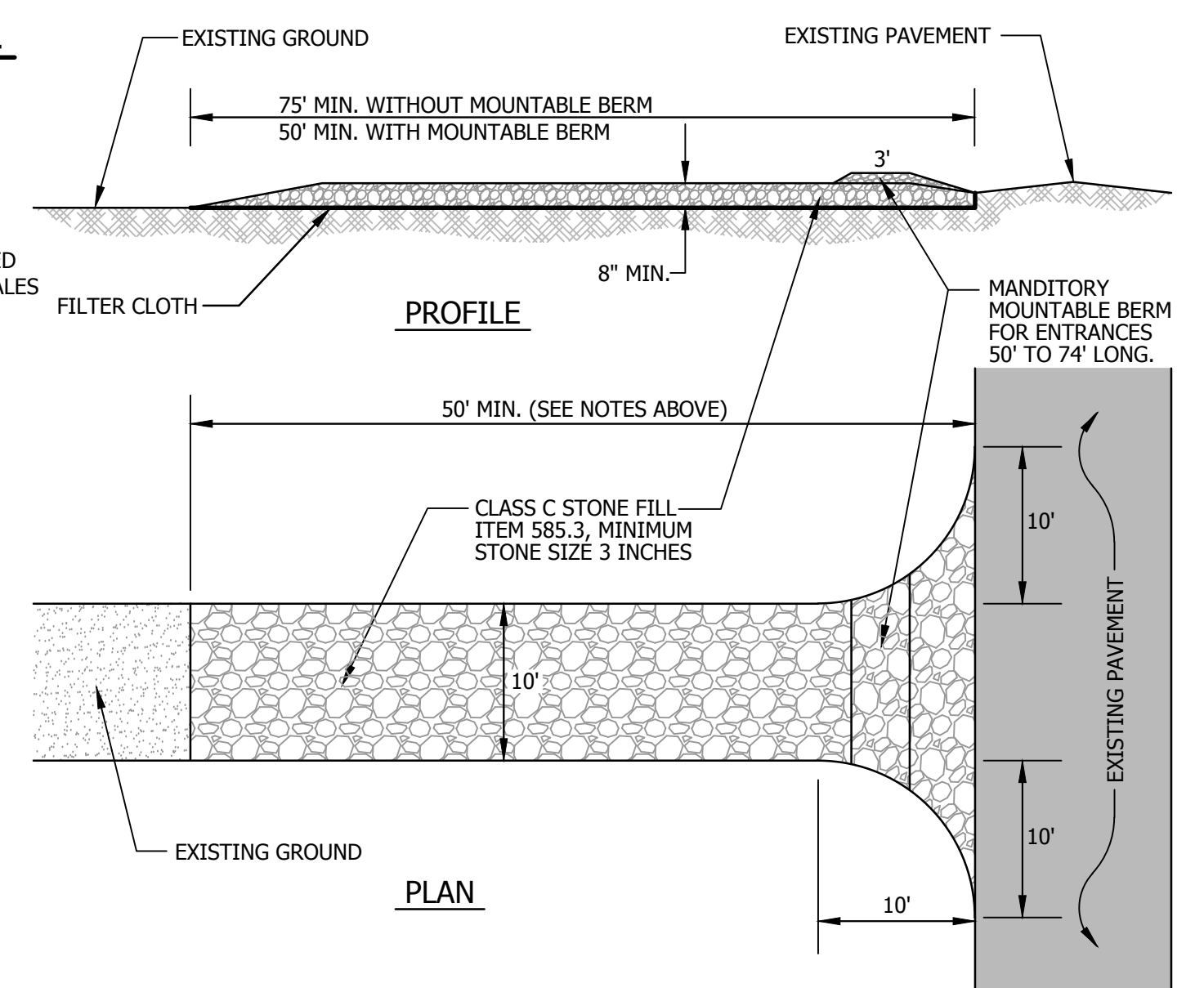
CONSTRUCTION NOTES FOR SEDIMENT FENCE

- WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE SEDIMENT FENCE, OR 50% OF CAPACITY IS USED.
- FILTREXX SILTSQXX SHALL BE CONSIDERED AN ACCEPTABLE EQUAL TO SEDIMENT FENCE IF INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

SEDIMENT FENCE

NO SCALE

ISSUED FOR CONSTRUCTION



STABILIZED CONSTRUCTION ENTRANCE

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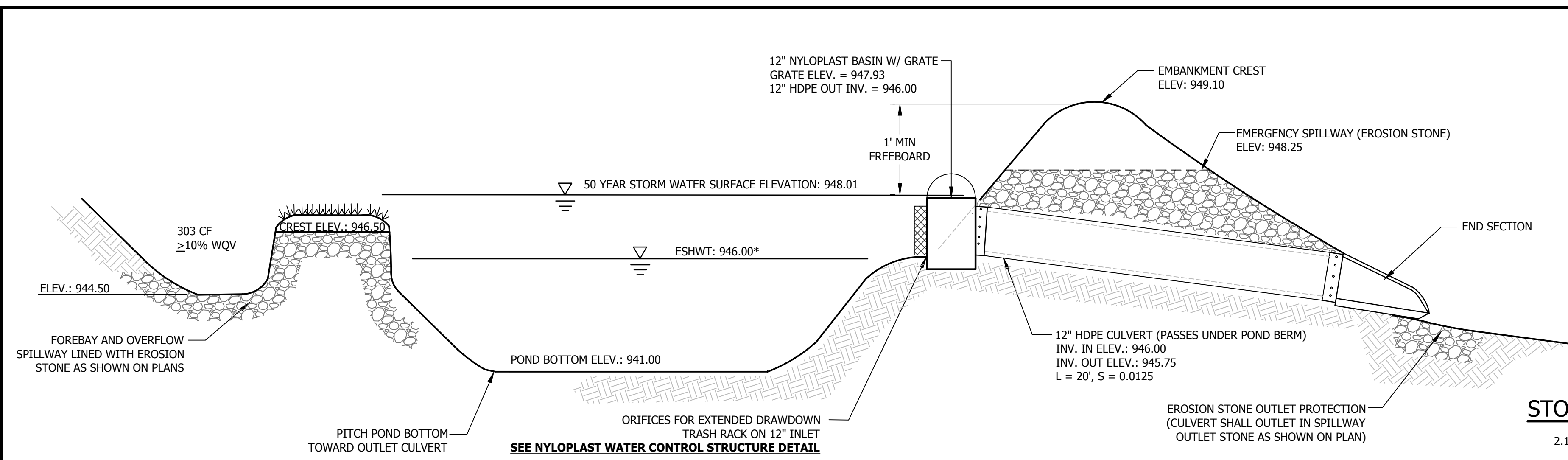
KIMBALL UNION ACADEMY
 FACILITIES BUILDING
 MERIDEN, NEW HAMPSHIRE
 EROSION CONTROL NOTES & DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
1	8/16/18	AOT RFMI COMMENT MODIFICATIONS	CEW	CEW

DATE: JUNE 2018 PROJECT #: 17825
 ENGINE'D BY: CEW DRAWN BY: CEW
 CHECK'D BY: WTD ARCHIVE #: H-
 SHEET C3.01

DATE OF PRINT: SEPTEMBER 11 2018
 HORIZONS ENGINEERING

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SEE NYLOPLAST WATER CONTROL STRUCTURE DETAIL

* ESHWT WAS DETERMINED FOR THE PROPOSED WET POND USING THE DEPTH TO ESHWT OF 24" AT TEST PIT #1. THE BOTTOM OF THE WET POND FOLLOWS THE EXISTING 948.00 CONTOUR. THEREFORE, ESHWT FOR THE WET POND IS 946.00.

WET POND

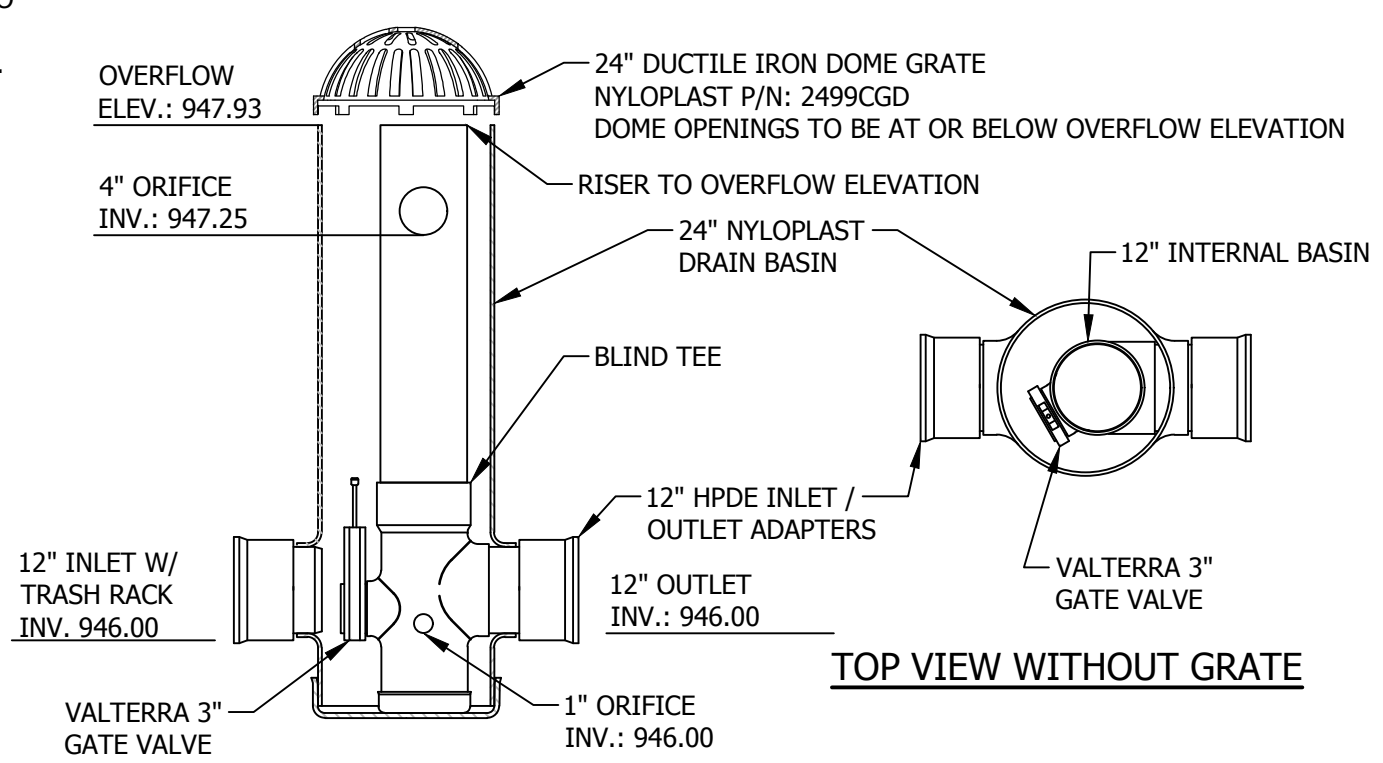
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MICROPOOL EXTENDED DETENTION POND SEEDING RATES:

SPECIES	TOTAL IN %	POUNDS PER ACRE
OBL BAILEYS SEDGE	10%	5
TUSSOCK SEDGE	10%	5
BLUEFLAG IRIS	10%	2.5
CANADA RUSH	5%	2.5
PICKERAL WEED	2 LBS	1
FACW WOOL GRASS	10%	5
FAC OHIO SPIDER WORT	5%	4
CONSERVATION MIX	50%	25
		50

* SEEDING MIX AVAILABLE FROM "ERNST SEEDS", MEADVILLE, PA, 800-873-3321 OR EQUAL

NOTE: SEE LANDSCAPING PLAN FOR PROPOSED PLANTINGS



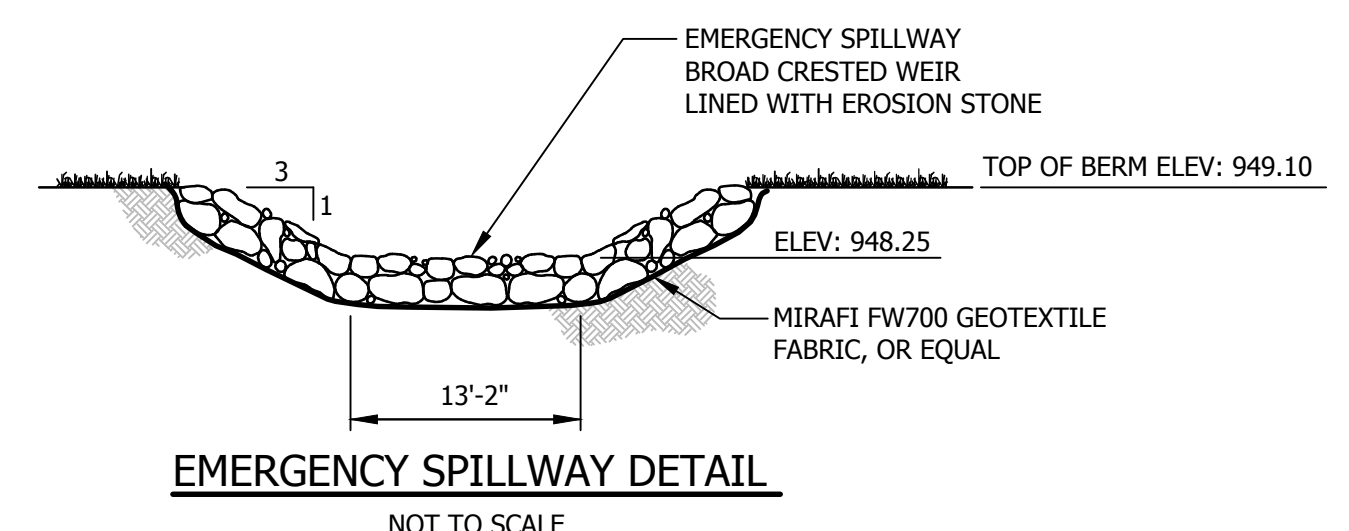
TOP VIEW WITHOUT GRATE

- REMOVABLE STAND PIPE AND OUTLET SIZE ARE RESTRICTED BY FLOW CONTROL STRUCTURE SIZE.
- FLOW CONTROL STRUCTURE TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
- ORIFICES TO BE CORED BY NYLOPLAST, BASED ON SHOP DRAWINGS PROVIDED BY THE CONTRACTOR
- TRASH RACK ON 12" INLET TO BE FABRICATED BY NYLOPLAST. MAXIMUM HOLE SIZE = 0.75 INCH. MINIMUM TOTAL OPENING AREA = 26.5 INCH².

NOTE: DETAIL MODIFIED FROM NYLOPLAST DWG NUMBER 7008-110-008, AND IS COPYRIGHTED BY NYLOPLAST, 3130 VERONA LANE, BUFORD, GA 30518; (770) 932-2443.

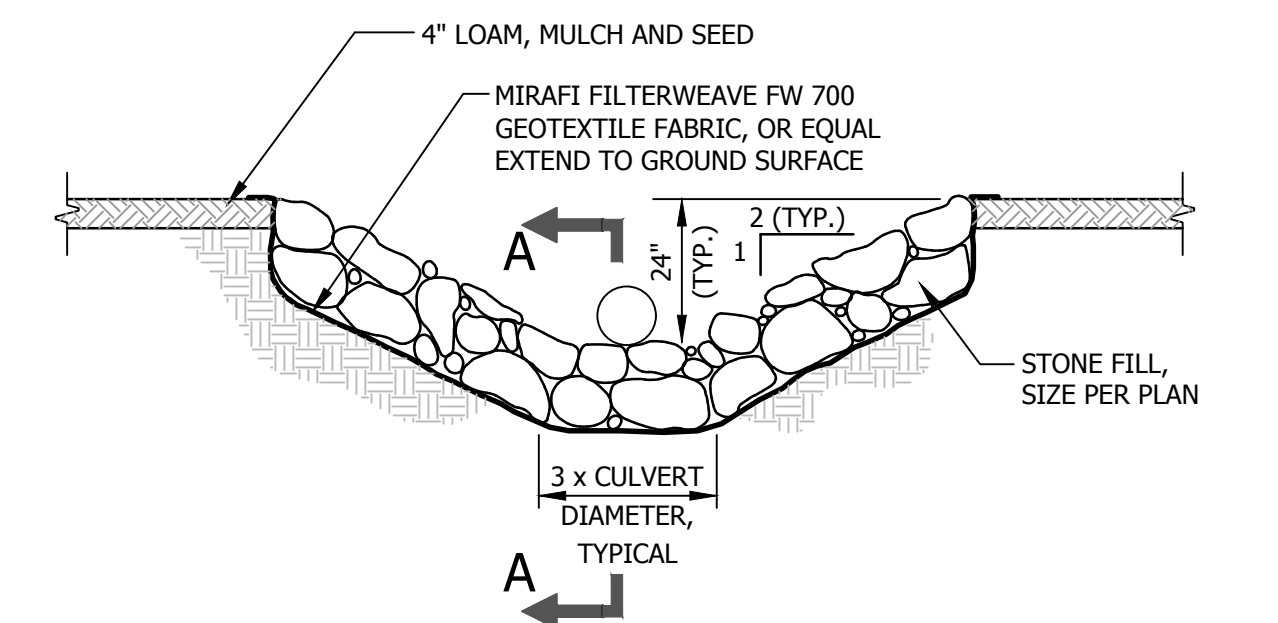
NYLOPLAST WATER CONTROL STRUCTURE

NOT TO SCALE



EMERGENCY SPILLWAY DETAIL

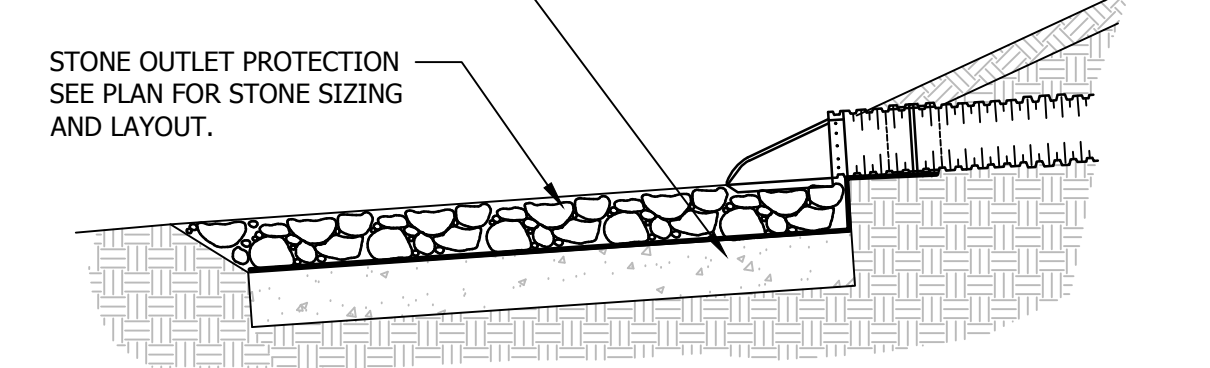
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SECTION A-A

STONE LINED OUTLET DETAIL

NOT TO SCALE



GRASS LINED DITCH DETAIL

NOT TO SCALE

STONE SPECIFICATIONS

2.1 MATERIALS - STONE FILL

A. MATERIALS SHALL MEET THE REQUIREMENTS OF SECTION 585, STONE FILL, NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (NHS) FOR THE APPROPRIATE ITEM AS INDICATED ON THE DRAWINGS.

B. STONE FOR STONE FILL SHALL BE APPROVED QUARRY STONE, OR BROKEN ROCK OF A HARD, SOUND, AND DURABLE QUALITY. THE STONES AND SPALLS SHALL BE SO GRADED AS TO PRODUCE A DENSE FILL WITH A MINIMUM OF VOIDS.

1. **CLASS A STONE** SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 12 CUBIC FEET, APPROXIMATELY 30% OF THE MASS RANGING BETWEEN 3 AND 12 CUBIC FEET, APPROXIMATELY 10% OF THE MASS RANGING BETWEEN 1 AND 3 CUBIC FEET, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.

2. **CLASS B STONE** SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 3 CUBIC FEET, APPROXIMATELY 40% OF THE MASS RANGING BETWEEN 1 AND 3 CUBIC FEET, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.

3. **CLASS C STONE** SHALL CONSIST OF CLEAN, DURABLE FRAGMENTS OF LEDGE ROCK, OF UNIFORM QUALITY, REASONABLY FREE FROM THIN OR ELONGATED PIECES. THE STONE SHALL BE MADE FROM ROCK WHICH IS FREE FROM TOPSOIL AND OTHER ORGANIC MATERIAL. THE STONE SHALL BE GRADED AS FOLLOWS:

SIEVE SIZE	PERCENTAGE PASSING BY WEIGHT
12 INCH	100
4 INCH	50-90
1-1/2 INCH	0-30
3/4 INCH	0-10

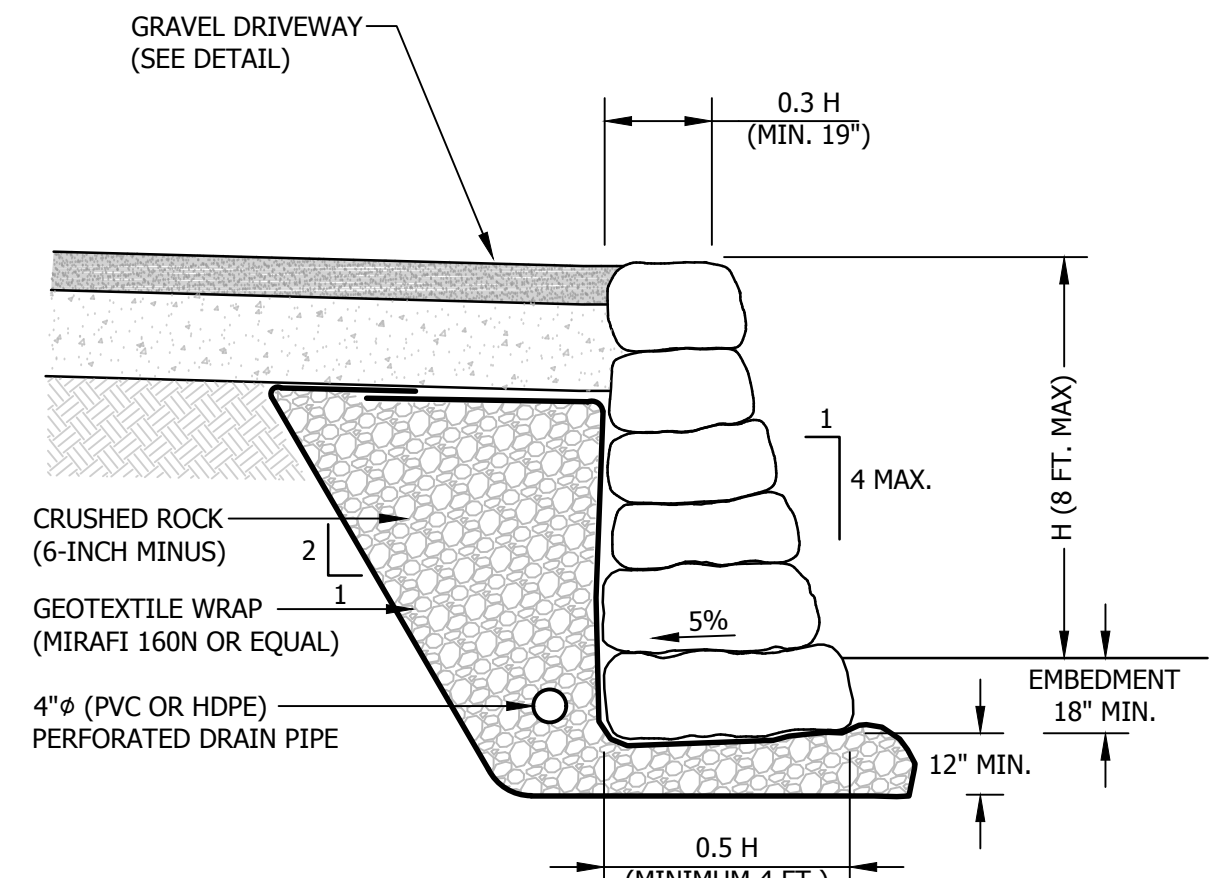
4. **CLASS D STONE** SHALL CONSIST OF CRUSHED STONE, GRAVEL, OR OTHER APPROVED INERT MATERIALS WITH SIMILAR CHARACTERISTICS OR COMBINATIONS THEREOF, HAVING HARD, STRONG, DURABLE PARTICLES, FREE FROM SURFACE COATING AND INJURIOUS AMOUNTS OF SOFT, FRIABLE, OR LAMINATED PIECES, AND FREE OF ALKALINE, ORGANIC, OR OTHER HARMFUL MATTER. THE STONE SHALL BE STANDARD STONE SIZE 467 (NO. 4 TO 1-1/2").

5. **EROSION STONE** SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM DIMENSION BETWEEN 6-INCHES AND 8-INCHES, APPROXIMATELY 40% OF THE MASS HAVING A MINIMUM DIMENSION BETWEEN 2-INCHES AND 6-INCHES AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.

6. **SPALLS** FOR FILLING VOIDS SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 95 TO 100% PASSING THE 3-INCH SIEVE AND 25 TO 70% PASSING THE NO. 4 SIEVE.

C. MINIMUM DEPTH OF STONE LAYER SHALL CONFORM TO THE FOLLOWING

STONE SIZE CLASS	MIN. DEPTH
EROSION STONE	12"
CLASS C	12"
CLASS B	18"
CLASS A	30"



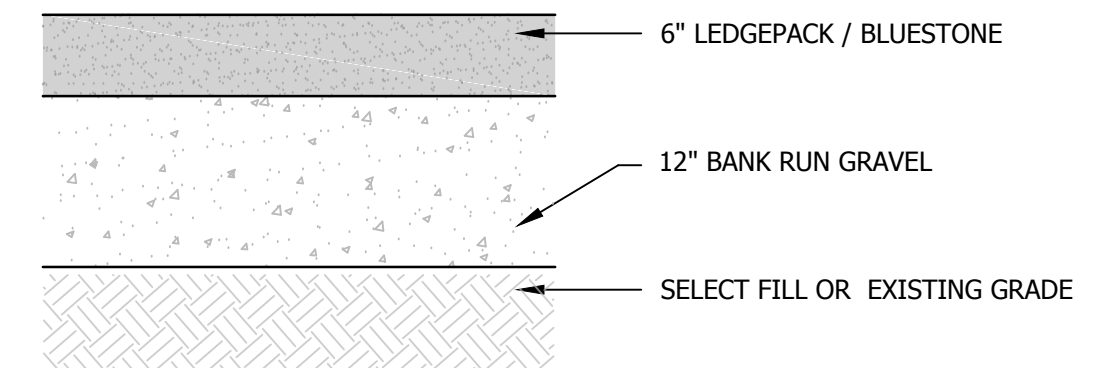
ROCKERY WALL DETAIL

NOT TO SCALE

ROCKERY WALL NOTES

- THE WALL DETAILS DEPICTED ON THESE PLANS ARE CONCEPTUAL. SITE SPECIFIC DESIGN SHOULD BE COMPLETED BY A GEOTECHNICAL ENGINEER BASED ON SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS AT THE WALL LOCATIONS.
- WALL CONSTRUCTION AND INSPECTION SHOULD BE COMPLETED IN ACCORDANCE WITH ROCKERY DESIGN AND CONSTRUCTION GUIDELINES, FHWA-CH7D-06-006, NOVEMBER 2006.
- EXCAVATIONS SHALL BE EXTENDED TO AT LEAST 2.5 FEET BELOW FINISH GRADE TO ALLOW FOR WALL EMBEDMENT AND LEVELING COURSE. THE BASE OF THE EXCAVATION SHALL BE INCLINED BACK AWAY FROM THE FACE OF THE ROCKERY, AT 5 PERCENT.
- ROCKS SHOULD BE PLACED IN ROWS SUCH THAT BASE ROCKS CONSIST OF LARGEST DIAMETER AND WEIGHT ROCKS AND EACH SUCCEEDING ROW CONSISTS OF SMALLER DIAMETER ROCKS. BASE ROCKS SHALL BE EQUAL TO ABOUT 1/2 THE WALL HEIGHT AND NOT LESS THAN 4 FEET IN DIAMETER. CAP ROCKS SHALL BE EQUAL TO ABOUT 1/3 THE WALL HEIGHT AND NOT LESS THAN 19 INCHES IN DIAMETER.
- ROCKS SHALL BE HARD, ANGULAR AND DURABLE. THEY MUST BE ABLE TO RESIST PHYSICAL, CLIMATIC, AND CHEMICAL DECOMPOSITION. ROCKS SHOULD BE ROUGHLY RECTANGULAR, TABULAR OR CUBIC IN SHAPE. ROUNDED COBBLES OR BOULDERS MUST NOT BE USED.
- ROCKS SHOULD BE PLACED WITH LONGEST DIMENSION PERPENDICULAR TO ROCKERY FACE. THE ROCKS SHOULD BE PLACED SUCH THAT THEY SLOPE DOWNWARD AT LEAST 5 PERCENT TOWARDS THE BACK OF THE ROCKERY.
- THE ROCKERY FACE BATTER SHOULD BE 4V-1H OR FLATTER.
 - EACH ROCK SHOULD BEAR ON AT LEAST TWO OTHER ROCKS.
 - EACH ROCK SHOULD HAVE AT LEAST THREE BEARING POINTS - TWO IN FRONT AND ONE IN BACK.
 - THE FRONT-MOST BEARING POINTS FOR EACH ROCK SHOULD BE WITHIN 150MM (6IN) OF THE AVERAGE FACE OF THE ROCKERY.
 - THE REAR OF THE ROCKS SHOULD BE ALIGNED ALONG AN IMAGINARY VERTICAL PLANE. IF ROCKS LARGER THAN THE MINIMUM SPECIFIED BASE WIDTH (B) ARE USED, THEY CAN EXTEND BEYOND THIS IMAGINARY PLANE PROVIDED THEY DO NOT INTERFERE WITH ROCKERY DRAINAGE OR REINFORCED ZONE.
- THERE SHOULD BE NO VERTICAL COLUMNS OF ROCK OR CONTINUOUS VERTICAL JOINTS BETWEEN MULTIPLE ROWS OF ROCKS.
- ROCK WIDTH SHALL BE LARGE ENOUGH TO EXTEND FROM THE FRONT FACE TO THE BACK OF THE ROCKERY AT EACH LEVEL.
- PLACE BASE, FACING AND CAP ROCKS SO THAT THEIR HEIGHT DIMENSION IS NOT GREATER THAN THEIR WIDTH. THE LONGEST DIMENSION OF THE BASE, FACING, AND CAP ROCKS IS PERPENDICULAR TO FACE OF ROCKERY.
- VOIDS BETWEEN ROCKS SHOULD BE AVOIDED AS MUCH AS POSSIBLE. HOWEVER, IN AREAS WHERE VOIDS EXIST, THE VOIDS SHALL BE CHINKED. CHINK ROCKS SHOULD CONSIST OF SPALLS FROM THE PARENT (FACING) ROCK. CHINK ROCKS SHOULD NOT BE MOVABLE BY HAND AND SHOULD BE GROUTED IN PLACE WHERE APPROPRIATE. CHINKING ROCKS SHOULD NOT BE USED AS A MEANS OF SUPPORT FOR OVERLYING FACING ROCKS.
- CAP ROCKS ARE THE TOP ROW OF FACING ROCKS FOR ROCKERIES. CAP ROCKS ARE TYPICALLY SMALLER AND FLATTER THAN THE OTHER FACING ROCKS USED IN THE ROCKERY. CAP ROCKS SHALL HAVE A WEIGHT OF AT LEAST 200 POUNDS. CAP ROCKS SHOULD NOT BE MOVABLE BY HAND. REGARDLESS OF SIZE, CAP ROCKS SHALL BE GROUTED IN PLACE TO REDUCE THE POTENTIAL FOR DISLODGING.
- CRUSHED ROCK SHOULD CONSIST OF CRUSHED, WASHED, HARD, DURABLE ROCK MEETING THE FOLLOWING GRADATION REQUIREMENTS:

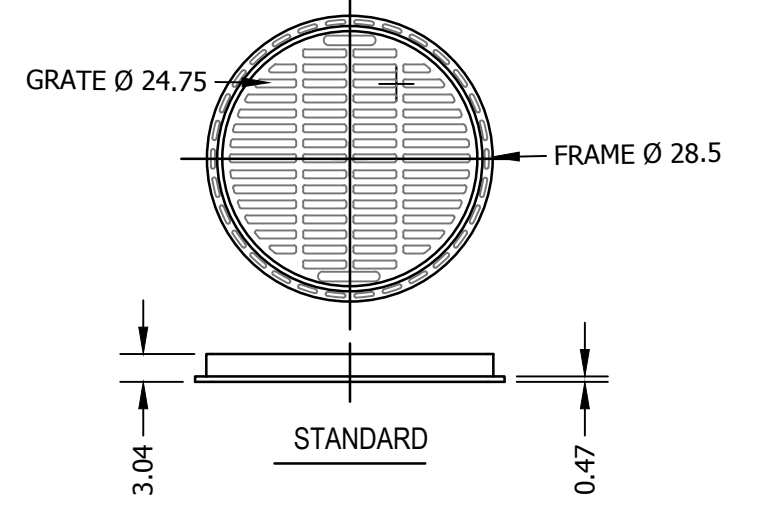
SIEVE SIZE	CRUSHED ROCK PERCENT FINER BY WEIGHT
150MM (6IN)	100
100MM (4 IN)	0.0 - 25
19.0MM (3/4 IN)	0.0 - 15
4.75MM (NO. 4)	0.0 - 5.0
75MM (NO. 200)	0.0 - 2.0
- WHERE LOOSE, SOFT, OR OTHERWISE UNSUITABLE FOUNDATION SOIL CONDITIONS ARE ENCOUNTERED, CONTACT THE ENGINEER FOR SUPPLEMENTAL RECOMMENDATIONS.
- DISCHARGE OUTLET PIPES TO A PROTECTED OUTLET OR OTHER PERMANENT DRAINAGE STRUCTURE AT LOW POINTS IN THE ROCKERY. DRAIN OUTLETS SHOULD NOT EMPTY INTO STORM DRAINS THAT ARE DESIGNED TO BACK-UP DURING HEAVY FLOWS.
- STABILITY OF TEMPORARY CUT SLOPES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- DO NOT CONSTRUCT ROCKERIES OR SLOPES EXCEEDING THE HEIGHTS SHOWN ON THE PLAN.



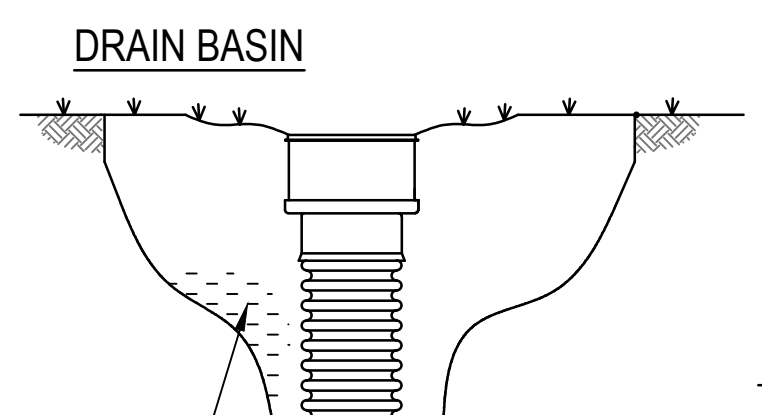
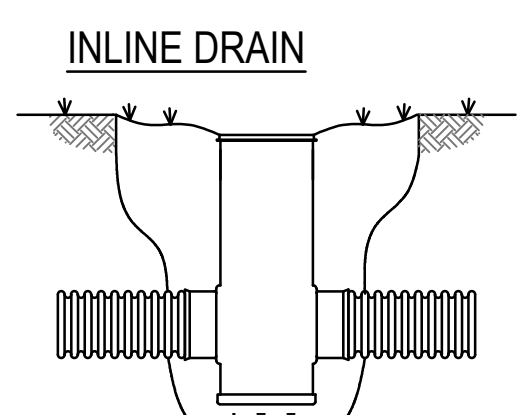
TYPICAL GRAVEL DRIVEWAY SECTION

NOT TO SCALE

QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 MATERIAL: DUCTILE IRON FRAME & GRATE PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 LOCKING DEVICE AVAILABLE UPON REQUEST

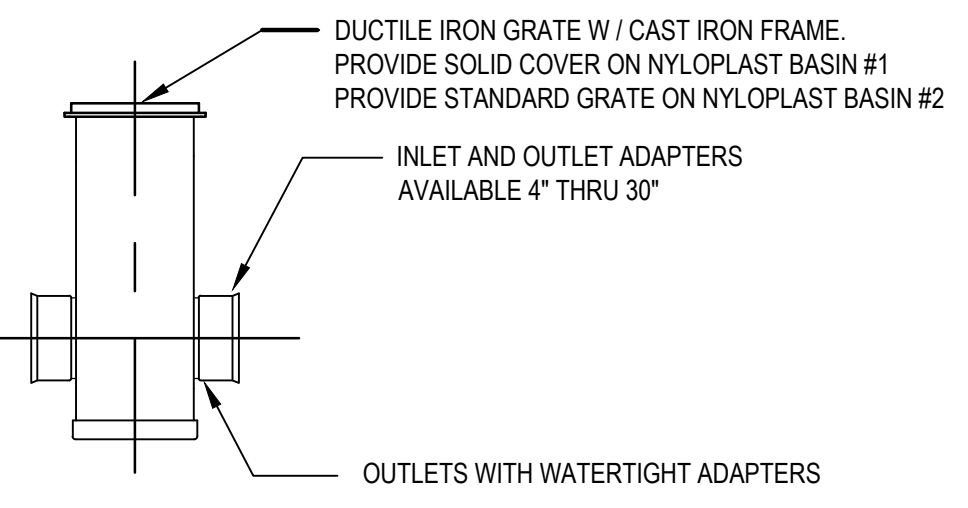


NYLOPLAST 24" STANDARD GRATE

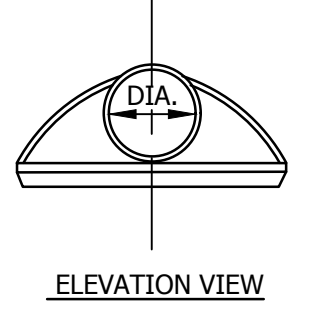
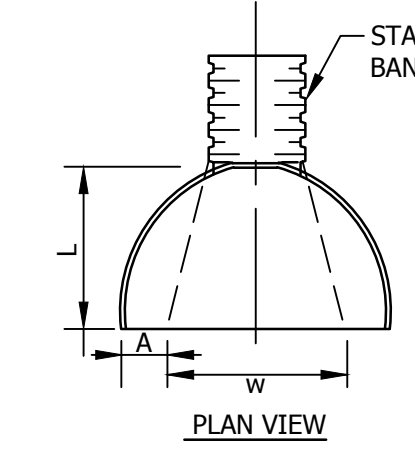


NYLOPLAST TRENCH DETAILS

NYLOPLAST 24" DRAIN BASIN

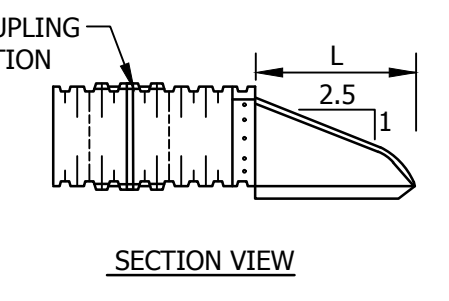


NYLOPLAST 24" DRAIN BASIN



DIMENSIONS TABLE

PIPE DIA. (IN.)	A (IN.)	L (IN.)	W (IN.)
12	6	20	24
15	7	26	30
18	8	30	36
24	10	40	48
30	12	50	60
36	14	60	72



FLARED END SECTION DETAIL

NO SCALE

ISSUED FOR CONSTRUCTION

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KIMBALL UNION ACADEMY
 FACILITIES BUILDING
 MERIDEN, NEW HAMPSHIRE

CONSTRUCTION DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
Δ	8/16/18	AOT RFMI COMMENT MODIFICATIONS	CEW	CEW
Δ	8/29/18	AOT RFMI - NYLOPLAST OUTLET STRUCTURE DETAIL - ORIFICE REVISIONS	CEW	CIH

DATE: MARCH 2018 PROJECT #: 17825
 ENGINE'D BY: CEW DRAWN BY: CEW
 CHECK'D BY: WTD ARCHIVE #: H-
 SHEET C3.02