SITE PLAN

FOR A

ROADWAY IMPROVEMENT PLANS

KNOWN AS

TAX PARCEL 212, LOTS 30, 31, 32, 33

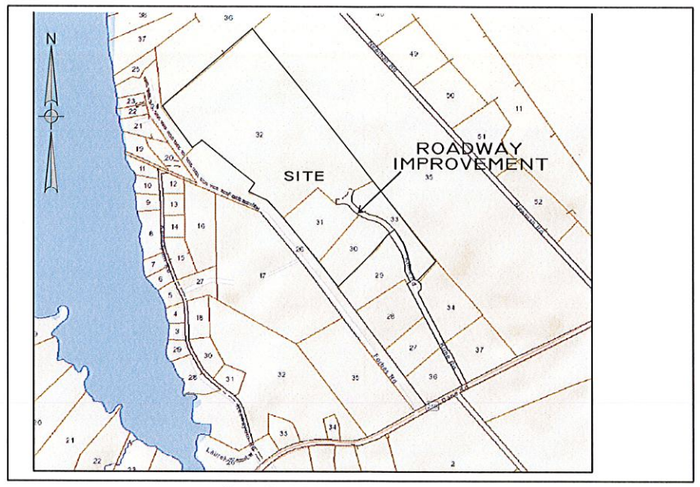
KLINE ROAD

CENTER HARBOR, BELKNAP COUNTY, NEW HAMPSHIRE

Owner / Developer:
EDWIN KLINE

SYMBOLS LEGEND

- TP#5 (36") TP — TEST PIT (DEPTH TO E.S.H.W.T.)
- PERC TEST
- OHW — UTILITY POLE AND OVERHEAD LINES
- 128 — GRADE CONTOUR – 2 FT INTERVAL
- 130 — GRADE CONTOUR – 10 FT INTERVAL
- 127.7 — EXISTING SPOT GRADE
- TREES AND TREELINE
- SIGN
- BENCHMARK
- EDGE OF WETLANDS
- D — DRAINAGE MANHOLE & LINE
- D — CATCH BASIN & LINE
- PROPOSED EASEMENT LINE
- PROPOSED PROPERTY LINE
- PROPOSED CENTERLINE
- PROPOSED EDGE OF GRAVEL AND SHOULDER
- TREATMENT SWALE
- DETENTION BASIN BERM
- PROPOSED FLARED END SECTION
- PROPOSED RIP RAP STONE
- DIRECTION OF DRAINAGE FLOW
- F531.0 — FINISH GRADE SPOT ELEVATION
- PROPOSED STRAW BALE BARRIER
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TEMPORARY STONE CHECK DAM
- 240 — PROPOSED GRADE CONTOUR
- R1-1 — PROPOSED SIGN
- L.O.C. — PROPOSED LIMIT OF CLEARING
- PROPOSED DITCH
- (T.B.R.) — TO BE REMOVED
- 35C — SITE SPECIFIC SOIL BOUNDARY & DESIGNATION



VICINITY MAP
SCALE N.T.S.

LIST OF DRAWINGS

DWG NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	ROADWAY DESIGN & PROFILE PLAN
4, 5, 6	CONSTRUCTION DETAILS
7	EROSION CONTROL NOTES

NOTE:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE TOWN OF CENTER HARBOR REGULATIONS AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.

2. PRIOR TO ANY CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT DIG-SAFE AND VERIFY ALL UNDERGROUND UTILITY LOCATIONS.

LIST OF CONSULTANTS

CIVIL ENGINEER
JON ROKEH OF
ROKEH CONSULTING, LLC
89 KING ROAD
CHICHESTER, NH 03258

SURVEYOR
CARL JOHNSON OF
ADVANCED LAND SURVEYING
29H FOUNDRY AVENUE
MEREDITH, NH 03253

DIG SAFE — ME NH VT — CALL 1-888-DIG-SAFE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

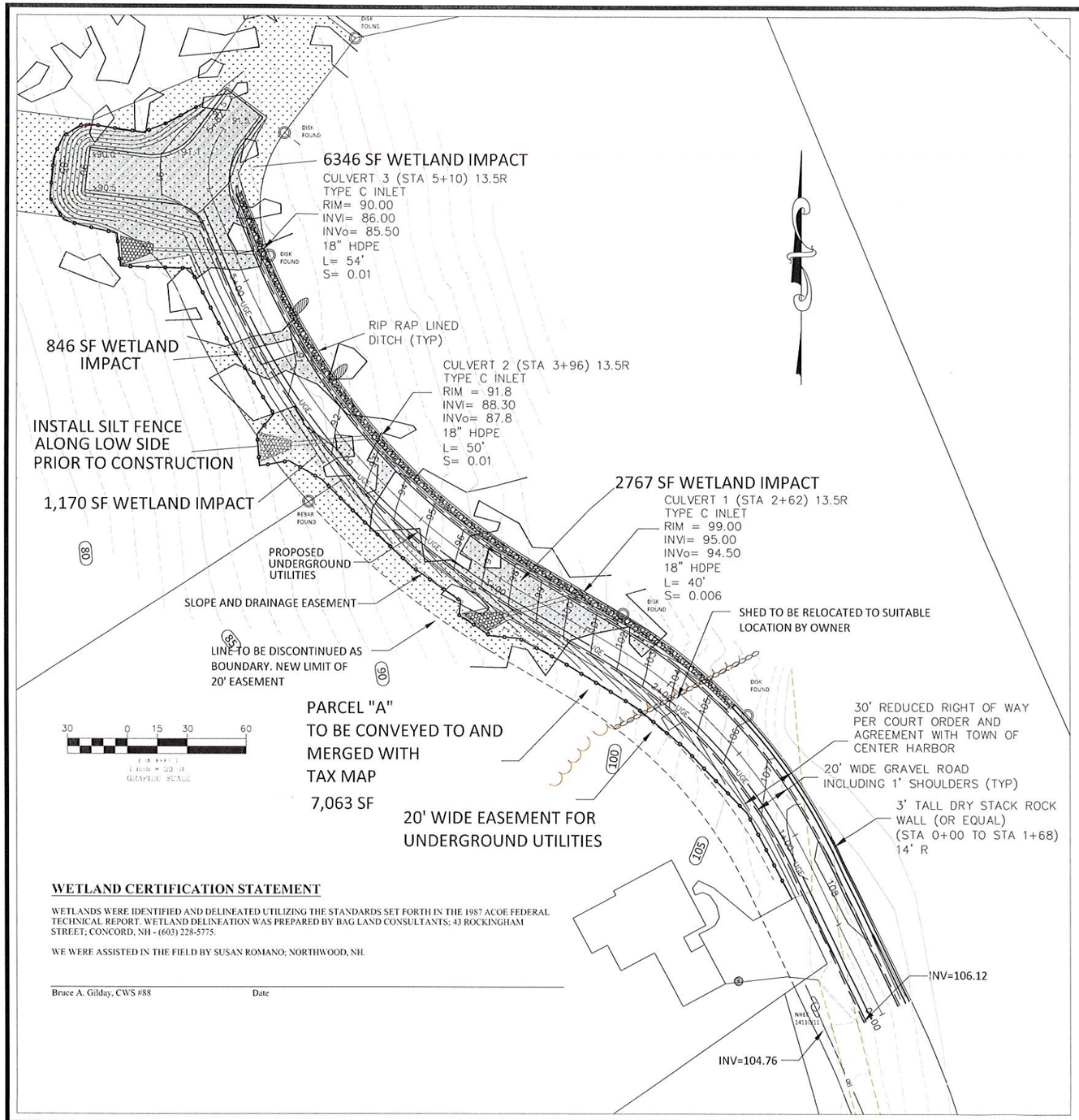
THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. ROKEH CONSULTING, LLC MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-800-DIG-SAFE.

STATE OF NEW HAMPSHIRE — JON ROKEH No. 11850 — LICENSED — PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY

JUNE 10, 2020
REVISED SEPT 11, 2020

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

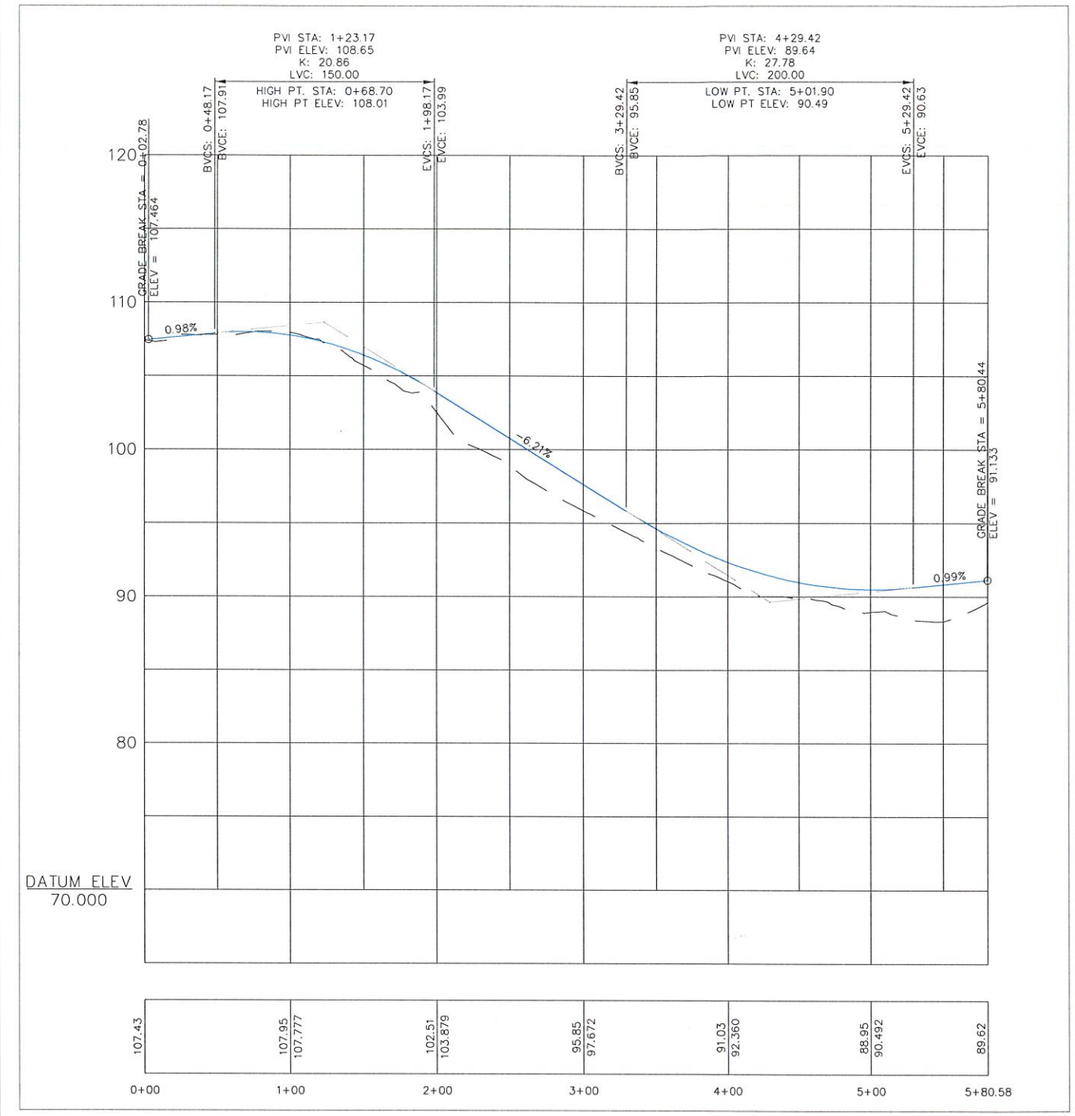


WETLAND CERTIFICATION STATEMENT

WETLANDS WERE IDENTIFIED AND DELINEATED UTILIZING THE STANDARDS SET FORTH IN THE 1987 ACOE FEDERAL TECHNICAL REPORT. WETLAND DELINEATION WAS PREPARED BY BAG LAND CONSULTANTS; 43 ROCKINGHAM STREET; CONCORD, NH - (603) 228-5775.

WE WERE ASSISTED IN THE FIELD BY SUSAN ROMANO; NORTHWOOD, NH.

Bruce A. Gilday, CWS #88 Date



50 0 25 50 100

STATE OF NEW HAMPSHIRE JON BOKEH No. 11890 LICENSED PROFESSIONAL ENGINEER

811 DigSafe MA • ME • NH • RI • VT

Developer:
EDWIN D KLINE

ROADWAY DESIGN PLAN

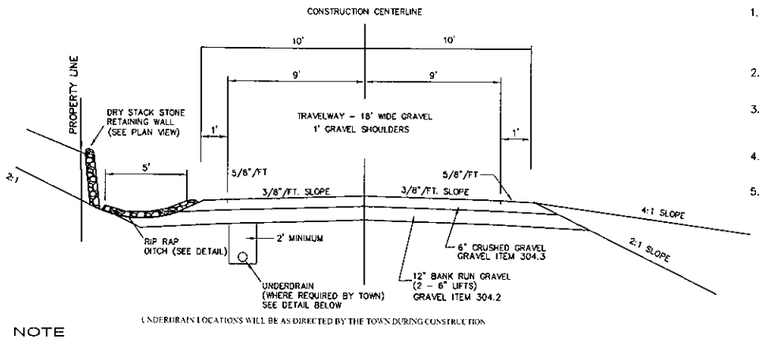
TAX PARCEL 212, LOTS 30, 31, 32 AND 33
KLINE ROAD
CENTER HARBOR, BELKNAP COUNTY, NEW HAMPSHIRE

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY
9-11-20	EDITS TO PLAN PER COMMENTS	JR	JR

Rokeh Consulting, LLC
89 KING ROAD
CHICHESTER, NH 03258
PH: 603-387-8688

SCALE: 1" = 30'
DATE: JUNE 10, 2020
DR. BY: JR CK. BY: JR
JOB NO. _____
SHEET NO. 3 OF 7



UNDERDRAIN LOCATIONS WILL BE AS DIRECTED BY THE TOWN DURING CONSTRUCTION

NOTE

1. ITEM NUMBERS REFERENCE THE LATEST CONSTRUCTION SPECIFICATIONS FOR NHDOT
2. ALL BASE MATERIALS, AND WORKMANSHIP SHALL BE IN COMPLIANCE WITH N.H.D.O.T. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" APPROVED AND ADOPTED 2016.

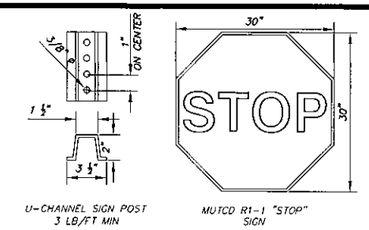
TYPICAL ROADWAY SECTION

LOCAL ROAD

TOWN OF CENTER HARBOR

NOT TO SCALE

1. ALL ROADWAY CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH N.H.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE CENTER HARBOR SUBDIVISION REGULATIONS.
2. PROVIDE 4" SCREENED LOAM AND SEED (MIN.) ON ALL SIDE SLOPES AND DRAINAGE SWALES UNLESS OTHERWISE NOTED.
3. ALL LEDGE AND ROCK SHALL BE REMOVED TO 18" BELOW SUBGRADE. BACKFILL SHALL MEET GRAVEL SUBBASE SPECIFICATIONS.
4. ROADWAY UNDERDRAIN SHALL BE PROVIDED WHERE DIRECTED BY TOWN DURING CONSTRUCTION.
5. ROAD BASE SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTER.

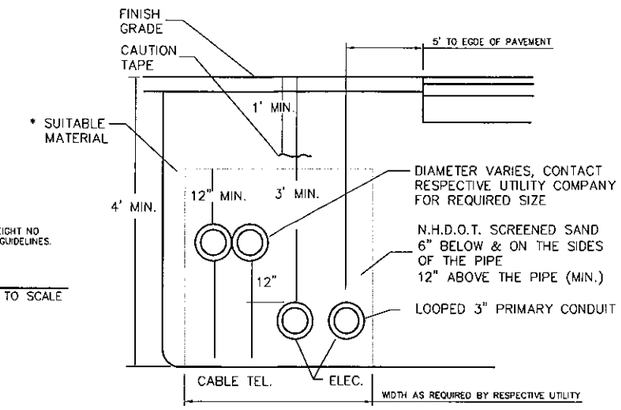


CONSTRUCTION SPECIFICATIONS

1. STOP SIGN TO BE PLACED NO LESS THAN 6.0 FEET FROM PROPOSED EDGE OF GRAVEL AT A HEIGHT NO LESS THAN 5.0 FEET TO BOTTOM EDGE OF SIGN. ALL MATERIALS SHALL MEET APPLICABLE MUTCD GUIDELINES.

SITE SIGNAGE DETAIL

NOT TO SCALE



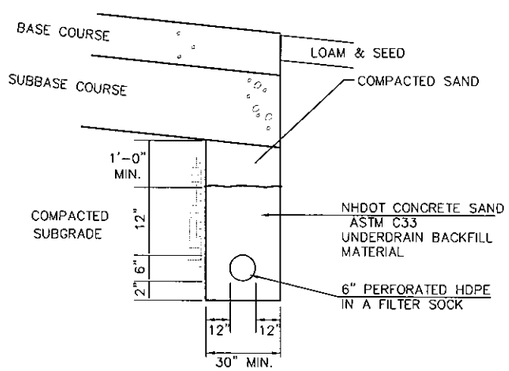
* SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACK FILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL, WHICH, AS DETERMINED BY THE TOWN ENGINEERS, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED.

IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE DESCRIBED AS ABOVE, EXCEPT THAT THE TOWN ENGINEERS MAY PERMIT THE USE OF TOP SOIL, LOAM, OR PEAT. IF SATISFIED THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT THE EASY ACCESS TO THE STRUCTURES FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED.

NOTES:
1. UTILITIES SHALL BE INSTALLED ACCORDING TO THE RESPECTIVE UTILITY COMPANY STANDARDS AND SPECIFICATIONS.
2. ALL ABOVE GRADE UTILITIES MUST BE PLACED OUT OF THE R.O.W. AND IN AREAS THAT WILL NOT CONFLICT WITH THE ROADWAY DRAINAGE SYSTEM. PLACEMENT OF TRANSFORMERS CANNOT CONFLICT WITH THE INSTALLATION OF R.O.W. AND PROPERTY CORNER MONUMENTS.

UNDERGROUND UTILITIES TRENCH

NOT TO SCALE

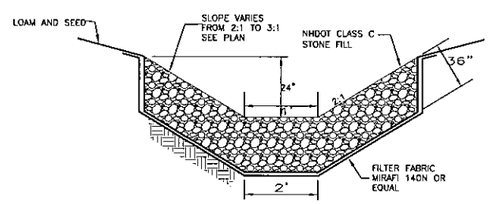


SUBDRAIN NOTES

1. SUBDRAINS TO BE TIED TO CATCH BASINS WHERE AVAILABLE.
2. WHERE NECESSARY SUBDRAINS SHALL BE DAYLIGHTED IN ROADSIDE DITCHES AT DITCH BOTTOM. MIN. SLOPE = 1.0%.
3. NO BENDS ARE ALLOWED, ONLY LONG SWEEPS ALONG THE ROAD CURVES
4. SUBDRAIN TO BE LAID WITH SLOPE OF ROADWAY

ROADWAY SUBDRAIN DETAIL

NOT TO SCALE



TYPICAL STONE LINED SWALE

NOT TO SCALE

STATE OF NEW HAMPSHIRE JON ROKEH No. 11866 LICENSED PROFESSIONAL ENGINEER

Developer:
EDWIN D KLINE

CONSTRUCTION DETAILS

TAX PARCEL 212, LOTS 30, 31, 32 AND 33
KLINE ROAD
CENTER HARBOR, BELKNAP COUNTY, NEW HAMPSHIRE

REVISIONS

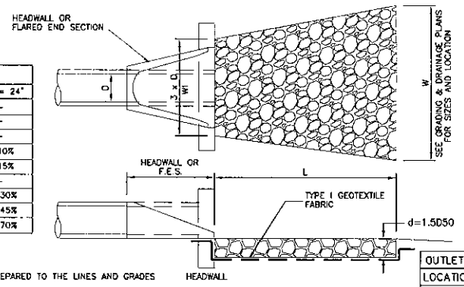
DATE	DESCRIPTION	DWN BY	CK BY
9-11-20	EDITS TO PLANS PER COMMENTS	JR	JR

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: AS NOTED
DATE: JUNE 10, 2020
DR. BY: JR
JOB NO. _____
SHEET NO. 4 OF 7

RIP-RAP GRADATION

% FINER BY WEIGHT					
STONE SIZE	D_{50} = 6"	D_{50} = 9"	D_{50} = 12"	D_{50} = 18"	D_{50} = 24"
2"	0-15%	0%	–	–	–
4"	20-35%	10-20%	0-10%	–	–
6"	35-50%	25-35%	10-25%	0-10%	–
8"	50-65%	30-50%	20-30%	10-20%	0-10%
10"	60-80%	40-60%	30-40%	15-30%	5-15%
12"	75-100%	–	–	–	–
15"	–	70-100%	45-60%	25-40%	20-30%
20"	–	–	70-100%	40-60%	30-45%
30"	–	–	–	70-100%	50-70%



NOTE

1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK USED FOR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

GRAVEL FILTER GRADATION

SIEVE SIZE	% PASSING BY WEIGHT
3½"	100
3"	85-100
1½"	60-90
¾"	40-70
⅜"	20-50
NO. 4	10-40
NO. 200	0-8

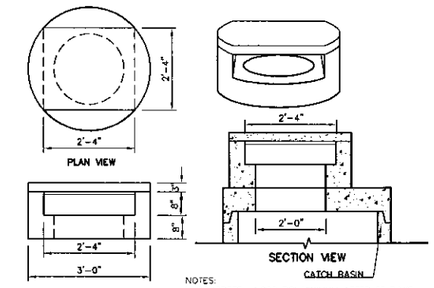
OUTLET APRON TABLE OF DIMENSIONS			
LOCATION	LENGTH	WIDTH	D-50
FES 1	16'	18'	6"
FES 2	22'	25'	6"
HW1	20'	21'	6"
CULV 3	18'	20'	6"
FES 4	16'	18'	8"
FES 7	14'	18'	6"
FES 8	12'	14'	6"
FES 9	12'	14'	6"
FES 10	18'	19'	10"
FES 11	18'	19'	11"
FES 12	18'	20'	8"
DRIVECULV LARGE	19'	21'	10"
DRIVECULV SMALL	14'	16'	6"

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS AND SEDIMENT THAT COULD CHANGE THE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

PIPE OUTLET PROTECTION APRON LOCATIONS AS ON THE PLANS AND PROFILES

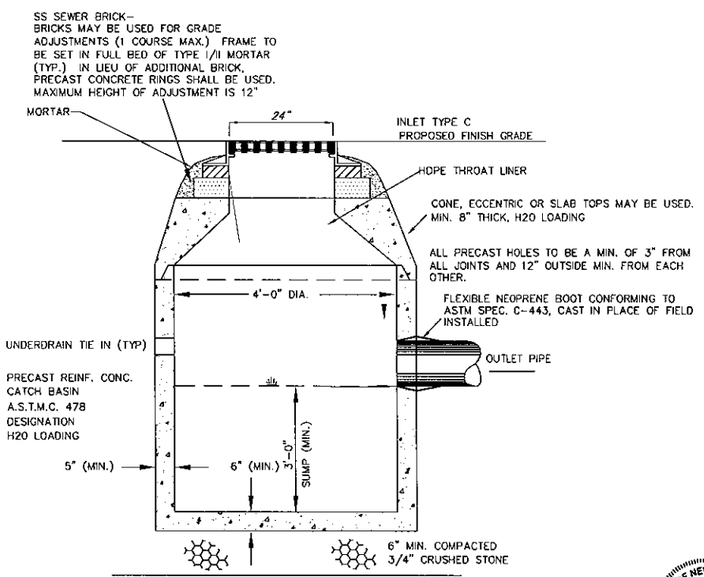
NOT TO SCALE



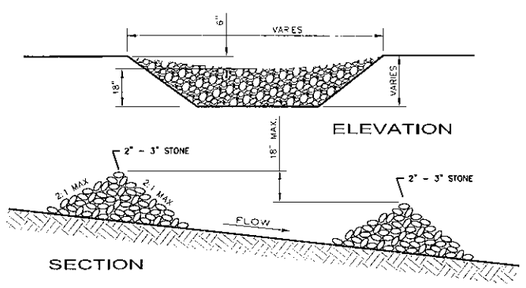
NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.

DROP INLET TYPE "C"

(NOT TO SCALE)



TYPICAL PRECAST CONCRETE CATCH BASIN DETAIL

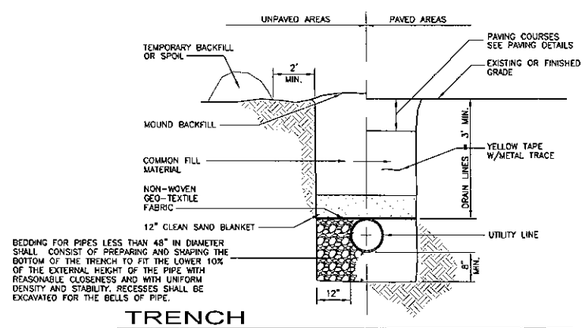


NOTE

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION WILL BE MINIMIZED.
3. WHEN STRAW BALES ARE USED, THEY ARE TO BE EMBEDDED INTO THE SOIL 4 INCHES. WHEN TIMBERS ARE TO BE USED, THE TIMBER SHALL EXTEND AT LEAST 18 INCHES INTO THE SOIL.
4. STRAW OR STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2"x2" STAKES DRIVEN THROUGHOUT THE BALES AT LEAST 18 INCHES INTO THE SOIL.
5. SEEDING, FERTILIZING AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATE BMP.
6. STRUCTURES ARE TEMPORARY AND ARE TO BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS EXPIRED, WHEN A SOLID STAND OF GRASS HAS GROWN AND STABILIZED.

STONE CHECK DAM

NOT TO SCALE



TRENCH

FOR DRAIN LINES

NOT TO SCALE

STATE OF NEW HAMPSHIRE JON ROKEH No. 11697 LICENSED PROFESSIONAL ENGINEER

Developer:
EDWIN D KLINE

CONSTRUCTION DETAILS

TAX PARCEL 212, LOTS 30, 31, 32 AND 33
KLINE ROAD
CENTER HARBOR, BELKNAP COUNTY, NEW HAMPSHIRE

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY
9-11-20	EDITS TO PLANS PER COMMENTS	JR	JR

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
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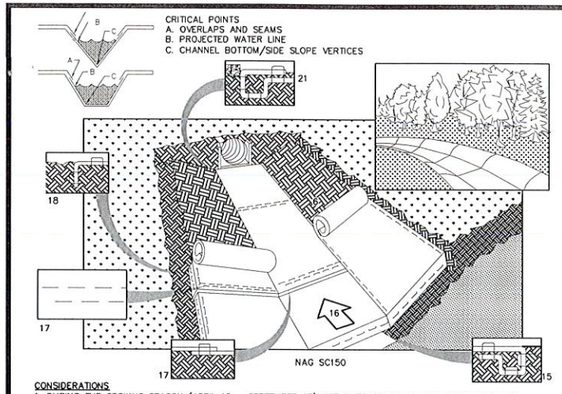
SHEET NO. 5 OF 7



CONSIDERATIONS

1. DURING THE GROWING SEASON (APRIL 15 – SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON THE BASE OF GRASSED WATERWAYS.

2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 – APRIL 15) USE HEAVY GRADE MATS ON SIDE SLOPES OF GRASSED WATERWAYS.

3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE REQUIREMENTS

4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING ½ INCH IN A 24-HOUR PERIOD.

5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED OR REPLACED.

SPECIFICATIONS

SITE PREPARATION:

6. GRADE AND SHAPE AREA OF INSTALLATION.

7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.

8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.

9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

SEEDING:

10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.

13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION IN CHANNELS:

14. BLANKETS SHALL BE INSTALLED IN CHANNELS PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.

15. BEGIN AT THE OUTLET OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

16. ROLL CENTER BLANKET IN DIRECTION OF THE INLET END OF THE CHANNEL.

17. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.

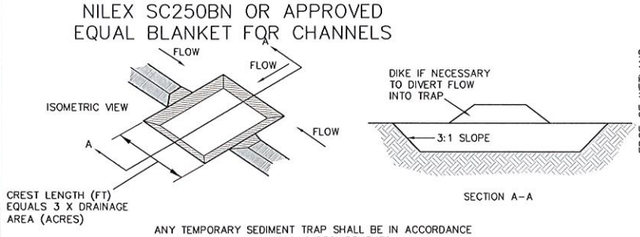
18. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

19. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.

20. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.

21. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

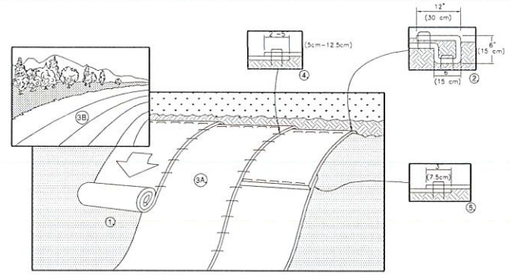
TEMPORARY EROSION CONTROL NILEX SC250BN OR APPROVED EQUAL BLANKET FOR CHANNELS



ANY TEMPORARY SEDIMENT TRAP SHALL BE IN ACCORDANCE WITH NHDES ENV-WQ 1506.10 REQUIREMENTS

TEMPORARY SEDIMENTATION TRAP DETAIL

NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY 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 A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM™ STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH™ ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725
USA 1-800-772-2040 CANADA 1-800-448-2040
www.nagreen.com

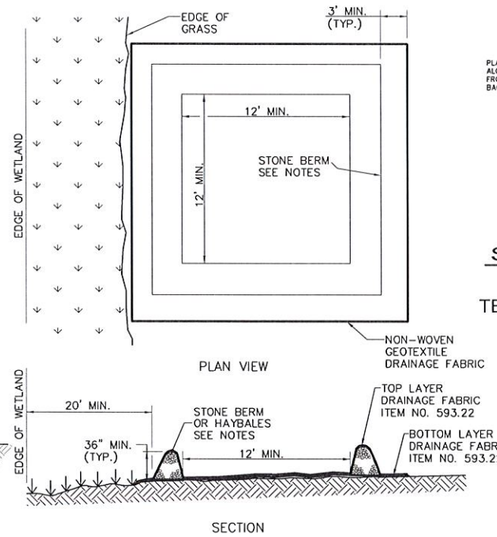
NORTH AMERICAN GREEN

NOTE:
1) THIS PRACTICE SHALL BE USED FOR ALL ROADWAY SLOPES STEEPER THAN 3:1
2) "NORTH AMERICAN GREEN" OR EQUAL

SLOPE STABILIZATION

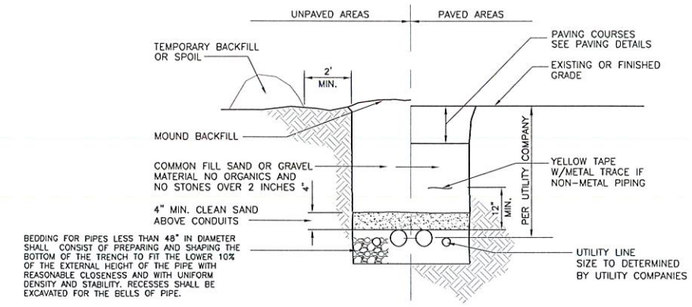
FOR EROSION CONTROL

NOT TO SCALE



TEMPORARY FILTRATION BASIN

(ITEM 699., UNLESS OTHERWISE SHOWN)

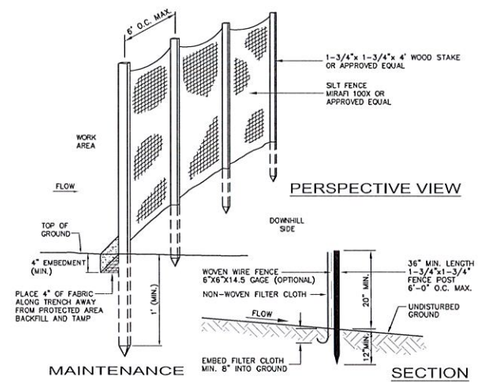


NOTE:
1) UTILITY COMPANIES SHALL DICTATE THE FINAL REQUIREMENTS FOR THIS TRENCH ALONG WITH PLACEMENT OF INDIVIDUAL CONNECTIONS TO THE RIGHT-OF-WAY. THIS IS ONLY A GUIDE. CONTACT THE APPROPRIATE UTILITY PRIOR TO CONSTRUCTION TO VERIFY ALL REQUIREMENTS.

2) LIFTS TO BE 12 INCHES MAXIMUM AND COMPACT TO 95% PROCTOR

UTILITY TRENCH DETAIL

NOT TO SCALE



1. SILT FENCES ARE TO BE INSPECTED IMMEDIATELY AFTER EVERY RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED, SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL

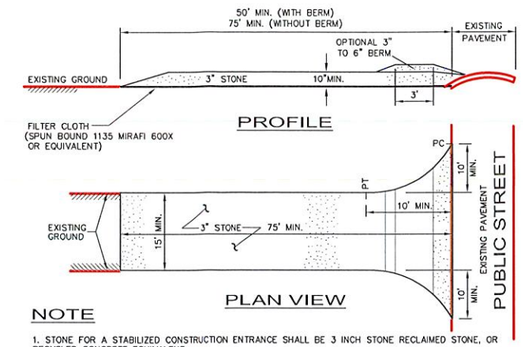
NOT TO SCALE

STATE OF NEW HAMPSHIRE
JON ROKEH
No. 11650
LICENSED
PROFESSIONAL ENGINEER

TEMPORARY FILTRATION BASIN

CONSTRUCTION SPECIFICATIONS:

1. PLACE BOTTOM LAYER OF NON-WOVEN GEOTEXTILE DRAINAGE FABRIC ADJACENT TO GRASS IN DIRECTION OF FLOW.
2. CONSTRUCT TEMPORARY BERM ON TOP OF BOTTOM LAYER OF DRAINAGE FABRIC WITH NOT LESS THAN 144 SQUARE FEET OF INTERIOR SPACE, USING CLEAN 1 1/2" TO 3" STONE OR HAYBALES.
3. COVER ENTIRE STRUCTURE WITH SECOND LAYER OF SAME FABRIC AND ANCHOR WITH CLEAN STONE AS NECESSARY. DRAINAGE FABRIC SHALL HAVE MINIMUM OVERLAPS OF 12 INCHES TO PROVIDE CONTINUOUS COVERAGE.
4. CONTRACTOR SHALL INSPECT DISCHARGE REGULARLY FOR DISCOLORATION. CONTRACTOR SHALL CLEAN OUT ACCUMULATED SEDIMENT WITHIN BASIN AND DISPOSE OF SUCH MATERIAL OUTSIDE OF JURISDICTIONAL WETLAND LIMITS. CONTRACTOR SHALL REPLACE TOP LAYER OF FABRIC AS NECESSARY TO MAINTAIN PROPER FILTRATION.
5. PUMPING RATE SHALL BE ADJUSTED AS NECESSARY SO AS NOT TO CAUSE WATER TO OVERFLOW TOP OF STONE BERM.
6. AFTER TERMINATION OF ACTIVITIES REQUIRING TEMPORARY FILTRATION BASIN, ALL MATERIALS USED FOR CONSTRUCTION OF THE BASIN AND ANY TRAPPED SEDIMENT SHALL BE REMOVED. ANY DISTURBED AREAS SHALL BE RESTORED.



NOTE

1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.

2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL BE NOT LESS THAN 75 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY

3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 10 INCHES.

4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.

5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.

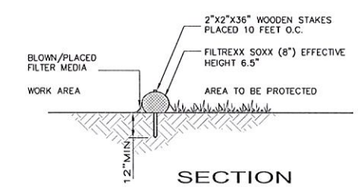
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.

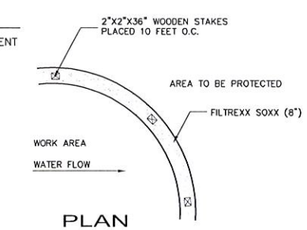
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE





NOTE

1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS
2. FILTER MEDIA TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON-SITE, AS DETERMINED BY THE ENGINEER
4. MAXIMUM SLOPE LENGTH ABOVE THE FILTREXX SOXX IS 200 FEET FOR A 10% SLOPE, 140 FEET FOR A 15% SLOPE, 100 FEET FOR A 20% SLOPE, 80 FEET FOR A 25% SLOPE.
5. CONTRACTOR IS TO BE FILTREXX CERTIFIED AS DETERMINED BY MANUFACTURER.
6. STAKES SHALL BE INSTALLED THROUGHT THE MIDDLE OF THE SOXX ON 10 FOOT CENTERS.
7. SEDIMENT CONTROL SHOULD BE PLACED NEAR PARALLEL TO THE BASE OF THE SLOPE AS SHOWN ON THE PLANS.
8. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE SOXX, FILLING THE SEAM BETWEEN THE SOIL AND THE DEVICE.
9. IF THE "FILTREXX SOXX" IS TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, IT MAY BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.

MAINTENANCE

1. THE CONTRACTOR SHALL MAINTAIN THE SEDIMENT CONTROL IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
2. IF DAMAGED, IT SHALL BE REPAIRED OR A SECTION REPLACED IF BEYOND REPAIR.
3. THE CONTRACTOR SHALL REMOVE SEDIMENT AT THE BASE OF THE UPSLOPE SIDE OF THE SEDIMENT CONTROL WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE CONTROL OR 3.25 INCHES (FOR AN 8 INCH SOXX THE EFFECTIVE HEIGHT IS 6.5 INCHES).
4. SEDIMENT CONTROL SHALL BE MAINTAINED UNTIL THE DISTURBED AREA ABOVE THE DEVICE HAS BEEN PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS CEASED IN THAT AREA.
5. THE FILTER MEDIA MAY BE DISPERSED ON SITE ONCE THE AREA HAS BEEN PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS CEASED IN THAT AREA.

'FILTREXX' SEDIMENT CONTROL DETAIL ("SOXX")

NOT TO SCALE

Developer:
EDWIN D KLINE

CONSTRUCTION DETAILS

TAX PARCEL 212, LOTS 30, 31, 32 AND 33
KLINE ROAD
CENTER HARBOR, BELKNAP COUNTY, NEW HAMPSHIRE

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY
9-11-20	EDITS TO PLANS PER COMMENTS	JR	JR

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: AS NOTED
DATE: JUNE 10, 2020
DR. BY: JR
JOB NO. _____
SHEET NO. 6 OF 7

GENERAL NOTES:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN REGULATIONS AND THE LATEST EDITION OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.

2. IF, DURING CONSTRUCTION IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE CONTRACTOR, DEVELOPER OR OWNER ARE RESPONSIBLE TO DOCUMENT THE APPARENT DEFICIENCIES AND NOTIFY THE DESIGN ENGINEER PRIOR TO CONTINUING CONSTRUCTION ACTIVITIES. THE DESIGN ENGINEER, IN COOPERATION WITH THE CONTRACTOR, DEVELOPER OR OWNER WILL RESOLVE THE APPARENT DEFICIENCIES TO MEET APPLICABLE TOWN REGULATIONS.

3. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED, THE CONTRACTOR, DEVELOPER OR OWNER SHALL BE REQUIRED TO INSTALL ADDITIONAL EROSION PROTECTION MEASURES.

4. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO VERIFY THE LOCATION OF ALL UTILITIES OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AT ALL TIMES.

6. NO EXCAVATED AREA SHALL BE LEFT UNATTENDED AND SHALL BE THOROUGHLY AND SAFELY SECURED ON A DAILY BASIS.

7. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENT AND INTENT OF RSA 430:53 AND CHAPTER Agr 3800 RELATIVE TO INVASIVE SPECIES.

WINTER CONSTRUCTION NOTES

a. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

b. 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 TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

c. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

EROSION CONTROL NOTES

ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS (EPA, NHDES AND TOWN REGULATIONS). THE GENERAL NOTES AND DETAILS CONTAINED IN THIS PLAN SERVE AS A GUIDE ONLY.

1. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. INSTALLATION OF STRAWBALE BARRIERS AND SILTATION FENCES SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY SPECIFIC AREA. PREFABRICATED SILTATION FENCES AND SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

2. STRAWBALE BARRIERS AND SILTATION FENCES SHALL BE KEPT CLEAN DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A HEALTHY STAND OF VEGETATIVE COVER. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.25 INCHES.

3. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEREVER POSSIBLE.

4. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE. CUT AND FILL SLOPES SHALL BE LOAMED & SEEDED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE. TEMPORARY AND/OR PERMANENT STABILIZATION SHALL BE INSTALLED WITHIN 45 DAYS OF INITIAL CONSTRUCTION.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURED:
a. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
b. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
c. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED
d. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

TIME LIMIT: ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

5. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" OF LOAM INSTALLED WITH NOT LESS THAN 1.1 POUNDS OF SEED MIX PER 1,000 SQ. FT. SEE SEEDING SPECIFICATIONS ON THIS SHEET

6. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF AT THE TIME OF SEEDING. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATIONS.

7. STRAW MULCH OR JUTE MATTING SHALL BE USED IF/WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

8. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS AREA NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.

9. TO CONTROL DUST DURING CONSTRUCTION, WATER DISTRIBUTION SHALL BE USED.

10. MATERIAL STOCKPILES SHALL BE SURROUNDED BY MULCH SILT SOCK OR SILT FENCE TO PREVENT EROSION. ONCE THE STOCKPILES ARE DEPLETED, THEN STABILIZATION SHALL BE AS TYPICAL DISTURBED AREAS INCLUDING LOAMING AND SEEDING PER THIS DETAIL SHEET. ONCE FULLY STABILIZED, TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED.

CONSTRUCTION SEQUENCE:

(THESE SEQUENCES TO APPLY FOR BOTH ROAD & LOT CONSTRUCTION)

NOTE: - ALL EROSION CONTROLS TO BE INSPECTED WEEKLY AND AFTER EVERY .5" OF RAINFALL.

NOTE:
AN ENVIRONMENTAL MONITOR MAY BE REQUIRED DUE TO THE POSSIBILITY OF A GREATER THAN 5 ACRES BEING DISTURBED PRIOR TO STABILIZATION. THE MONITOR SHALL ADHERE TO ALL REQUIREMENTS OF ENV-WQ 1505.03(D) AS NOTED BELOW.

1. IF THERE IS TO BE ANY TREE CUTTING, ALL STUMPS, BRANCHES, TOPS AND BRUSH ARE TO BE PROPERLY DISPOSED OF, PREFERABLY OFF SITE.

2. CONSTRUCT STABILIZED CONSTRUCTION EXITS AS PER THE DETAIL AND IN LOCATIONS SHOWN OF THE PLAN VIEWS.

3. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES (DETENTION BASINS, TREATMENT SWALES, GRASS SWALES AND STONE LINED RIP-RAP SWALES) PRIOR TO ANY EARTH MOVING OPERATION.

4. ALL STORM DRAINAGE SYSTEMS SUCH AS DETENTION/EXFILTRATION BASINS, SWALES, SHALL BE PROTECTED FROM EROSION. ALL (IF APPLICABLE) SHALL BE INSTALLED PRIOR TO PAVING. ALL DRAINAGE STRUCTURES ARE STORM DRAINAGE SYSTEMS SHALL BE STABILIZED PRIOR TO DIRECTING FLOW INTO THEM.

5. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY UNTIL BASINS/PONDS ARE FULLY STABILIZED.

6. NO CATCH BASIN FRAME AND GRATE
TO BE "PLATED" AND CUT OUT FOLLOWING PAVING OPERATIONS, ONLY IF ALL DOWNSTREAM DRAINAGE ELEMENTS ARE STABLE, INCLUDING, BUT NOT LIMITED TO OUTLET PROTECTION, ALL SLOPE GRADING, VEGETATED OR RIPRAP SWALES, DETENTION BASIN AND TREATMENT SWALES.

7. CONSTRUCT TEMPORARY CULVERTS, DIVERSION DITCHES/SWALES OR BERMS AS REQUIRED TO MINIMIZE THE EROSIVE AFFECTS OF STORMWATER RUNOFF DURING ALL CONSTRUCTION ACTIVITIES.

8. COMPLETE GRUBBING OPERATIONS.

9. ALL MATERIAL SUITABLE FOR USE SUCH AS TOPSOIL OND ORGANICS, SHALL BE STOCKPILED IN UPLANDS AREAS. THESE STOCKPILES SHALL BE SEEDED WITH WINTER RYE AND IF NECESSARY, SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO PREVENT OR CONTAIN SOIL EROSION. % OF

10. ALL MATERIAL SUITABLE FOR FILL OR SELECT MATERIAL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO CONTAIN SOIL EROSION.

11. REMOVE ALL IMPROPER ROADWAY/SITE FOUNDATION MATERIAL WITHIN 18" OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL ACCEPTABLE TO THE STATE/TOWN SPECIFICATIONS. ALL SUITABLE FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95 THE DRY WEIGHT AS DETERMINED BY MODIFIED PROCTOR TESTING (ASTM D-1556) REQUIREMENTS.

12. CONSTRUCT ALL UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO DRAIN, DATA, CABLE AND POWER.

13. ROUGH GRADE ROADWAY/SITE WITHIN LIMIT OF WORK AND COMMENCE CONSTRUCTION OF ROADWAY AND/OR PARKING AREAS.

14. COMPLETE ROADWAY SLOPE GRADING/EMBANKMENT CONSTRUCTION. ALL SLOPES SHALL BE STABILIZED AND SEEDED IMMEDIATELY AFTER GRADING. THE CONTRACTOR SHALL STABILIZE SLOPES WITH APPROPRIATE SEEDING PROGRAM OR JUTE MAT, WHEREVER SPECIFIED.

15. APPLY TOPSOIL TO ROADWAY SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED MAY BE NATIVE ORGANIC MATERIAL SCREENED AS TO BE FREE FROM ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEEDED, AND MULCHED. THE CONTRACTOR SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.

16. PERFORM FINAL PAVING OPERATIONS (IF APPLICABLE), INSTALL GUARDRAIL (IF APPLICABLE) AS SHOWN ON THE APPROVED PLANS.

17. MAINTAIN, REPAIR, AND REPLACE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY FOR A MINIMUM PERIOD OF 12 MONTHS FOLLOWING SUBSTANTIAL COMPLETION.

18. AFTER STABILIZATION (12 MONTHLY FOLLOWING SUBSTANTIAL COMPLETION), REMOVE AND PROPERLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES, PREFERABLY OFF SITE.

SEEDING SPECIFICATIONS

MIXTURE	POUNDS/ACRE	POUNDS/1,000 SF
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10

1. SEEDBED PREPARATION
   A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.

   B. STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT FOUR INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

2. ESTABLISHING A STAND
   A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

   - AGRICULTURAL LIMESTONE: 2 TONS PER ACRE OR 0.09 LBS. PER SQ. FT.
   - NITROGEN (N): 50 LBS. PER ACRE OR 1.1 LBS. PER 1000 SQ. FT.
   - PHOSPHATE (P_2O_5): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
   - POTASH (K_2O): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
   (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10)

   B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

   C. REFER TO NH STORMWATER MANUAL, VOLUME 3 FOR ACCEPTED REQUIREMENTS.
   ALL LEGUMES (CROWNVETCH, BIRDSFOOT TREFOIL, AND FLATPEA), MUST BE INOCULATED WITH THEIR SPECIFIC INNOCULANT.

   D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

3. MULCH
   A. STRAW, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.

   B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES FROM THE "BEST MANAGEMENT PRACTICE FORMULCHING", REFER TO NH STORMWATER MANUAL, VOLUME 3 FOR ACCEPTED REQUIREMENTS.

4. MAINTENANCE TO ESTABLISH A STAND
   A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.

   B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.

   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

SEEDING SPECIFICATIONS (TEMPORARY SEEDING)

1. ANY DISTURBED AREAS NOT SEEDED BY OCTOBER 15 SHALL BE SEEDED USING "TEMPORARY SEED MEASURES".
   A) BEDDING - REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT THREE INCHES TO PREPARE SEED BED AND MIX THE FERTIZILER INTO THE SOIL.
   B) FERTILIZER - FERTILIZER SHOULD BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. A 10-10-10 MIX OF FERTILIZER SHOULD BE APPLIED AT A RATE OF 300 POUNDS PER ACRE (OR SEVEN POUNDS PER S.F.)
   C) SEED MIXTURE: USE ANY OF THE FOLLOWING SEEDING RATE:

SPECIES	PER ACRE	PER 1000 S.F	DATES	DEPTH
WINTER RYE	112 LBS	2.5 LBS	8/15 - 9/5	1 INCH
OATS	80 LBS	2.0 LBS	SPRING - 5/15	1 INCH
ANNUAL RYE GRASS WITH MULCH	40 LBS	1.0 LBS	4/15 - 9/15	1/4 INCH

   D) MULCHING - WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHOULD BE MULCHED TO FACILITATE GERMINATION. MUCH IN THE FORM OF STRAW SHOULD BE APPLIED AT A RATE OF 70 TO 90 POUNDS PER 1,000 S.F.

STATE OF NEW HAMPSHIRE
JON ROKEH
NO 11868
LICENSED
PROFESSIONAL ENGINEER

Developer:
EDWIN D KLINE

EROSION CONTROL NOTES

TAX PARCEL 212, LOTS 30, 31, 32 AND 33
KLINE ROAD
CENTER HARBOR, BELKNAP COUNTY, NEW HAMPSHIRE

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY
9-11-20	EDITS TO PLANS PER COMMENTS	JR	JR

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: AS NOTED
DATE: JUNE 10, 2020
DR. BY: JR
JOB NO. _____
SHEET NO. 7 OF 7