

COLBY-SAWYER COLLEGE

FINE & PERFORMING ARTS CENTER

NEW LONDON, NEW HAMPSHIRE

FEBRUARY 2016



NEW HAMPSHIRE

LOCATION PLAN

SCALE: 1" = 2000'

SHEET LIST

C101 EXISTING CONDITIONS PLAN

C201 GRADING DRAINAGE & UTILITY PLAN
 C202 SEDIMENT & EROSION CONTROL PLAN
 C203 SNOW STORAGE & PARKING PLAN

C301 SEDIMENT & EROSION CONTROL DETAILS
 C302 SANITARY SEWER & WATER SYSTEM
 NOTES AND DETAILS

C303 DETAILS
 C304 DETAILS

A001 BUILDING FLOOR PLANS
 A002 BUILDING ELEVATIONS

L401 SITE PLANTING PLAN

OWNER:

COLBY-SAWYER COLLEGE
 541 MAIN STREET
 NEW LONDON, NH 03257
 (603) 526-3698

ENGINEER & SURVEYOR:

horizons
Engineering inc.

176 NEWPORT ROAD
 NEW LONDON, NH 03257
 (603) 877-0116

BUILDING/LANDSCAPE ARCHITECT:

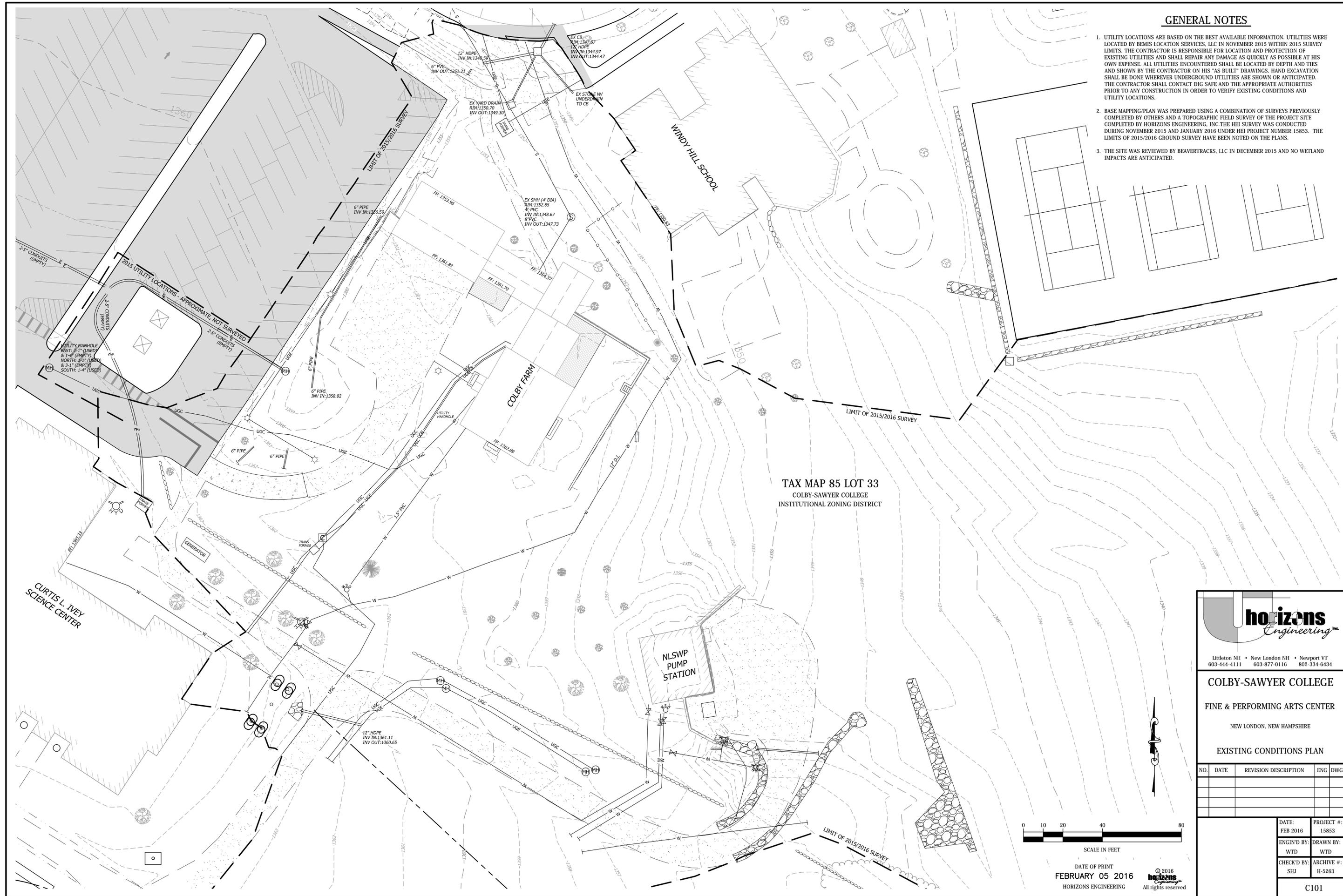
THE SLAM COLLABORATIVE
 80 GLASTONBURY BOULEVARD
 GLASTONBURY, CT 06033
 (860) 368-2379

SOILS SCIENTIST:

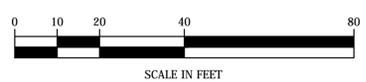
BEAVERTRACKS, LLC
 21 HALE HILL ROAD
 SWANZEY, NH 03446
 (603) P313-4925

GENERAL NOTES

1. UTILITY LOCATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. UTILITIES WERE LOCATED BY BEMIS LOCATION SERVICES, LLC IN NOVEMBER 2015 WITHIN 2015 SURVEY LIMITS. 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.
2. BASE MAPPING/PLAN WAS PREPARED USING A COMBINATION OF SURVEYS PREVIOUSLY COMPLETED BY OTHERS AND A TOPOGRAPHIC FIELD SURVEY OF THE PROJECT SITE COMPLETED BY HORIZONS ENGINEERING, INC. THE HEI SURVEY WAS CONDUCTED DURING NOVEMBER 2015 AND JANUARY 2016 UNDER HEI PROJECT NUMBER 15853. THE LIMITS OF 2015/2016 GROUND SURVEY HAVE BEEN NOTED ON THE PLANS.
3. THE SITE WAS REVIEWED BY BEAVERTRACKS, LLC IN DECEMBER 2015 AND NO WETLAND IMPACTS ARE ANTICIPATED.



TAX MAP 85 LOT 33
COLBY-SAWYER COLLEGE
INSTITUTIONAL ZONING DISTRICT



DATE OF PRINT
FEBRUARY 05 2016
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COLBY-SAWYER COLLEGE
FINE & PERFORMING ARTS CENTER
NEW LONDON, NEW HAMPSHIRE

EXISTING CONDITIONS PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

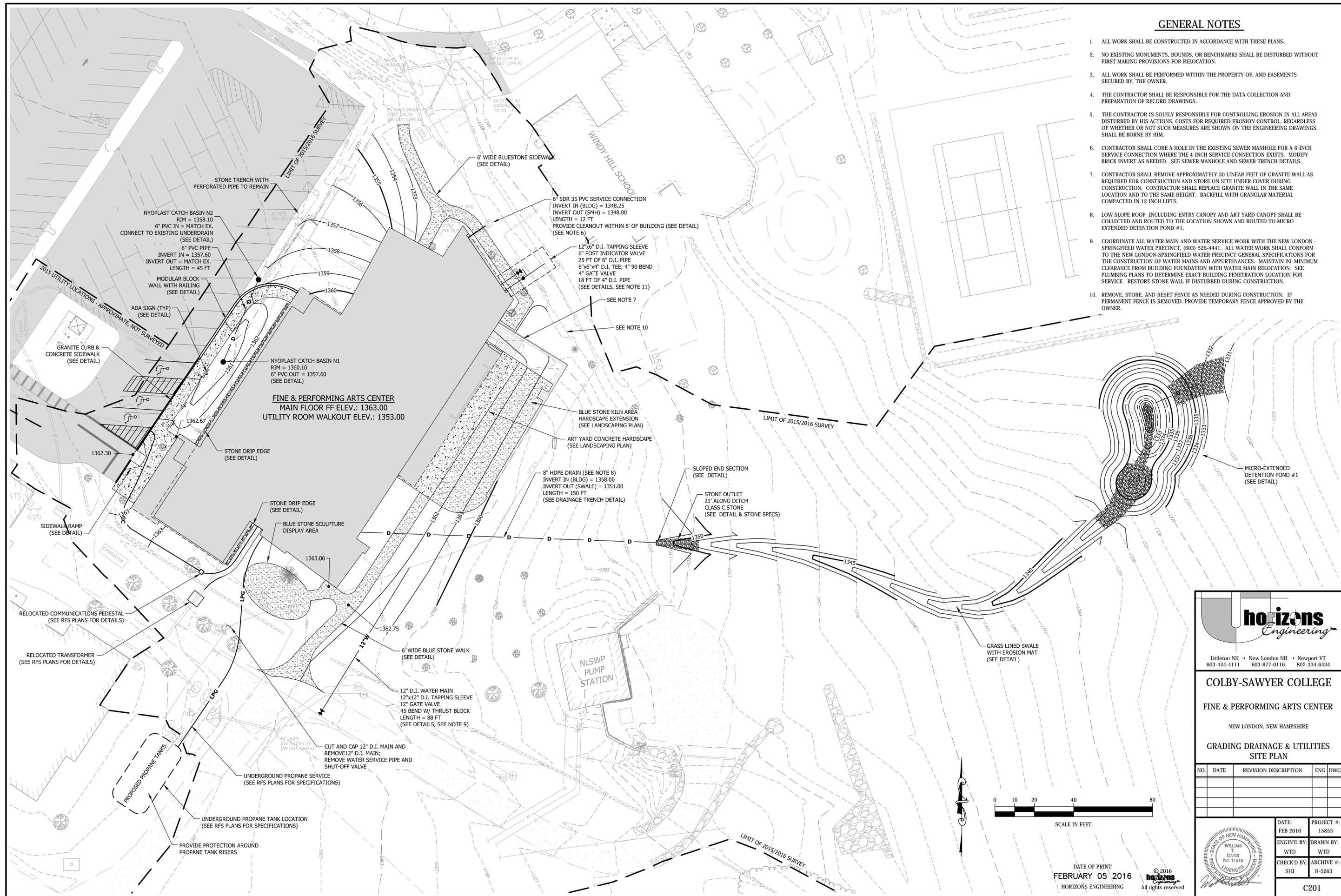
DATE: FEB 2016	PROJECT #: 15853
ENG'D BY: WTD	DRAWN BY: WTD
CHECK'D BY: SHJ	ARCHIVE #: H-5263

C101

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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. CONTRACTOR SHALL CORE A HOLE IN THE EXISTING SEWER MANHOLE FOR A 6-INCH SERVICE CONNECTION WHERE THE 4-INCH SERVICE CONNECTION EXISTS. MODIFY BRICK INVERT AS NEEDED. SEE SEWER MANHOLE AND SEWER TRENCH DETAILS.
7. CONTRACTOR SHALL REMOVE APPROXIMATELY 30 LINEAR FEET OF GRANITE WALL AS REQUIRED FOR CONSTRUCTION AND STORE ON SITE UNDER COVER DURING CONSTRUCTION. CONTRACTOR SHALL REPLACE GRANITE WALL IN THE SAME LOCATION AND TO THE SAME HEIGHT. BACKFILL WITH GRANULAR MATERIAL COMPACTED IN 12 INCH LIFTS.
8. LOW SLOPE ROOF INCLUDING ENTRY CANOPY AND ART YARD CANOPY SHALL BE COLLECTED AND ROUTED TO THE LOCATION SHOWN AND ROUTED TO MICRO EXTENDED DETENTION POND #1.
9. COORDINATE ALL WATER MAIN AND WATER SERVICE WORK WITH THE NEW LONDON - SPRINGFIELD WATER PRECINCT. (603) 526-4411. ALL WATER WORK SHALL CONFORM TO THE NEW LONDON-SPRINGFIELD WATER PRECINCT GENERAL SPECIFICATIONS FOR THE CONSTRUCTION OF WATER MAINS AND APPURTENANCES. MAINTAIN 20' MINIMUM CLEARANCE FROM BUILDING FOUNDATION WITH WATER MAIN RELOCATION. SEE PLUMBING PLANS TO DETERMINE EXACT BUILDING PENETRATION LOCATION FOR SERVICE. RESTORE STONE WALL IF DISTURBED DURING CONSTRUCTION.
10. REMOVE, STORE, AND RESET FENCE AS NEEDED DURING CONSTRUCTION. IF PERMANENT FENCE IS REMOVED, PROVIDE TEMPORARY FENCE APPROVED BY THE OWNER.

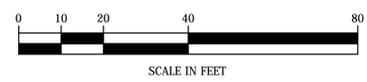


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 NEW LONDON, NEW HAMPSHIRE
 GRADING DRAINAGE & UTILITIES
 SITE PLAN

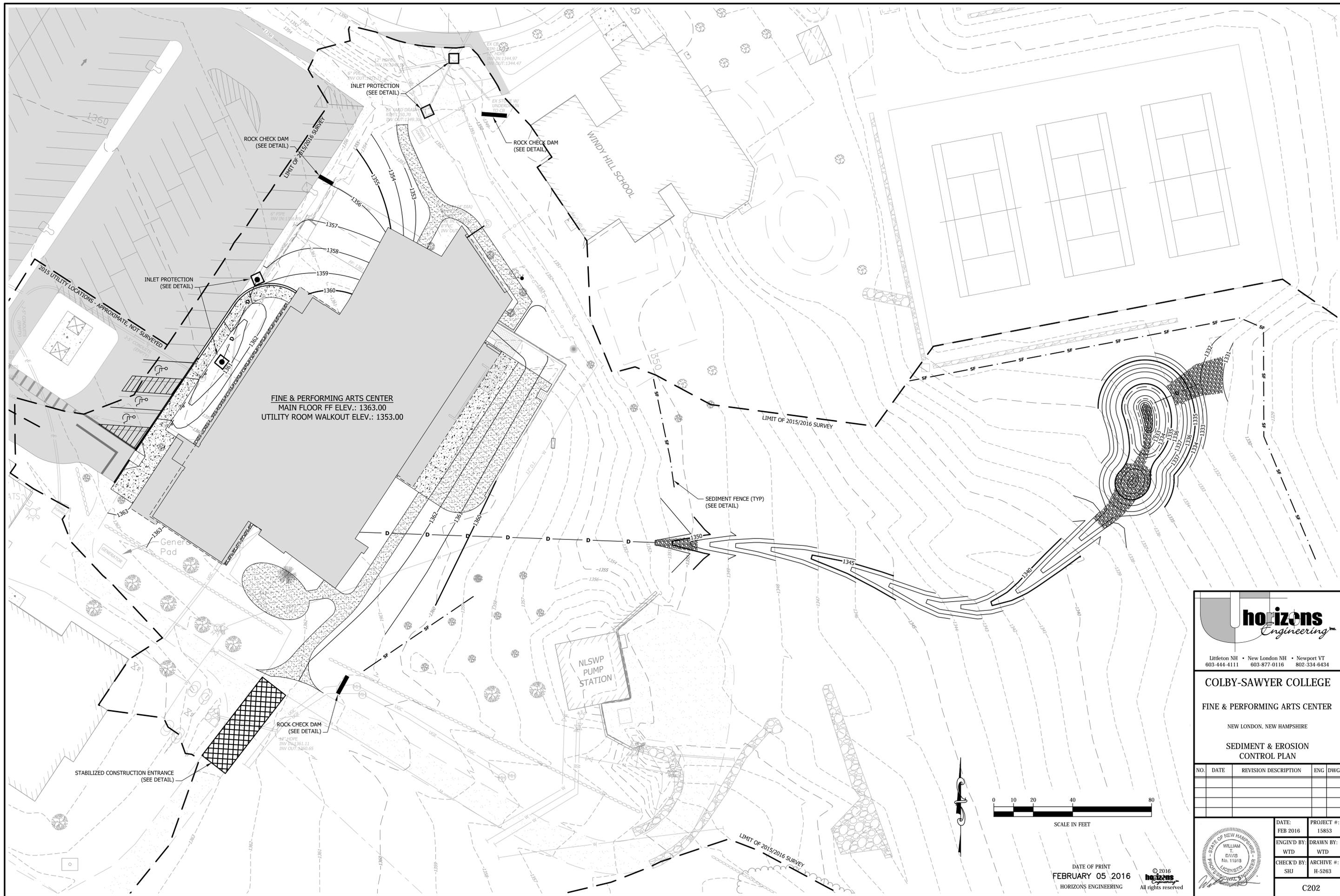
NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: FEB 2016 PROJECT #: 15853
 ENGIN'D BY: WILLIAM T. DAVIS DRAWN BY: WTD
 CHECK'D BY: SHJ ARCHIVE #: H-5263
 C201



DATE OF PRINT: FEBRUARY 05 2016
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 NEW LONDON, NEW HAMPSHIRE

SEDIMENT & EROSION CONTROL PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

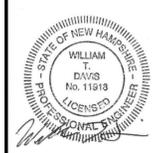
DATE: FEB 2016	PROJECT #: 15853
ENGIN'D BY: WTD	DRAWN BY: WTD
CHECK'D BY: SHJ	ARCHIVE #: H-5263

C202



DATE OF PRINT
FEBRUARY 05 2016
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GENERAL NOTES

- RS = RESIDENTIAL STUDENT PARKING
F&PAC = DEDICATED FINE & PERFORMING ARTS CENTER PARKING
- PROPOSED F&PAC PARKING WILL INCLUDE THE FOLLOWING DESIGNATIONS IN LOT 'O':

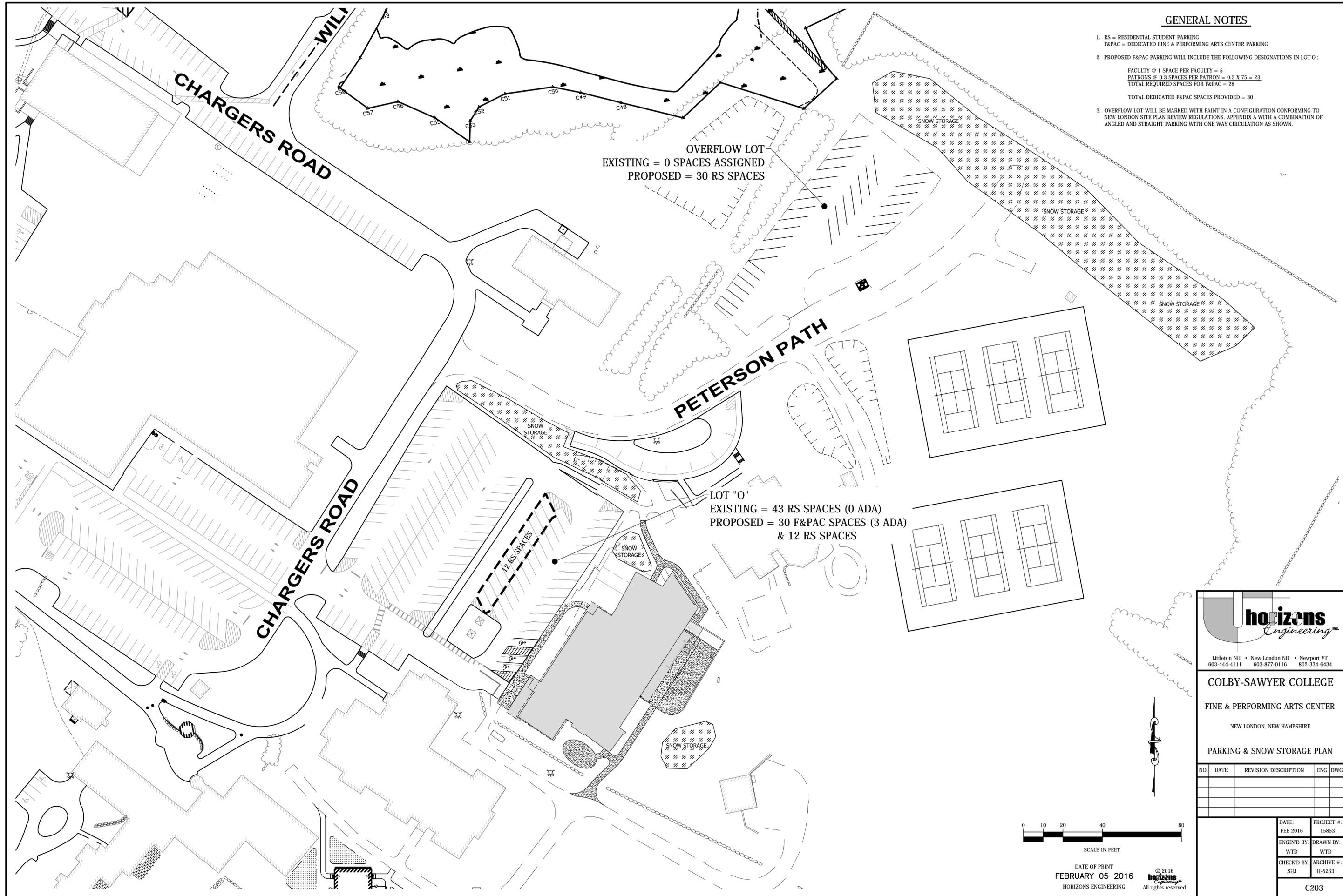
FACULTY @ 1 SPACE PER FACULTY = 5
PATRONS @ 0.3 SPACES PER PATRON = 0.3 X 75 = 23
TOTAL REQUIRED SPACES FOR F&PAC = 28

TOTAL DEDICATED F&PAC SPACES PROVIDED = 30
- OVERFLOW LOT WILL BE MARKED WITH PAINT IN A CONFIGURATION CONFORMING TO NEW LONDON SITE PLAN REVIEW REGULATIONS, APPENDIX A WITH A COMBINATION OF ANGLED AND STRAIGHT PARKING WITH ONE WAY CIRCULATION AS SHOWN.

OVERFLOW LOT
EXISTING = 0 SPACES ASSIGNED
PROPOSED = 30 RS SPACES

LOT "O"
EXISTING = 43 RS SPACES (0 ADA)
PROPOSED = 30 F&PAC SPACES (3 ADA)
& 12 RS SPACES

12 RS SPACES

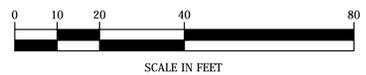


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COLBY-SAWYER COLLEGE
FINE & PERFORMING ARTS CENTER
NEW LONDON, NEW HAMPSHIRE
PARKING & SNOW STORAGE PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG



DATE OF PRINT
FEBRUARY 05 2016
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DATE: FEB 2016	PROJECT #: 15853
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C203

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 CUTPACKING OR RAKING.

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

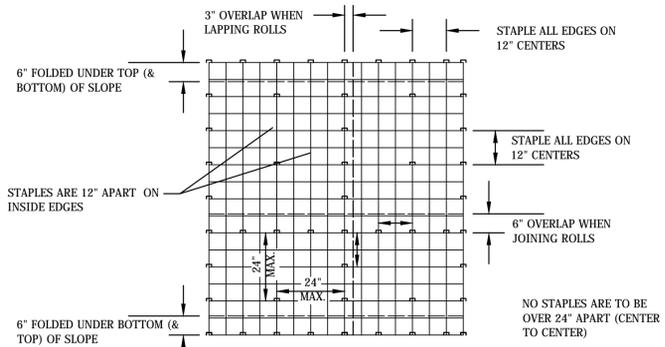
D. SEEDING RATES:	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL:	42	0.95
B TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH OR FLATPEA	15 OR 30	0.35 OR 0.75
TOTAL:	40 OR 55	0.95 OR 1.35
C TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL: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

- WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDED 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.
- 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

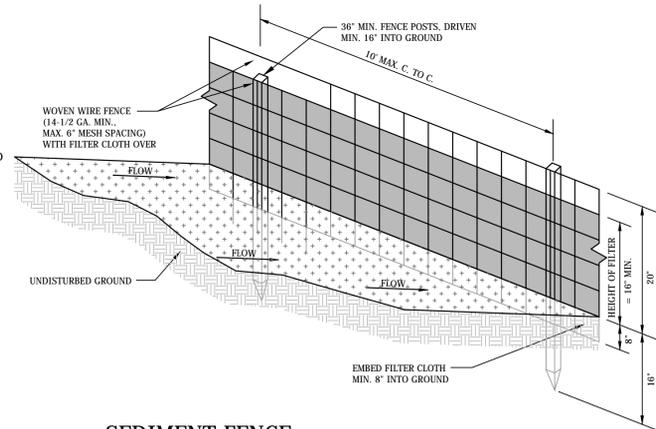
NO SCALE SOURCE: USDA SOIL CONSERVATION SERVICE

EROSION CONTROL GENERAL NOTES

- 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.
 - THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- 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.
- 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 SEEDED 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 DS150 MATTING OR EQUAL.

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 ITS STORAGE IS USED.



SEDIMENT FENCE

NO SCALE

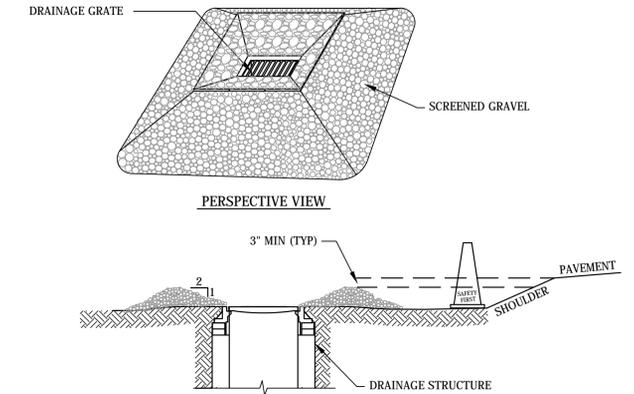
COLD WEATHER SITE STABILIZATION REQUIREMENTS

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 ONE 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 SEEDED 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 OCTOBER 15, SHALL BE SEEDED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET 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 ONE INCH IN DEPTH.
- INSTALLATION OF EROSION CONTROL BLANKETS 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 A 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 NOVEMBER 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, 2006, ITEM NO. 304.1 OR 304.2.

CONSTRUCTION SEQUENCE

- PREPARE AN EROSION CONTROL PLAN OR A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- INSTALL CONSTRUCTION ENTRANCE. SEE DETAIL.
- INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
- GRUB SITE WITHIN GRADING LIMITS.
- STRIP AND STOCKPILE TOPSOIL AND INSTALL EROSION CONTROL MEASURES FOR STOCKPILE. SEE DETAIL.
- CONSTRUCT PERMANENT STORMWATER CONTROLS AS SOON AS PRACTICAL. DO NOT DIRECT STORMWATER TOWARD TREATMENT SWALES, DITCHES, PONDS, AND LEVEL SPREADERS UNTIL THEY HAVE BEEN STABILIZED.
- PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM WORK UNIT AREA SHALL BE ONE ACRE IN SIZE. THE MAXIMUM LENGTH OF TIME THAT A WORK UNIT MAY BE LEFT UNSTABILIZED IS 30 DAYS.
- BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATIVE GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, SEDIMENT TRAPS, HAY BALES, ETC., AS NECESSARY.
- PAVE ROADWAYS AND/OR PARKING AREAS.
- PLACE TOPSOIL, SEED AND MULCH.
- COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.
- MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.

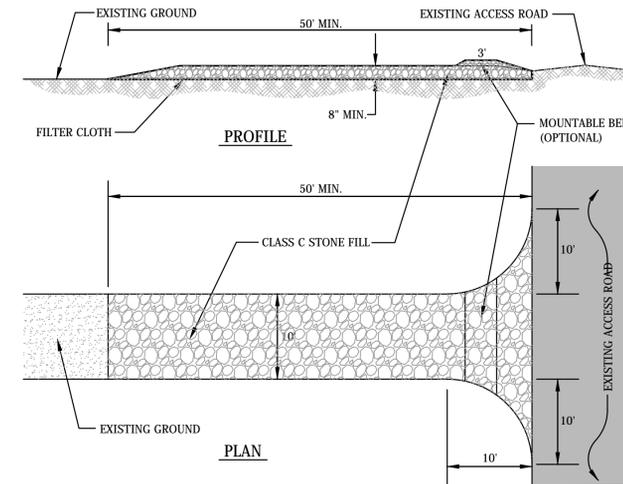


MATERIALS SPECIFICATIONS:
1. SCREENED GRAVEL: UNIFORMLY GRADED 1" TO 4" DIA. STONE.

CONSTRUCTION SPECIFICATIONS:
1. INSTALL GRAVEL INLET PROTECTION WHERE INDICATED OR WARRANTED.
2. FOR ALL INSTALLATIONS WHERE INLET PROTECTION IS WITHIN 8' OF EDGE OF PAVEMENT, A ROADWAY CONE SHALL BE USED BETWEEN CATCH BASIN AND SHOULDER.
3. ENSURE CREST OF GRAVEL PLACED AROUND CATCH BASIN IS AT LEAST 3" BELOW ELEVATION OF EDGE OF PAVEMENT.

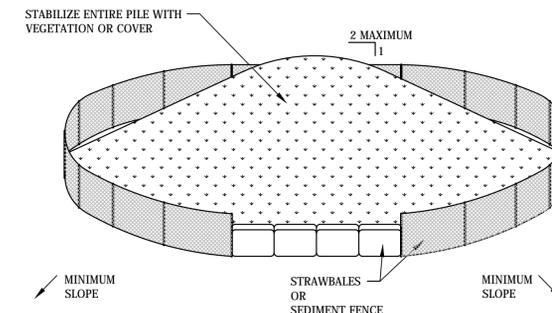
CATCH BASIN INLET PROTECTION DETAIL

NO SCALE



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



SOIL STOCKPILING IS TO BE USED WHERE TOPSOIL IS NECESSARY FOR REGRADING AND VEGETATING DISTURBED AREAS.

TEMPORARY STOCKPILE STABILIZATION MEASURES INCLUDE VEGETATIVE COVERS, MULCH, NON-VEGETATIVE COVERS, AND PERIPHERAL SEDIMENT TRAPPING BARRIERS. THE STABILIZATION MEASURE(S) SELECTED SHOULD BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND REQUIRED PERIOD OF USE.

INSTALLATION NOTES:

- AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
- MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
- UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES AND THEN STABILIZED WITH VEGETATION OR COVERED.

SOIL STOCKPILING DETAIL

NOT TO SCALE

DATE OF PRINT
FEBRUARY 05 2016
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EROSION CONTROL NOTES AND DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: FEB 2016

ENG'D BY: WTD

CHECK'D BY: SHJ

PROJECT #: 15853

DRAWN BY: WTD

ARCHIVE #: H-5263

C301

SEWER NOTES

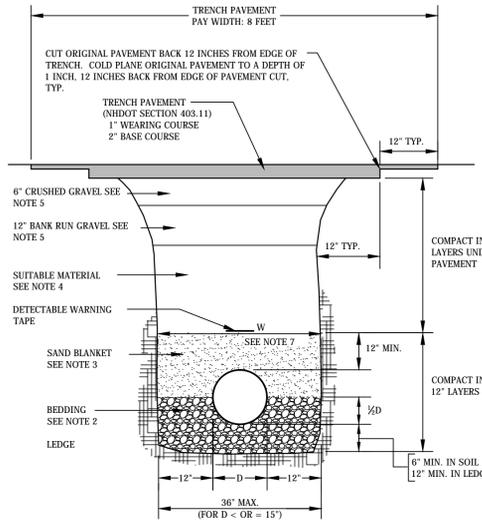
- GENERAL**
CONSTRUCTION OF ALL COMPONENTS OF THE SANITARY SEWER SYSTEM SHALL CONFORM TO THE MOST CURRENT VERSION OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES ENV-WQ 700.
- TYPES OF SEWERS**
 - THERE SHALL BE NO CONNECTION BETWEEN SANITARY SEWERS AND STORM SEWERS.
 - RUNOFF FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS, SUMP PUMPS, OR OTHER SUBSURFACE DRAINS SHALL BE EXCLUDED FROM SANITARY SEWERS.
- SEWER SIZE AND COVER**
 - MINIMUM PIPE SIZE FOR GRAVITY SEWER MAINS SHALL BE 8 INCHES.
 - MINIMUM PIPE SIZE FOR GRAVITY SEWER SERVICES SHALL BE 4 INCHES.
 - MINIMUM PIPE SIZE FOR FORCE MAIN SEWER SERVICES SHALL BE 2 INCHES.
 - SANITARY SEWERS SHALL HAVE 6 FEET MINIMUM COVER IN ALL ROADWAY LOCATIONS AND 4 FEET MINIMUM COVER IN ALL CROSS-COUNTRY LOCATIONS.
- PIPE AND FITTING MATERIALS:**
 - DUCTILE IRON PIPE**
DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION:
 - AWWA C151 FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
 - AWWA C150 FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A 536 IRON CASTINGS; AND
 - JOINTS SHALL BE MECHANICAL TYPE, PUSH-ON TYPE, OR BALL-AND-SOCKET TYPE;
 - PVC (POLY VINYL CHLORIDE) PIPE**
PVC PIPE AND FITTINGS SHALL BE APPROVED FOR SEWAGE SERVICE AND CONFORM TO THE FOLLOWING:
 - PVC PIPE USED FOR GRAVITY SEWERS SHALL BE TYPE SDR 35 CONFORMING TO ASTM D3034;
 - PVC PIPE USED FOR FORCE MAINS SHALL BE TYPE SDR 26 CONFORMING TO ASTM D2241 OR ASTM D1785;
 - JOINTS SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE HAVING OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212.
- BEDDING**
PIPE BEDDING SHALL BE SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67. BEDDING SHALL EXTEND FROM THE SPRING LINE OF THE PIPE TO A MINIMUM DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE OUTSIDE SURFACE.

100% PASSING	1 INCH SCREEN
90-100% PASSING	3/4 INCH SCREEN
20-55% PASSING	3/8 INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE
- MANHOLES**
 - PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.
 - MANHOLES SHALL BE DESIGNED FOR H-20 LOADING.
 - HORIZONTAL JOINTS BETWEEN BARREL SECTIONS SHALL BE OF AN OVERLAPPING TYPE WHICH SHALL DEPEND UPON A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT FOR WATER TIGHTNESS.
 - PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
 - ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
 - CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
 - ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
 - NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
 - MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
- PROTECTION OF WATER SUPPLIES**
 - THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
 - NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADII ESTABLISHED IN ENV-WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.
 - SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
 - A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV-WQ 704.06.
 - WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
 - VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND
 - SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.

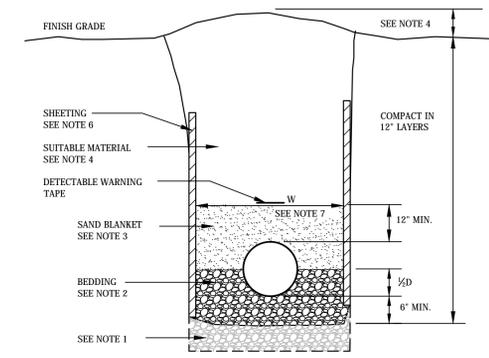
STANDARD TRENCH NOTES - WATER & SEWER

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL, BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.**
- BEDDING:** SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

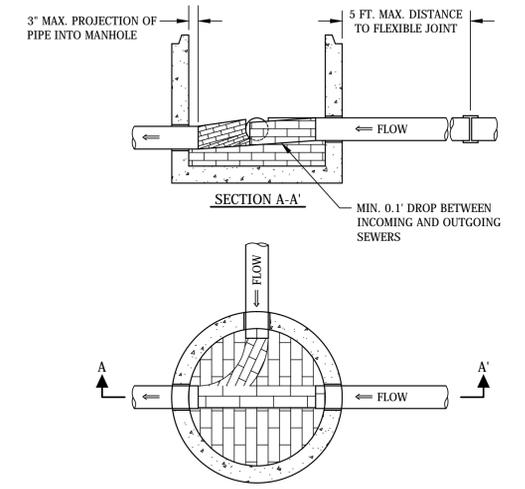
100% PASSING	1 INCH SCREEN
90-100% PASSING	3/4 INCH SCREEN
20-55% PASSING	3/8 INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE
- SAND BLANKET:** CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.
- SUITABLE MATERIAL:** IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.
TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUND TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- BASE COURSE FOR TRENCH REPAIR** SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
- SHEETING:** ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.
- TRENCH DIMENSIONS:** W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.
- PIPE INSULATION OVER SEWER AT STORM DRAIN CROSSING:** INSTALL 2" THICK RIGID FOAM INSULATION OVER SEWER AT STORM DRAIN CROSSINGS, EXTEND INSULATION 4 FEET EITHER SIDE OF STORM DRAIN ALONG SEWER.
- WATER/SEWER SEPARATION:** WATER MAINS SHALL BE SEPARATED FROM SANITARY SEWER BY A MINIMUM OF 10 FEET HORIZONTALLY AND A MINIMUM OF 18 INCHES VERTICALLY, WITH THE WATER MAIN ABOVE THE SEWER.
- PIPE COVER:** COVER OVER WATER SHALL BE 6 FEET MINIMUM IN ALL LOCATIONS.



LEDGE/SUB PAVEMENT CONSTRUCTION



EARTH CONSTRUCTION WITH OR WITHOUT SHEETING



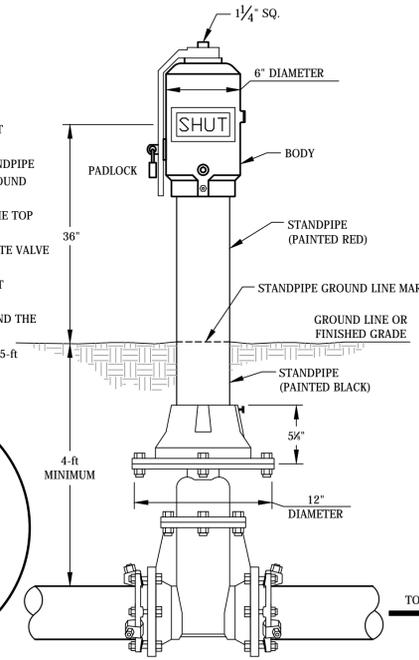
MANHOLE INVERT DETAILS

STANDARD WATER & SEWER TRENCH SECTIONS

NOT TO SCALE

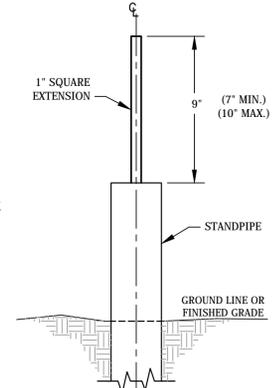
ASSEMBLY AND ADJUSTMENT INSTRUCTIONS

- REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
- CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH STANDPIPE GROUND LINE MARK.
- CUT THE 1" SQ. EXTENSION AT A DISTANCE OF 9" ABOVE THE TOP OF THE STANDPIPE.
- SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
- RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
- THERE SHALL BE 36" OF UNOBSTRUCTED CLEARANCE AROUND THE PERIMETER OF ALL POST INDICATOR VALVES.
- POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5-FR FROM BUILDING.



POST-INDICATOR VALVE DETAIL

NOT TO SCALE
ADAPTED FROM TOWN OF CARY, NC STANDARD DETAIL



POST INDICATOR ASSEMBLY WITH BODY REMOVED

BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL - THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A COMPRESSION STRENGTH OF 3,000 LBS. AT 28 DAYS. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

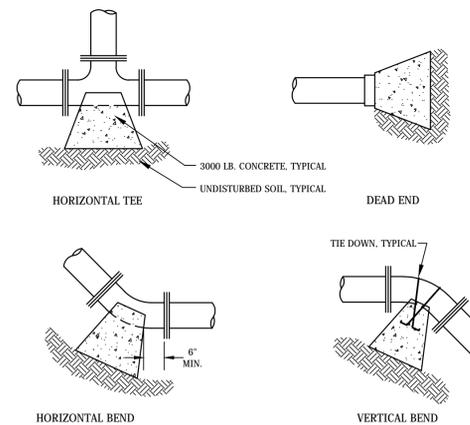
RESTRAINING JOINTS MAY BE USED FOR RESISTING THRUST FORCES WHERE THERE IS A SHORTAGE OF SPACE OR WHERE THE SOIL BEHIND A FITTING WILL NOT PROVIDE ADEQUATE SUPPORT. THIS RESTRAINING METHOD INVOLVES PLACEMENT OF THESE SPECIAL JOINTS AT APPROPRIATE FITTINGS AND FOR A PREDETERMINED NUMBER OF PIPE LENGTHS ON EACH SIDE, (MINIMUM 15 FEET).

NOMINAL PIPE DIA. (INCHES)	TOTAL THRUST (POUNDS)				
	DEAD END	90° BEND	45° BEND	22½° BEND	11¼° BEND
4	1,810	2,550	1,385	708	355
6	3,739	5,288	2,862	1,459	733
8	6,433	9,097	4,923	2,510	1,261
10	9,677	13,685	7,406	3,776	1,897
12	13,885	19,353	10,474	5,340	2,683
14	18,385	26,001	14,072	7,174	3,604
16	23,779	33,628	18,199	9,278	4,661
18	29,865	42,235	22,858	11,653	5,855
20	36,644	51,822	28,046	14,298	7,183
24	52,279	73,934	40,013	20,398	10,249

NOTE: TO DETERMINE THRUST AT PRESSURES OTHER THAN 100 PSI, MULTIPLY THE THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE TO 100. FOR EXAMPLE, THE THRUST ON A 12 INCH, 90° BEND AT 125 PSI IS: 19,353 x 125 = 24,191 POUNDS

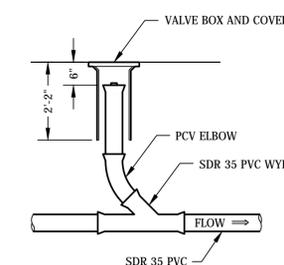
TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUE OF THE SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOIL ARE LISTED BELOW.

SOIL	BEARING LOAD (LBS./SQ. FT.)
MUCK	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000



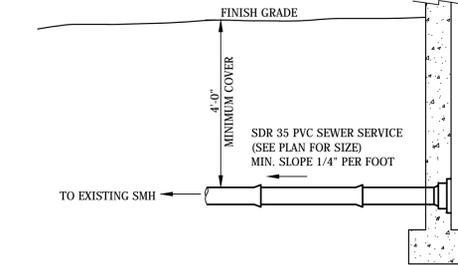
THRUST BLOCK NOTES & DETAILS

NOT TO SCALE



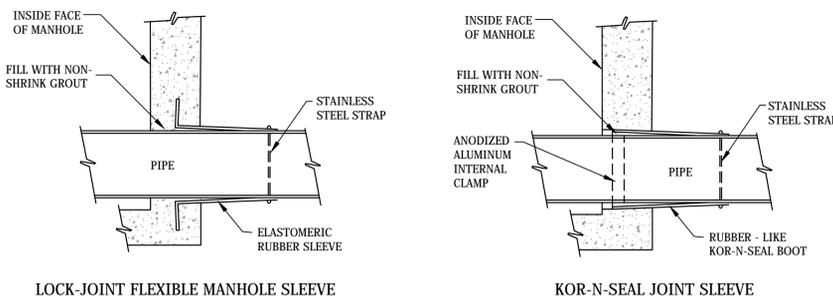
SEWER CLEANOUT DETAIL

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SEWER SERVICE DETAIL

NOT TO SCALE



JOINTING DETAILS

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SANITARY SEWER & WATER SYSTEM NOTES AND DETAILS

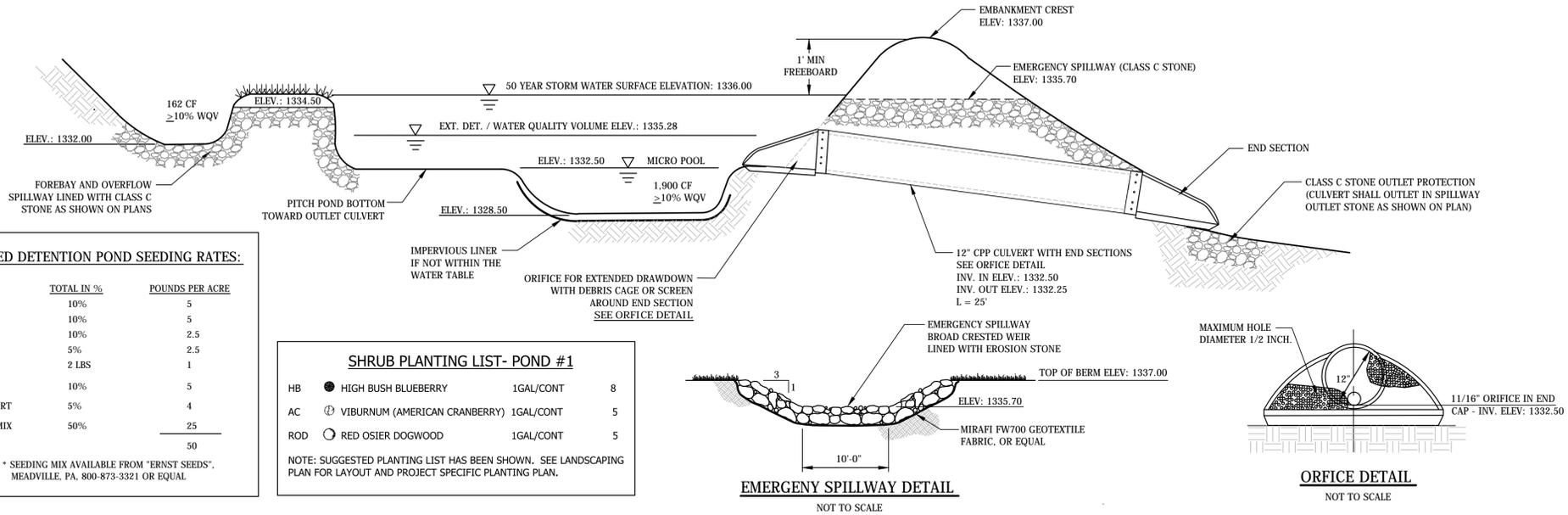
NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: FEB 2016	PROJECT #: 15853
ENG'D BY: WTD	DRAWN BY: WTD
CHECK'D BY: SHJ	ARCHIVE #: H-5263

DATE OF PRINT: FEBRUARY 05 2016
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MICROPOOL EXTENDED DETENTION POND SEEDING RATES:

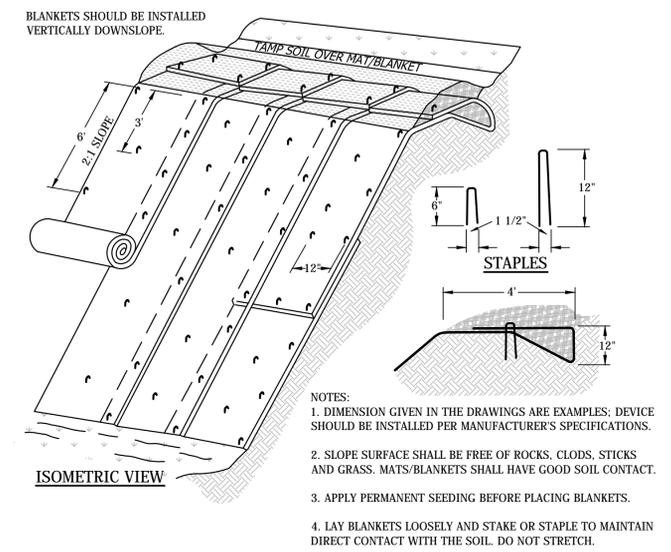
SPECIES	TOTAL IN %	POUNDS PER ACRE
OBL BAILEYS SEDGE	10%	5
TUSsock SEDGE	10%	5
BLUEFLAG IRIS	10%	2.5
CANADA RUSH	5%	2.5
PICKERAL WEED	2 LBS	1
FACW WOOL GRASS	10%	5
FAC OHIO SPIDER WORT	5%	4
CONSERVATION MIX	50%	25
		50

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

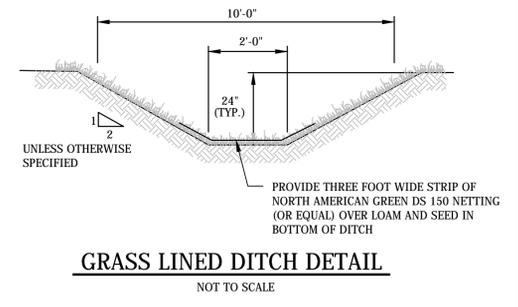
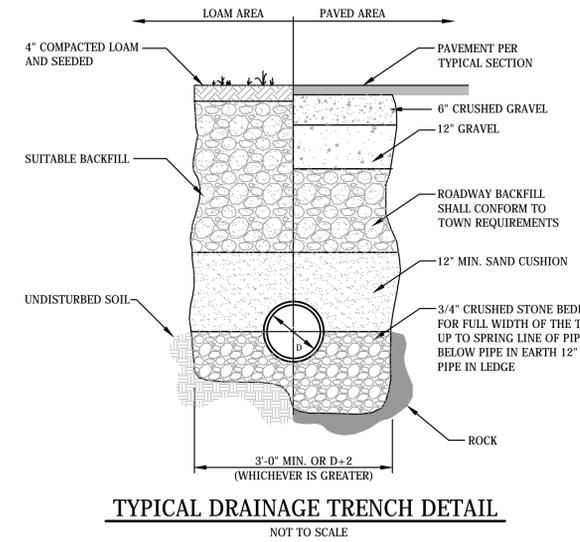
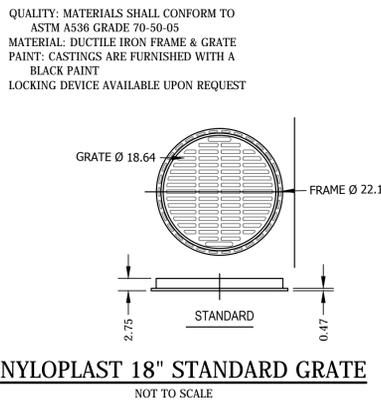
SHRUB PLANTING LIST- POND #1

HB	● HIGH BUSH BLUEBERRY	1 GAL/CONT	8
AC	⊕ VIBURNUM (AMERICAN CRANBERRY)	1 GAL/CONT	5
ROD	○ RED OSIER DOGWOOD	1 GAL/CONT	5

NOTE: SUGGESTED PLANTING LIST HAS BEEN SHOWN. SEE LANDSCAPING PLAN FOR LAYOUT AND PROJECT SPECIFIC PLANTING PLAN.



MICROPOOL EXTENDED DETENTION POND #1



STONE SPECIFICATIONS

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.

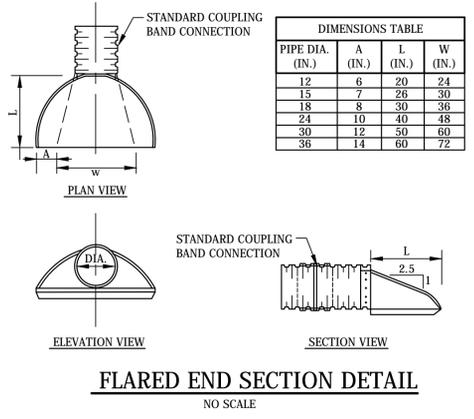
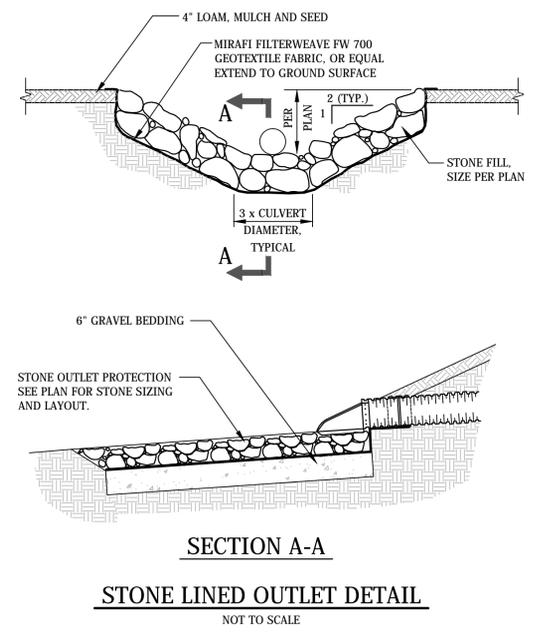
- CLASS A STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 12 CUBIC FEET, APPROXIMATELY 30% OF THE MASS RANGING BETWEEN 3 AND 12 CUBIC FEET, APPROXIMATELY 10% OF THE MASS RANGING BETWEEN 1 AND 3 CUBIC FEET, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.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

- 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").
- 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.
- 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.

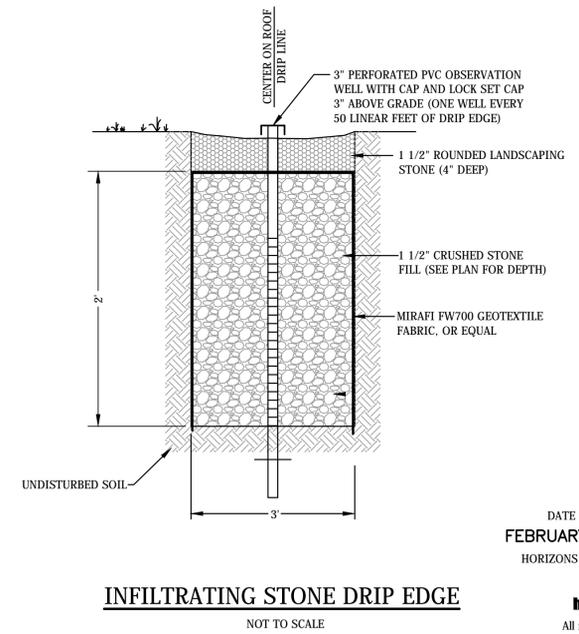
C. MINIMUM DEPTH OF STONE LAYER SHALL CONFORM TO THE FOLLOWING

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



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



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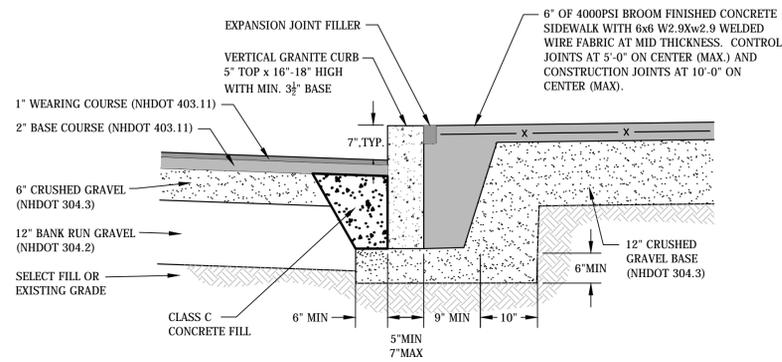
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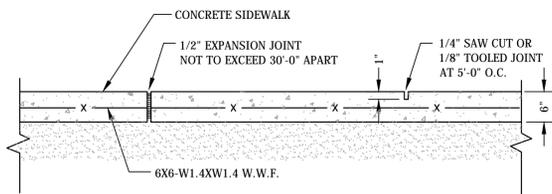
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CONCRETE SIDEWALK WITH VERTICAL CURB DETAIL

NOT TO SCALE



EXPANSION JOINT

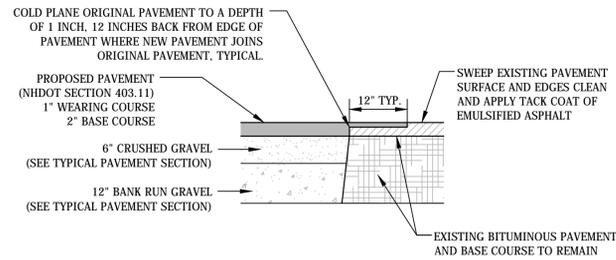
CONTROL JOINT

NOTES:

1. EXPANSION JOINTS SHALL BE PLACED TO PRODUCE PANELS THAT ARE SQUARE AS POSSIBLE AND NEVER EXCEEDING A LENGTH TO WIDTH RATIO OF 1.5 TO 1
2. SEE PAVEMENT SECTION FOR GRAVEL SPECIFICATIONS
3. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1064. USE FLAT SHEETS ONLY.

JOINT SECTIONS FOR SIDEWALKS & CURBING

NOT TO SCALE



PAVEMENT JOINING DETAIL

NOT TO SCALE

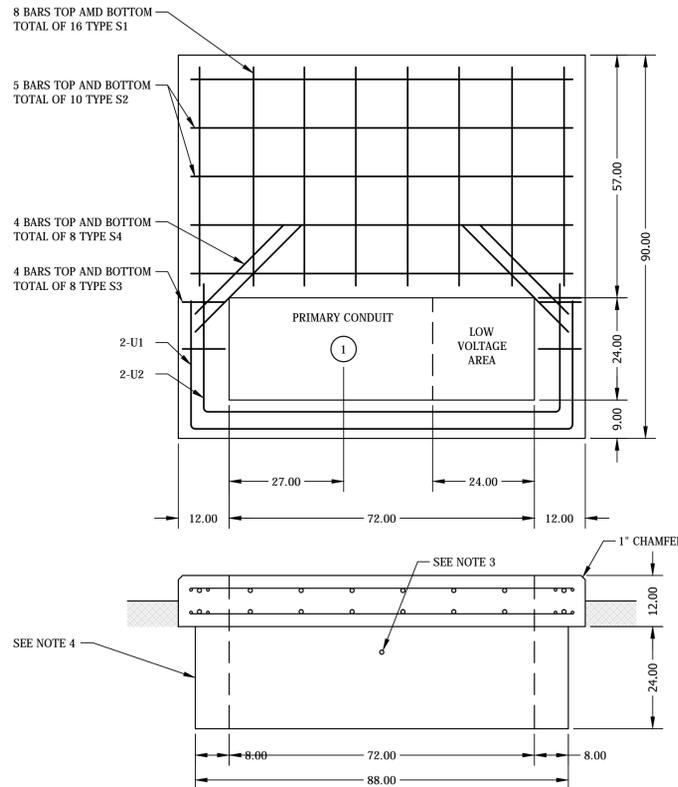
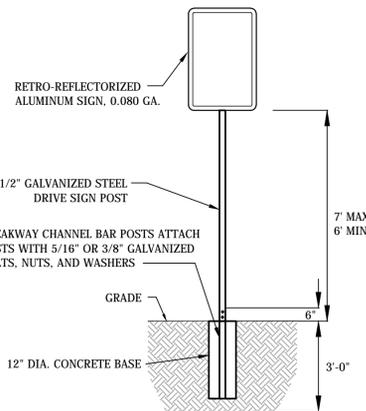
M.U.T.C.D. NUMBER	SPECIFICATION		DESC.
	WIDTH	HEIGHT	
R7-8	12"	18"	
R7-8B	12"	6"	

ADA SPECIFIC NOTES:

- (1) SIGN AT EACH HANDICAP SPACE. SEE SITE PLAN FOR LOCATION. PROVIDE "VAN ACCESSIBLE" SIGNAGE AT SPACES ADJACENT TO 8.0' LOADING AREA.
- SIGNS SHALL COMPLY WITH ADA AND M.U.T.C.D. STANDARDS. GREEN BORDER AND LETTERING ON WHITE BACKGROUND AND EXHIBITING INTERNATIONAL SYMBOL OF ACCESSIBILITY.

SIGNAGE DETAIL

NOT TO SCALE



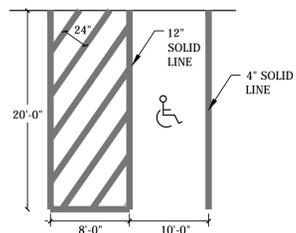
- NOTES:**
1. SEE PSNH PRINT 53 101 REQUIREMENTS FOR SLAB DETAILS.
 2. SEE PSNH PRINT 53 120 FOR GROUNDING GRID.
 3. 1" PVC CONDUIT FOR GROUND LEADS.
 4. ALL REBAR TO BE #5#.
 5. SEE PSNH PRINT 53 113 FOR PIT DETAIL.

TYPE	#	LENGTH	TOTAL
S1	16	4'-3"	88'-0"
S2	10	7'-6"	75'-0"
S3	8	0'-6"	4'-0"
S4	8	2'-0"	16'-0"

CONCRETE VOLUME = 1.78 CY
TOP SECTION ONLY

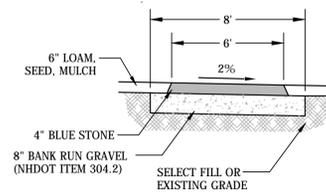
ELECTRICAL TRANSFORMER PAD

NOT TO SCALE



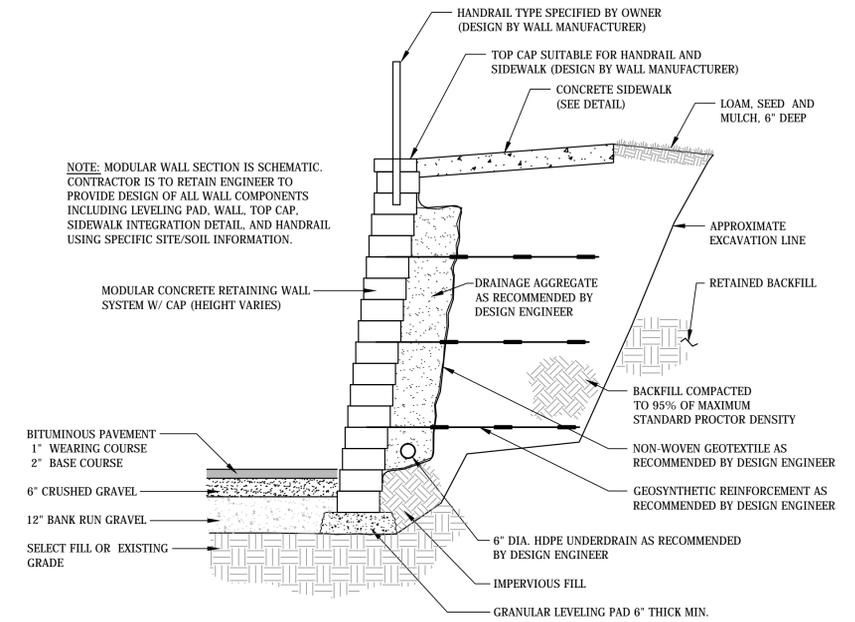
ADA ACCESSIBLE PARKING DETAIL

NOT TO SCALE



BLUE STONE WALKWAY TYPICAL SECTION

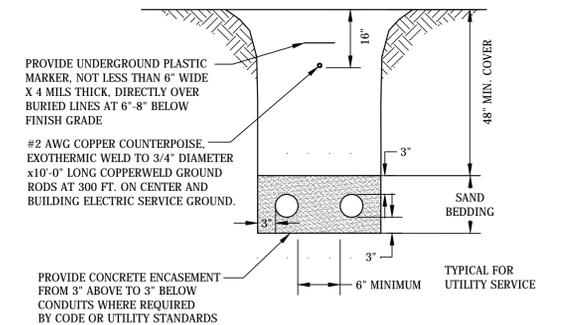
NOT TO SCALE



NOTE: MODULAR WALL SECTION IS SCHEMATIC. CONTRACTOR IS TO RETAIN ENGINEER TO PROVIDE DESIGN OF ALL WALL COMPONENTS INCLUDING LEVELING PAD, WALL, TOP CAP, SIDEWALK INTEGRATION DETAIL, AND HANDRAIL USING SPECIFIC SITE/SOIL INFORMATION.

MODULAR RETAINING WALL DETAIL

NO SCALE



CONDUIT / DITCH DETAIL

NOT TO SCALE



Littleton NH • New London NH • Newport VT
603-444-4111 603-877-0116 802-334-6434

COLBY-SAWYER COLLEGE

FINE & PERFORMING ARTS CENTER

NEW LONDON, NEW HAMPSHIRE

DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: FEB 2016	PROJECT #: 15853
ENG'D BY: WTD	DRAWN BY: WTD
CHECK'D BY: SHJ	ARCHIVE #: H-5263

DATE OF PRINT
FEBRUARY 05 2016
HORIZONS ENGINEERING

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C304

1

2

3

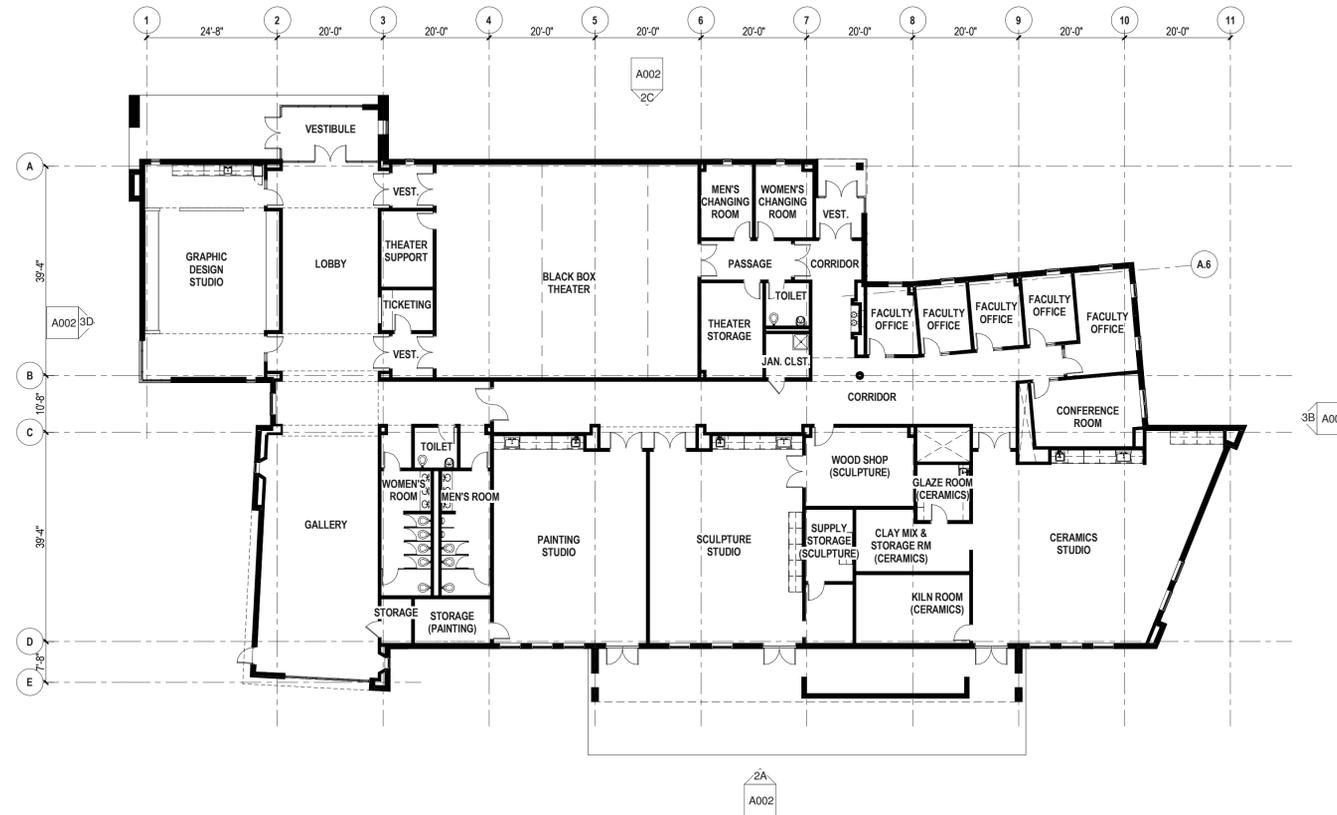
4

A

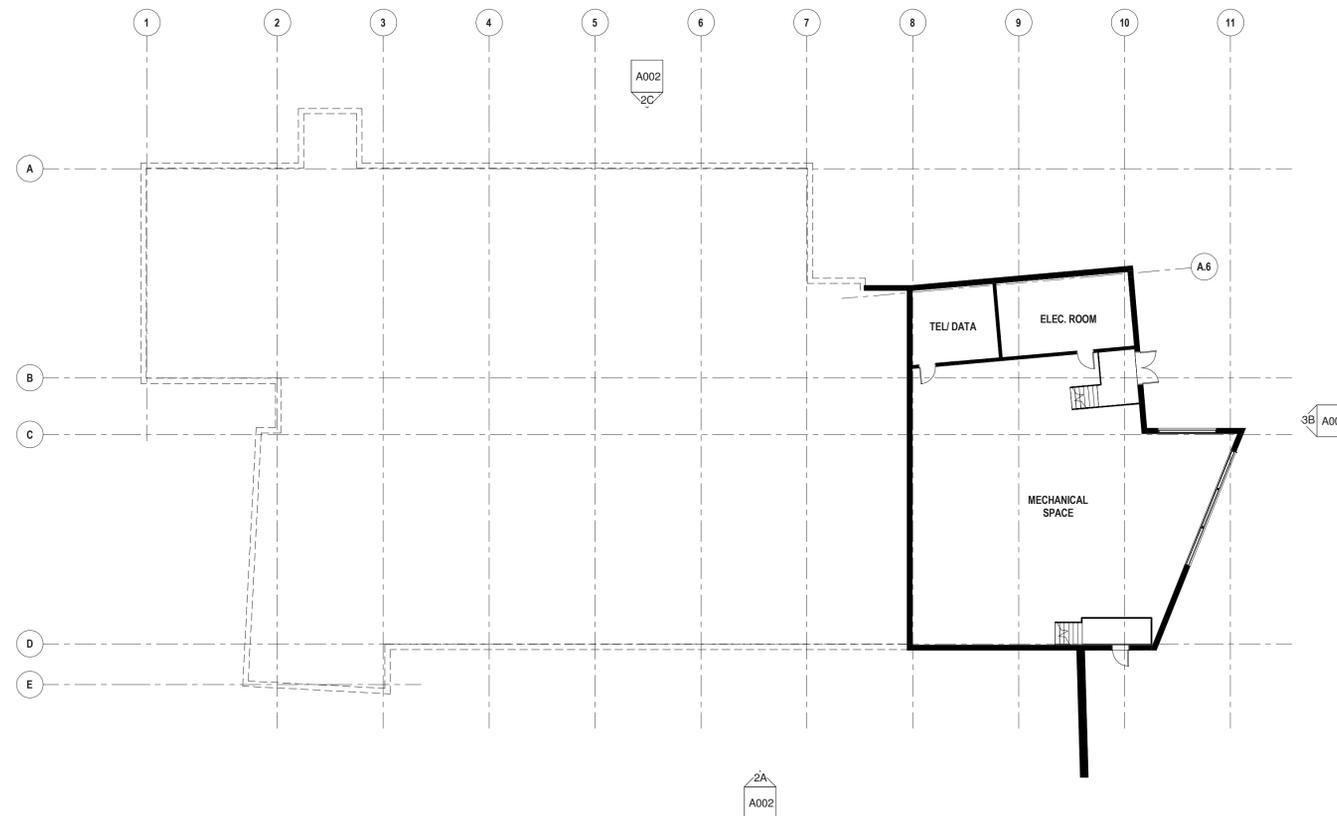
B

C

D



2B FIRST FLOOR PLAN
1/16" = 1'-0"



2D LOWER LEVEL FLOOR PLAN
1/16" = 1'-0"

SLAM

The S/L/A/M Collaborative

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KEYPLAN

Number	Date	Issued For
PROGRESS PRINT NOT FOR CONSTRUCTION		

BUILDING FLOOR PLANS

Date
February 2016
Scale
1/16" = 1'-0"
Proj. Number
15211.00

Drawing Number

A001

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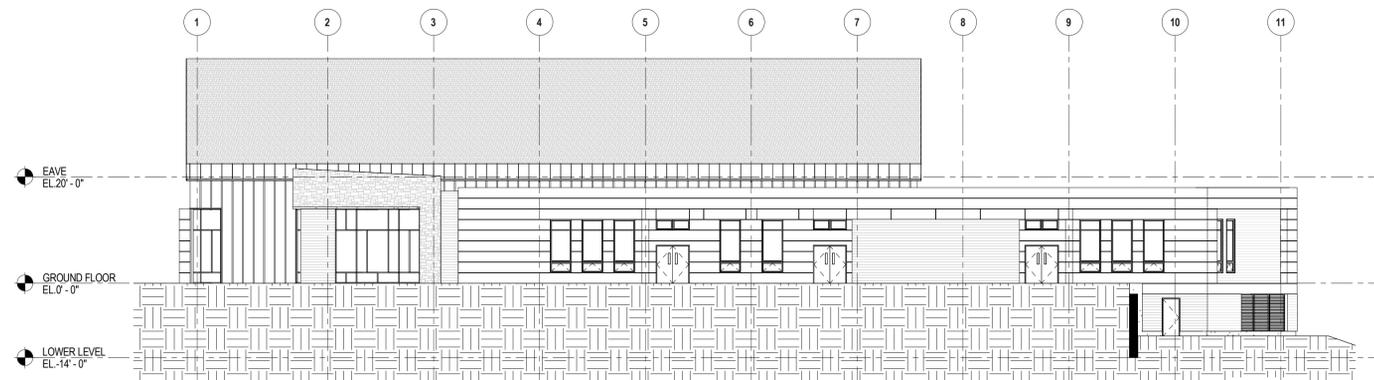
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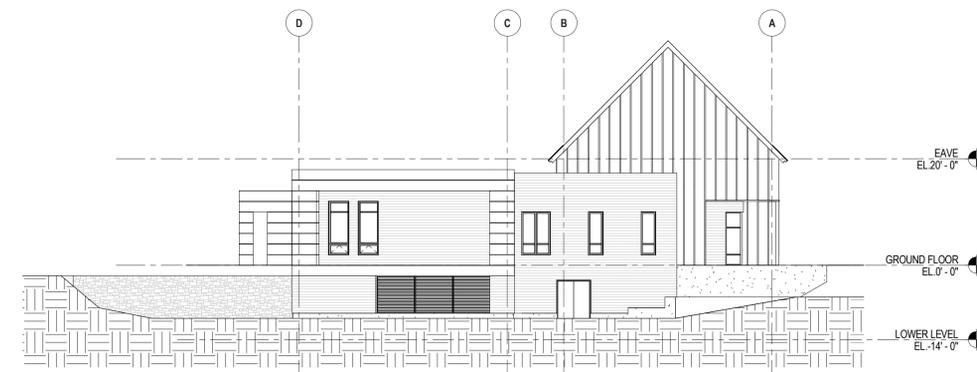
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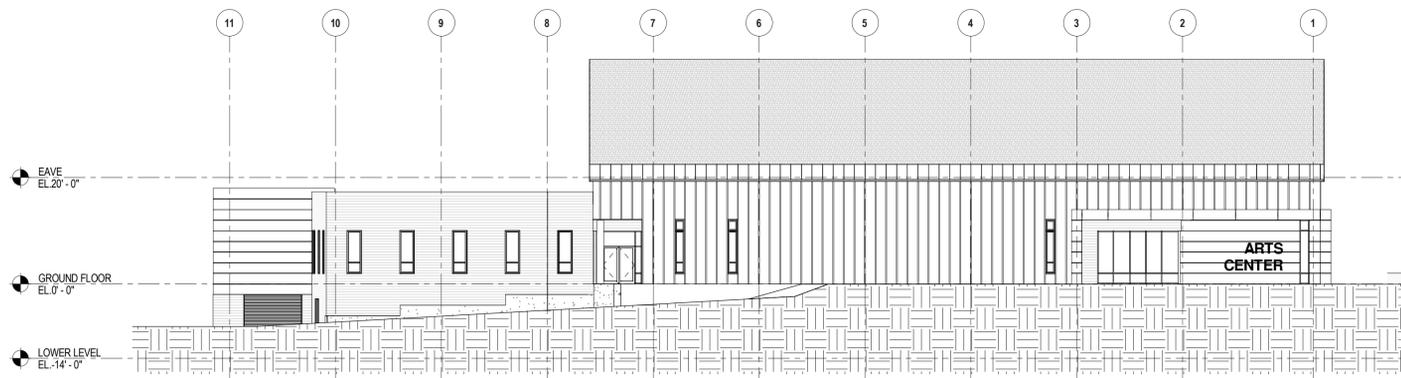
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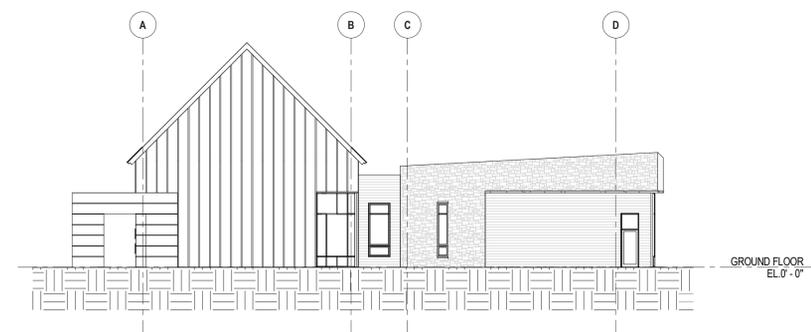
2A EAST BUILDING ELEVATION
1/16" = 1'-0"



3B NORTH BUILDING ELEVATION
1/16" = 1'-0"



2C WEST BUILDING ELEVATION
1/16" = 1'-0"



3D SOUTH BUILDING ELEVATION
1/16" = 1'-0"

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KEYPLAN

Number	Date	Issued For
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BUILDING ELEVATIONS

Date
February 2016
Scale
1/16" = 1'-0"
Proj. Number
15211.00

Drawing Number

A002

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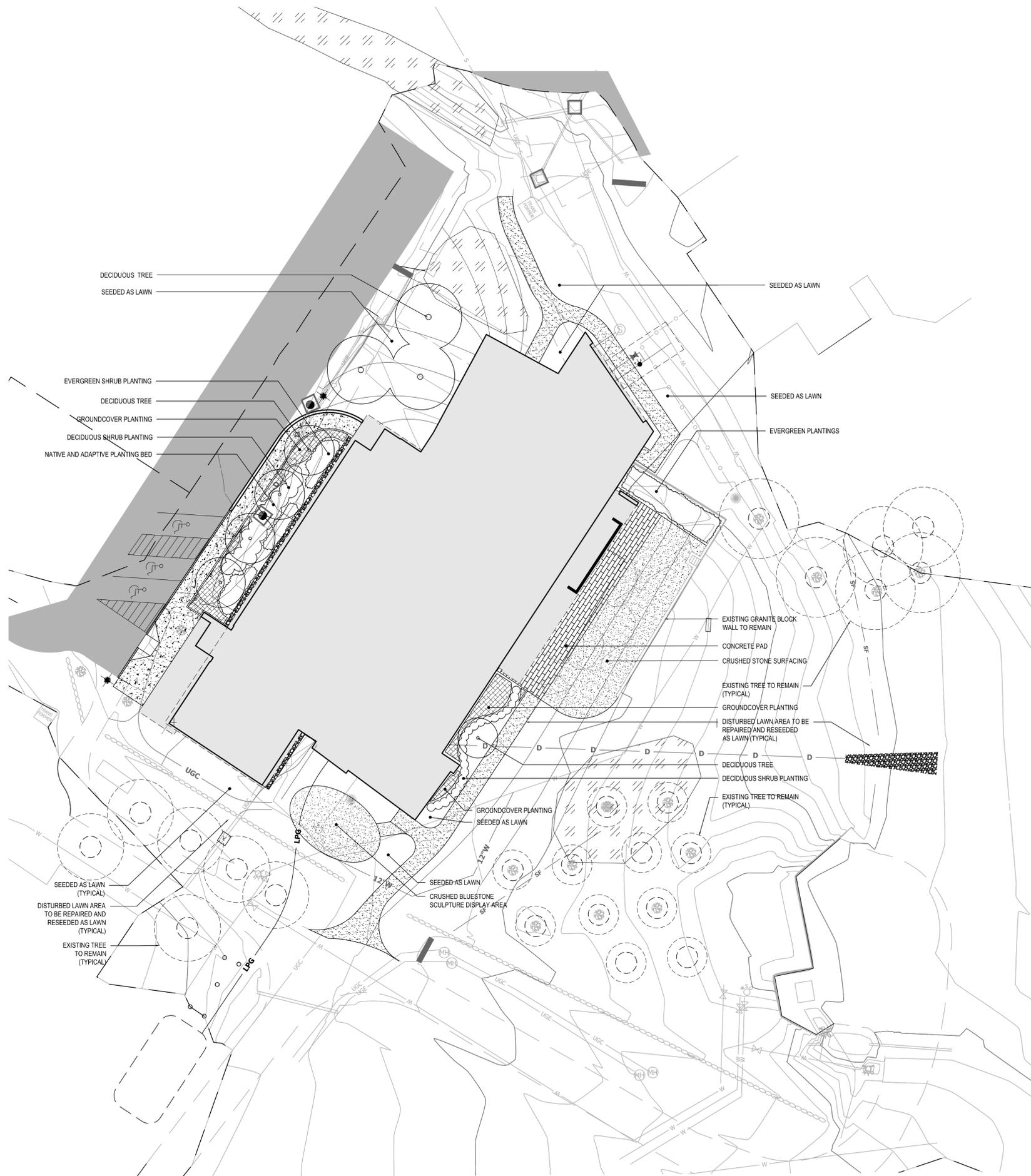
4

A

B

C

D



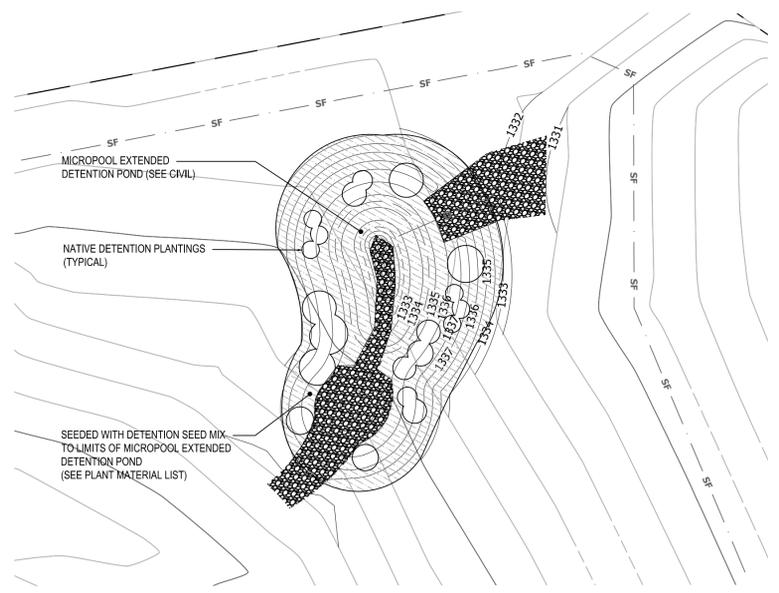
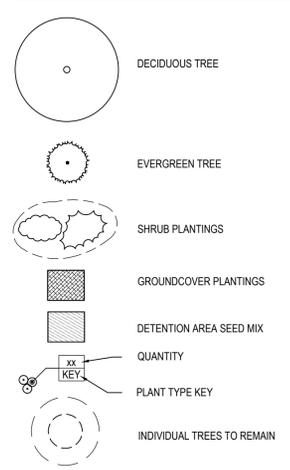
JITE PLANTING NOTES:

- COORDINATE WORK ON THIS SHEET WITH ALL DRAWINGS PERTAINING TO SITE WORK IN THE CONTRACT DOCUMENT SET. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIM OR HERSELF FAMILIAR WITH THE FULL SET OF DOCUMENTS FOR ALL SITE RELATED ITEMS.
- ALL DISTURBED AREAS NOT COVERED BY STRUCTURES, PAVEMENTS, MULCHES, PLANTING BEDS OR TREE PITS SHALL BE SEEDED LAWN.
- CONTRACTOR SHALL SET PLANTS OUT IN FIELD FOR APPROVAL OF LOCATIONS BY ARCHITECT PRIOR TO PLANTING.
- SPADE EDGE ALL PLANTING BEDS WITHIN LAWN AREAS UNLESS NOTED OTHERWISE TO RECEIVE STEEL EDGING. PROVIDE CLEAN SPADE EDGE AT PERIMETER OF ALL PLANTING BEDS AND TREE PITS ADJACENT LAWN AREAS. SPADE EDGE OF NEWLY PLANTED LAWN AREAS FOLLOWING SECOND MOWING
- ALL PLANTING BEDS AND PITS TO RECEIVE APPROVED MULCH TO DEPTHS INDICATED IN PLANTING DETAILS.
- WHERE DISCREPANCIES OCCUR BETWEEN PLANTING QUANTITIES OR TYPES SHOWN ON PLAN AND IN THE PLANT LIST, THE QUANTITY OF PLANTINGS SHOWN ON PLAN SHALL PREVAIL.

SITE PLANTING ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER AT 4" HT.
CONT.	CONTAINER
GAL	GALLON CONTAINER
HT.	HEIGHT
O.C.	ON CENTER
PT	PINT CONTAINER
QTY	QUANTITY
SPD	SPREAD

SITE PLANTING LEGEND



1 SITE PLANTING PLAN
1" = 20'

2 MICROPOOL EXTENDED DETENTION POND PLANTING
1" = 20'



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KEYPLAN

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SITE PLANTING PLAN

Date
FEB 2016
 Scale
1" = 20'
 Proj. Number
15211.00

Drawing Number
L401

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