LANDSCAPING NOTES:

1. CALL DIG-SAFE (1-888-344-7233) PRIOR TO BEGINNING WORK. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO OWNER.
2. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
3. DO NOT SCALE FROM DRAWINGS. ANY OMISSIONS IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, NOTES AND SPECS SHALL BE IMMEDIATELY REPORTED TO THE OWNER FOR FURTHER DIRECTION AND RESOLUTION BEFORE ANY ADDITIONAL WORK PROCEEDS.
4. PROVIDE SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
5. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBGRADE PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM. MINIMUM LOAM THICKNESS IS 6"
6. ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARDS FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN".
7. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
8. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM THE OWNER.
9. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND NEWLY PLANTED TREES AND SHRUBS DURING THE CONSTRUCTION PROCESS. WHERE REQUIRED, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING (SNOW OR EQUAL) AROUND EXISTING TREES AND SHRUBS THAT COULD BE IMPACTED BY THE CONSTRUCTION PROCESS. STORAGE OF CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIAL, SNOW STORAGE AND OR VEHICLE PARKING SHALL NOT BE PERMITTED WITHIN THE DRIP LINE OF TREES OR TWENTY FEET, WHICH EVER IS GREATER.
11. ALL GROUND COVER BEDS AND TREE, SHRUB, AND GRASS PITS SHALL BE MULCHED WITH 6" COMPOST.
12. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY, OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND PRIOR TO INSTALLATION ON SITE.
13. MAINTENANCE OF NEW PLANTINGS AND LAWNS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND OR LANDSCAPE SUBCONTRACTOR UNTIL ACCEPTANCE BY THE OWNER. RESPONSIBILITIES SHALL INCLUDE WATERING, WEEDING AND MOWING AS NECESSARY. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE. REPLACEMENT MATERIAL SHALL BE GUARANTEED FOR AN ADDITIONAL YEAR FROM TIME OF INSTALLATION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A MINIMUM OF TWO (2) MOWINGS FOR ALL TURF AREAS OR UNTIL ACCEPTANCE BY THE OWNER. A MINIMUM OF A UNIFORM 75% CATCH OF TURF IS REQUIRED FOR ACCEPTANCE.
15. DAMAGE TO EXISTING SITE IMPROVEMENT DURING INSTALLATION OF LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
16. SHADE TREES MINIMUM 2.5" CALIPER WITH A BRANCHING HEIGHT NOT LESS THAN 6' ABOVE GRADE.
17. ALL DISTURBED AREAS NOT PAVED OR LANDSCAPED MUST BE TREATED WITH A MINIMUM 6" LOAM (NHDOT ITEM #641) AND SEED (NHDOT ITEM #644). GRASS SHALL BE ESTABLISHED PURSUANT TO NHDOT ITEM #646.

PLANT LIST: (FOR THIS DRAWING)

QUANT.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
6	QC	QUERCUS COCCINEA	SCARLET OAK	2.5" CAL	B&B
25	AF	ACER FREEMANI	FREEMAN MAPLE	2.5" CAL	B&B
10	JC	JUNIPERUS COMMUNIS 'BLUEBERRY DELIGHT'	BLUEBERRY DELIGHT JUNIPER	#3	CONT
15	TA	THUJA OCCIDENTALIS	EASTERN ARBORVITAE	4'-5'HT.	CONT
8	SV	SYRINGA VULGARIS 'COMMON'	PURPLE LILAC	4-5'HT.	CONT

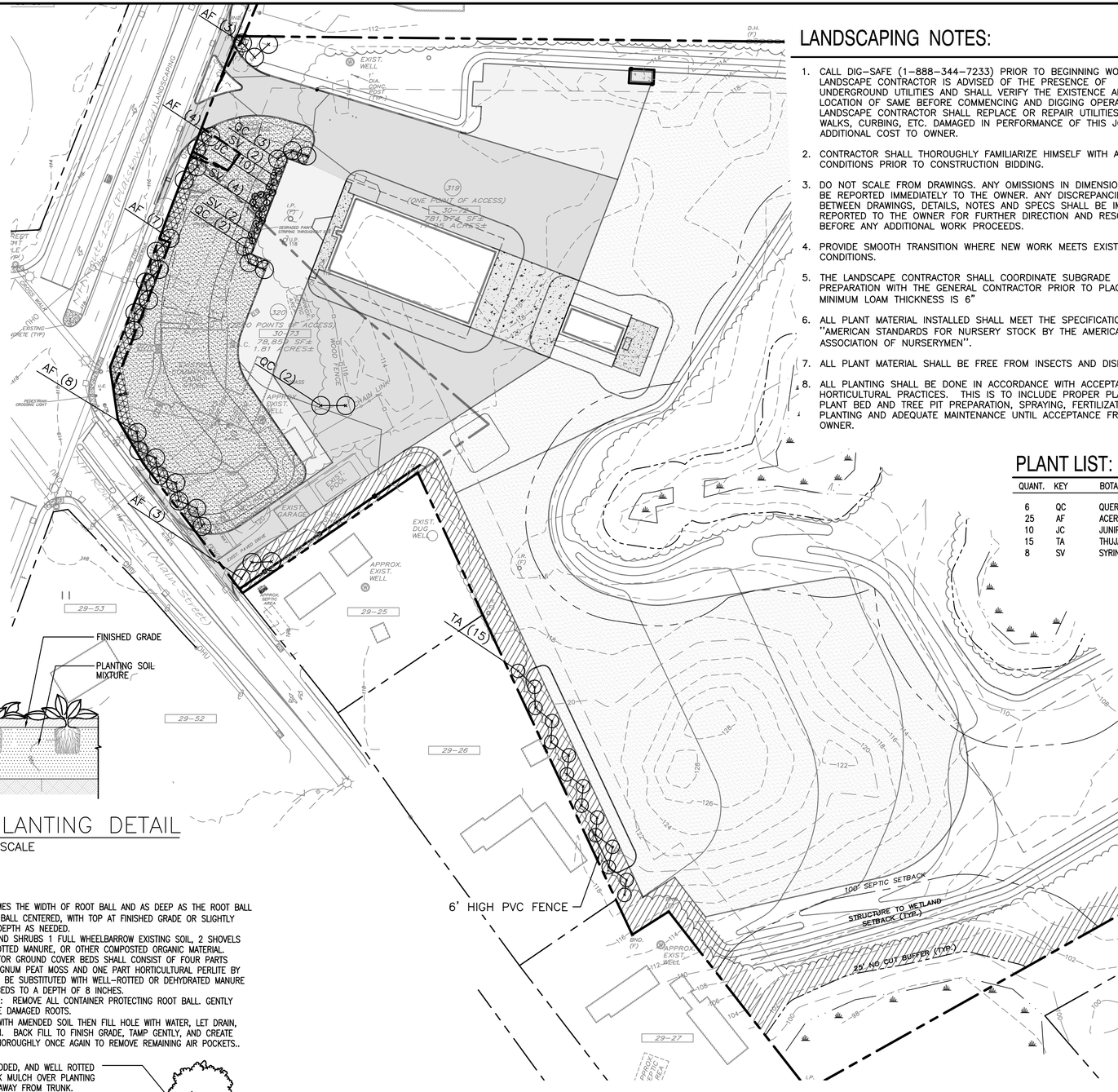
OPEN SPACE: TOTAL LOT AREA=19 ACRES

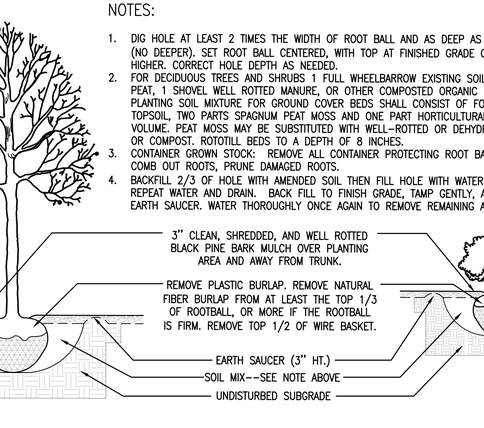
FRONT BUFFER STRIP: PLANT 12' WIDE LANDSCAPE BUFFER
LENGTH = 612':
1 SHADE TREE/25' OF FRONTAGE = 24.5; 25 SHADE TREES REQUIRED

SIDE AND REAR BUFFER STRIPS:
COMMERCIAL USE ABUTS RESIDENTIAL USE BUFFER = 25'
PROPOSED LANDSCAPE PLANTINGS & 6' HIGH FENCE

INTERIOR PAVEMENT LANDSCAPING:
5% OF PAVED DRIVEWAYS & PARKING AREAS
REQUIRED PAVEMENT STRIPS FOR PARKING GREATER THAN 20 SPACES:
MIN. LANDSCAPE STRIP SIZE = 250 SF
SHADE TREES = 1/300 SF OF REQUIRED INTERIOR LANDSCAPED AREA
(REQUIRED SHRUB = 40% DECIDUOUS & 60% EVERGREEN)

TOTAL INTERIOR PARKING AND DRIVEWAYS = 32,170 SF
5% OF PARKING & DRIVEWAYS = 1,608.5; 1,609 SF
SHADE TREES: 1,609/300 = 5.4; 6 SHADE TREES
SHRUBS: 1,609/100 = 16.1; 17 SHRUBS
40% DECIDUOUS = 6.8; 7 DECIDUOUS SHRUBS
60% EVERGREEN = 10.2; 10 EVERGREEN SHRUBS





GROUNDCOVER PLANTING DETAIL

NOT TO SCALE

NOTES:

1. DIG HOLE AT LEAST 2 TIMES THE WIDTH OF ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH TOP AT FINISHED GRADE OR SLIGHTLY HIGHER. CORRECT HOLE DEPTH AS NEEDED.
2. FOR DECIDUOUS TREES AND SHRUBS 1 FULL WHEELBARROW EXISTING SOIL, 2 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL. PLANTING SOIL MIXTURE FOR GROUND COVER BEDS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPAGNUM PEAT MOSS AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.
3. CONTAINER GROWN STOCK: REMOVE ALL CONTAINER PROTECTING ROOT BALL. GENTLY COMB OUT ROOTS, PRUNE DAMAGED ROOTS.
4. BACKFILL 2/3 OF HOLE WITH AMENDED SOIL THEN FILL HOLE WITH WATER, LET DRAIN, REPEAT WATER AND DRAIN. BACK FILL TO FINISH GRADE, TAMP GENTLY, AND CREATE EARTH SAUCER. WATER THOROUGHLY ONCE AGAIN TO REMOVE REMAINING AIR POCKETS..

TREE AND SHRUB PLANTING DETAIL

NOT TO SCALE

LANDSCAPING PLAN

SCALE: 1" = 60'-0"

STATE OF NEW HAMPSHIRE
CALEN B. COLBY
No. 11511
LICENSED
PROFESSIONAL ENGINEER
04/04/19

COLBY COMPANY, LLC
CCE
engineering & design

47A York St
Portland, ME
04101
207.553.7753

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
A	SITE PLAN REVIEW	ZRJ	LDA	03/20/19

MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757

PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

LANDSCAPING PLAN

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SIZE: ANSI D
DATE: 1/25/19
DES BY: LDA
DWN BY: ZRJ
CKD BY: KDB

PROJECT NO. 109.061.003

SHEET 13 OF 31

DRAWING NO. C-112

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FIXTURE TABLE			
SYMBOL	MODEL NUMBER	QUANTITY	MH
A	LNC3-24L3K-050-4	4	11'/14'
B	LNC3-24L3K-050-2	7	14'/18'
C	EVLL5LCA20-LED	1	18'-0"
D	ALT3-168L-385-4K7-5W	3	25'-0"
E	ALT3-168L-305-3K7-4	3	25'-0"
F	ALT1-54L-120-3K7-4-B C	2	20'-0"
G	ALT1-28L-85-3K7-3	2	20'-0"
H	ALT1-28L-85-3K7-2	2	20'-0"

SITE PHOTOMETRIC PLAN

SCALE: 1" = 60'-0"

N

0 60' 120'

Scale: 1" = 60'-0"

CCE COLBY COMPANY, LLC engineering & design

47A York St
Portland, ME
04101
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STATE OF NEW HAMPSHIRE
CALEN B. COLBY
No. 11511
LICENSED
PROFESSIONAL ENGINEER
04/04/19

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
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143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

SITE PHOTOMETRIC PLAN

SIZE: ANSI D
DATE: 1/25/19
DES BY: HCG
DWN BY: ZRJ
CKD BY: LDA

PROJECT NO. 109.061.003

SHEET 14 OF 31

DRAWING NO. C-113

SEQUENCE OF MAJOR ACTIVITIES – 143 & 145A PLAISTOW ROAD

THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION. SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS
   - NEW CONSTRUCTION
   - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE – FLOOD PLAIN EXCAVATION WORK
   - CONTROL OF DUST
   - CONSTRUCTION OF ACCESS AND HAUL ROAD
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS – ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
10. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
11. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

NOTE: LOT DISTURBANCE OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETED AND STABLE.

UNNAMED TRIBUTARY TO LITTLE RIVER

EROSION AND SEDIMENT OONTROLS AND STABILIZATION PRACTICES

A. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR MORE THAN TWENTY ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   1. TEMPORARY SEEDING
   2. MULCHING
B. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH HAYBALE BARRIERS AND SILT FENCES. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.
C. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED.
   4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
D. WINTER STABILIZATION PRACTICES (NOVEMBER 15TH THROUGH MAY 1ST):
   1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY NOVEMBER 15TH, OR WHICH ARE DISTURBED AFTER NOVEMBER 15TH. SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURE WITH ANCHOR NETTING, ELSEWHERE.
   2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITION.
   3. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

OFF SITE VEHICLE TRACKING

THE CONTRACTOR SHALL CONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

INSTALLATION– MAINTENANCE AND INSPECTION PROCEDURES OF FR090N AND SEDIMENT CONTROLS

A. GENERAL
   THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.
   1. ALL SWALES SHALL BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
   2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME. UNDER NO CIRCUMSTANCES SHALL MORE THAN 5.0 ACRES OF THE PROJECT SITE BE UNSTABILIZED AT ONE TIME.
   3. ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 1/2 INCH OR GREATER.
   4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
   5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE OR HAYBALE BARRIERS WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE FENCE OR BALE.
   6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
   7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
   8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
   9. A REPRESENTATIVE OF THE SITE CONTRACTOR, WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
   10. THE EROSION CONTROL PROCEDURES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL, VOL 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY COMPREHENSIVE ENVIRONMENTAL, INC. AND THE NHDES.
B. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE. SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS. ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL CODES OR SPECIFICATIONS.
C. THE USE OF SAND FOR THE PURPOSE OF PEDESTRIAN SAFETY AND SAFE DRIVING CONDITION SHALL BE MINIMIZED.
D. THE OWNER SHALL CLEAN ALL CATCH BASINS, DRAIN MANHOLES AND SWEEP THE PARKING LOT ON AN ANNUAL BASIS.
E. SILT SOCK
   1. APPLICATION
      A. SILT SOCKS ARE TO BE INSTALLED DOWN-SLOPE OF ANY DISTURBED AREA REQUIRING EROSION AND SEDIMENT CONTROL AND FILTRATION OF SOLUBLE POLLUTANTS FROM RUNOFF. SILT SOCKS ARE EFFECTIVE WHEN INSTALLED PERPENDICULAR TO SHEET OR LOW CONCENTRATED FLOW.
   2. INSTALLATION DETAILS
      A. SILT SOCKS USED FOR PERIMETER CONTROL OF SEDIMENT AND SOLUBLE POLLUTANTS IN STORM RUNOFF SHALL MEET FILTREXX SOCK MATERIAL SPECIFICATIONS AND USE CERTIFIED FILTREXX FILTER MEDIA.
      B. SILT SOCKS WILL BE PLACED AT LOCATIONS INDICATED ON PLANS AND AS DIRECTED BY THE ENGINEER.
      C. SILT SOCKS SHOULD BE INSTALLED PARALLEL TO THE BASE OF THE SLOPE OR OTHER DISTURBED AREA. IN EXTREME CONDITIONS (i.e. 2:1 SLOPES). A SECOND SILT SOCK ," SHALL BE CONSTRUCTED AT THE TOP OF THE SLOPE.
      D. STAKES SHALL BE INSTALLED THROUGH THE MIDDLE OF THE SILT SOCK ON 10 FT CENTERS, USING 2 INCH BY 2 INCH BY 3 FEET WOODEN STAKES. IN THE EVENT STAKING IS NOT POSSIBLE (i.e., WHEN SILT SOCKS ARE USED ON PAVEMENT) HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SILT SOCK TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.
      E. STAKING DEPTH FOR SAND AND SILT LOAM SOILS SHALL BE 12 INCHES AND 8 INCHES FOR CLAY SOILS.
      F. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UP-SLOPE SIDE OF THE SILT SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE. IMPROVING FILTRATION AND SEDIMENT RETENTION.
      G. IF THE SILT SOCK IS TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, IT MAY BE SEEDED AT TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
      H. SILT SOCKS ARE NOT TO BE USED IN PERENNIAL. EPHEMERAL. OR INTERMITTENT STREAMS. I. SEE DETAIL FOR CORRECT SILT SOCK INSTALLATION.

F. FILTERS
   1. SILT FENCE
      A. SYNTHETIC FILTER FABRIC SHALL BE A PREVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY REQUIREMENTS

FILTERING EFFICIENCY	VTM-51	75X MINIMUM
TENSILE STRENGTH AT	VTM-52	EXTRA STRENGTH
20X MAXIMUM ELONGATION*		50 LB/LINEAR IN (MIN.)
		STANDARD STRENGTH
		30 LB/LINEAR IN (MIN.)
FLOW RATE	VTM-51	0.3 GAL/SF/MIN (MIN.)

* REQUIREMENTS REDUCED BY 50 PERCENT AFTER SIX (6) MONTHS OF INSTALLATION.

      B. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF SIX (6) MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES F TO 120 DEGREES F. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED THIRTY-SIX (36) INCHES.
      C. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST. WITH A MINIMUM SIX (6) INCH OVERLAP AND SECURELY SEALED.
      D. POSTS SHALL BE SPACED A MAXIMUM OF TEN (10) FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 16 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
      E. POSTS FOR SILT FENCES SHALL BE EITHER 4-INCH DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE A MAXIMUM MESH SPACING OF 6 INCHES.
      F. WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD STRENGTH FILTER CLOTH SHALL BE A MINIMUM OF 42 INCHES IN HEIGHT, A MINIMUM OF 14 GAUGE AND SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.
      G. A TRENCH SHALL BE EXCAVATED APPROXIMATELY FOUR (4) INCHES WIDE AND FOUR (4) INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
      H. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST ONE (1) INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND N MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACES.
      I. THE 'STANDARD STRENGTH' FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND EIGHT (8) INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
      J. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM (I) APPLYING.
      K. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
      L. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UP-SLOPE AREAS HAS BEEN PERMANENTLY STABILIZED.
   2. SEQUENCE OF INSTALLATION
      SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
   3. MAINTENANCE
      A. STRAW/HAY BALE BARRIER AND SILT FENCE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL THEY SHALL BE REPAIRED IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.
      B. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
      C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD (1/3) THE HEIGHT OF THE BARRIER.
      D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

G. MULCHING
   1. TIMING
      IN ORDER FOR MULCH TO BE EFFECTIVE, IT MUST BE IN PLACE PRIOR TO MAJOR STORM EVENTS. THERE ARE TWO (2) TYPES OF STANDARDS WHICH SHALL BE USED TO ASSURE THIS:
      A. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE IN CONCORD, TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
      B. REQUIRED MULCHING WITHIN A SPECIFIED TIME PERIOD. THE TIME PERIOD CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON A AREA, THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOILERODIBIUTY, SEASON OF YEAR. EXTENT OF DISTURBANCE. PROXIMITY TO SENSITIVE RESOURCES. ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.
   2. APPLICATION RATE
      MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 90 TO 100 POUNDS PER 1000 SQUARE FEET. THE MINIMUM MULCH REQUIREMENT, REGARDLESS OF APPLICATION RATE IS THAT SOIL MUST NOT BE VISIBLE.
   3. GUIDELINES FOR WINTER MULCH APPLICATION.
      WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 6.000 POUNDS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH. NO MULCH IS TO BE APPLIED OVER MORE THAN TWO (2) INCHES OF SNOW. IF SNOW DEPTH IS GREATER THAN TWO (2) INCHES IT SHALL BE REMOVED BEFORE MULCHING.
   4. MAINTENANCE
      ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90X OF THE SOIL SURFACE IS COVERED BY MULCH. ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.
   5. EXCELSIOR MATTING
      EXCELSIOR MATTING SHALL BE USED IN PLACE OF MULCH ON ALL SLOPES STEEPER THAN 3:1.
   6. SLOPES
      ALL SLOPES GREATER THAN 15X DURING THE REGULAR CONSTRUCTION SEASON ARE TO HAVE NETTING OVER MULCH OR COMBINATION EROSION CONTROL MAT USED (MULCH AND NET). THIS APPLIES TO ALL SLOPES GREATER THAN 8X AFTER OCTOBER 1. MULCHING IS REQUIRED OVER HYDROSEEDING.

H. TEMPORARY GRASS COVER
   1. SEEDBED PREPARATION
      APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE.
   2. SEEDING
      A. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE.
      B. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
      C. APPLY SEED UNIFORMLY BY HAND. CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH,MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.
   3. MAINTENANCE
      TEMPORARY SEEDINGS SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).

I. PERMANENT MULCHING
   1. TIMING
      A. APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS THAT RESIST DECOMPOSITION SUCH AS WOOD CHIPS OR CRUSHED STONE TO THE SOIL SURFACE WHERE VEGETATION STABILIZATION IS EITHER IMPRACTICAL OR DIFFICULT TO ESTABLISH.
      B. WINTER STABILIZATION SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS.
   2. CONSIDERATIONS
      A. PERMANENT MULCHING SHALL BE USED TO STABILIZE CHRONIC EROSION AREAS WHICH RECEIVE HEAVY FOOT OR VEHICLE TRAFFIC. NOT INTENDED FOR AREAS OF CONCENTRATED FLOWS.
      B. IF WOOD CHIPS ARE USED IN LANDSCAPED AREAS (TREES & SHRUBS). A SUPPLEMENTAL APPLICATION OF CHEMICAL FERTILIZER SHOULD BE APPLIED AT A RATE OF TWO POUNDS OF 5-10-5 PER 100 SQUARE FEET OF MULCH.
      C. IF CRUSHED STONE IS USED, A PLASTIC FILTER CLOTH SHALL BE PLACED BETWEEN THE GROUND AND THE STONE.
   3. SPECIFICATIONS
      A. WOOD CHIPS OR AGGREGATE SHALL BE USED ON SLOPES NO STEEPER THAN 3 HORIZONTALLY ON 1 VERTICALLY.
      B. PERMANENT MULCH SHALL BE 3 INCHES OR MORE IN DEPTH.
      C. WOOD CHIPS SHALL BE APPLIED AT A RATE OF 500-900 POUNDS PER 1,000 SQUARE FEET OR 10-20 TONS PER ACRE. WOOD CHIPS SHALL BE GREEN OR AIR-DRIED AND FREE OF OBJECTIONABLE COARSE MATERIALS.
      D. AGGREGATE COVER (GRAVEL. CRUSHED STONE OR SLAG) SHALL BE WASHED, 1/4 INCH TO 2 A INCHES AND APPLIED AT A RATE OF 9 CUBIC YARDS PER 1,000 SQUARE FEET.
   4. MAINTENANCE
      A. WOOD CHIPS SHALL BE MONITORED FOR DECOMPOSITION AND NEW APPLICATIONS MADE. B. CRUSHED STONE SHALL BE MONITORED FOR WASH OUT AND SLIPPING DOWN SLOPE. IF EITHER OCCUR. NEW MATERIAL SHALL BE PROVIDED ON THE BARREN AREAS.

J. VEGETATIVE PRACTICE
   1. FOR PERMANENT MEASURES AND PLANTINGS.
      A. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 3 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
      B. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER.
      C. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH.
      D. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
      E. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE. F. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE S014 UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.
      G. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED.
      H. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEEDING RATE	
CREEPING RED FESCUE	175 LBS/ACRE
KENTUCKY BLUEGRASS	25 LBS/ACRE
PERRENIAL RYE GRASS	50 LBS/ACRE

      I. IN NO CASE SHALL THE WEED CONTENT EXCEED 1 PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.

K. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL)
   FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

L. STORM DRAIN INLET PROTECTION
   1. STRAW/HAY BALE INLET STRUCTURE
      A. BALES SHALL BE EITHER WIRE BOUND OR STRING TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.
      B. BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.
      C. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED AROUND THE INLET THE WIDTH OF BALE TO A MINIMUM DEPTH OF FOUR (4) INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
      D. EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO (2) STAKES OR REBARS DRIVEN THROUGH THE BALE.
      E. LOOSE STRAW/HAY SHALL BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.
      F. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINSTORM AND REPAIRS MADE AS NECESSARY.
      G. SEDIMENT SHOULD BE REMOVED FROM THE DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE-THIRD THE DEPTH OF THE TRAP.
      H. HAYBALES SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.
   2. BLOCK AND GRAVEL INLET PROTECTION
      A. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS. BU STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH AND NO GREATER THAN 24 INCHES HIGH.
      B. WIRE MESH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.
      C. STONE SHALL BE PILED AGAINST THE WIRE TO BE THE TOP OF THE BLOCK BARRIER, AS SHOWN IN FIGURE 16.7. STONE GRADATION SHALL BE WELL GRADED WITH THE MAXIMUM STONE SIZE OF 6 INCHES AND MINIMUM STONE SIZE OF 1 INCH.
      D. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACE.

M. STABILIZED CONSTRUCTION ENTRANCE
   1. SPECIFICATIONS
      A. AGGREGATE SIZE: USE TWO (2) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
      B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
      C. WIDTH: TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
      D. LENGTH: AS REQUIRED. BUT NOT LESS THAN FIFTY (50) FEET
      E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
      F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.
   2. MAINTENANCE
      THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES OR WATERWAYS.

TIMING OF CONTROLS MEASURES

THE MAXIMUM AREA TO BE DISTURBED AT ONE TIME SHALL BE KEPT UNDER FIVE (5) ACRES. A PHASING PLAN DESCRIBING THE AREAS TO BE DISTURBED SHALL BE SUBMITTED TO THE DESIGN ENGINEER AND NHDES. AN INDEPENDENT MONITORING COMPANY SHALL BE HIRED BY THE CONTRACTOR TO MONITOR ALL EROSION CONTROL DEVICES.

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF ANY WETLAND OR STREAM, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND HAYBALE BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

WASTE DISPOSAL

A. WASTE MATERIALS
   ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
B. HAZARDOUS WASTE
   ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
C. SANITARY WASTE
   ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
D. PRODUCT SPECIFICATION PRACTICES
   THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:
   1. PETROLEUM PRODUCTS:
      ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
   2. FERTILIZERS:
      FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
   3. PAINTS:
      ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

SPILL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES
   THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   1. GOOD HOUSEKEEPING:
      THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:
      A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
      B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND. IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
      C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
      D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
      E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
      F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
   2. HAZARDOUS PRODUCTS:
      THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
      B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
      C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL
B. SPILL CONTROL PRACTICES
   IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
   1. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
   2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE
   3. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
   4. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE. 5. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE
      STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
   6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.
   7. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
C. VEHICLE FUELING AND MAINTENANCE PRACTICE:
   1. EFFORTS SHOULD BE MADE TO PERFORM EQUIPTMENT/VEHICAL FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY.
   2. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY.
   3. IF POSSIBLE KEEP AREA COVERED.
   4. KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA.
   5. VEHICLES SHALL BE INSPECTED REGULARLY FOR LEAKS AND DAMAGE.
   6. USE DRIP PANS. DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

DUST CONTROL:

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS. FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000.

CONCRETE WASHOUT AREA:

1. THE CONCRETE CONTRACTOR SHOULD BE ENCOURAGED WHERE POSSIBLE, TO USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY.
2. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER.
3. WASHOUT AREAS SHOULD ALSO BE PROVIDED FOR PAINT AND STUCCO OPERATIONS.
4. ATTEMPTS SHOULD BE MADE TO LOCATE WASHOUT AREA A LEAST 50 YARDS AWAY FROM STORM DRAINS AND WATER WAYS WHENEVER POSSIBLE.
5. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STDRMWATER DISCHARGES:

1. DISCHARGES FROM FIRE-FIGHTING ACTIVITIES 2. FIRE HYDRANT FLUSHINGS
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
4. WATER USED TO CONTROL DUST
5. POTABLE WATER INC. UNCONTAMINATED WATER LINE FLUSHINGS
6. ROUTINE EXTERNAL BUILDING WASH DOWN -NO DETERGENTS
7. PAVEMENT WASH WATERS -NO SPILLS OR DETERGENTS
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATE
9. UNCONTAMINATED GROUND WATER OR SPRING WATER
10. FOUNDATION OR FOOTING DRAINS -NOT CONTAMINATED
11. UNCONTAMINATED EXCAVATION DEWATERING 12. LANDSCAPE IRRIGATION

INVASIVE SPECIES

THE PROJECT SHALL MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.

STATE OF NEW HAMPSHIRE
CALEN B. COLBY
No. 11511
LICENSED PROFESSIONAL ENGINEER
04/04/19

COLBY COMPANY, LLC
CCE
engineering & design
47A York St
Portland, ME
04101
207.553.7753

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
A	SITE PLAN REVIEW	ZRJ	LDA	03/20/19

MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757

PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

EROSION AND SEDIMENTATION CONTROL NOTES

SIZE:	ANSI D
DATE:	1/25/19
DES BY:	LDA
DWN BY:	ZRJ
CKD BY:	LDA
PROJECT NO.	109.061.003
SHEET	15 OF 31
DRAWING NO.	C-501

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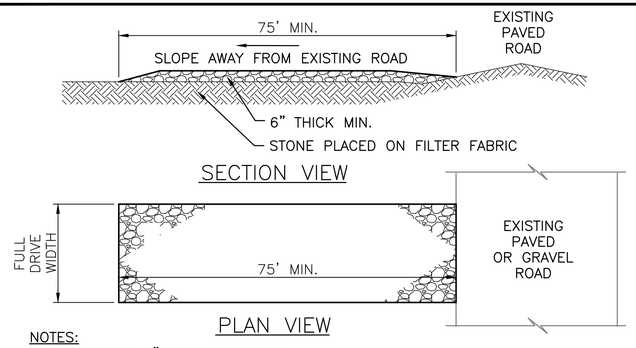
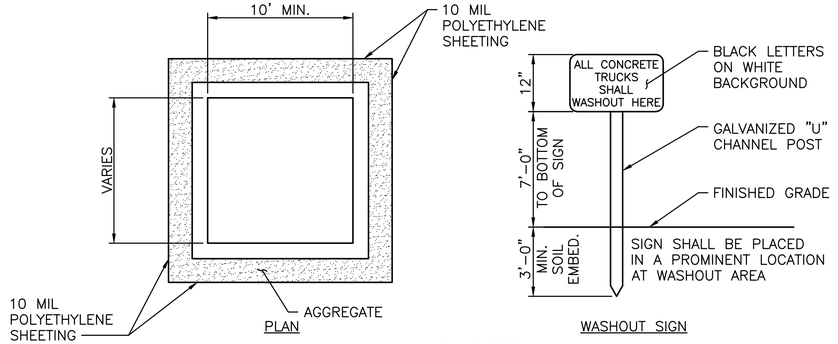


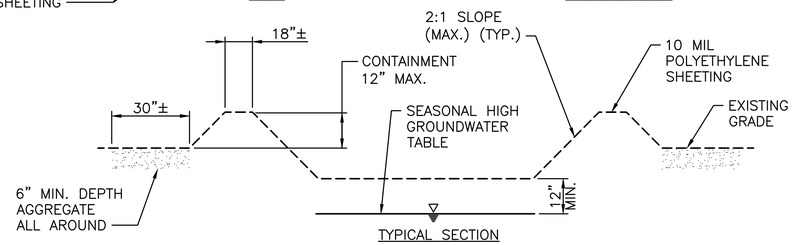
NOTES:

1. STONE SIZE: 3" CRUSHED STONE.
2. THICKNESS: MINIMUM OF 6".
3. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC TRAVELED WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE.
4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE UTILIZED FOR ALL ENTRANCES TO DISTURBED AREAS INCLUDING BETWEEN CONSTRUCTION PHASES.
5. ENTRANCE MAY BE REDUCED TO 50 FT IS A 3"x6" HIGH BERM IS INSTALLED AT THE ENTRANCE TO THE PROJECT SITE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



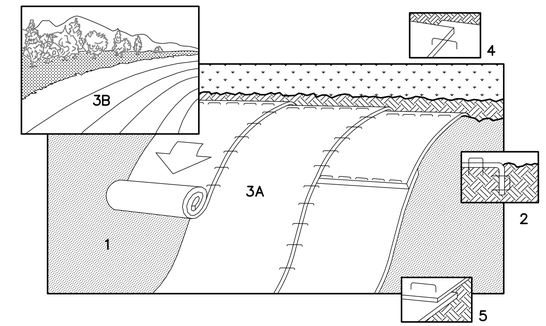


NOTES:

1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA

NOT TO SCALE



NOTE:

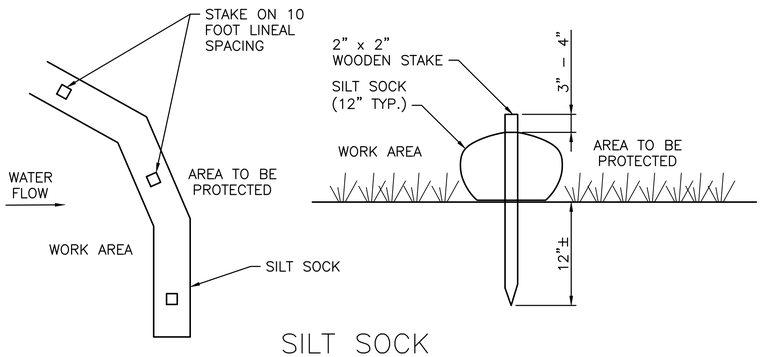
REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS. INSTALL ON 2:1 SLOPES OR STEEPER SLOPES, OR AREAS OF EROSION.

INSTALLATION STEPS:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS DOWN THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" TO 3" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

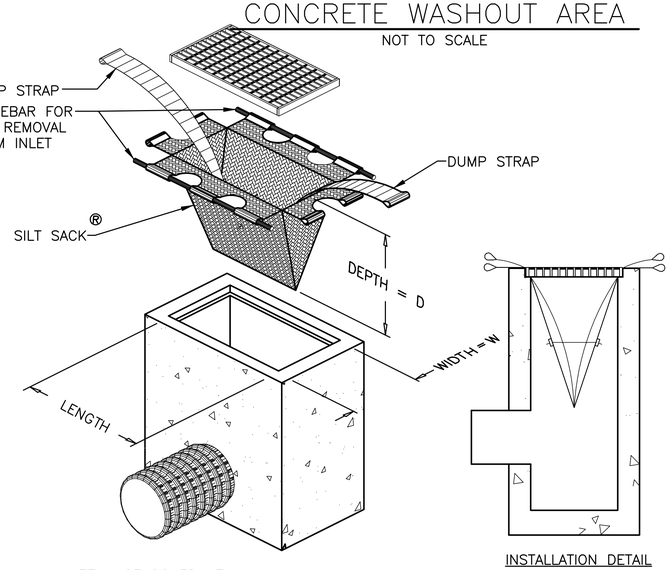
JUTE MATTING (EXCELSIOR MATTING)

NOT TO SCALE



SILT SOCK

NOT TO SCALE



MAINTENANCE SCHEDULE:

1. EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT.
2. IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACKS SHALL BE INSPECTED EVERY 2-3 WEEKS.
3. THE YELLOW RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF THE CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

SILT SACK DETAIL

NOT TO SCALE

STATE OF NEW HAMPSHIRE
CALEN B. COLBY
No. 11511
LICENSED PROFESSIONAL ENGINEER
04/04/19

COLBY COMPANY, LLC
CCE
engineering & design
47A York St
Portland, ME
04101
207.553.7753

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
A	SITE PLAN REVIEW	ZRJ	LDA	03/20/19

MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757

PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

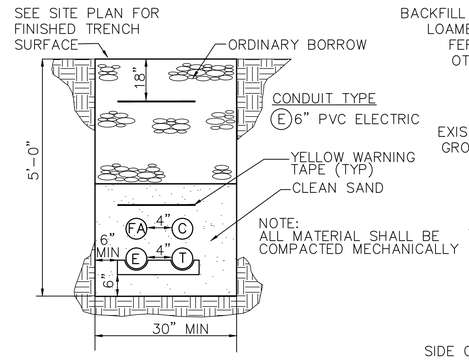
EROSION AND SEDIMENTATION DETAILS

SIZE: ANSI D
DATE: 1/25/19
DES BY: LDA
DWN BY: ZRJ
CKD BY: LDA

PROJECT NO. 109.061.003

SHEET 16 OF 31

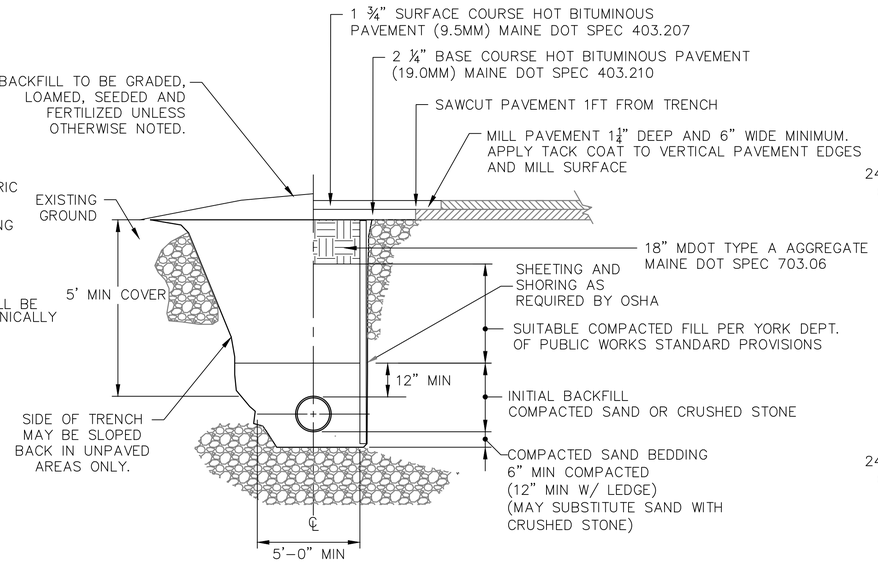
DRAWING NO. C-502



ALL TRENCH CONDUITS SHALL BE SCHEDULE 40 PVC, UNLESS OTHERWISE NOTED

UTILITY TRENCH DETAIL

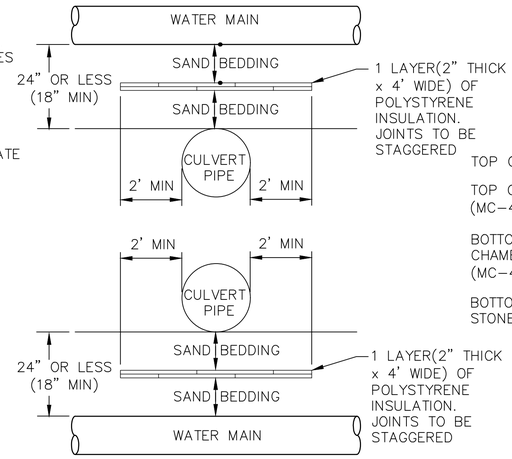
NOT TO SCALE



NOTES: 1. ALL EXCAVATION MUST MEET OSHA STANDARDS.

WATER SERVICE TRENCH DETAIL

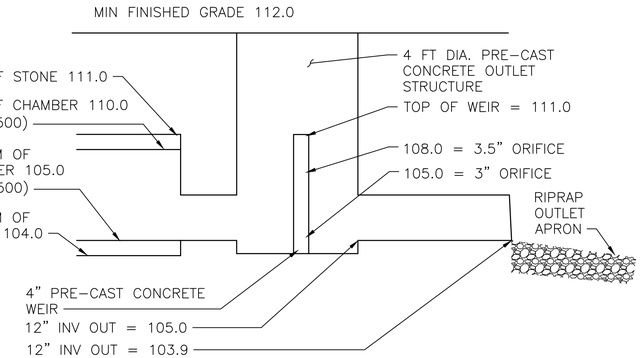
NOT TO SCALE



NOTE: INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS

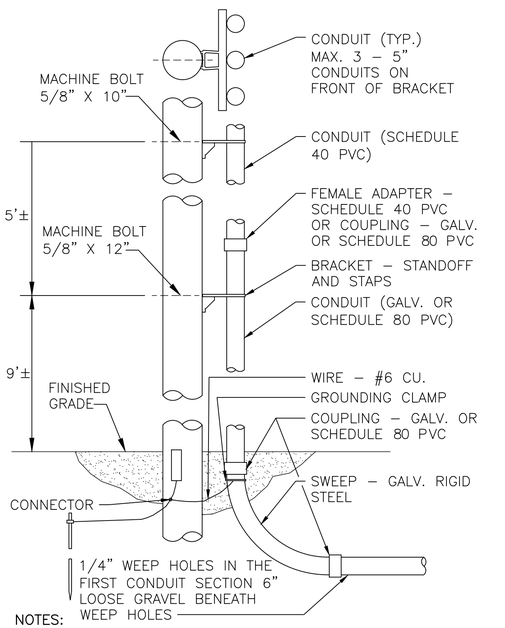
WATER SERVICE STORM DRAIN CROSSING DETAIL

NOT TO SCALE



OCS-2 DETAIL (STORMTECH MC-4500)

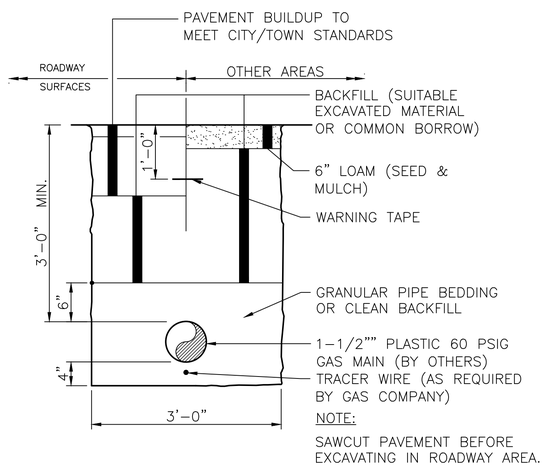
NOT TO SCALE



NOTES:
1. LOCATE RISER ON POLE AWAY FROM TRAFFIC.
2. BOND GALVANIZED CONDUIT TO GROUND.
3. LEAVE TOP OF CONDUIT OPEN.
4. FIRST SECTION OF RISER SHALL BE GALVANIZED RIGID STEEL OR SCHEDULE 80 PVC.
5. SWEEP SHALL BE GALVANIZED RIGID STEEL.

UNDERGROUND UTILITY RISER DETAIL

NOT TO SCALE



NATURAL GAS SERVICE TRENCH DETAIL

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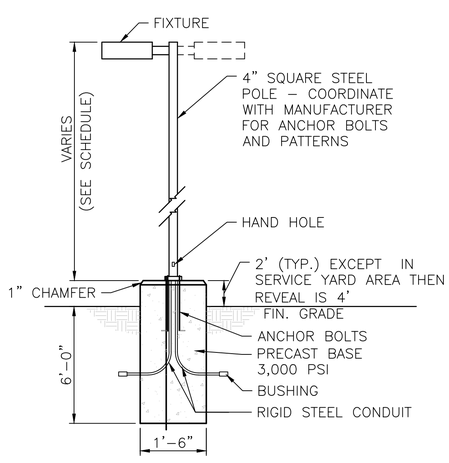

PRECAST CONCRETE LIGHT BASE DETAIL

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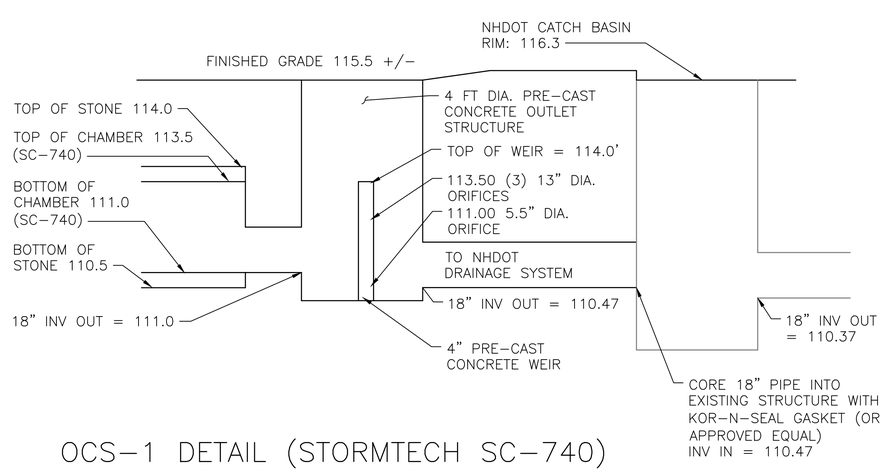

OCS-1 DETAIL (STORMTECH SC-740)

NOT TO SCALE

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47A York St
Portland, ME
04101
207.553.7753

STATE OF NEW HAMPSHIRE
CALEN B. COLBY
No. 11511
LICENSED PROFESSIONAL ENGINEER
04/04/19

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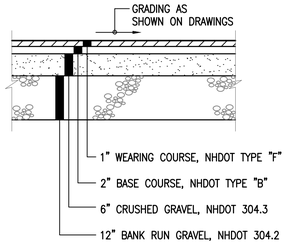
UTILITY DETAILS

SIZE: ANSI D
DATE: 1/25/19
DES BY: LDA
DWN BY: ZRJ
CKD BY: LDA

PROJECT NO. 109.061.003

SHEET 17 OF 31

DRAWING NO. C-503



LIGHT–DUTY PAVEMENT DETAIL

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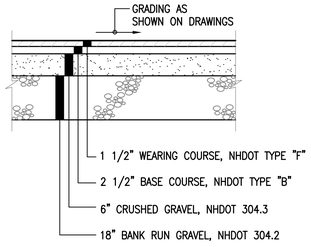

HEAVY–DUTY PAVEMENT DETAIL

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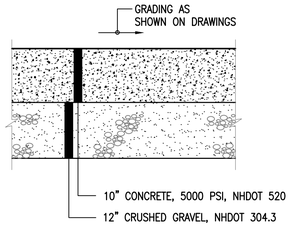

CONCRETE PAVEMENT DETAIL

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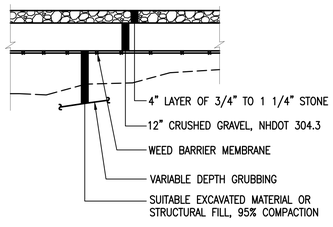
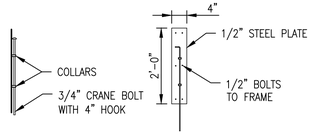


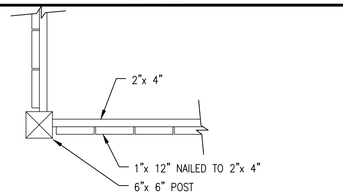
STONE SURFACE DISPLAY AREA DETAIL

NOT TO SCALE

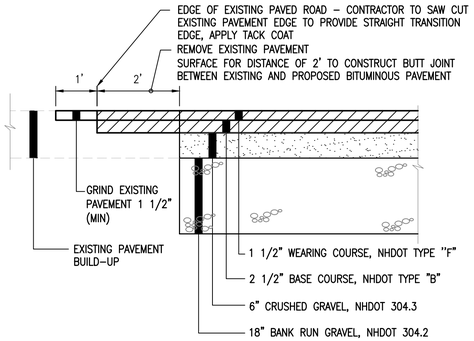
NOTE:
ALL WOOD SHALL BE PRESSURE TREATED 0.40 CCA RETENTION



CRANE BOLT DETAIL



CORNER PLAN VIEW



PAVEMENT SAWCUT DETAIL

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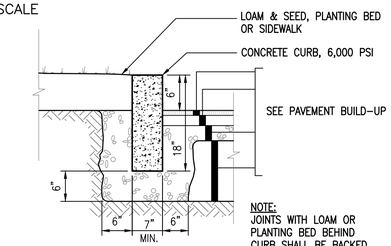


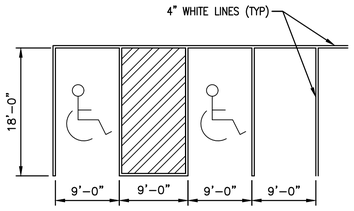
NOTE:
JOINTS WITH LOAM OR PLANTING BED BEHIND CURB SHALL BE BACKED WITH GEOTEXTILE FABRIC OR FELT PAPER

DESIGN NOTES:

1. CONCRETE 6000 PSI 28 DAYS.
2. REINFORCING WITH (2) #4 REBARS.
3. APPROXIMATE WEIGHT 130 LBS/LF.
4. RADII LARGER THAN 60 FT ARE FORMED FROM STRAIGHT SECTIONS.
5. ALL CURBING SHOULD BE COATED WITH A CLEAR SEALER EACH FALL TO PROTECT FROM ROAD SALT DAMAGE. CHECK WITH MFG. FOR APPROPRIATE TYPE.

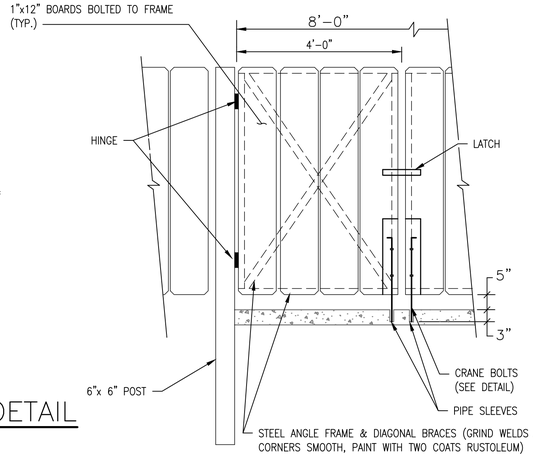
PRECAST CONCRETE CURB DETAIL

NOT TO SCALE

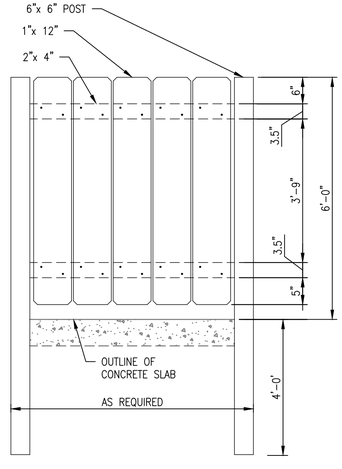


HANDICAP PARKING LAYOUT DETAIL

NOT TO SCALE



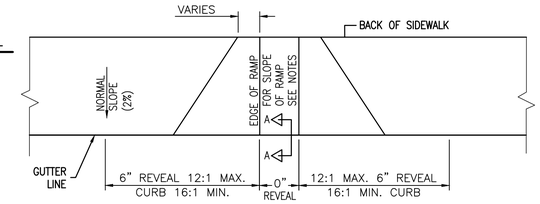
GATE DETAIL



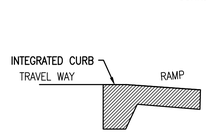
ELEVATION

DUMPSTER ENCLOSURE DETAIL

NOT TO SCALE



PLAN

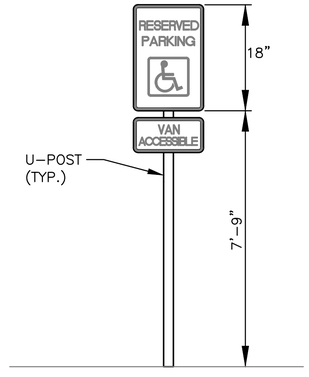


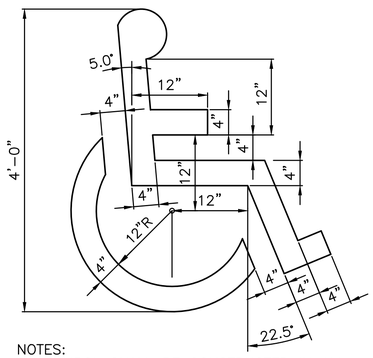
SECTION A–A

1.) SLOPE OF RAMP VARIES WITH SIDEWALK WIDTH AND HEIGHT, WITH A MAXIMUM SLOPE OF 12:1 AND MINIMUM SLOPE OF 16:1.
2.) A BEDROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP SHALL BE USED ON PORTLAND CEMENT CONCRETE RAMPS.
3.) MAINTAIN THE NORMAL GUTTER PROFILE THROUGHOUT THE RAMP AREA.
4.) INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF THE RAMP.
5.) MAINTAIN 0" OF CURB REVEAL AT THE RAMP. (SEE SECTION A–A)
6.) A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (IE. HYDRANTS, UTILITY POLES, SIGNS, ETC.)

PEDESTRIAN RAMP DETAIL

NOT TO SCALE



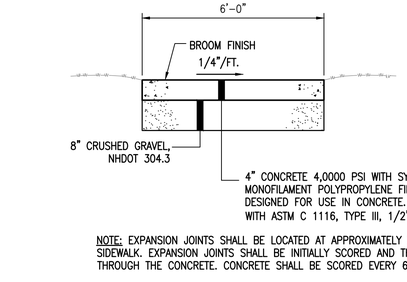


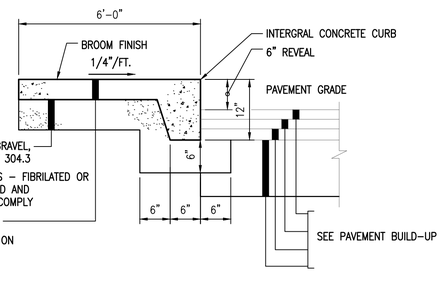
NOTES:

1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248–TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ADA SIGN AND STRIPING DETAIL

NOT TO SCALE

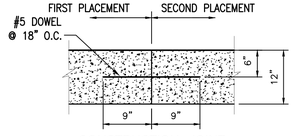




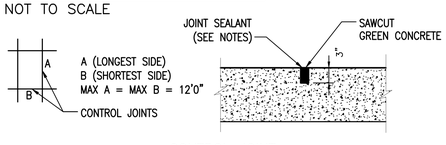
NOTE: EXPANSION JOINTS SHALL BE LOCATED AT APPROXIMATELY 30' INTERVALS ON SIDEWALK. EXPANSION JOINTS SHALL BE INITIALLY SCORED AND THEN SAWCUT THROUGH THE CONCRETE. CONCRETE SHALL BE SCORED EVERY 6 FEET.

CONCRETE SIDEWALK DETAIL

NOT TO SCALE



CONSTRUCTION JOINT



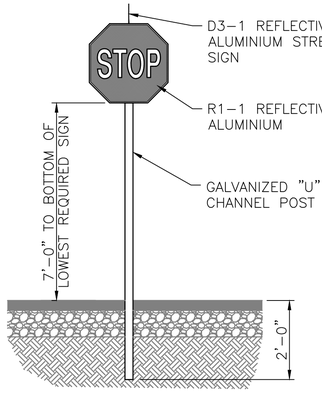
CONTROL JOINT

NOTES:

1. CONCRETE WORK SHALL CONFORM TO AL REQUIREMENTS OF ACI 301 AND ACI 318. CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDING 28–DAY CYLINDER TESTS. UNLESS AN ALTERNATIVE CONCRETE MIX DESIGN IS APPROVED, CONCRETE MIXES SHALL BE AS FOLLOWS:
   A. CONCRETE SHALL HAVE 5000 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH.
   B. MAXIMUM AGGREGATE SIZE SHALL BE 1" (ASTM C33/467).
   C. CEMENT SHALL BE ASTM C150 TYPE 1 OR TYPE 2 U.N.O.
   D. ALL STRUCTURAL CONCRETE SHALL BE AIR ENTRAINED (4.0 +/– 1.5%)
   E. SLUMP SHALL BE 2" TO 4".
   F. MAXIMUM WATER/CEMENT RATIO SHALL BE 0.35.
   G. SILCA FUME TO BE ADDED AT A RATE OF 5–8% BY WEIGHT OF CEMENTICOUS MATERIAL. SILCA FUME SHALL BE AMORPHOUS AND CONFORM TO ASTM C1240.
2. COLD WEATHER PLACEMENT SHALL COMPLY WITH ACI 306.1–90 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING".
3. THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR APPROVAL TWO (2) WEEKS PRIOR TO PLACING ANY CONCRETE.
4. WATER REDUCING AND AIR ENTRAINING ADMIXTURES INCORPORATED IN CONCRETE DESIGN MIXES SHALL BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CALCIUM CHLORIDE OR OTHER WATER SOLUBLE CHLORIDE ADMIXTURES SHALL NOT BE USED. WHEN TWO OR MORE ADMIXTURES ARE USED IN THE SAME MIX, THE MANUFACTURER SHALL CERTIFY IN WRITING THAT THEY ARE COMPATIBLE.
5. CONTROL JOINTS SHALL BE CUT AS DETAILED. MAXIMUM JOINT SPACING SHALL BE 16'. MAXIMUM ASPECT RATION OF SLABS 1.5.
6. JOINT SEALANT: SIKA–SIKADUR 51 NS 90 DAYS AFTER SLAB PLACEMENT.
7. REINFORCING BARS, IF USED, SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED.
8. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER AND STRUCTURAL ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO THE SCHEDULED COMPLETION OF THE INSTALLATION OF THE REINFORCEMENT.
9. SLABS SHALL BE PLACED WITH A FINE BROOM FINISH.
10. CONTRACTOR SHALL MOIST CURE SLAB FOR A MINIMUM OF 7 DAYS. SUBMIT CURING METHODS FOR APPROVAL PRIOR TO SLAB PLACEMENT.
11. FILL SHALL BE PLACED IN SEPARATE LIFTS OF NO MORE THAN 8" AND COMPACTED TO 95% MODIFIED PROCTOR IN ACCORDANCE WITH ASTM D1557.

EXTERIOR CONCRETE NOTES & DETAIL

NOT TO SCALE



NOTE:

1. ALL SIGNS SHALL CONFORM TO MUTCD STANDARDS (MOST RECENT EDITION) AND MDOT ITEM 645

STOP SIGN DETAIL

NOT TO SCALE

STATE OF NEW HAMPSHIRE
CALEN B. COLBY
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LICENSED PROFESSIONAL ENGINEER
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MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757

PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

CONSTRUCTION DETAILS

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SIZE:	ANSI D
DATE:	1/25/19
DES BY:	LDA
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CKD BY:	LDA

PROJECT NO. 109.061.003

SHEET 18 OF 31

DRAWING NO. C-504

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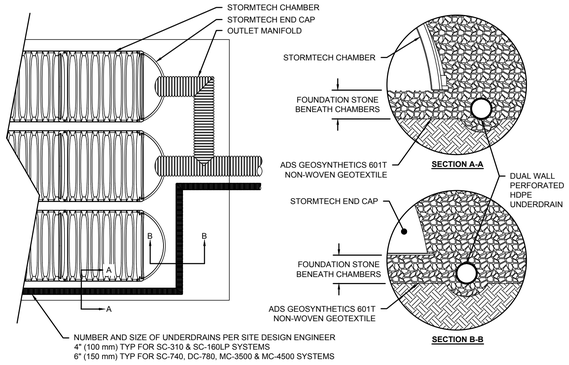
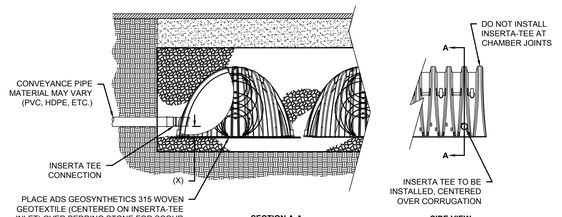


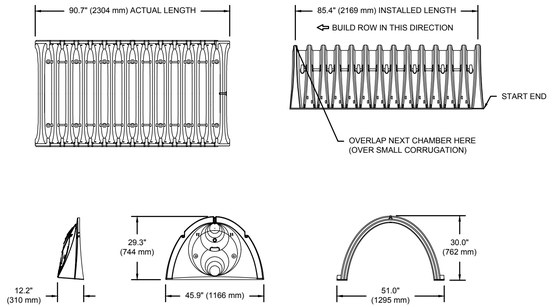
5 UNDERDRAIN DETAIL



NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

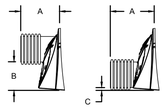
INSERTA-TEE SIDE INLET DETAIL



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

SC-740 TECHNICAL SPECIFICATIONS

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

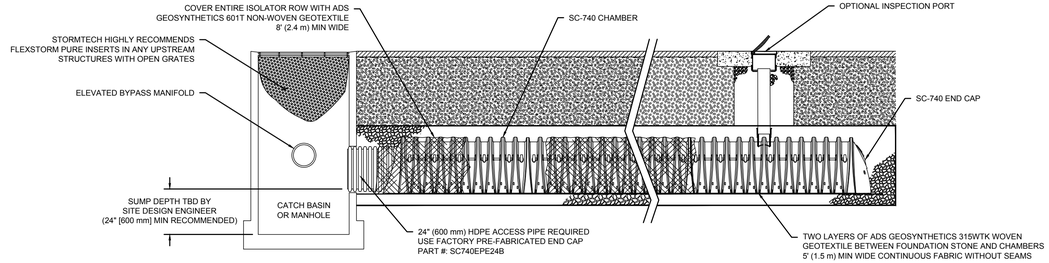
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

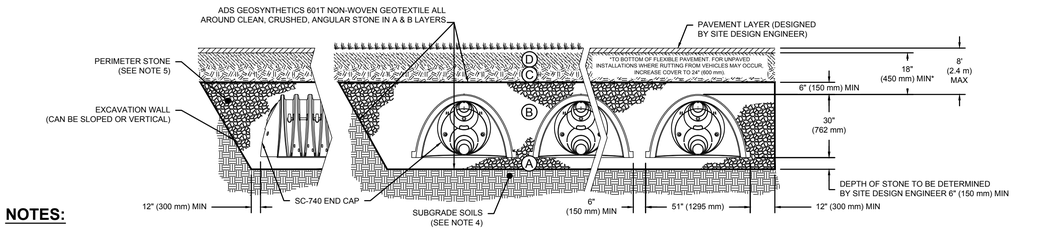
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

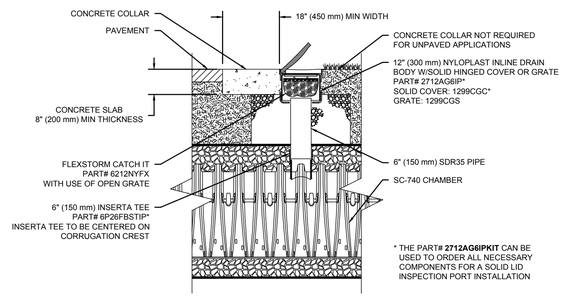


NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

SC-740 CROSS SECTION DETAIL

SC-740 ISOLATOR ROW DETAIL



INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SC-740 6" (150 mm) INSPECTION PORT DETAIL

COLBY COMPANY, LLC CCE engineering & design
47A York St
Portland, ME
04101
207.553.7753

CALEN B. COLBY No. 11511 STATE OF NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER
04/04/19

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
A	SITE PLAN REVIEW	ZRJ	LDA	03/20/19

MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757
PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

STORMTECH NOTES & DETAILS - 1 0F 2

PLEASE NOTE: THIS DOCUMENT MAY NOT ACCURATELY REPRESENT THE FINAL DOCUMENT. ONLY AN ENGINEER, ARCHITECT OR SURVEYOR SIGNED, SEALED AND DATED PAPER COPY, PROVIDED BY THIS OFFICE, MAY BE UTILIZED FOR BIDDING OR CONSTRUCTION PURPOSES.

SIZE: ANSI D
DATE: 1/25/19
DES BY: LDA
DWN BY: ZRJ
CKD BY: LDA

PROJECT NO. 109.061.003
SHEET 19 OF 31
DRAWING NO. C-505

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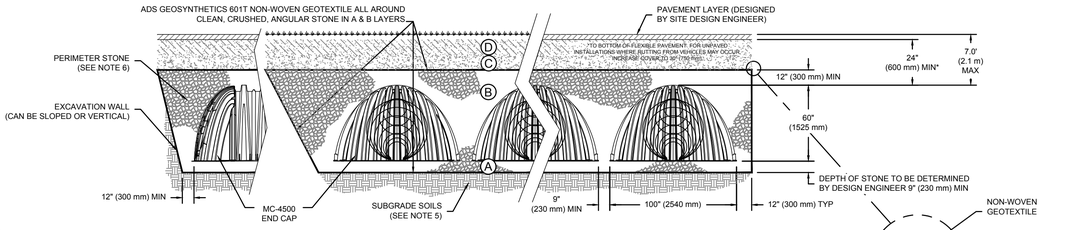
ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

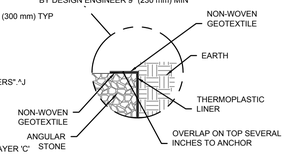
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[4] A-1, A-2-4, A-3 OR AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[3] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[3] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

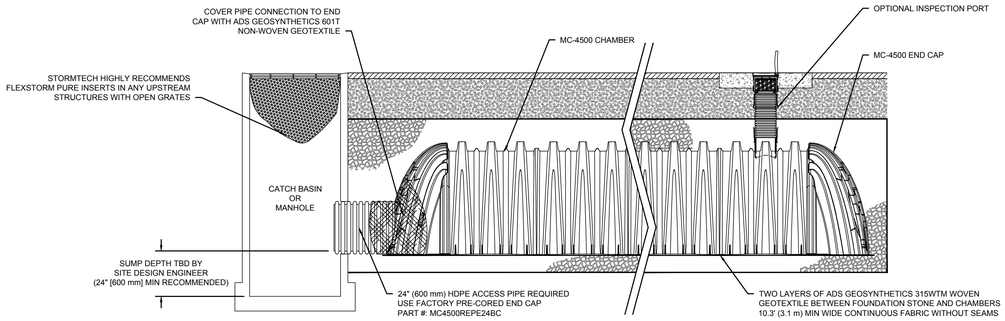


NOTES:

1. MC-4500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".^J
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".^J
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.^J
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.^J
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.^J
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



THERMOPLASTIC LINER DETAIL



MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE^Jii) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY^Jii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

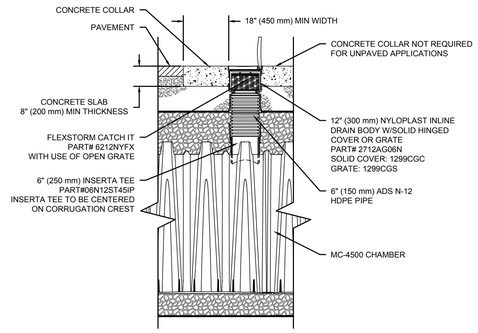
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

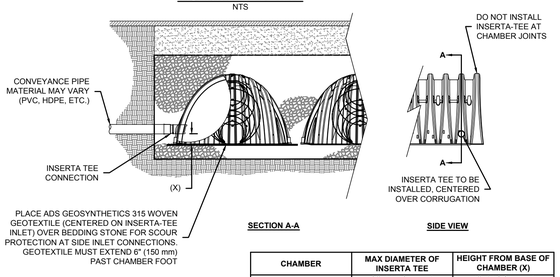
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.^J
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



MC-4500 6" INSPECTION PORT DETAIL
NTS

INSERTA TEE DETAIL

NTS



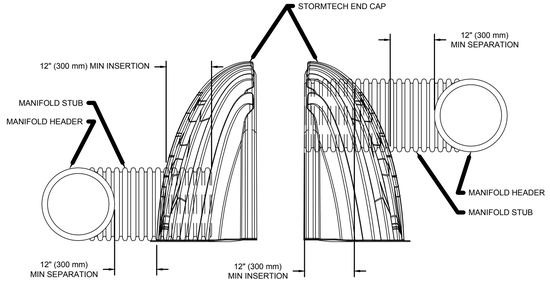
SECTION A-A | SIDE VIEW

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

MC-SERIES END CAP INSERTION DETAIL

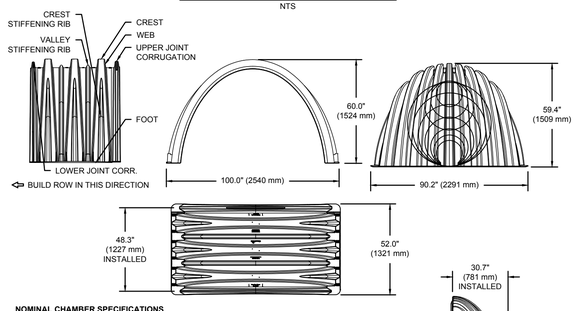
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-4500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.6 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT	130.0 lbs.	(59.0 kg)

NOMINAL END CAP SPECIFICATIONS

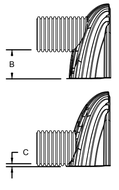
SIZE (W X H X INSTALLED LENGTH)	90.2" X 59.4" X 30.7"	(2291 mm X 1509 mm X 781 mm)
END CAP STORAGE	35.7 CUBIC FEET	(1.01 m³)
MINIMUM INSTALLED STORAGE*	108.7 CUBIC FEET	(3.08 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC4500REPE06T	6" (150 mm)	42.54" (1.081 m)	---
MC4500REPE06B		---	0.86" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1.029 m)	---
MC4500REPE08B		---	1.01" (26 mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	---
MC4500REPE10B		---	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.69" (907 mm)	---
MC4500REPE12B		---	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	---
MC4500REPE15B		---	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.36" (746 mm)	---
MC4500REPE18BC		---	1.97" (50 mm)
MC4500REPE24TC	24" (600 mm)	23.05" (585 mm)	---
MC4500REPE24BC		---	2.26" (57 mm)
MC4500REPE30BC	30" (750 mm)	---	2.95" (75 mm)
MC4500REPE36BC	36" (900 mm)	---	3.25" (83 mm)
MC4500REPE48BC	48" (1200 mm)	---	3.55" (90 mm)

NO ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS.
CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm).
THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHTEST POSSIBLE FOR THE PIPE SIZE.

STATE OF NEW HAMPSHIRE
CALEN B. COLBY
No. 11511
LICENSED PROFESSIONAL ENGINEER
04/04/19

COLBY COMPANY, LLC
CCE
engineering & design
47A York St
Portland, ME
04101
207.553.7753

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
A	SITE PLAN REVIEW	ZRJ	LDA	03/20/19

MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757
PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

STORMTECH NOTES & DETAILS - 2 0F 2

SIZE: ANSI D
DATE: 1/25/19
DES BY: LDA
DWN BY: ZRJ
CKD BY: KDB

PROJECT NO. 109.061.003
SHEET 20 OF 31
DRAWING NO. C-506

KIM LIGHTING

ALT3
Altitude 2.0 kl_alt3_spec.pdf

JOB ______ TYPE ______

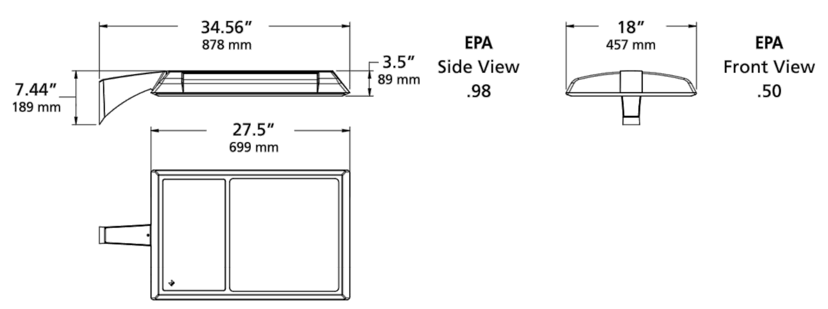
NOTES ______ APPROVALS ______

FEATURES
- Elegant form factor
- High performance optics up to 50,000 delivered lumens
- Diffusion lens for low glare comfort
- NX™ wireless control options

CERTIFICATIONS
c UL us LISTED

SPECIFICATIONS

Weight: 46.2 lbs / 20.95 kg



ORDERING CODE

Series	LED Engine	CCT	Distribution	Rotation	Voltage	Mounting	Fixture Finish
ALT3 Altitude	No Lens	AM Amber	FR Type 1/Front Row	Blank for no rotation	UNV 120-277V	ASQ Arm Square pole	BL Black
	168L-305 40,000 lm	3K7 3000K, 70 CRI	2 Type II	L[1] Optic rotation left	347 347V	A34 Arm mt 3.3-4.2" OD pole	DB Dark Bronze
	168L-350 45,000 lm	4K7 4000K, 70 CRI	3 Type III	R[1] Optic rotation right	480 480V	A46 Arm mt 4.5-6.0" OD pole	GT Graphite
	168L-385 50,000 lm	5K7 5000K, 70 CRI	4 Type IV			MAF Horizontal Slipfitter 2 3/8" OD arm	LG Light Gray
		3K8 3000K, 80 CRI	4W Type IV Wide			SVSF Vertical Slipfitter Mount square for 2" pipe tenon, (2-3/8" O.D.)	PS Platinum Silver
		4K8 4000K, 80 CRI	5QM Type V Square Medium			VSF Vertical Slipfitter Mount for 2" pipe tenon, (2-3/8" O.D.)	TT Titanium
		3K9 3000K, 90 CRI	5QN Type V Square Narrow			WB Wall Bracket for area wall mount	WH White
			5R Type V Rectangular				CC Custom Color†
			5W Type V Wide (Round)				†Consult factory

Control Options
- 7PR 7 pin PCR, wireless control enabled
- 7PR-TL 7 pin PCR with twist lock photocontrol
- 7PR-SC 7 pin PCR with shorting cap
- AD-01 AstroDIM: 50% output at midnight
- AD-02 AstroDIM: 50% output midnight to 4 AM
- AD-03 AstroDIM: 50% output 10PM
- AD-04 AstroDIM: 50% output 10PM to 4AM
- NXSP14F[2] Wired NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14'
- NXSP30F[2] Wired NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 30'
- NXSWP14F[2] NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14'
- NXSWP30F[2] NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 30'
- NXWE[2] NX Wireless Enabled
- SCL-8F Low voltage sensor for 3rd party wireless controls via 7PR. For mounting heights up to 8'
- SCL-40F Low voltage sensor for 3rd party wireless controls via 7PR. For mounting heights 9' to 40'
- SCP-8F Remote control programable line voltage sensor, use with SCPREMOTE
- SCP-40F Remote control programable line voltage sensor, use with SCPREMOTE
- SWP[2] Site Sync™ Pre Commission Wireless Module
- SWPM-40F[2] Site Sync with Sensor 9' to 40' MH

Options
- BC[3] Backlight Control
- SF Single Fuse
- DF Double Fuse
- TB Terminal Block
- CLR Clear Lens
- HDL[4] Diffuse Lens

Control Accessories
- SCPREMOTE Remote control for SCP option. Order at least one per project to program and control the occupancy sensor
- SW7PR SiteSync™ on fixture module via 7PR
- SWUSB SiteSync™ Software on USB
- SWTAB SiteSync™ Windows Tablet
- SWBRG SiteSync™ Wireless Bridge Node
- SWFC SiteSync™ Field Commission Service
- WIR-RME-L wiSCAPE™ External Fixture Module
- NXOFM-1R1D-UNV NX External Contol Node

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1 Not available with 5QM and 5W distributions.
2 Not available in 480V.
3 Not available with Type 5 distributions, CLR, or HDL option.
4 Only available in Type 3 or Type 5W

Kim Lighting reserves the right to change specifications without notice.

LITEPAK SERIES LNC3

Cat.# | Job | Type | HUBBELL Outdoor Lighting | Approvals

SPECIFICATIONS

Intended Use:
The midsized LNC3 is designed for perimeter illumination for safety, security and identity. No uplight and lower glare lens option offer neighbor friendly lighting at typical mounting heights of 8-20′. Units have protective polyester finish for long lasting appearance. Ideal for schools, factories, hospitals, warehouses and retail applications. Energy efficient LEDs provide 70%+ energy savings with little to no maintenance when compared to traditional light sources.

Construction:
Die-cast aluminum housing protects components and provides an architectural appearance. Casting thermally conducts LED heat to optimize performance and long life. Powder paint finish provides durability in outdoor environments. Four 1/2" conduit entries (top, bottom, and sides) provided for surface conduit.

Electrical:
- 120-277, 347 and 480 voltage, 50/60Hz, 0-10V dimming drivers
- Electronic driver
- 10kA surge protection

LED(s) CCT:
- Ambient operating temperature -40°C to 40°C
- 3000K, 4000K and 5000K CCT nominal with 70 CRI
- Available in 2 or 24 LED configuration, see page 2 for electrical and photometric data

Lenses:
- Zero uplight distributions using individual acrylic LED optics provide IES type II, III and IV distributions
- CS - Frosted acrylic diffuser option for reduced glare
- CSU - Frosted acrylic diffuser for inverted "up" mounting applications (lens required)

Lumen Maintenance:
L89 at 60,000 hrs (Projected per IESNA TM-21-11), see table on page 2 for all values

Installation:
Quick-mount adapter with gasket seal provides easy installation to wall or to recessed junction box (4" square junction box). Fixture attaches by two Allen-head hidden fasteners for tamper resistance.
Designed for direct j-box mount or conduit feed on all four sides in single SKU.

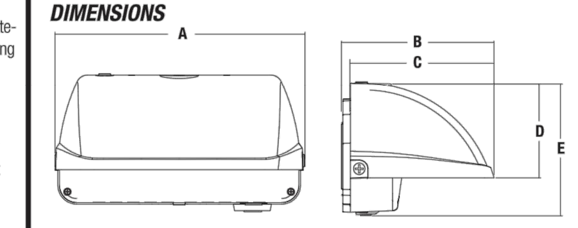
Options/Controls:
- Button photocontrol for dusk to dawn energy savings
- 7-pin photo-receptacle available for twist lock photocell and controls by others
- Occupancy sensor options available for complete on/off and dimming control
- SiteSync pre-commisioned wireless controls (with or without sensor)
- In addition, LITEPAK can be specified with SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit www.hubbelllighting.com/sitesync for more details.

Listings:
- DesignLights Consortium® (DLC) qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- Listed to UL1598 and CSAC22.2#250.0-24 for wet locations
- IP65 Assembly • IDA Approved (3000K configurations)

Warranty:
Five year limited warranty (for more information visit: http://www.hubbelloutdoor.com/resources/warranty/

PRODUCT IMAGE(S)

DIMENSIONS



A	B	C	D	E	Weight / BBU
13"	10.5"	9.9"	5.8"	8.3"	18 lbs.
330.2 mm	266.7 mm	251 mm	147.3 mm	210.8 mm	8.2 kg

SHIPPING INFORMATION

Catalog Number	G.W(kg)/ CTN	Carton Dimensions Length Inch (cm)	Width Inch (cm)	Height Inch (cm)	Carton Qty. per Master Pack
LNC3-24L	18.0 (8.2)	15.8 (40)	11.0 (28)	13 (33)	1

CERTIFICATIONS/LISTINGS

c SA us · DLC QPL LISTED · ida
*3000K and warmer CCTs only

ORDERING INFORMATION – ORDERING EXAMPLE: LNC3-24L-3K-105-2-1-DB-7PR-SCP

LNC3 - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___

FAMILY	NUMBER OF LEDS	CCT	DRIVE CURRENT	IES DISTRIBUTION	VOLTAGE	FINISH	CONTROL OPTIONS	OPTIONS
LNC3 Medium Litepak Wallpack	24L 24LEDs	3K 3000K	035 350mA	2 Type II	U 120v-277v	DB Bronze	PCU Universal Button PC	F[1] Fusing (must specify voltage per footnote)
		4K 4000K	050 500mA	3 Type III	1 120v[1]	BL Black	7PR[6] 7pin PCR	CS Frosted acrylic diffuser
		5K 5000K	075 750mA	4 Type IV	2 208v[1]	WH White	SCP[3,4] Programmable occupancy sensor	CSU[2] Inverted/Up mounting frosted acrylic diffuser (required for up/inverted fixture installations, factory install only see page 3)
			105 1050mA		3 240v[1]	GR Gray	SWP[7,10] SiteSync pre-commisioned	E[1,5] Integral battery backup rated for 0°
					4 277v[1]	PS Platinum	SWPM[4,7,8,10] SiteSync pre-commisioned w/ occupancy sensor	EH[1,5] Integral battery backup with heater rated for -30°C
					5 480v[1]	CC Custom Color		2DR[9] Dual Drivers
					F 347v[1]			

1 Must specify voltage (120 or 277V only for E/EH options)
2 Factory Install Only. Not avaliable with SCP or SWPM sensor/control options
3 Must order minimum of one remote control to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings, 120-277V only.
4 PCU option not applicable, included in sensor (8F = up to 8ft, 20F = up to 20ft)
5 350mA, 500mA & 750mA versions only. Not available with F, SWP or SWPM options.
6 Accepts standard 3, 5, and 7-Pin ANSI controls (by others). Not available with PCU, SWP or SWPM control options
7 Must specify group and zone information at time or order. See www.HubbellLighting.com/products/sitesync for future details
8 Specify time delay; dimming level and mounting height
9 750mA and 1050mA versions only, not available with 347/480V
10 1050mA only, not available with 347V or 480V

STOCK ORDERING INFORMATION – 2L COB MODELS

CATALOG NUMBER	DESCRIPTION	DISTRIBUTION	WATTAGE	LUMENS	LPW	VOLTAGE	# OF DRIVERS @ DRIVE CURRENT	WEIGHTS LBS. (KGS)
LNC3-2L4K-075	2 LED - 60W Configuration, 4000K, Dark Bronze	Type IV	62.0	5,857	94.8	120-277	1 @ 750mA	16(7.3)
LNC3-2L4K-105	2 LED - 90W Configuration, 4000K, Dark Bronze		87.4	7,721	86.1		1 @ 1050mA	
LNC3-2L5K-105	2 LED - 90W Configuration, 5000K, Dark Bronze		87.4	7,288	82.0		1 @ 1050mA	
LNC3-2L4K-105-7PR	2 LED - 90W Configuration, 4000K, Dark Bronze, 7-Pin		87.4	7,721	86.1		1 @ 1050mA	
LNC3-2L4K-105-SCP	2 LED – 90W Configuration, 4000K, Dark Bronze, SCP		87.4	7,721	86.1		1 @ 1050mA	

KIM LIGHTING

ALT1
Altitude 2.0 kl_alt1_spec.pdf

JOB ______ TYPE ______

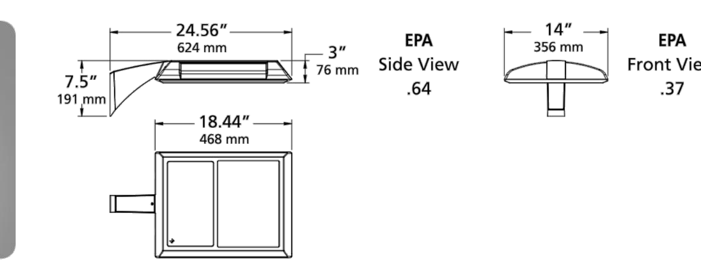
NOTES ______ APPROVALS ______

FEATURES
- Elegant form factor
- High performance optics provide up to 17,500 delivered lumens
- Diffusion lens for low glare comfort
- NX™ wireless control options

CERTIFICATIONS
c UL us LISTED

SPECIFICATIONS

Weight: 21.5 lbs / 9.75 kg



ORDERING CODE

Series	LED Engine	CCT	Distribution	Rotation	Voltage	Mounting	Fixture Finish
ALT1 Altitude	No Lens	AM Amber	FR Type 1/Front Row	Blank for no rotation	UNV 120-277V	ASQ Arm Square pole	BL Black
	28L-20 3,000 lm	3K7 3000K, 70 CRI	2 Type II	L[1] Optic rotation left	347 347V	A34 Arm mt 3.3-4.2" OD pole	DB Dark Bronze
	28L-40 5,000 lm	4K7 4000K, 70 CRI	3 Type III	R[1] Optic rotation right	480 480V	A46 Arm mt 4.5-6.0" OD pole	GT Graphite
	28L-60 7,500 lm	5K7 5000K, 70 CRI	4 Type IV			MAF Horizontal Slipfitter 2 3/8" OD arm	LG Light Gray
	28L-85 10,000 lm	3K8 3000K, 80 CRI	4W Type IV Wide			SVSF Vertical Slipfitter Mount square for 2" pipe tenon, (2-3/8" O.D.)	PS Platinum Silver
	54L-95 12,500 lm	4K8 4000K, 80 CRI	5QM Type V Square Medium			VSF Vertical Slipfitter Mount for 2" pipe tenon, (2-3/8" O.D.)	TT Titanium
	54L-120 15,000 lm	3K9 3000K, 90 CRI	5QN Type V Square Narrow			WB Wall Bracket for area wall mount	WH White
	54L-155 17,500 lm		5R Type V Rectangular				CC Custom Color†
			5W Type V Wide (Round)				†Consult factory

Control Options
- 7PR 7 pin PCR, wireless control enabled
- 7PR-TL 7 pin PCR with twist lock photocontrol
- 7PR-SC 7 pin PCR with shorting cap
- AD-01 AstroDIM: 50% output at midnight
- AD-02 AstroDIM: 50% output midnight to 4 AM
- AD-03 AstroDIM: 50% output 10PM
- AD-04 AstroDIM: 50% output 10PM to 4AM
- NXSP14F[2] Wired NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14'
- NXSP30F[2] Wired NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 30'
- NXSWP14F[2] NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14'
- NXSWP30F[2] NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 30'
- NXWE NX Wireless Enabled
- SCL-8F Low voltage sensor for 3rd party wireless controls via 7PR. For mounting heights up to 8'
- SCL-40F Low voltage sensor for 3rd party wireless controls via 7PR. For mounting heights 9' to 40'
- SCP-8F Remote control programable line voltage sensor, use with SCPREMOTE
- SCP-40F Remote control programable line voltage sensor, use with SCPREMOTE
- SWP[2] Site Sync™ Pre Commission Wireless Module
- SWPM-40F[2] Site Sync with Sensor 9' to 40' MH

Options
- BC[3] Backlight Control
- SF Single Fuse
- DF Double Fuse
- TB Terminal Block
- CLR Clear Lens
- HDL[4] Diffuse Lens

Control Accessories
- SCPREMOTE Remote control for SCP option. Order at least one per project to program and control the occupancy sensor
- SW7PR SiteSync™ on fixture module via 7PR
- SWUSB SiteSync™ Software on USB
- SWTAB SiteSync™ Windows Tablet
- SWBRG SiteSync™ Wireless Bridge Node
- SWFC SiteSync™ Field Commission Service
- WIR-RME-L wiSCAPE™ External Fixture Module
- NXOFM-1R1D-UNV NX External Contol Node

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1 Not available with 5QM and 5W distributions.
2 Not available in 480V.
3 Not available with Type 5 distributions, CLR, or HDL option.
4 Only available in Type 3 or Type 5W

Kim Lighting reserves the right to change specifications without notice.

Specifications

Electrical ratings:

	EVLL5L	EVLL7L	EVLL9L	EVLL11L	EVLL13L
Voltage range, VAC	120-277	120-277	120-277	120-277	120-277
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input power (watts)	56	85	115	112	149
Input amps at 100-277 VAC	0.47-0.21	0.72-0.32	0.96-0.42	0.94-0.41	1.25-0.54
Voltage range, VDC	108-250	108-250	108-250	108-250	108-250
Input amps at 108-250 VDC	0.53-0.23	0.81-0.35	1.08-0.46	1.07-0.45	1.43-0.60
Power factor	>0.95	>0.95	>0.95	>0.95	>0.95
Maintained lumens	5,734	8,293	10,313	10,997	13,583

Standard materials:
- Body and mounting modules – copper-free aluminum with Corro-free™ epoxy powder coat
- Lens – shatter-resistant, explosionproof glass
- Gaskets – Buna and Viton
- Guard – stainless steel
- External hardware – stainless steel
- Factory sealed*

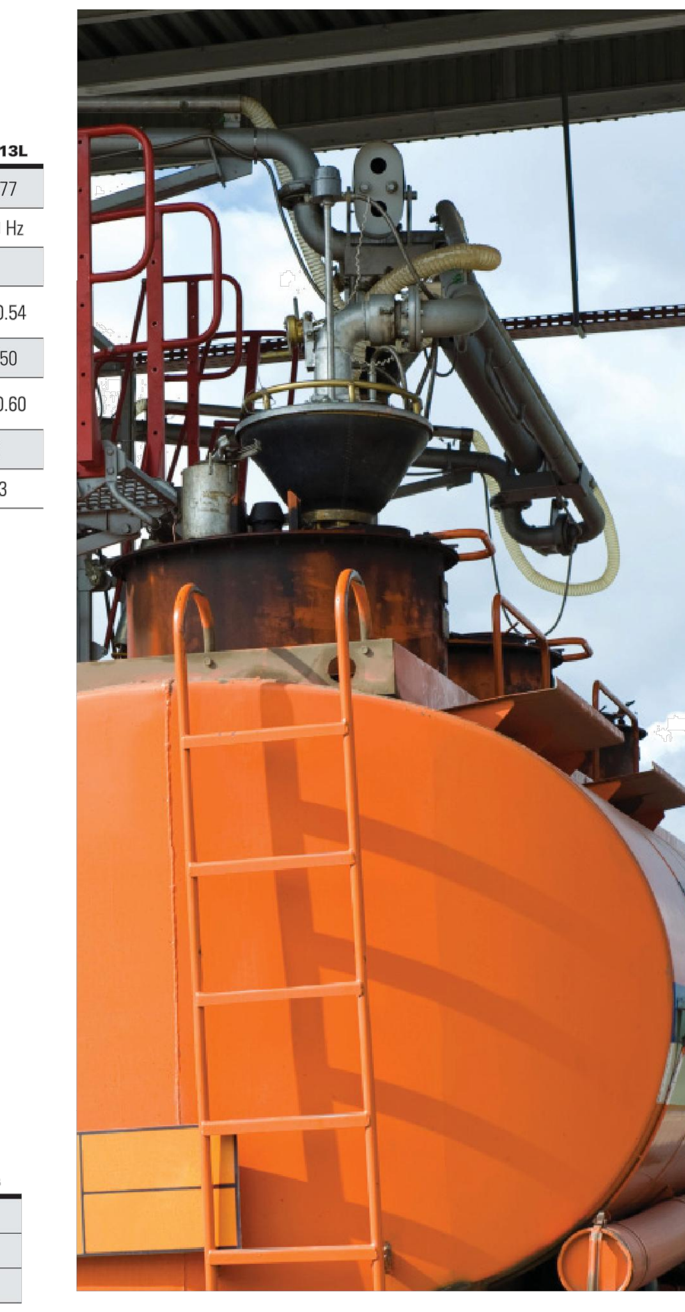
* Refer to Installation and Maintenance Sheet for external seal requirements.

LED system:
- Cool white (5000K), CRI 70
- Warm white (3000K), CRI 80
- Array complies with requirements of LM79 and LM80

Temperature codes:

Model number	Max. ambient temp. °C	Class I, Div. 1	Class II, Div. 1 & 2	Class I, II simultaneous
EVLL5L	40°	T6	T5	T5
	55°	T6	T5	T5
	65°	T5	–	–
EVLL7L	40°	T6	T5	T5
	55°	T6	T5	T5
	65°	T5	–	–
EVLL9L	40°	T6	T5	T5
	55°	T6	T5	T5
	65°	T5	–	–
EVLL11L	40°	T6	T5	T5
	55°	T6	T5	T5
EVLL13L	40°	T6	T5	T5
	55°	T6	T5	T5

Model number	Max. ambient temp. °C	Zone 1	Zone 21
nEVLL 5L, 7L, 9L	65°	T6	95
nEVLL 11L, 13L	55°	T6	95



Weights:

Model number	Lbs.	Kg.
EVLL5L	51.76	23.48
EVLL7L	51.81	23.50
EVLL9L	52.38	23.76
EVLL11L	53.00	24.04
EVLL13L	53.00	24.04
Add additional weights for mounting module		
Pendant mount	2.00	0.90
Ceiling mount	3.50	1.59
Wall mount	3.00	1.36
Stanchion mount	5.50	2.49
Adapter	2.00	0.90

STATE OF NEW HAMPSHIRE – CALEN B. COLBY No. 11511 – LICENSED PROFESSIONAL ENGINEER
04/04/19

COLBY COMPANY, LLC – CCE – engineering & design
47A York St
Portland, ME
04101
207.553.7753

REV	DESCRIPTION	DWN	APP	DATE
B	REVISED PER PEER REVIEW COMMENTS	ZRJ	LDA	04/04/19
A	SITE PLAN REVIEW	ZRJ	LDA	03/20/19

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MILTON REAL PROPERTIES OF MASSACHUSETTS, LLC
100 QUARRY DRIVE, MILFORD, MA 01757

PROQUIP EQUIPMENT RENTAL & SALES, INC.
143 & 145A PLAISTOW ROAD
MAP 30, LOTS 72 &73; PLAISTOW, NH

SITE LIGHTING CUT SHEETS

SIZE: ANSI D
DATE: 1/25/19
DES BY: LDA
DWN BY: ZRJ
CKD BY: LDA

PROJECT NO. 109.061.003
SHEET 21 OF 31
DRAWING NO. C-507

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