



**AMERICAN
CONSULTING
ENGINEERS &
SURVEYORS, INC.**

CIVIL &
ENVIRONMENTAL
ENGINEERS

LAND SURVEYORS

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East Montpelier Recreation Field Project Summary

The following project includes installation and grading of two "Berms". One at the northerly end of the parking area and one at the southern end. The berms are to be constructed as configured on the plans to redirect water run-off into a culvert under the northern ingress and into the discharge of the culvert at the southern egress. The entrance and exit will be reconfigured to B-71 standards and to direct highway run-off to the ditches. The parking area will be raised by installing gravel to the depth specified to prohibit water from running down the drive and to promote shedding of water to the sides of the parking area.

The site will also require some ditch cleaning and removal of brush, trees and fence along the road to promote visibility and aesthetics. Some localized grading will be required along this area. Some larger trees specified by the owner will be retained.

The total engineers estimate inclusive of the above described project is \$30,000 - \$35,000.

A contractor's estimate of the above described project came in at \$30,000.

Robert Townsend PE, LS
American Consulting Engineers and Surveyors

EROSION CONTROL PROCEDURES

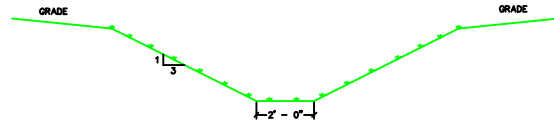
- BEFORE ANY CLEARING OR GRUBBING BEGINS AND DURING ALL CONSTRUCTION STORM DRAINAGE SHALL BE CONSTRUCTED AT ALL WATER INLETS THAT WILL RECEIVE WATER FROM THE PROJECT.
- ANY SOIL STOCKPILES WILL BE CHOCOLATED WITH SILT FENCE OR WITH THE GROUNDING STUMP SEGMENT SILT FILTER.
- AFTER EVERY OTHER ALL EROSION CONTROL DEVICES WILL BE INSPECTED AND ANY PROBLEMS WILL BE RECTIFIED.
- EROSION CONTROL MEASURES SPECIFIED ON THESE PLANS WILL BE REQUIRED FOR ALL NEW DITCHES, SWALES, ETC.
- THE SWALES/EROSION CONTROL MEASURES ARE SPECIFIED AND THE ENGINEER MAY ADD MEASURES AS NEEDED AND THE CONTRACTOR MAY ALSO ADD MEASURES AS NEEDED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT EROSION FROM THE SITE.
- NEW GRASS LINED SWALES SHALL BE SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION WITH THE SPECIFIED SEED MIXTURE C.
- ON SLOPES 1 ON 2 TO 1 ON 3 NORTH AMERICAN GREEN SFS OR EQUAL EROSION BLANKET WILL BE PLACED AS SPECIFIED BY THE MANUFACTURER.
- ALL DISTURBED AREAS WILL BE SEEDED AND MULCHED WITHIN SEVEN DAYS OF CONSTRUCTION COMPLETION OR IF NO WORK WILL BE DONE IN THE AREA FOR GREATER THAN TWO WEEKS, THE FINAL SEED MIXTURE IS D AS SPECIFIED.
- ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE PROJECT CONSTRUCTION AND UNTIL VEGETATION HAS BEEN ESTABLISHED IN ALL DISTURBED AREAS.

SEEDING GUIDE
USING SEEDING MIXTURE 1 A - WELL DRAINED SOILS

SEED MIXTURE A	POUNDS/ACRE
TALL FESCUE	20
CREeping RED FESCUE	20
RED TOP	15
TOTAL	42

EROSION CONTROL NOTES
(DISTURBED AREAS)

- SILT FENCE SHALL BE INSTALLED SURROUNDING ALL DISTURBED AREAS ON THE DOWN-SLOPE SIDE WHERE SLOPES ARE GREATER THAN 5% FOR MORE THAN 100'.
 - IF ANY EROSION BEGINS TO OCCUR, IMMEDIATE REMEDIAL MEASURES WILL BE TAKEN.
 - IF EROSION CONTINUES CONTACT THE PROJECT ENGINEER.
 - THE SITE CONTRACTOR IS RESPONSIBLE FOR THE SITE AT ALL TIMES UNTIL THE WORK IS DEEMED COMPLETE.
- (D) THE DISTURBED AREAS MUST BE SEEDED AND MULCHED AS SOON AS POSSIBLE**
SILT SHOULD BE NO LATER THAN 48 HOURS FOLLOWING COMPLETION OR FINISH GRADE.

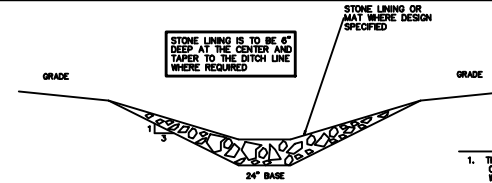


TYPICAL GRASS LINED SWALE PROFILE
(NOT TO SCALE)

GEOTEXTILE MAT TO BE USED IN DITCHES AND SWALE WITH A GREATER THAN 5% SLOPE WILL BE NORTH AMERICAN GREEN C350 OR APPROVED EQUAL.

EROSION CONTROL BLANKET APPLICATIONS

- ALL BLANKETS ARE TO BE INSTALLED PER THE MANUFACTURING SPECIFICATIONS CONTACT ENGINEER OR MANUFACTURER FOR SPECIFICATIONS.
 - IF NORTH AMERICAN GREEN BLANKETS ARE GOING TO BE USED, THE FOLLOWING IS THE APPROXIMATE PROCEDURE FOR THE INSTALLATION OF THE BLANKETS.
 - PREPARE SOIL BY APPLICATION OF LIME, FERTILIZER AND SEED. (PROCEDURE DEPENDS ON TYPE OF MATTING BEING UTILIZED)
 - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP x 6" WIDE TRENCH. BACK FILL AND COMPACT THE TRENCH.
 - AFTER STAPLING ROLL THE BLANKETS DOWN THE HILL WITH THE DIRECTION OF THE WATER FLOW.
 - THE EDGE OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
- THE MOST IMPORTANT PART OF INSTALLATION IS THE ANCHORING OF THE BLANKET INTO THE SOIL AT THE TOP OF THE SLOPE. DETAILS OF THE ANCHORING WILL BE PROVIDED UPON REQUEST.

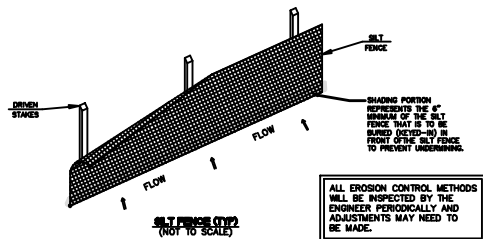
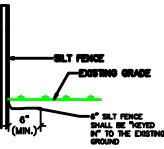


TYPICAL STONE PROFILE
(NOT TO SCALE)

GEOTEXTILE MAT TO BE USED IN DITCHES AND SWALE WITH A GREATER THAN 5% SLOPE WILL BE NORTH AMERICAN GREEN C350 OR APPROVED EQUAL. IN DITCHES LESS THAN 5% SLOPE THE MAT WILL BE CHOSEN BY NORTH AMERICAN GREEN OR APPROVED EQUAL.

- THE DITCHES SHALL BE CONSTRUCTED AS SHOWN AND ON SLOPES GREATER THAN 5% WILL BE STONE LINED WITH AN EROSION PREVENTATIVE MAT (NORTH AMERICAN GREEN C-350 OR EQUAL) PLACED UNDER THE 6" STONE.
- THE FINISH SLOPES WILL NOT BE GREATER THAN 1 ON 3 SLOPES AND WILL BE SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION WITH A STANDARD CONSERVATION MIX.
- THE MAXIMUM HEIGHT OF THE STONE LINING ON THE DITCH WILL BE THREE FEET (3') UP THE SLOPE.
- THE SLOPE OF THE DITCH WILL DETERMINE THE TYPE OF MAT USED AS SPECIFIED ON THE PLANS BY THE ENGINEER.

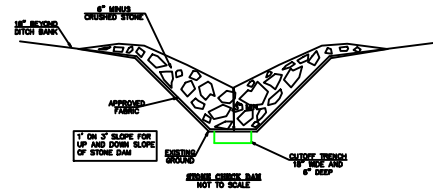
SILT FENCE WILL BE A NONWOVEN POLYPROPYLENE FABRIC USED FOR DRAINAGE FILTRATION AT 4 OZ./YD² OR APPROVED EQUAL.



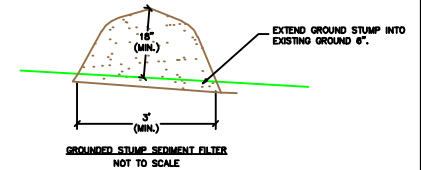
ALL EROSION CONTROL METHODS WILL BE INSPECTED BY THE ENGINEER PERIODICALLY AND ADJUSTMENTS MAY NEED TO BE MADE.

CHECK DAM SYSTEM

- STONE CHECK DAMS WILL BE PLACED IN ALL DRAINAGEWAYS WITH A SLOPE OF 5% OR GREATER.
- SPACING OF CHECK DAMS WILL BE SUCH THAT THE TOP OF THE LOWER DAM WILL BE THE BOTTOM OF THE UPPER DAM.
- EXTEND STONE TO 10' BEYOND THE DITCH TO PREVENT OUTFLOW AROUND THE DAM.
- PROTECT THE CHANNEL, DOWNSTREAM OF THE LOWEST CHECK DAM FROM EROSION AND SCOUR WITH STONE OR LIME AS APPROPRIATE.
- ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
- ALL STONE CHECK DAMS WILL BECOME PART OF THE FINAL STONE LINED DITCH.



FILTER CAN BE USED IN AREAS WITH SLOPES LESS THAN 5% IN PLACE OF SILT FENCE. FILTER TO ALSO BE PLACED IN ADDITION TO SILT FENCE IN AREAS WITH STEEPER SLOPES.



ROUNDED STUMP SEDIMENT FILTER
(NOT TO SCALE)

SHEET 3 OF 4

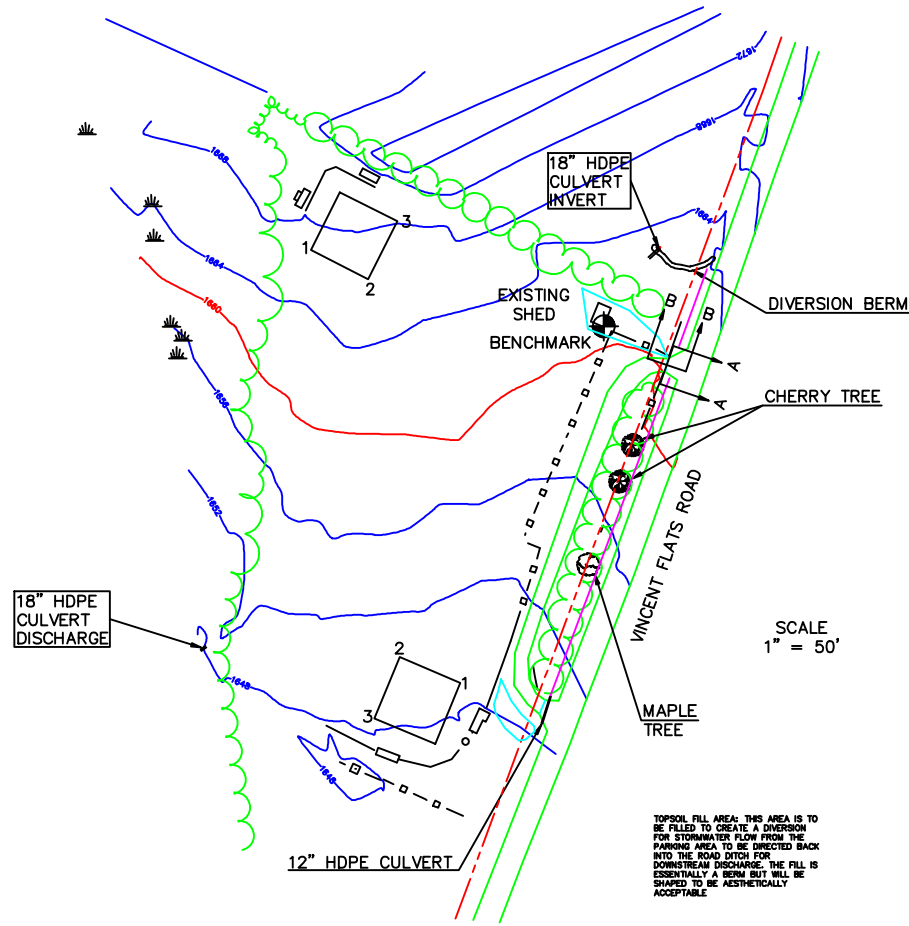
EAST MONTPELIER REC. FIELD
VINCENT FLATS ROAD
EAST MONTPELIER, VT
EROSION CONTROL SHEET

AMERICAN CONSULTING ENGINEERS AND SURVEYORS
SCALE: AS SHOWN DATE: OCT. 1, 2018
DRAWN BY: RT APPROVED: R. T.

Robert J. Townsend



APPROXIMATE
PROPERTY LINE



SCALE
1" = 50'

TOPSOIL FILL AREA: THIS AREA IS TO BE FILLED TO CREATE A DIVERSION FOR STORMWATER FLOW FROM THE PARKING AREA TO BE DIRECTED BACK INTO THE ROAD DITCH FOR DOWNSTREAM DISCHARGE. THE FILL IS ESSENTIALLY A BERM BUT WILL BE SHAPED TO BE AESTHETICALLY ACCEPTABLE.

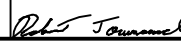


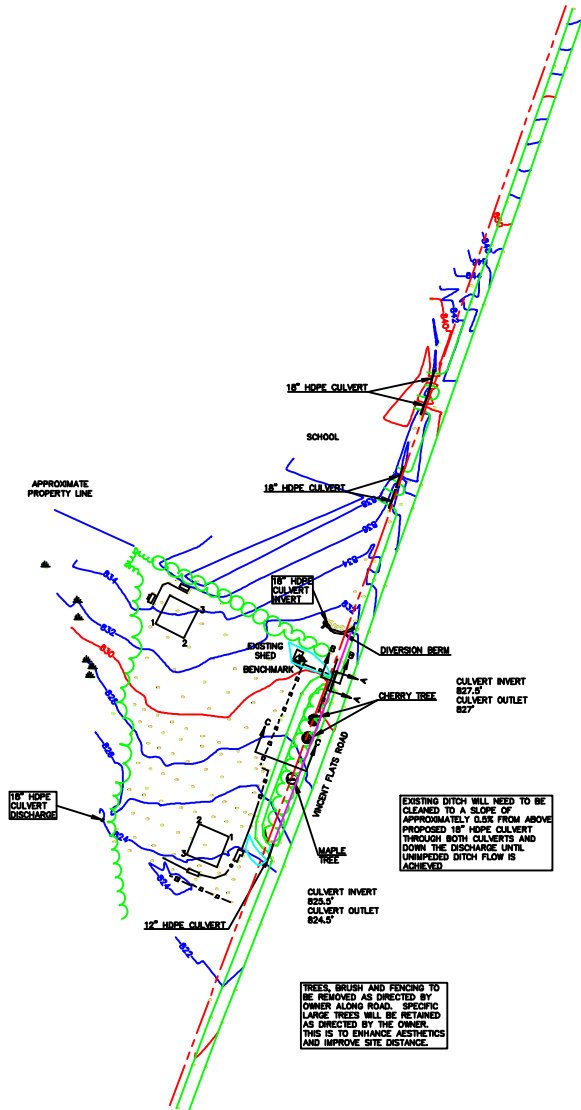
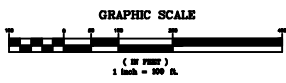
LOCATION MAP
(NOT TO SCALE)

TOPSOIL FILL AREA: THIS AREA IS TO BE FILLED TO CREATE A DIVERSION FOR OVERFLOW WATER FROM THE DROP BAILEY TO BE DIRECTED BACK INTO THE ROAD DITCH FOR DOWNSTREAM DISCHARGE. THE FILL IS ESSENTIALLY A BERM BUT WILL BE SHAPED TO BE AESTHETICALLY ACCEPTABLE.

LEGEND

- EASEMENT LINE ---
- EDGE OF TRAVEL ---
- CHAIN LINK FENCE ---
- WOODEN/STOCKADE FENCE -o-
- TREE LINE ~
- WATER EDGE ▲

	EAST MONTPELIER REC. FIELD		AMERICAN CONSULTING ENGINEERS AND SURVEYORS
	VINCENT FLATS ROAD		
EAST MONTPELIER, VT		SCALE: AS SHOWN	DATE: JULY 9, 2018
EXISTING CONDITIONS SITE PLAN		DRAWN BY: RAT	APPROVED: R. T.



EXISTING DITCH WILL NEED TO BE CLEANED TO A SLOPE OF APPROXIMATELY 0.5% FROM ABOVE PROPOSED 18\"/>

TREES, BRUSH AND FENCING TO BE REMOVED AS DIRECTED BY OWNER ALONG ROAD. SPECIFIC LARGE TREES WILL BE RETAINED AS DIRECTED BY THE OWNER. THIS IS TO ENHANCE AESTHETICS AND IMPROVE SITE DISTANCE.

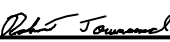


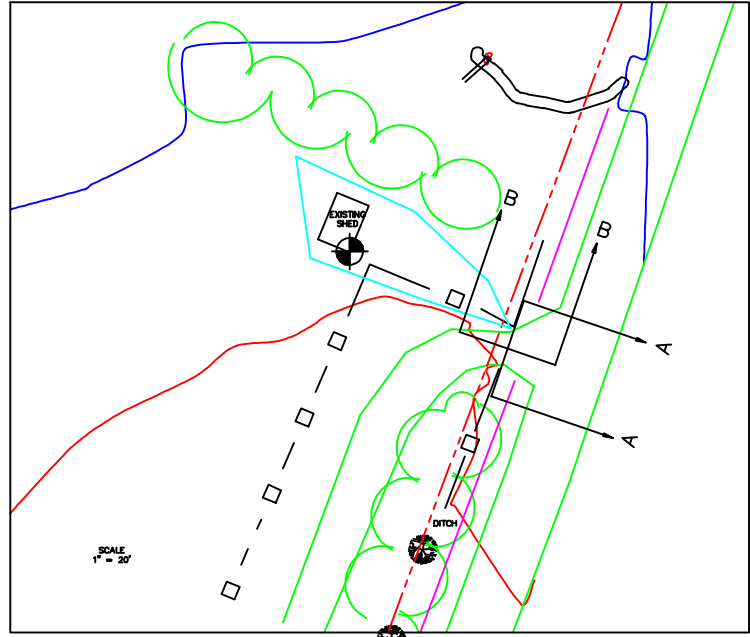
LOCATION MAP
(NOT TO SCALE)

LEGEND

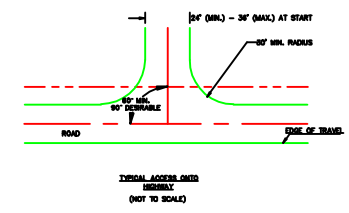
EASEMENT LINE	---
EDGE OF TRAVEL	---
CHAIN LINK FENCE	—•—
WOODEN/STOCKADE FENCE	—••—
TREE LINE	~
WATER EDGE	▲

SHEET 1 OF 3

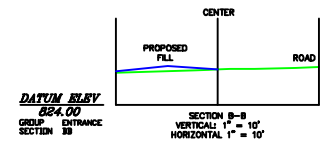
	EAST MONTPELIER REC. FIELD	AMERICAN CONSULTING ENGINEERS AND SURVEYORS
	VINCENT FLATS ROAD	
	EAST MONTPELIER, VT	
EXISTING CONDITIONS SITE PLAN	SCALE: AS SHOWN DRAWN BY: RAT	DATE: JULY 6, 2018 APPROVED: R. T.



ENTRANCE AREA



DATUM ELEV
 525.00
 GROUP ENTRANCE
 SECTION AA
 SECTION A-A
 VERTICAL: 1" = 10'
 HORIZONTAL: 1" = 10'



DATUM ELEV
 524.00
 GROUP ENTRANCE
 SECTION BB
 SECTION B-B
 VERTICAL: 1" = 10'
 HORIZONTAL: 1" = 10'

	EAST MONTPELIER REC. FIELD VINCENT FLATS ROAD EAST MONTPELIER, VT	AMERICAN CONSULTING ENGINEERS AND SURVEYORS
	DETAIL SHEET	SCALE: AS SHOWN DATE: AUG. 31, 2018
		DRAWN BY: RAT APPROVED: R. T.