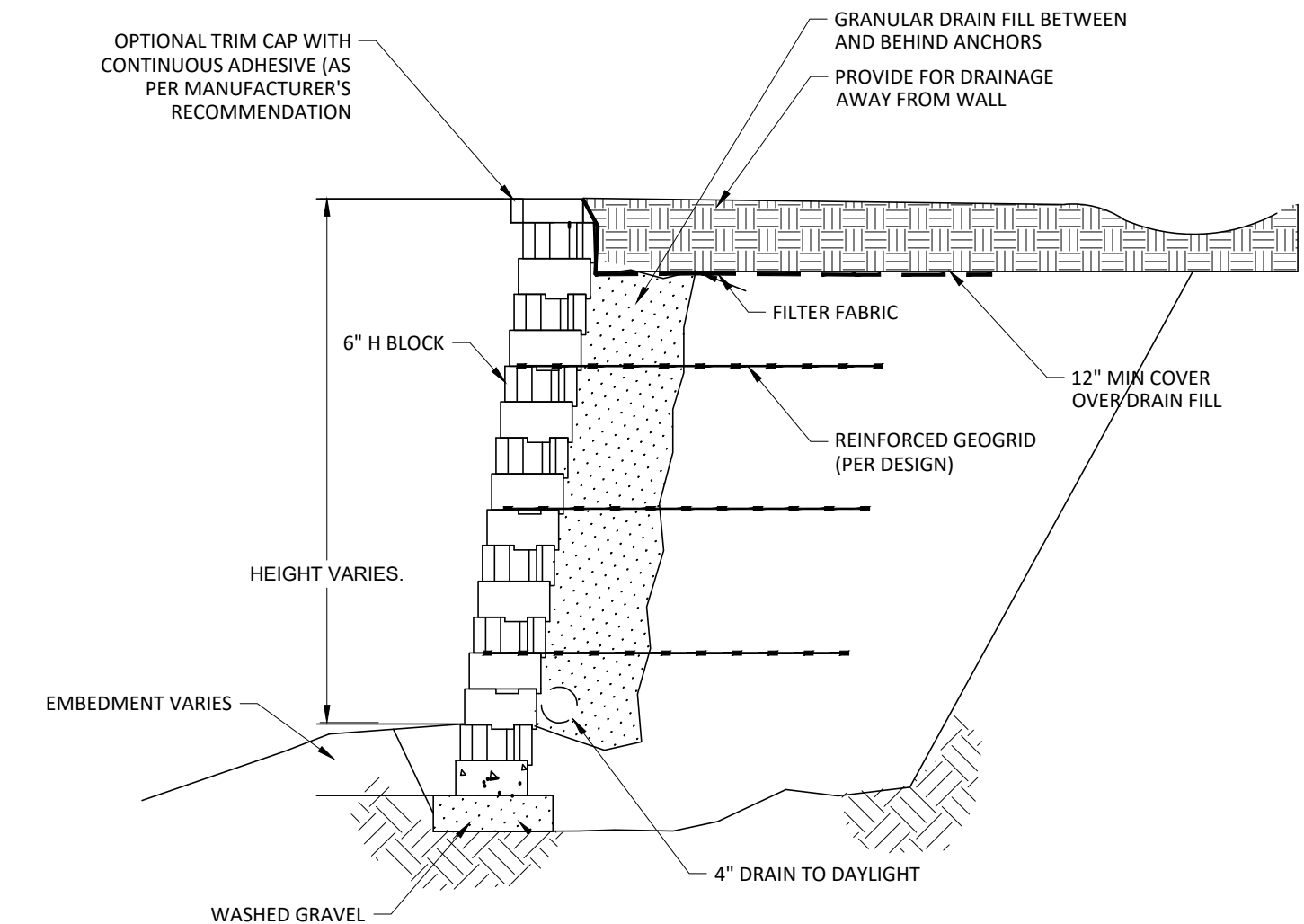


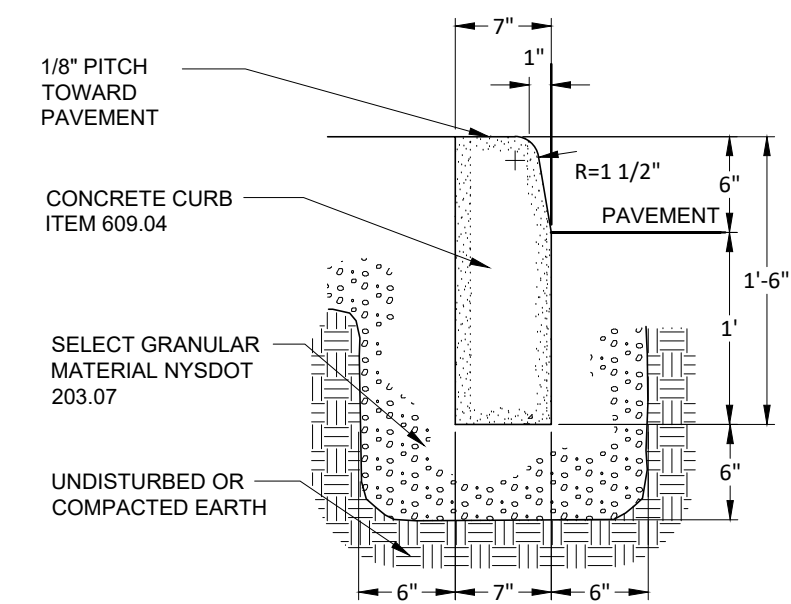
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AVW	
DATE	SCALE
1/27/23	1" = 30'
PROJECT NO.	
22079	
SHEET NO.	
SP-2	



- NOTES:**
1. RETAINING WALL SHALL BE ROCKWOOD 6" SEGEMENTAL BLOCK OR APPROVED EQUAL.

1 RETAINING WALL DETAILS

SCALE: N.T.S.



- NOTES:**
1. CURB SHALL BE CONSTRUCTED OF CLASS A CONCRETE, ITEM 609.04. CONCRETE SHALL NOT BE PLACED AT ATMOSPHERIC TEMPERATURES BELOW 40°F. REQUIRED MIN. AIR ENTRAINMENT SHALL BE 6%.
 2. EXPANSION JOINTS SHALL BE PLACED EVERY 10'. SEE DETAIL THIS SHEET.

6 CONCRETE CURB DETAIL

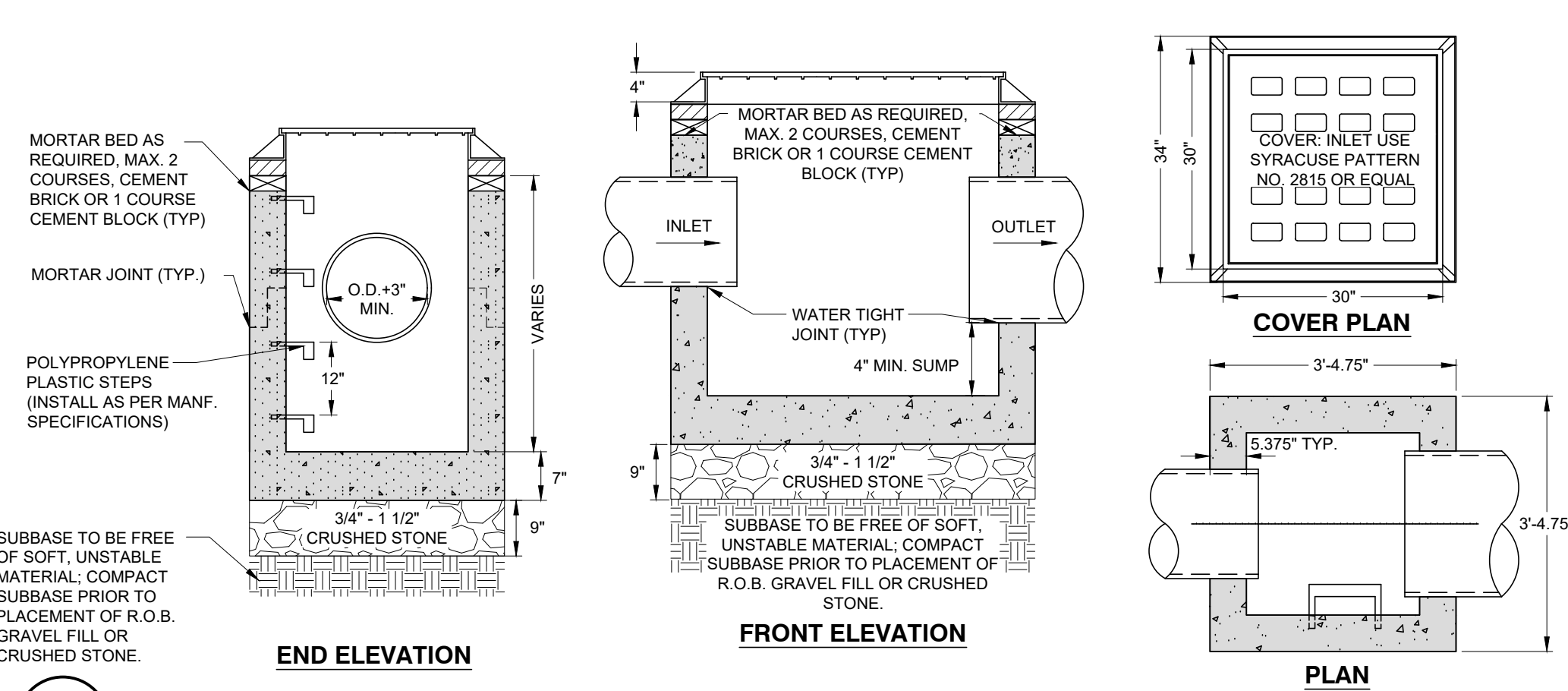
SCALE: N.T.S.



NOTE:
HANDICAP PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

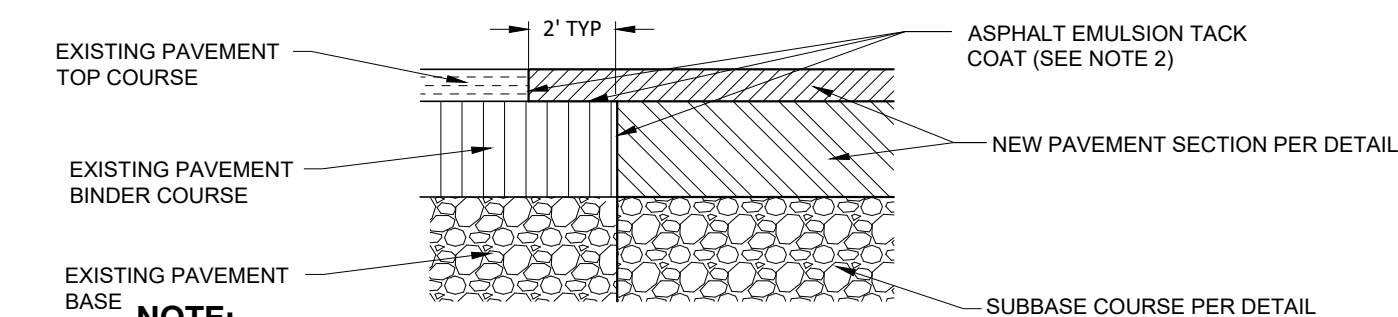
9 HANDICAP PARKING SIGN DETAIL

SCALE: N.T.S.



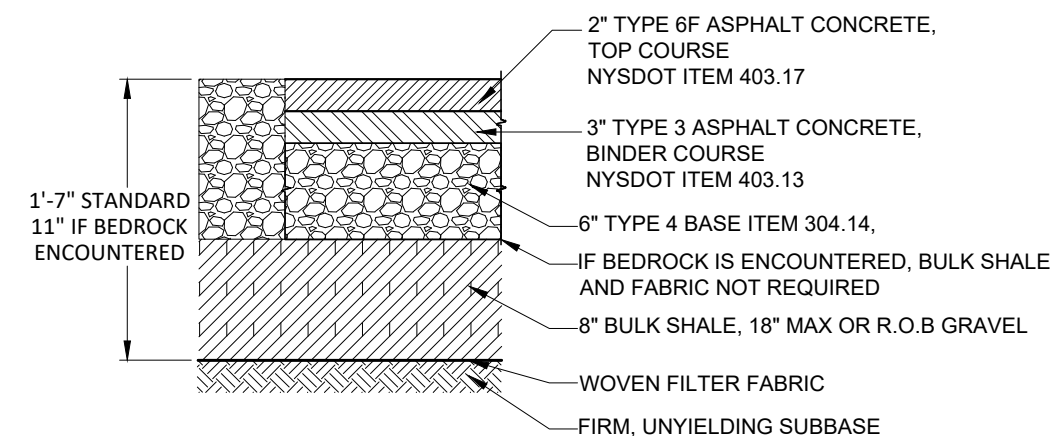
2 PRECAST CATCH BASIN (30"x30" - USED IN PARKING AREAS)

SCALE: N.T.S.



4 SAWN JOINT DETAIL

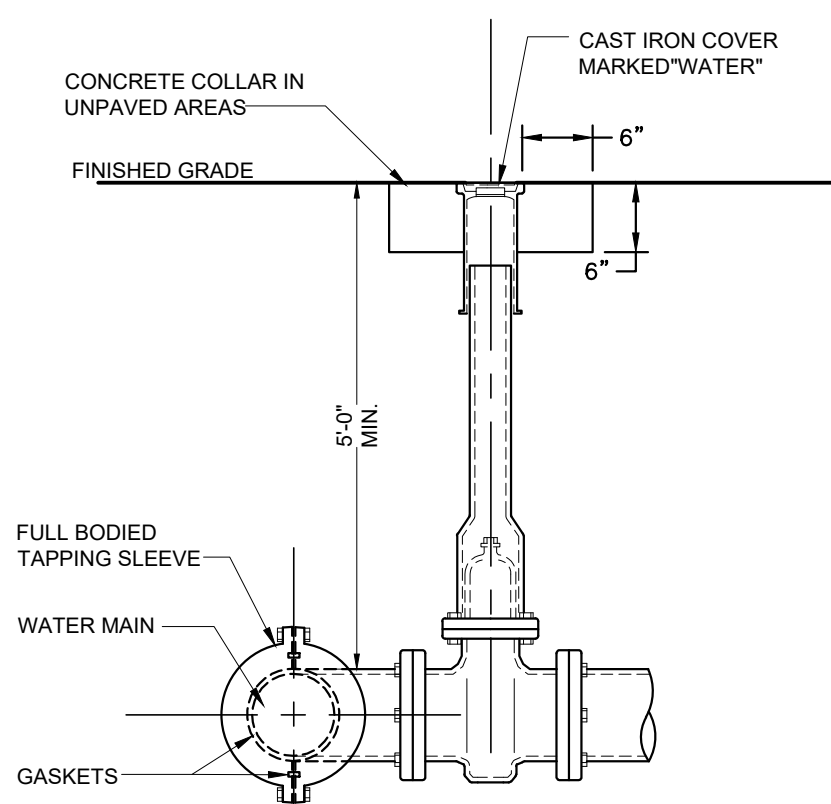
SCALE: N.T.S.



- NOTES:**
1. PAVEMENT AND SHOULDER CROSS SLOPE SHALL BE MIN. 1/4" PER FOOT.
 2. ASPHALT EMULSION TACK COAT SHALL BE APPLIED TO ALL CONNECTIONS WITH EXISTING EDGES OF PAVEMENT @ 0.15 GALLONS PER SQUARE YARD.
 3. ALL BACKFILL MATERIAL BENEATH ROAD AND SHOULDER SHALL BE COMPACTED IN MAX. 6" LIFTS.
 4. ALL PAVEMENT SHALL BE COMPACTED IN MAX. 3" LIFTS.
 5. ALL MATERIALS SHALL BE COMPACTED TO 97% STANDARD PROCTOR DENSITY.

5 PARKING LOT PAVEMENT DETAIL

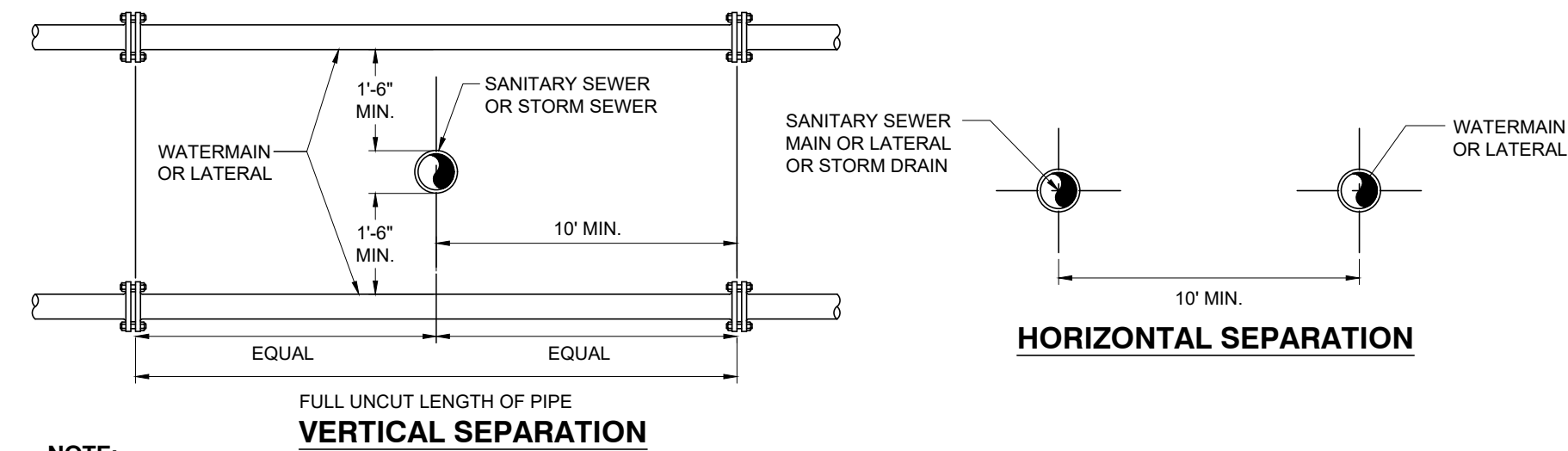
SCALE: N.T.S.



- NOTES:**
1. WET TAP OF PUBLIC WATER MAIN SHALL BE PERFORMED UNDER THE SUPERVISION OF REGULATORY AGENCY.
 2. TAPPING SLEEVE AND VALVE SUPPORT SHALL BE COORDINATED WITH REGULATORY AGENCY.
 3. MINIMUM DISTANCE TO JOINTS, FITTINGS OR OTHER WET TAPS OR STOPS SHALL BE MAINTAINED AS PER REGULATORY AGENCY.
 4. OPERATING DIRECTION SHALL BE COORDINATED BY THE CONTRACTOR WITH THE REGULATORY AGENCY.

11 TAPPING SLEEVE AND VALVE DETAIL

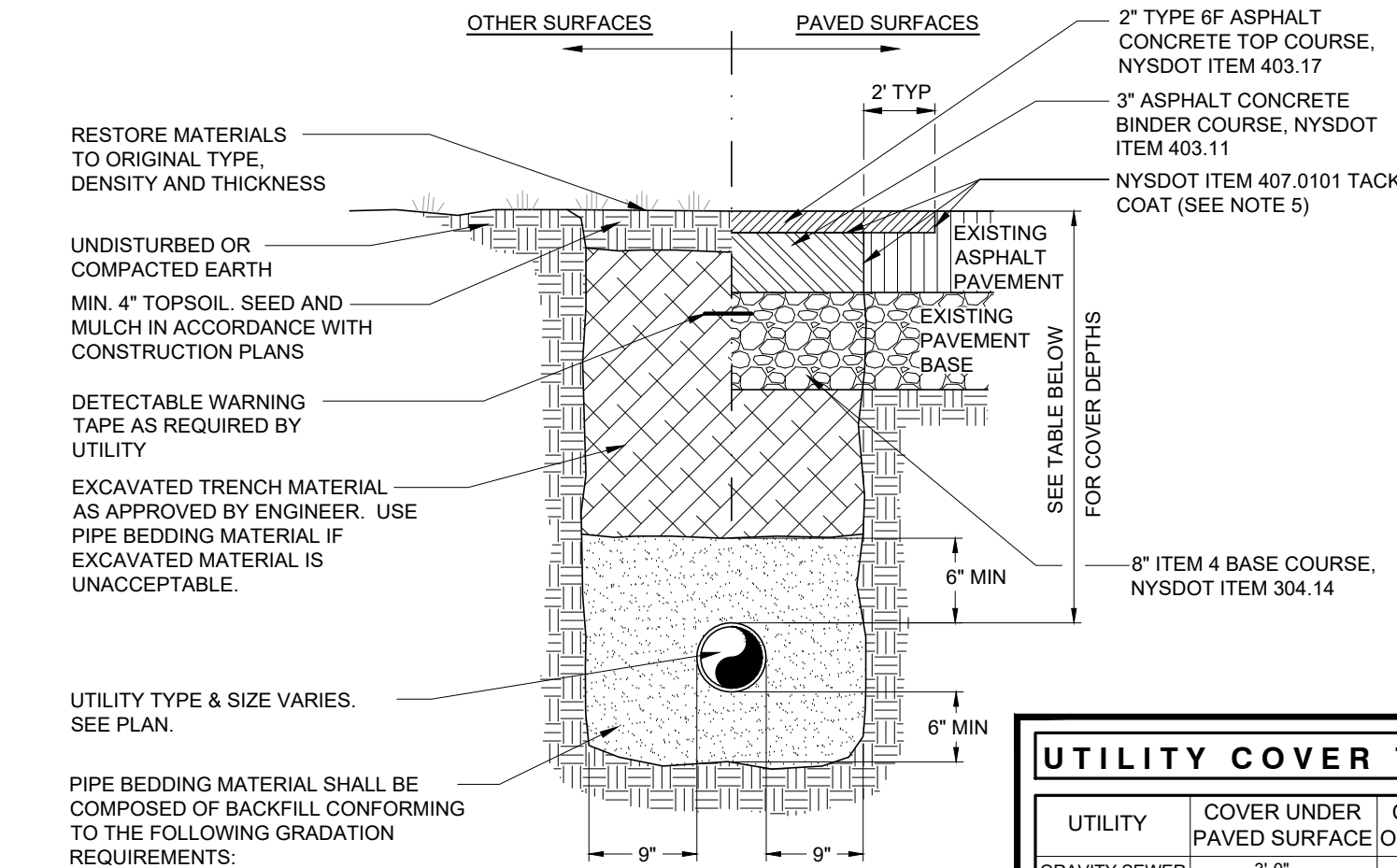
SCALE: N.T.S.



NOTE:
NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE ULSTER COUNTY DEPARTMENT OF HEALTH. CONCRETE ENCASEMENT OF WATER LINE OR OFFSETTING OF WATER LINE SHALL BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.

WATER MAIN - SANITARY / STORM SEWER SEPARATION DETAIL

SCALE: N.T.S.

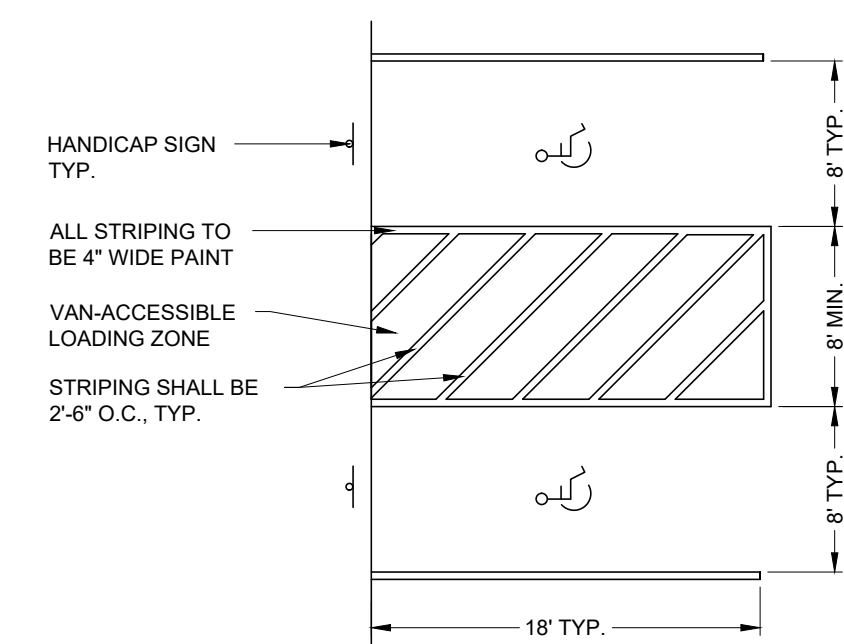


SIEVE DESIGNATION	% PASSING	SECTION
2"	100	N.T.S.
NO. 40	0-40	
NO. 200	0-10	

- NOTES:**
1. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED IN MAX. 6" LIFTS, TO 95% STANDARD PROCTOR DENSITY.
 2. REMOVE ALL NONDURABLE PARTICLES, ORGANIC MATTER AND STONES LARGER THEN 1.5"Ø FROM BACKFILL.
 3. BOTTOM OF TRENCH WILL BE FLAT AND LEVEL WITH NO LARGE STONES OR UNSTABLE SOILS PRESENT.
 4. IF A PAVEMENT JOINT EXISTS WITHIN 3' OF SAW CUT, PAVEMENT SHALL BE REMOVED TO EXISTING JOINT.
 5. TACK COAT SHALL BE APPLIED TO ALL EXPOSED EDGES OF PAVEMENT AND BETWEEN EVERY LIFT.
 6. ALL PAVEMENT WILL BE COMPACTED IN MAX. 3" LIFTS USING A 10 TON, VIBRATORY ROLLER.
 7. ALL WATER MAINS SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON.
 8. ALL SANITARY SEWER FORCE MAINS SHALL BE MINIMUM SDR 21 PIPE.
 9. ALL GRAVITY SEWER LINES SHALL BE MINIMUM SDR 35 PIPE.
 10. ALL DISTURBED AREAS TO BE STABILIZED WITHIN THREE (3) DAYS OF DISTURBANCE.
 11. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.
 12. ALL UNDERGROUND UTILITY INSTALLATIONS SHALL MEET SPECIFICATIONS PER JURISDICTIONAL UTILITY COMPANY.
 13. TRENCH SPECIFICATIONS SHALL BE SUBJECT TO CHANGE PER SPECIFIC SITE DESIGN CONSIDERATIONS.

UTILITY TRENCH DETAIL

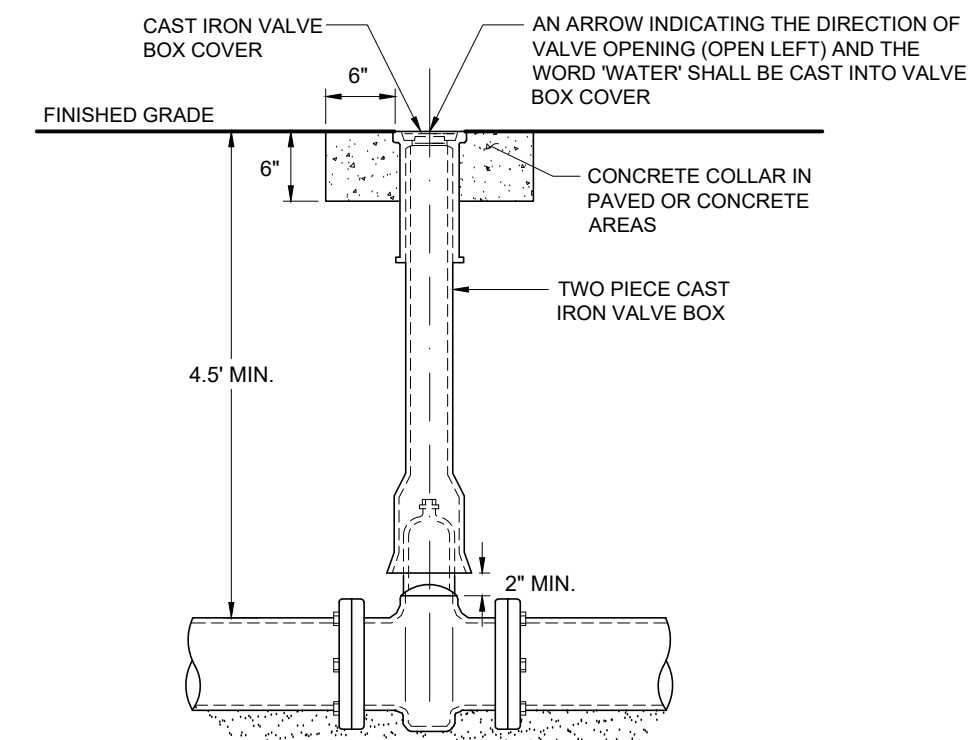
SCALE: N.T.S.



NOTE:
THE SLOPE OF THE HANDICAP PARKING AREA SHALL NOT EXCEED 2% IN ANY DIRECTION.

12 HANDICAP PARKING AREA DETAIL

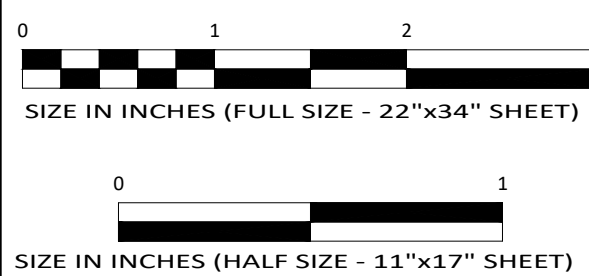
SCALE: N.T.S.



- NOTES:**
1. NON-RISING STEM GATE VALVE, OPERATING DIRECTION TO BE COORDINATED WITH WATER REGULATORY AGENCY.
 2. MINIMUM DISTANCE TO JOINTS, FITTINGS OR OTHER WET TAPS OR STOPS SHALL BE MAINTAINED AS PER REGULATORY AGENCY.
 3. GATE VALVES MUELLER RESILIENT WEDGE TYPE, OPEN LEFT.

13 WATER MAIN GATE VALVE DETAIL

SCALE: N.T.S.



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UNDER ARTICLE 145 (ENGINEERING), SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW, IT IS UNLAWFUL FOR ANY PERSON TO ALTER ANY ITEM ON THIS DRAWING, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED SURVEYOR. IF ANY ITEM IS ALTERED, THE ALTERING ENGINEER AND/OR SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



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REV	DATE	DESCRIPTION

SITE DETAILS

KEEBOMED INC.

ROUTE 9W
TOWN OF MARLBOROUGH, NEW YORK

DRAWN BY	CHECKED BY
AVW	
DATE	SCALE
1/27/23	AS SHOWN
PROJECT NO.	22079
SHEET NO.	SD-1



GRASS SWALE DETAIL

SCALE: N.T.S.

1. ALL PIPE, FITTINGS AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C600. NEWLY INSTALLED DUCTILE IRON WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C651 PRIOR TO PLACING IN SERVICE, AS DIRECTED BY THE TOWN OF LLOYD WATER DEPARTMENT.

DISINFECTION OF POTABLE WATER SERVICES MAINS

1. DISINFECTION WILL BE ACCOMPLISHED AFTER PIPE HAS PASSED ANY LEAKAGE TESTS.
2. THE MUNICIPALITY AND THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE START OF PRESSURE TESTING, LEAKAGE TESTING AND DISINFECTION.
3. DISINFECTION WILL BE PERFORMED IN ACCORDANCE WITH AWWA STANDARD C 651-05 OR LATER ADDITION. (EXCLUDING SECTION 5.1 COVERING THE TABLE METHOD).
4. CHLORINE-WATER SOLUTION IS PREPARED BY ADDING SODIUM HYPOCHLORITE TO WATER IN ACCORDANCE WITH THE FOLLOWING TABLE (VERIFY AGAINST TOWN REQUIREMENTS): CHLORINE REQUIRED TO PRODUCE 25 MG/L CONCENTRATION IN 100 FT. OF PIPE BY DIAMETER

PIPE SIZE INCHES	100 PERCENT CHLORINE POUNDS	1 PERCENT CHLORINE SOLUTIONS GALLONS
4	0.013	0.16
6	0.030	0.36
8	0.054	0.65
10	0.085	1.02

5. PRODUCT DETERIORATION MUST BE CONSIDERED IN COMPUTING THE QUANTITY OF SODIUM HYPOCHLORITE REQUIRED FOR THE DESIRED CONCENTRATION.
6. CHLORINE-WATER SOLUTION SHALL BE INTRODUCED INTO THE WATER MAIN WITH A GASOLINE OR ELECTRICALLY POWERED CHEMICAL FEED PUMP DESIGNED FOR FEEDING CHLORINE SOLUTIONS. FEED LINES SHALL BE OF RIGID MATERIAL AND OF SUFFICIENT SIZE AND STRENGTH TO WITHSTAND SAFELY THE MAXIMUM PRESSURE THAT MAY BE CREATED BY PUMP. ALL CONNECTIONS SHALL BE CHECKED FOR TIGHTNESS BEFORE HYPOCHLORITE SOLUTION IS APPLIED TO MAIN.
7. THE CONTRACTOR SHALL FURNISH AND INSTALL A CORPORATION STOP JUST DOWNSTREAM FROM THE NEWLY INSTALLED GATE VALVE.
8. BEFORE THE FOLLOWING PROCEDURE SHALL BE USED TO DISINFECT THE NEW MAIN, THE CONTRACTOR SHALL, HOWEVER, REVIEW THEIR PROPOSED PROCEDURES WITH THE ENGINEER AT LEAST 48 HOURS PRIOR TO START OF DISINFECTION. ALL DISINFECTION PROCEDURES MUST BE APPROVED BY THE ENGINEER BEFORE DISINFECTION STARTS.
- 8.1. ALL GATE VALVES AND HYDRANTS MUST BE CLOSED. THE NEW MAIN SHOULD ALREADY BE FULL OF WATER FROM THE HYDROSTATIC TESTS. IF NOT, IT SHALL BE FILL TO FULL.
- 8.2. MIX CHLORINE-WATER SOLUTION IN 55 GALLON DRUMS; CONNECT FEED LINE TO PUMP AND NEW MAIN.
- 8.3. OPEN GATE VALVE ON THE HYDRANT LEAD OF END HYDRANT; THEN OPEN HYDRANT FULLY. (NOTE: HYDRANT MUST ALWAYS BE EITHER FULLY OPENED OR FULLY CLOSED. THE HYDRANT FLOW MAY BE CONTROLLED BY THROTTLING THE GATE VALVE ON THE HYDRANT LEAD).
- 8.4. START PUMPING CHLORINE-WATER SOLUTION INTO WATER MAIN; THEN OPEN UPSTREAM GATE VALVE SLOWLY UNTIL FLOW FROM HYDRANT IS ESTABLISHED. (NOTE: RATIO OF CHLORINE-WATER SOLUTION BEING PUMPED (30 PARTS WATER TO 1 PART CHLORINE-WATER SOLUTION). IF A WATER METER IS NOT AVAILABLE, DISCHARGE RATE MAY BE DETERMINED BY USING EITHER A PITOT GAUGE IN THE DISCHARGE OR BY MEASURING THE TIME TO FILL A CONTAINER OF KNOWN VOLUME (SUCH AS A 55 GALLON BARREL). THE PUMPING RATE CAN BE DETERMINED BY MEASURING THE DROP IN LIQUID LEVEL IN A GIVEN LENGTH OF TIME.
- 8.5. AFTER HYDRANT FLOW AND PUMPING RATE HAVE BEEN ADJUSTED, MAINTAIN A CONSTANT FLOW SO THAT CHLORINE CONCENTRATION IN THE MAIN IS MAINTAINED AT A MINIMUM OF 25 PPM.
- 8.6. PERIODICALLY CHECK HYDRANT DISCHARGE FOR CHLORINE CONCENTRATION BY USING A FIELD CHLORINE RESIDUAL TEST KIT. MAINTAIN HYDRANT DISCHARGE AND PUMPING RATE UNTIL THE MINIMUM CHLORINE CONCENTRATION OF 25 PPM HAS BEEN ACHIEVED THROUGHOUT THE ENTIRE MAIN DISINFECTED.
9. AFTER THE REQUIRED CONCENTRATION HAS BEEN ACHIEVED, ALL VALVES AND HYDRANTS ON THE MAIN LINE BETWEEN THE UPSTREAM GATE VALVE AND THE DISCHARGE HYDRANT SHALL BE OPERATED IN ORDER TO DISINFECT THE INTERNAL APPURTENANCES. DO NOT OPERATE ANY GATE VALVE THAT IS LOCATED ON A CONNECTION TO AN EXISTING WATER MAIN THAT IS IN SERVICE.
- 9.1. AFTER THE ENGINEER HAS TAKEN A WATER SAMPLE AND VERIFIED THE MINIMUM 25 PPM CHLORINE CONCENTRATION, THE CONTRACTOR SHALL RETAIN THE CHLORINATED WATER IN THE MAIN BY THE FOLLOWING METHOD:
- 9.1.1. FIRST, CLOSE THE UPSTREAM GATE VALVE.
- 9.1.2. SECOND, CLOSE THE DISCHARGE HYDRANT.
- 9.1.3. THIRD, SHUT OFF THE PUMP.
10. CHLORINATED WATER SHALL REMAIN IN THE MAIN FOR A MINIMUM OF 24 HOURS.
11. IF THE CHLORINE RESIDUAL IS LESS THAN 10 PPM AT THE END OF THE 24 HOURS, REPEAT SYSTEM TREATMENT.
12. ANY SECTION OF PIPE, VALVES OR FITTINGS, INCLUDING TAPPING SLEEVES AND VALVES WHICH ARE INSTALLED OUTSIDE THE LIMITS OF THE SYSTEM SUBJECT TO THE CHLORINATION PROCEDURES SPECIFIED ABOVE, SHALL BE SPRAYED OR SWABBED WITH A 1% HYPOCHLORITE SOLUTION PRIOR TO INSTALLATION.
13. AFTER THE ENGINEER HAS TAKEN A WATER SAMPLE AND VERIFIED THE MINIMUM 10 PPM CHLORINE RESIDUAL, CONTRACTOR SHALL THOROUGHLY FLUSH CHLORINATED WATER FROM THE MAIN BY THE FOLLOWING METHOD:
- 13.1. FIRST, OPEN THE DISCHARGE HYDRANT.
- 13.2. SECOND, OPEN THE UPSTREAM GATE VALVE.
- 13.3. THIRD, OPEN ANY HYDRANTS ON THE MAIN LINE TO REMOVE ALL CHLORINATED WATER FROM THE HYDRANT LEADS.
14. FLUSH THE MAIN WITH POTABLE WATER IN SUCH A MANNER THAT DOES NOT ADVERSELY AFFECT FISH, PLANT, OR ANIMAL LIFE.
15. THE QUANTITY AND LOCATION OF WATER SAMPLES TO BE TAKEN SHALL BE DETERMINED BY THE ENGINEER.
16. THE WATER LOSS DURING THE TREATMENT SHALL BE TAKEN INTO ACCOUNT BY THE CONTRACTOR.
17. ANALYZE WATER SAMPLES IN ACCORDANCE WITH STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER, LATEST EDITION, PUBLISHED BY AMERICAN WATER WORKS ASSOCIATION.
18. IF A BACTERIOLOGICAL TEST PROVES THE WATER QUALITY TO BE UNACCEPTABLE; REPEAT SYSTEM TREATMENT.
19. IF A BACTERIOLOGICAL TEST PROVES THE WATER QUALITY TO BE ACCEPTABLE, REMOVE FEED LINE AND CORPORATION STOP. CORPORATION STOP WILL BE REPLACED WITH A THREADED BRASS PLUG UNLESS OTHERWISE DIRECTED BY ENGINEER.
20. SAMPLES MUST BE BACTERIOLOGICALLY SAFE BEFORE WATER MAIN IS PLACED IN SERVICE.

1. ALL WATER LINES SHALL BE DUCTILE IRON PIPE, CLASS 52 UNLESS OTHERWISE SPECIFIED BY OR APPROVED BY THE TOWN OF LLOYD WATER DEPARTMENT. ALL MECHANICAL JOINING SHALL EMPLOY "MEGALUG" CONNECTIONS, OR AS ALTERNATIVELY SPECIFIED BY THE TOWN OF LLOYD WATER DEPARTMENT. ALL WATER PIPING CONSTRUCTION SHALL BE TO THE SPECIFICATIONS OF THE TOWN OF LLOYD WATER DEPARTMENT.
2. DUCTILE IRON PIPE SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C150/A21.50 FOR A MINIMUM 150 psi SURGE ALLOWANCE (IF ANTICIPATED SURGE PRESSURES ARE OTHER THAN 100 psi, THE ACTUAL ANTICIPATED PRESSURE SHOULD BE USED); A 2 TO 1 FACTOR OF SAFETY ON THE SUM OF WORKING PRESSURE PLUS SURGE PRESSURE; AND A DEPTH COVER OF 5 FEET.
3. PIPE SHALL HAVE STANDARD ASPHALTIC COATING ON THE EXTERIOR. PIPE SHALL ALSO HAVE A CEMENT-MORTAR LINING ON THE INTERIOR IN ACCORDANCE WITH ANSI/AWWA C404/A21.4, OF LATEST REVISION.
4. THE CLASS OR NOMINAL THICKNESS, NET WEIGHT WITHOUT LINING, AND CASTING PERIOD SHALL BE CLEARLY MARKED ON EACH LENGTH OF PIPE ADDITIONALLY, THE MANUFACTURER'S MARK, COUNTRY WHERE CAST, YEAR IN WHICH THE PIPE WAS PRODUCED, AND THE LETTERS "DI" OR "DUCTILE" SHALL BE CAST OR STAMPED ON THE PIPE.
5. EACH PIPE SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST OF AT LEAST 500 psi AT THE POINT OF MANUFACTURE.
6. ALL NEW WATER MAIN INSTALLATIONS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C 600 (LATEST REVISION) AT A PRESSURE OF 150 psi OR 1.25 TIMES THE WORKING PRESSURE OF THE SYSTEM AS A MINIMUM. ALLOWABLE LEAKAGE OF THIS TEST SHALL BE AS DEFINED IN SECTION 4.2 OF SAID AWWA SPECIFICATION.
7. THE WATER LINE MAY BE FLEXED WITHIN PIPE SPECIFICATIONS OR LAID DEEPER IN AREAS WHERE CROSSINGS WITH THE SANITARY LINE OCCUR, TO ACHIEVE THE REQUIRED 1.5 VERTICAL SEPARATION DISTANCE. IF THIS DISTANCE CANNOT BE REASONABLY ACHIEVED, THE CONTRACTOR SHALL EITHER CUT AND JOINT THE PIPE OR CONCRETE ENCASE BOTH LINES 10" IN EACH DIRECTION. (SEE WATERLINE OFFSET DETAIL FOR FURTHER INFORMATION)
8. ALL PIPES SHALL BE FURNISHED WITH PUSH-ON TYPE JOINTS, SUCH AS TYTON, OR FASTLITE. JOINTS SHALL BE IN ACCORDANCE WITH ANSI/AWWA C110/A21.11, OF LATEST REVISION, AND BE FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES.
9. FITTINGS SHALL BE DUCTILE IRON. FITTINGS SHALL CONFORM TO THE LATEST REVISION OF EITHER ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH EITHER PUSH-ON OR MECHANICAL TYPE MEGALUG JOINTS WHERE JOINT RESTRAINT IS REQUIRED IN ACCORDANCE WITH ANSI/AWWA C111/A21.11, OF THE LATEST REVISION.
10. THE WATER MAIN IS TO BE INSTALLED AT A CONTINUOUS GRADE WITH NO ABRUPT HIGH OR LOW POINTS.
11. WATER MAIN SHUT-OFF, INSTALLATION, AND TESTING SHALL BE COORDINATED WITH THE TOWN OF LLOYD WATER DEPARTMENT.
12. BACKFLOW PREVENTION WILL BE REQUIRED IN THE FORM OF A DOUBLE CHECK VALVE ASSEMBLY FOR EACH SERVICE CONNECTION.

1. ALL PIPE, FITTINGS AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C600

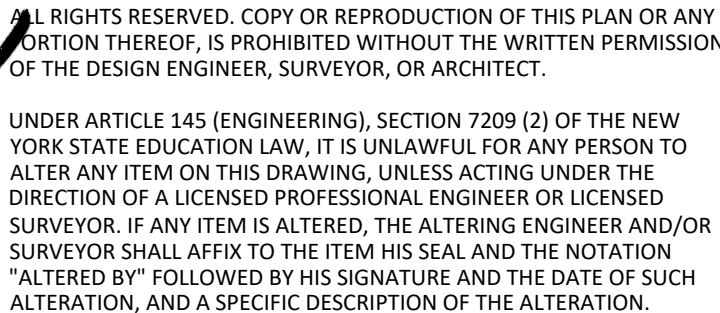
TESTING WATER MAINS

1. AFTER TRENCH HAS BEEN BACKFILLED, HYDROSTATIC ACCEPTANCE TESTS, CONSISTING OF A PRESSURE TEST AND A LEAKAGE TEST SHALL BE PERFORMED ON ALL SECTIONS OF WATER MAINS INSTALLED. LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH PRESSURE TEST. TEST SECTION SHALL BE LIMITED TO ABOUT 2000 FT. (MAX.) UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. AFTER ALL TESTS AND INSPECTIONS HAVE BEEN PERFORMED, EVIDENCE OF COMPLIANCE SHALL BE FORWARDED TO OWNER/ENGINEER AND THE MUNICIPALITY PRIOR TO ACCEPTANCE.
3. ALL WATER FOR TESTS SHALL BE FURNISHED AND DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. SOURCE AND/OR QUALITY OF WATER WHICH THE CONTRACTOR PROPOSED TO USE IN TESTING LINES SHALL BE ACCEPTABLE TO THE ENGINEER.
4. HYDROSTATIC PRESUMPTIVE TESTS MAY BE PERFORMED WHEN SYSTEM IS PARTIALLY BACKFILLED TO SIMPLY CHECK WORK, BUT ACCEPTANCE OF SYSTEM SHALL BE BASED ON HYDROSTATIC TESTS RUN ON FINISHED SYSTEM AFTER IT HAS BEEN COMPLETELY BACKFILLED. ALL HYDROSTATIC TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600 OR LATER ADDITION, AS MODIFIED HEREIN.
5. FOR THE PRESSURE TEST, SYSTEM SHALL BE PRESSURIZED AND MAINTAINED AT A MINIMUM OF 150 P.S.I. OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER, BASED ON THE ELEVATION OF THE LOWEST POINT IN THE SECTION BEING TESTED AND CORRECTED TO THE ELEVATION OF THE GAUGE. PROVISIONS SHALL BE MADE TO RELIEVE AIR TRAPPED AT HIGH POINTS IN THE SYSTEM THROUGH ADJACENT HYDRANTS OR THROUGH TAPS AND CORPORATION STOPS INSTALLED FOR THE PURPOSE OF THE TEST. WHEN THE PRESSURE HAS BEEN MAINTAINED SUCCESSFULLY WITH FURTHER PUMPING AS REQUIRED, FOR A PERIOD OF AT LEAST TWO HOURS, THE SECTION UNDER TEST SHALL BE CONSIDERED TO HAVE PASSED THE PRESSURE TEST.
6. LEAKAGE TEST SHALL BE PERFORMED CONCURRENTLY USING A MINIMUM TEST PRESSURE OF 150 P.S.I. OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER, BASED ON THE ELEVATION OF THE LOWEST POINT IN THE SECTION UNDER TEST AND CORRECTED TO ELEVATION OF THE GAUGE.
7. LEAKAGE TEST DURATION SHALL BE A MINIMUM OF TWO HOURS AFTER LEAKAGE RATE HAS STABILIZED.

ALLOWABLE LEAKAGE PER 1000 FT (305M) OF PIPELINE (GPH)

PSI TEST PRESSURE			NOMINAL PIPE DIAMETER-IN.				
AVG. TEST PRESSURE	4	6	8	10	12	14	16
450 (31)	0.57	0.86	1.15	1.43	1.72	2.01	2.29
400 (28)	0.54	0.81	1.08	1.35	1.62	1.89	2.16
350 (24)	0.51	0.76	1.01	1.26	1.52	1.77	2.02
300 (21)	0.47	0.70	0.94	1.17	1.40	1.64	1.87
275 (19)	0.45	0.67	0.90	1.12	1.34	1.57	1.79
250 (17)	0.43	0.64	0.85	1.07	1.28	1.50	1.71
225 (16)	0.41	0.61	0.81	1.01	1.22	1.42	1.63
200 (14)	0.38	0.57	0.76	0.96	1.15	1.34	1.53
175 (12)	0.36	0.54	0.72	0.89	1.07	1.25	1.43
150 (10)	0.33	0.50	0.66	0.83	0.99	1.16	1.32
125 (9)	0.30	0.45	0.60	0.76	0.91	1.06	1.21
100 (7)	0.27	0.41	0.54	0.68	0.81	0.95	1.08

8. IF LEAKAGE IN SYSTEM EXCEEDS THE SPECIFIED AMOUNT, THE CONTRACTOR SHALL, AT NO ADDED COST TO THE OWNER, LOCATE, REPAIR, AND/OR REPLACE DEFECT(S) AND RE-TEST THE PIPING SYSTEM.



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REV	DATE	DESCRIPTION

SITE DETAILS

KEEBOMED INC.

ROUTE 9W

TOWN OF MARLBOROUGH, NEW YORK

DRAWN BY	CHECKED BY
AVW	
DATE	SCALE
1/27/23	AS SHOWN
PROJECT NO.	
22079	
SHEET NO.	
SD-2	

EROSION AND SEDIMENT CONTROL NOTES - GENERAL

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE STANDARDS AND PRINCIPLES AS OUTLINED IN THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" AND THE LOCAL MUNICIPALITY'S EROSION AND SEDIMENT CONTROL STANDARDS AND PRACTICES. IF SUCH A DOCUMENT EXISTS, THE INTENT OF THE OUTLINED MEASURES IS TO MINIMIZE EROSION AND SEDIMENTATION DURING CONSTRUCTION, STABILIZE AND PROTECT THE SITE FROM EROSION AFTER CONSTRUCTION IS COMPLETE AND MITIGATE ANY ADVERSE IMPACTS TO STORMWATER QUALITY RESULTING FROM SEDIMENT RUNOFF CAUSED BY DEVELOPMENT ACTIVITIES.

NO SOIL STOCKPILE OR GRADED AREA SHALL REMAIN EXPOSED FOR MORE THAN 14 DAYS. THE EXPOSED AREAS OR SOIL STOCKPILE SHALL BE STABILIZED WITHIN THE 14 DAY PERIOD. STABILIZATION MEASURES TO BE USED INCLUDE TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING AND STONE RIP RAP. DURING CONSTRUCTION, RUNOFF SHALL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING, OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE SHALL BE PROVIDED WITH BARRIER FILTERS. STONE RIP RAP SHALL BE PROVIDED AT THE OUTLETS OF DRAINAGE PIPES WHERE EROSION VELOCITIES ARE ENCOUNTERED.

TIMING OF CONTROL MEASURES

AS INDICATED ABOVE IN THE CONSTRUCTION SEQUENCE SCHEDULE, ALL EROSION AND SEDIMENT CONTROL MEASURES 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. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND HAY BALE BARRIERS AND ANY EARTH DIKES WILL BE REMOVED ONCE PERMANENT MEASURES AND STABILIZATION ARE ESTABLISHED.

GENERAL INSPECTION AND MAINTENANCE PRACTICE

THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN DURING CONSTRUCTION.

- THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DISTURBED AT ONE TIME.
- ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK.
- ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
- A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION.

INSTALLATION NOTES

- TEMPORARY SEEDING SHOULD BE MADE WITHIN 24 HOURS OF CONSTRUCTION OR DISTURBANCE. IF NOT, THE SOIL MUST BE SCARIFIED PRIOR TO SEEDING.
- IN ORDER FOR MULCH TO BE EFFECTIVE IT MUST BE PLACED PRIOR TO MAJOR STORM EVENTS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
- THE TIME PERIOD TO MULCH CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON AN AREA. THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODABILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS IN ORDER TO CHOOSE AN APPROPRIATE TIME RESTRICTION.
- WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT THE RATE OF 6,000 LBS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH.

SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. (REFER TO CONSTRUCTION SEQUENCING SCHEDULE IN SWPPP REPORT FOR FURTHER INFORMATION).

130 (MIN.) POUNDS PURE LIVE SEED PER ACRE

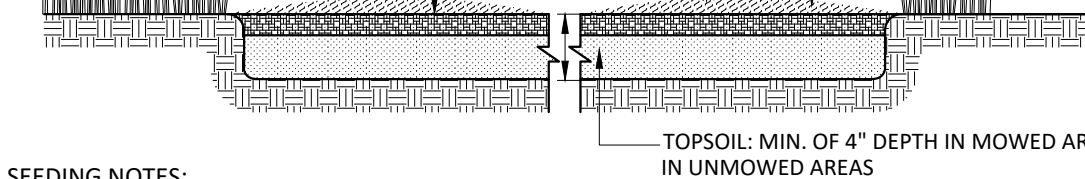
MULCH: LAYER OF COMMON HAY OR STRAW; 2 TONS PER ACRE

FERTILIZER: COMMERCIAL 30-10-20, SLOW RELEASE

APPLICATION RATE AS PER MANUFACTURER'S

RECOMMENDATIONS (NO MORE THAN 1 LB

NITROGEN PER 1000 SF)



SEEDING NOTES:

- PROVIDE FRESH, CLEAN, NEW SEED COMPLYING WITH ESTABLISHED TOLERANCES FOR GERMINATION AND PURITY IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS UNDER THE LATEST EDITION OF THE FEDERAL SEED ACT. SEED SHALL BE MIXED BY THE DEALER AND SHALL BE DELIVERED TO THE SITE IN SEALED CONTAINERS WHICH SHALL BEAR THE DEALER'S GUARANTEE ANALYSIS.
- FOR TEMPORARY SEEDING - OR - AREAS THAT WILL NOT BE MAINTAINED: RAPIDLY GERMINATING ANNUAL RYEGRASS: 100 LBS PER ACRE PERENNIAL RYEGRASS: 100 LBS PER ACRE CEREAL RYE: 30 LBS PER ACRE FOR USE ON LAWN AREAS (AREAS TO BE MAINTAINED) ALTERNATE A (SUNNY SITE) 65% KENTUCKY BLUE GRASS BLEND: 85-114 LBS PER ACRE 20% PERENNIAL RYEGRASS: 26-35 LBS PER ACRE 15% FINE FESCUE: 19-26 LBS PER ACRE TOTAL: 130-175 LBS PER ACRE ALTERNATE B (SHADY SITE) 80% KENTUCKY BLUE GRASS BLEND*: 105-138 LBS PER ACRE 20% PERENNIAL RYEGRASS: 25-37 LBS PER ACRE TOTAL: 130-175 LBS PER ACRE *SHADE TOLERANT
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDRO SEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDRO-SEEDING.
- MULCH SEEDED AREAS WITH STRAW MULCH (2000 LBS PER ACRE).
- IRRIGATE TO FULLY SATURATE SOIL LAYER, BUT NOT TO DISLODGE PLANTING SOIL.
- SEED BETWEEN APRIL 1ST AND MAY 15TH OR AUGUST 15TH AND OCTOBER 15TH. SEEDING MAY OCCUR BETWEEN MAY 15TH AND AUGUST 15TH IF ADEQUATE IRRIGATION IS PROVIDED.

TOPSOIL APPLICATION NOTES:

- TOPSOIL SHALL BE DISTURBED TO A UNIFORM DEPTH OVER THE AREA. IT SHALL NOT BE PLACED WHEN IT IS PARTIALLY FROZEN, MUDDY OR ON FROZEN SLOPES OVER ICE, SNOW OR STANDING WATER.
- TOPSOIL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDDED AND STABILIZED BY "TRACKING" WITH SUITABLE EQUIPMENT.
- APPLY TOPSOIL IN THE FOLLOWING AMOUNTS FOR INTENDED USE: MOVED LAWN: 4-8 INCHES UNMOWED AREA: 2-4 INCHES
- COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF TOPSOIL TO BE ADDED. SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY AT APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%.
- REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3 INCHES IN DIAMETER, AND OTHER LITTER.

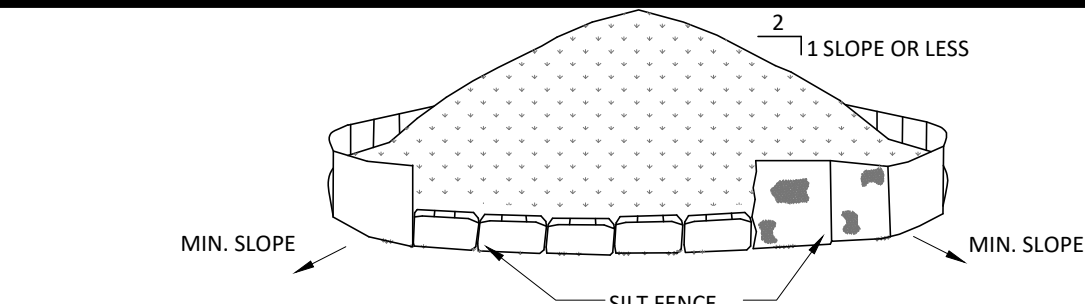
TOPSOIL MATERIAL NOTES:

THE FURNISHINGS OF NEW TOPSOIL SHALL BE OF A BETTER OR EQUAL QUALITY OF THE EXISTING ADJACENT TOPSOIL AND SHALL MEET THE FOLLOWING CRITERIA:

- TOPSOIL SHALL HAVE AT LEAST 2%, BUT NOT MORE THAN 6% BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL.
 - TOPSOIL SHALL HAVE NOT LESS THAN 20% FINE TEXTURED MATERIAL (PASSING THE NO. 200 SIEVE) AND NOT MORE THAN 15% CLAY.
 - TOPSOIL SHALL BE RELATIVELY FREE OF STONES OVER 1" DIAMETER, THRASH, NOXIOUS WEEDS, AND WILL HAVE LESS THAN 10% GRAVEL BY VOLUME.
- INSPECTION & MAINTENANCE NOTES:
- TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
 - 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.)
 - ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE APPLIED IMMEDIATELY.
 - AREAS COMPACTED OR HEAVY USED AREAS, ANNUALLY AS SOON AS THE SOIL MOISTURE CONDITIONS PERMIT. AERATE AREA 6 TO 8 TIMES USING A SPOON HOLLOW TINE TYPE AERATION. DO NOT USE SPIKE EQUIPMENT.
 - RESEED BARE AND THIN AREAS ANNUALLY WITH ORIGINAL SPECIES.
 - SOIL SHALL MAINTAIN A pH OF 6.0-7.0.

TOPSOIL, SEED AND MULCH DETAIL

SCALE: NTS

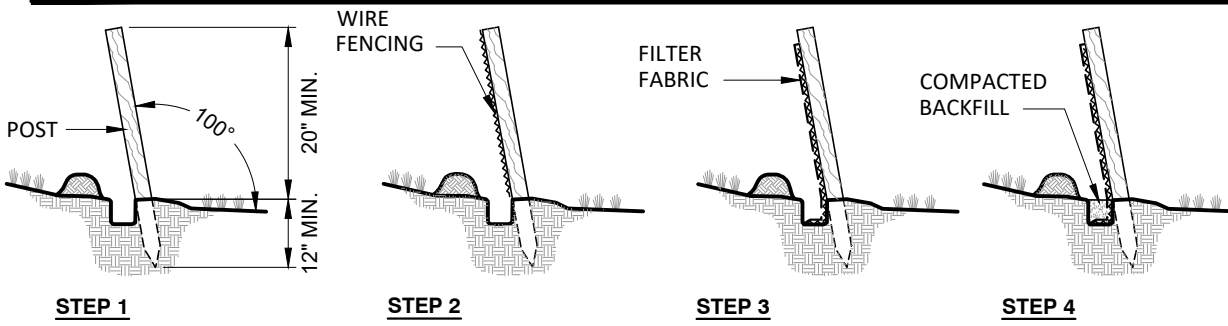


SPECIFICATION AND INSTALLATION NOTES:

- AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 - MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
 - UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR HAY BALES AND STABILIZED WITH VEGETATION OR COVERED.
 - SEE SPECIFICATIONS ON INSTALLATION OF SILT FENCE.
- INSPECTION & MAINTENANCE NOTES:
- SOIL AND TOPSOIL STOCKPILE SHOULD BE SEEDED IF THEY ARE TO REMAIN DORMANT FOR 30 DAYS.
 - SEE SILT FENCE DETAIL FOR MAINTENANCE AND INSPECTIONS.

SOIL STOCKPILE DETAIL

SCALE: NTS



- STEP 1** SET POSTS AND EXCAVATE A 6"x6" TRENCH, SET POST DOWNWARDS. ANGLE POST 10° UPSLOPE FOR STABILITY AND SELF CLEANING.
- STEP 2** STAPLE WIRE MESH FENCING TO FENCE POSTS.
- STEP 3** ATTACH FILTER FABRIC TO THE WIRE FENCING AND EXTEND IT INTO THE TRENCH.
- STEP 4** BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

MATERIAL NOTES:

1. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES TO 120 DEGREE F. SYNTHETIC FILTER FABRIC SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIERS AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

FABRIC PROPERTIES	MIN. ACCEPTED VALUE	TEST METHOD
GRAB TENSILE STRENGTH (lbs)	90	ASTM D1682
ELONGATION FAILURE AT (%)	50	ASTM D1682
MULLEN BURST STRENGTH (PSI)	190	ASTM D3786
PUNCTURE STRENGTH (lbs)	40	ASTM D751 (MODIFIED)
SLURRY FLOW RATE (gal/min/sf)	0.3	
EQUIVALENT OPENING SIZE	40-80	US STD SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY (%)	90	ASTM G-26

- THE HEIGHT OF THE SILT FENCE SHALL NOT EXCEED 36 INCHES.
- 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 SPICED TOGETHER ONLY AT SUPPORT POSTS, WITH A 6 INCH OVERLAP MINIMUM AND SHALL BE SECURELY SEALED.

INSTALLATION NOTES:

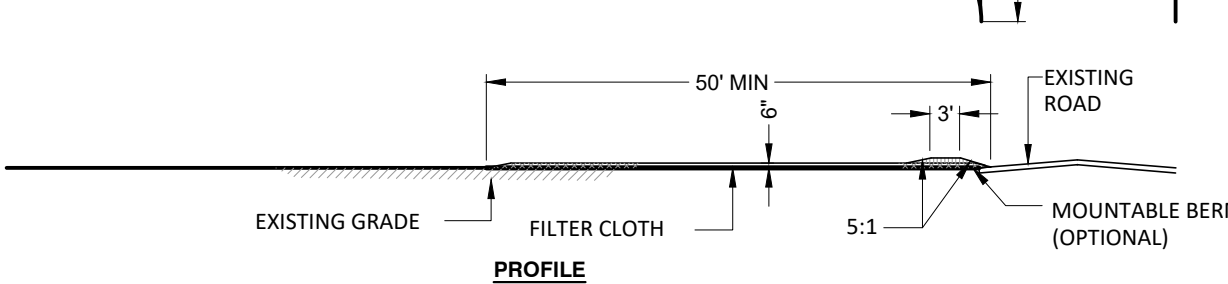
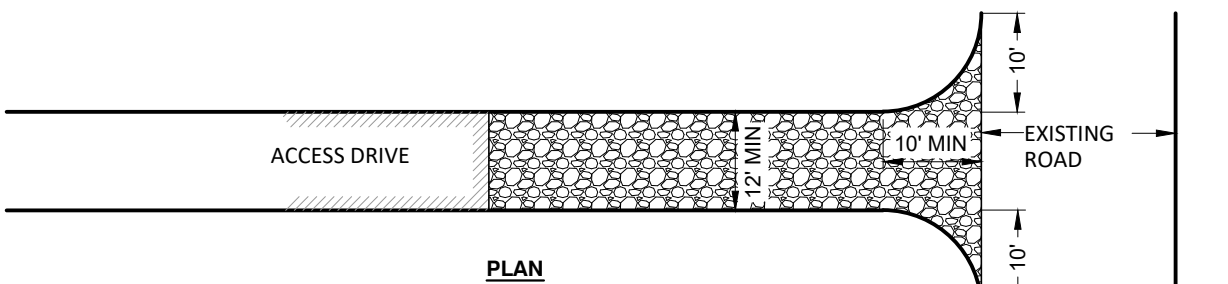
- WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST ONE (1) INCH LONG, THE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND NO MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACES.
- THE "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. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- 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 APPLYING.
- SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- POSTS SHALL BE SPACED AT A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND.

INSPECTION AND MAINTENANCE NOTES:

- STRAW 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 WITHIN 24 HOURS OF CONTRACTOR NOTIFICATION. 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.
- 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 IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED, AND SEEDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" IN THE SILT FENCES DEVELOP.

SILT FENCE DETAIL

SCALE: NTS



SPECIFICATIONS AND INSTALLATION NOTES:

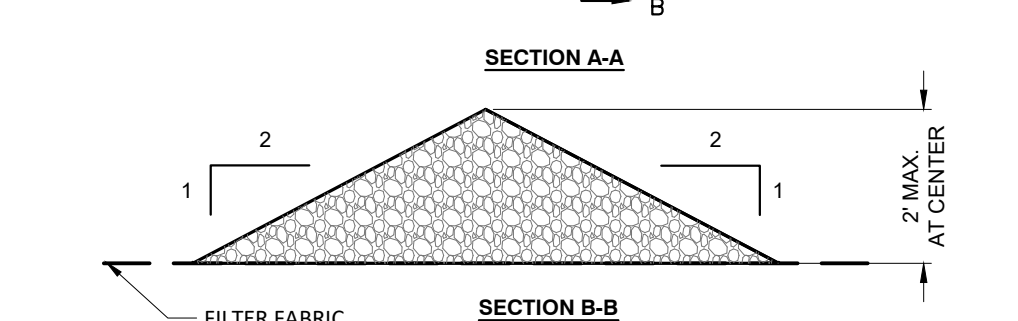
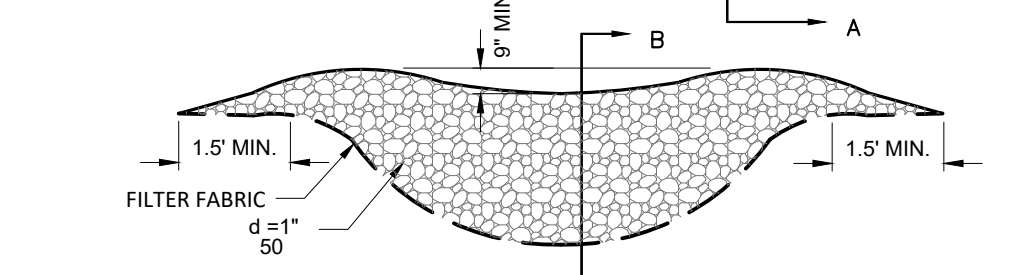
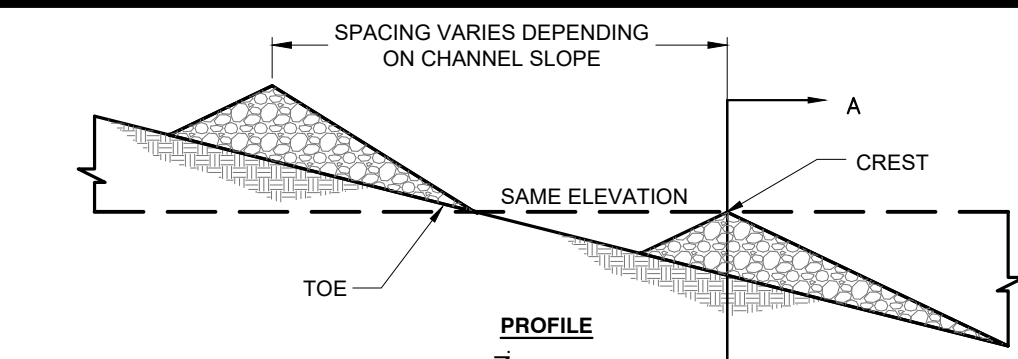
- PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES AT THE PROJECT SITE, STABILIZED CONSTRUCTION ENTRANCED SHALL BE CONSTRUCTED AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
- STONE SIZE - USE 2" STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THICKNESS - NOT LESS THAN 6 INCHES.
- WIDTH - 12 FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET.
- FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. THE FILTER CLOTH SHALL BE WOVEN.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

INSPECTION & MAINTENANCE NOTES:

- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAINFALL.
- THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ON TO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

SCALE: NTS



SPECIFICATIONS AND INSTALLATION NOTES:

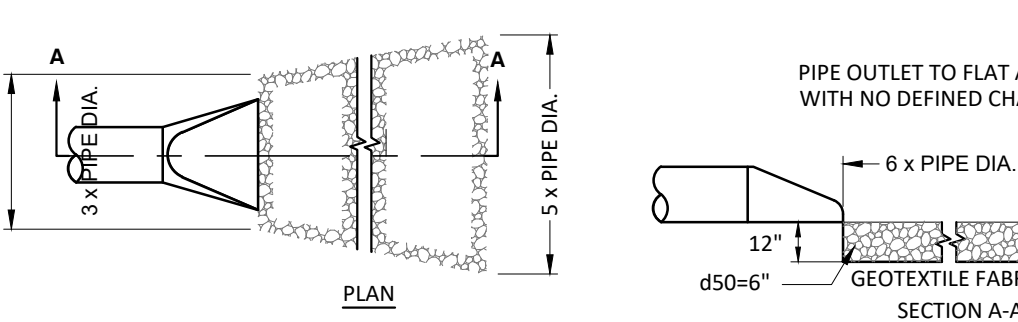
- STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION.
- SET SPACING OF CHECK DAMS SUCH THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS THE SAME AS THE TOE OF THE UPSTREAM DAM.
- EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
- PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
- ENSURE THAT CHANNEL APPURTENANCE SUCH AS CULVERT ENTRANCED BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

INSTALLATION AND MAINTENANCE NOTES:

- THE CHECK DAMS SHALL BE INSPECTED PERIODICALLY. CONTRACTOR SHALL CORRECT THE DAMAGE WITHIN 24 HOURS OF NOTIFICATION.
- REMOVE SEDIMENT ACCUMULATED BEHIND DAM AS NEEDED TO ALLOW CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM.
- REPLACE STONE AS NEEDED TO MAINTAIN THE DESIGN CROSS SECTION OF THE STRUCTURES.

STONE CHECK DAM DETAIL

SCALE: NTS



SPECIFICATIONS AND INSTALLATION NOTES:

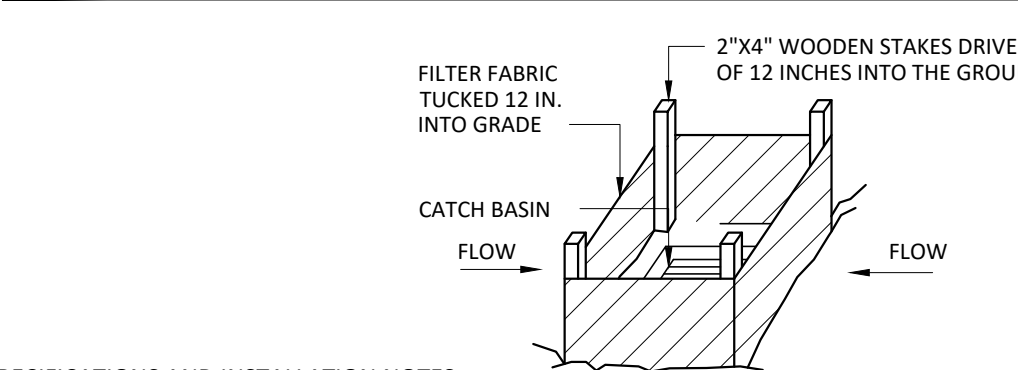
- ANY FILL REQUIRED IN THE SUBGRADE SHALL BE SUITABLY COMPACTED.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS.
- FILTERING CLOTH SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN THE OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF CLOTH OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE CLOTH. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF CLOTH SHALL BE A MINIMUM OF 1 FOOT.
- STONE FOR RIP RAP MAY BE PLACED BY EQUIPMENT. IT SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE RIP RAP SHALL BE PLACED IN A MANNER THAT WILL INSURE THAT THE RIP RAP IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES FILLING THE GAPS BETWEEN THE LARGER STONES. RIP RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER CLOTH.

INSPECTION & MAINTENANCE NOTES:

- INSPECT THE STRUCTURE PERIODICALLY AND AFTER MAJOR STORM EVENTS.
- REPAIR OR REPLACE FAILING STRUCTURES IMMEDIATELY.
- CHECK CHANNEL FOR SCOUR OR DEBRIS AND LOSS OF ROCK FROM APRONS.

RIPRAP OUTLET PROTECTION DETAIL

SCALE: NTS



SPECIFICATIONS AND INSTALLATION NOTES:

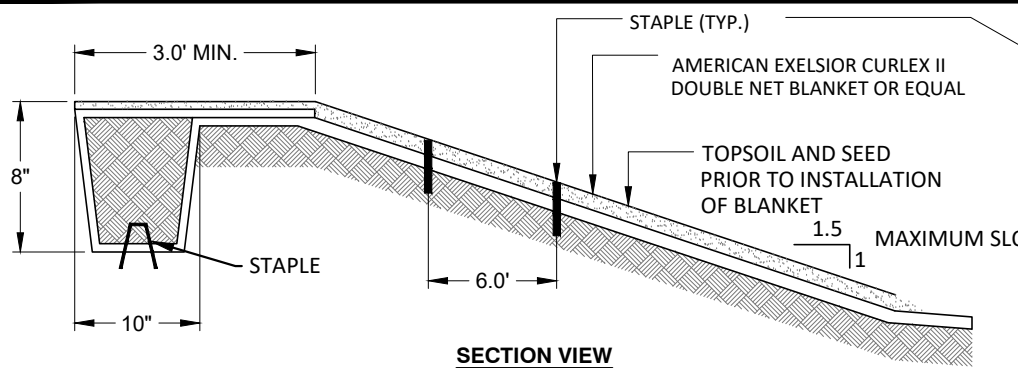
- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER INSTALLATION OF CATCH BASIN OR YARD DRAIN AND BE MAINTAINED UNTIL UNTIL DRAINAGE AREA IS STABILIZED.
- REFER TO SILT FENCE DETAIL. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
- STAKE MATERIALS WILL BE STANDARD 2X4 WOOD WITH A MINIMUM LENGTH OF 3 FEET.
- SPACE STAKES EVENLY AROUND INLET, 3 FEET APART AND DRIVE INTO THE GROUND A MINIMUM OF 18 INCHES. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
- FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GRADE AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.

INSPECTION & MAINTENANCE NOTES:

- SEDIMENT DEPOSITS SHALL BE REMOVED AFTER REACHING 1/3 OF THE HEIGHT OF THE FABRIC, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.
- THE INLET PROTECTION SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL, OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION.
- REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.
- 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 IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED WITHIN 24 HOURS OF CONTRACTOR NOTIFICATION.

CATCH BASIN / YARD INLET PROTECTION DETAIL

SCALE: NTS

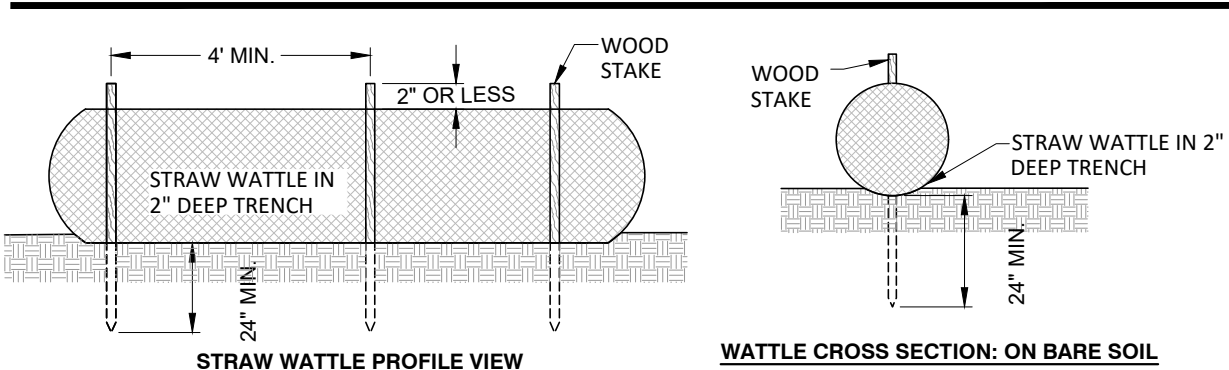


NOTES:

- GRADE AND COMPACT AREA OF INSTALLATION, REMOVING ALL ROCKS, VEGETATION, ETC.
- INSTALL TOPSOIL, SEED AND MULCH PER DETAIL.
- EXTEND BLANKET 2'-0" OVER CREST OF SLOPE AND EXCAVATE A 12"x6" TERMINAL ANCHOR TRENCH.
- ANCHOR BLANKET IN TRENCH WITH STAPLES @ SPACING PER MANUFACTURER, BACKFILL AND COMPACT SOIL.
- UNROLL BLANKET DOWN SLOPE.
- OVERLAP ADJACENT ROLLS AT LEAST 3" AND ANCHOR PER MANUFACTURER.
- LAY BLANKET LOOSE TO MAINTAIN DIRECT CONTACT WITH SOIL (DO NOT PULL TAUGHT).
- SECURE BLANKET TO GROUND SURFACE: STAPLES WITH PATTERN PER MANUFACTURER.
- TRIM TO BE STAPLED PARALLEL TO CONTOUR.
- EROSION CONTROL BLANKET SHALL BE CURLEX DOUBLE NET (CURLEX II).
- EROSION CONTROL BLANKET SHALL BE COMPOSED OF BIODEGRADABLE MATERIALS.

EROSION CONTROL BLANKET DETAIL

SCALE: NTS



MATERIAL NOTES:

- WATTLES SHALL BE AMERICAN EXCELSIOR COMPANY'S PREMIER STRAW WATTLES OR APPROVED EQUAL.
- ORGANIC, AGRICULTURAL STRAW FIBERS MUST BE WEED FREE ENCASED IN POLYPROPYLENE OR FIBERNET.
- 75% OF FIBERS MUST BE A MINIMUM OF 4" LONG.
- NET OPENINGS MUST BE APPROXIMATELY 0.5" WIDE BY 1.0" LONG.
- ALL COMPONENTS MUST BE BIODEGRADABLE.

INSTALLATION NOTES:

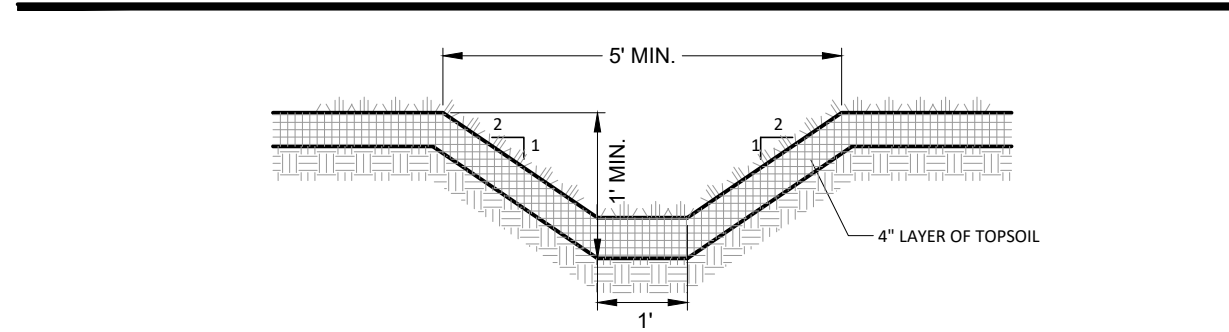
- INSTALL WATTLE IN A 2" DEEP TRENCH CONSTRUCTED ALONG THE CONTOUR, PERPENDICULAR TO THE SLOPE OR DIRECTION OF FLOW.
- ENDS OF WATTLES SHALL BE TURNED UP THE SLOPE SO AS TO RETAIN WATER AND PREVENT ITS RELEASE FROM THE END OF THE WATTLE.
- WATTLES SHALL BE SECURED TO THE SUBGRADE BY WOODEN STAKES SPACED EVERY FOUR LINEAL FEET ACROSS THE LENGTH OF THE WATTLE. STAKES SHALL BE DRIVEN THROUGH THE CENTER OF THE WATTLE AND INTO THE GROUND A MINIMUM OF 24" WITH LESS THAN TWO INCHES PROJECTING ABOVE THE TOP OF THE WATTLE. A STAKE SHALL BE PLACED WITHIN 2 FEET OF THE END OF THE WATTLE.
- IF WATTLES ARE JOINED TOGETHER BY ABUTTING THE ENDS, TIE THE ENDS TOGETHER USING HEAVY TWINE OR PLASTIC LOCKING TIES.
- WHEN INSTALLING IN A CHANNEL BOTTOM, WATTLE INSTALLATION SHALL CONTINUE THREE FEET ABOVE THE ANTICIPATED HIGH WATER MARK.
- WATTLE SHALL REMAIN IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS ARE PRESENT AND CAN SURVIVE ON THEIR OWN. WATTLES ARE NOT REMOVED AND WILL DEGRADE IN PLACE.

INSPECTION AND MAINTENANCE NOTES:

- STRAW WATTLES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. THEY SHALL BE REPAIRED IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. ANY REQUIRED REPAIRS SHALL BE MADE WITHIN 24 HOURS OF CONTRACTOR NOTIFICATION. 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.
- SHOULD THE STRAW WATTLE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, IT SHALL BE REPLACED.
- SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF (1/2) THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE WATTLE IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED, AND SEEDED. WHEN THE WATTLE IS NO LONGER NEEDED, STAKES SHALL BE REMOVED.

STRAW WATTLE DETAIL

SCALE: NTS



NOTES:

- STABILIZATION OF THE SWALE SHALL BE COMPLETED WITHIN 10 DAYS OF INSTALLATION.
- ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO OUTLET.
- DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
- ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE FUNCTIONING OF THE SWALE.
- THE SWALE SHALL BE EXCAVATED OR SHAPED AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
- SWALE SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH TOPSOIL, SEED AND MULCH DETAIL.
- CONTRACTOR IS RESPONSIBLE FOR PERIODIC INSPECTION AND REQUIRED MAINTENANCE.
- ALL DRAINAGE SWALES SHALL BE KEPT FREE OF DEBRIS AND THE VEGETATION SHALL BE MAINTAINED TO ALLOW FLOW OF STORMWATER.

GRASS LINED DIVERSION SWALE DETAIL

SCALE: NTS

CONDITIONS WHERE PRACTICE APPLIES:
WASHOUT FACILITIES SHALL BE PROVIDED FOR EVERY PROJECT WHERE CONCRETE WILL BE POURED OR OTHERWISE FORMED ON THE SITE. THIS FACILITY WILL RECEIVE HIGHLY ALKALINE WASH WATER FROM THE CLEANING OF CHUTES, MIXERS, HOPPERS, VIBRATORS, PLACING EQUIPMENT, TROWELS, AND SCREDS. UNDER NO CIRCUMSTANCES WILL WASH WATER FROM THESE OPERATIONS BE ALLOWED TO INFILTRATE INTO THE SOIL OR ENTER SURFACE WATERS.

DESIGN CAPACITY:

THE WASHOUT FACILITY SHOULD BE SIZED TO CONTAIN SOLIDS, WASH WATER, AND RAINFALL AND SIZED TO ALLOW FOR THE EVAPORATION OF THE WASH WATER AND RAINFALL. WASH WATER SHALL BE ESTIMATED AT 7 GALLONS PER CHUTE AND 50 GALLONS PER HOPPER OR THE CONCRETE PUMP TRUCK AND/OR DISCHARGING DRUM. THE MINIMUM SIZE SHALL BE 8 FEET BY 8 FEET AT THE BOTTOM AND 2 FEET IF EXCAVATED, THE SIDE SLOPES SHALL BE 2:1 HORIZONTAL TO 1 VERTICAL.

LOCATION:

LOCATE THE FACILITY A MINIMUM OF 100 FEET FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS AND OTHER SURFACE WATERS. PREVENT SURFACE WATER FROM ENTERING THE STRUCTURE EXCEPT FOR THE ACCESS ROAD. PROVIDE APPROPRIATE ACCESS WITH A GRAVEL ACCESS ROAD SLOPED DOWN TO THE STRUCTURE. SIGNS SHALL BE PLACED TO DIRECT DRIVERS TO THE FACILITY AFTER THEIR LOAD IS DISCHARGED.

LINER:

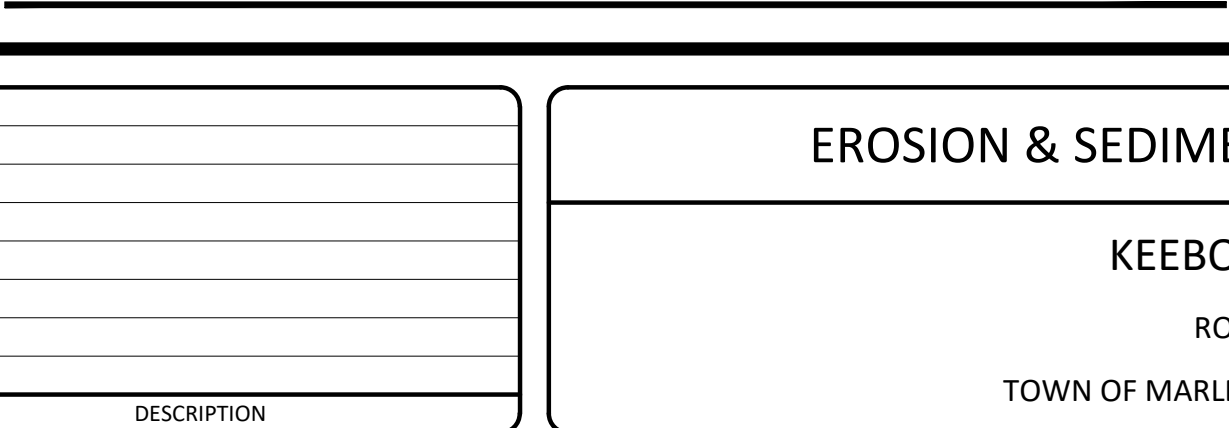
ALWAYS WASHOUT FACILITIES WILL BE LINED TO PREVENT LEACHING OF LIQUIDS INTO THE GROUND. THE LINER SHALL BE PLASTIC SHEETING WITH A MINIMUM THICKNESS 10 MILS WITH NO HOLES OR TEARS, AND ANCHORED BEYOND THE TOP OF THE PIT WITH AN EARTHEN BERM, SAND BAGS, STONE, OR OTHER STRUCTURAL APPURTENANCE EXCEPT AT THE ACCESS POINT. IF PRE-FABRICATED WASHOUTS ARE USED THEY MUST ENSURE THE CAPTURE AND CONTAINMENT OF THE CONCRETE WASH AND BE SIZED BASED ON THE EXPECTED FREQUENCY OF CONCRETE POURS. THEY SHALL BE SITED AS NOTED IN THE LOCATION CRITERIA.

MAINTENANCE:

- ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHOULD BE PUMPED TO A STABILIZED AREA, SUCH AS A GRASS FILTER STRIP.
- ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF SITE.
- IF THE HARDENED MATERIAL OFF-SITE IN A CONSTRUCTION/DEMOLITION LANDFILL, ON-SITE DISPOSAL MAY BE ALLOWED IF THIS HAS BEEN APPROVED AND ACCEPTED AS PART OF THE PROJECTS SWPPP. IN THAT CASE, THE MATERIAL SHOULD BE RECYCLED AS SPECIFIED, OR BURIED AND COVERED WITH A MINIMUM OF 2 FEET OF CLEAN COMPACTED EARTH FILL THAT IS PERMANENTLY STABILIZED TO PREVENT EROSION.
- THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.
- INSPECT THE PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.

CONCRETE WASHOUT FACILITY

SCALE: NTS



CONDITIONS WHERE PRACTICE APPLIES:

ON CONSTRUCTION ROADS, ACCESS POINTS, AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING WHERE OFF-SITE DAMAGE MAY OCCUR IF DUST IS NOT CONTROLLED.

DESIGN CRITERIA:

CONSTRUCTION OPERATIONS SHOULD BE SCHEDULED TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME. BUFFER AREAS OF VEGETATION SHOULD BE LEFT WHERE PRACTICAL. TEMPORARY OR PERMANENT STABILIZATION