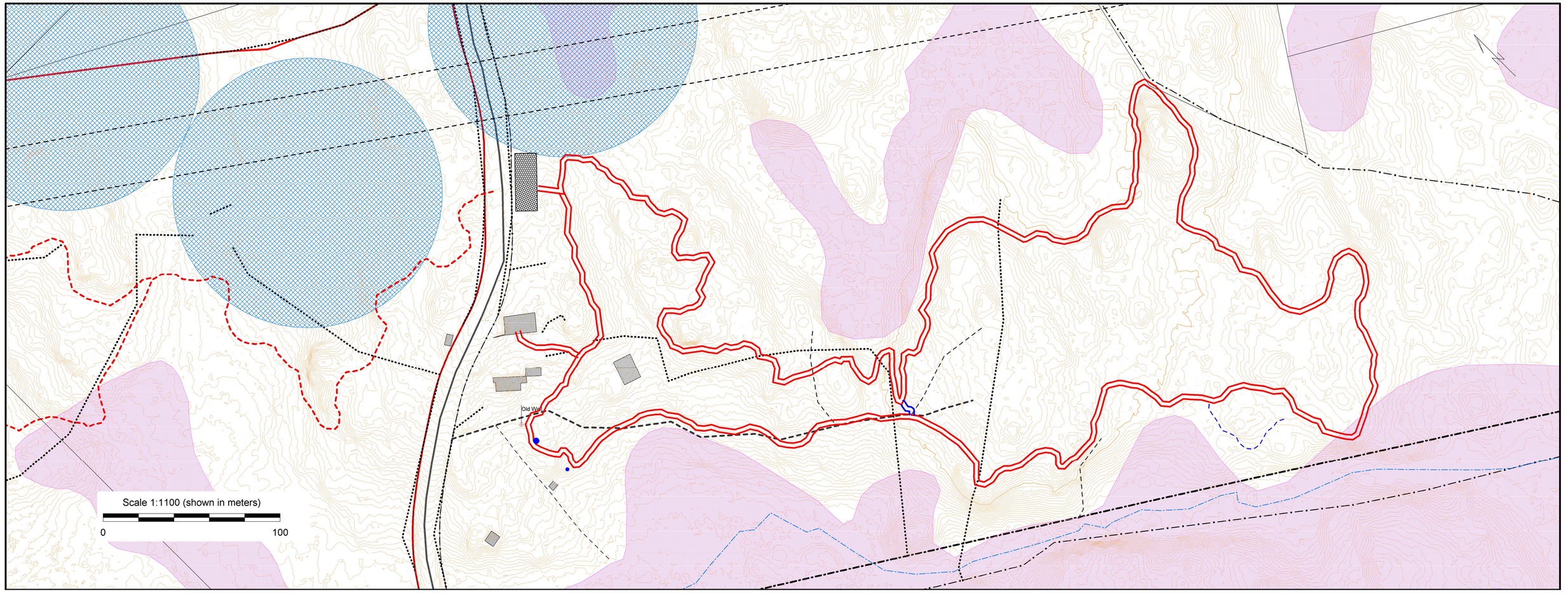
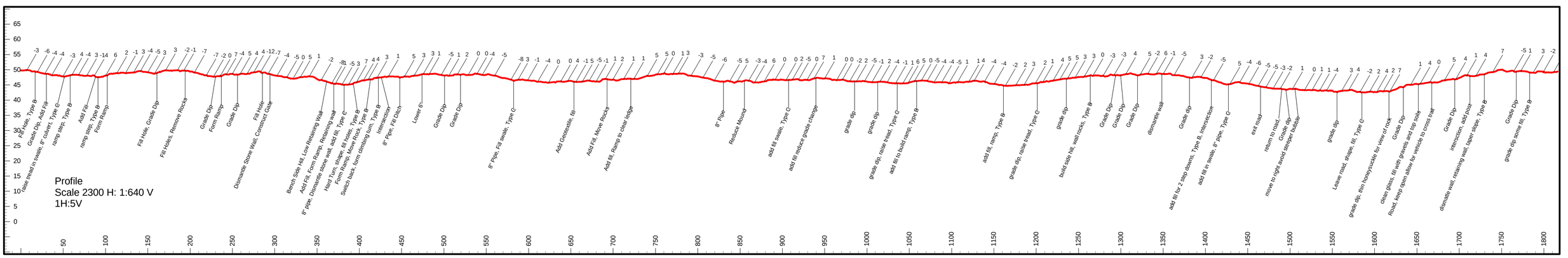
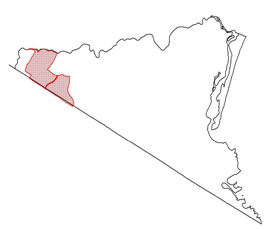




SHEET TITLE: Base Plan	**PROJECT TITLE:**	Signiture:	Legend
PLAN DATE: 7/2021	**BOSTON FARM PRESERVE**	Signiture:	Proposed Trail — Roads
PLAN SCALE: 1:1100 or 1"= 92'	**UNIVERSALLY ACCESSIBLE TRAIL**	Signiture:	Property Line — Foundation
DESIGNED: Caribou Recreation Developm	**Map 22 Lot 2**	Signiture:	Rock Walls — Graveyard
CHECKED: C.R.D.	**52.5 Acre Parcel**	Signiture:	Town Line — Old Road-1
SHEET: 1		Signiture:	1' Contour — Erratics
		Signiture:	Wetlands — Draft Trail-10
			Vernal Pool Buff



North

Great Works Land Trust
610 Main Street
Ogunquit, Maine 03907
PO Box 151
South Berwick, Maine 03908
206-646-3604
https://www.greatworkslandtrust.org/

Great Works Land Trust
Project Specifications

Overview

Great Works Regional Land Trust is a member-supported organization providing conservation options to landowners and programs for community members, including sixteen preserves with hiking trails. Since 1986, Great Works has conserved over 6,600 acres of natural, historic, agricultural, forestry, scenic and recreational resources in the southern Maine communities of Eliot, South Berwick, Berwick, North Berwick, Wells and Ogunquit. Great Works Regional Land Trust mission is to protect and conserve land and traditional land uses, including forestry, recreation, significant habitats, water resources, and scenery for the benefit of the public.

Project

Great Works Regional Land Trust, is constructing a gravel surfaced universally accessible trail at Boston Farm Preserve, off North Village Road (*43°15'26.5"N 70°38'27.5"W)*
In Ogunquit, Maine.

The trail is designed as a one-mile loop. It has one short connector trail about mid loop that allows two distance options. A second short side trail invites users to pass a house and into a barn foundation. The trail will present an obvious and smooth firm and stable surface with no obstacles. It is a single gravel surfaced five-foot wide lane.

The route weaves around and over numerous exposed ledge bands and glacial erratics. A mature red oak and white pine forest dominates the property, but the route finds several stands of Eastern Hemlock. The site emits its agrarian history, the route passes a family graveyard, lots of stone walls, foundations, and piles of rock plucked from fields

General Specifications

- The proposed trail path will be 1,12 miles (5955 FT.) in length.
- The average grade will be 3 percent with a maximum grade of 7 percent.
- Geotextile fabric is required to support imported mineral soil in designated areas
- The trail surface will be obvious, with smooth surfaces without obstacles
- The trail envisioned as a single eight-foot wide corridor containing a five-foot wide gravel surfaced lane.
- Earthwork including felling of trees, grubbing, grading, gravel surfacing and compaction and will be completed using appropriate equipment.
- Final grading, and mulching will be completed with hand crews

The trail must be consistent with the guideline described in US Forest Service Outdoor Recreation Accessibility Guidelines
https://www.fs.usda.gov/sites/default/files/FSORAG-2013-Update.1.pdf

Site-Specific Notes and Specifications

One third of the route works over and around ledge bands. Loamy silts rest in pockets between long exposed ledge bands. The trail uses the ledges for scenic quality, sometimes from below and sometimes from above as an overlook.

1. Areas below ledges often hold bigger rocks, and though the trail weaves around many of these, subsurface boulders probably exist. It is unclear how many of these boulders are

secure and stable. The construction plan requires a 6-10" base layer of 1 ½" crushed stone, (see drawing Type B treadway construction) but plan to have larger 3" crushed stone on site to fill holes where boulders were removed.

2. Some flat areas along the higher elevations consist of very large rock sitting on minimal soil with voids between. Look to assure the rocks are stable on these areas, and fill over the whole area with a 1 ½" crushed stone.
3. The trail seeks some minor overlooks. We have favored overlooks that do not have exposed ledge and do have larger deep-rooted hardwoods, still it is unclear how deep the soils are at these points. Some overlooks may require careful excavation and additional crushed stone.
4. The route confronts natural ledge steps in a few places. All are noted in the Trail Log. Most of the steps are less than a foot high and all are on generally flat ground. Each of these steps will require formation of a ramps made of crushed stone. Please limit the pitch of the shoulder and fill slopes or add curbing stones to avoid a steep edged trail.
5. At the lower elevations some packets of soil rest between the ledge band. These contain a deeper layer of biotic soil. The Trail Log requires non-woven geotextile placed for separation of a deeper layer of crushed stone (see drawing Type C treadway construction). Care at other areas not noted may be required as trail planning occurred during a particularly dry spring and early summer.

The Boston Farm is littered with evidence of an old family farm. Several stone foundations are scattered across the property, a family graveyard is still maintained here, and stone walls, wells, farm dumps can be found. Care should be taken to protect and respect the history and work of the family.

1. The trail punctures many stone walls, please plan to rebuild these as gateways or any disturbed wall sections so they remain stable.
2. Some areas will have artifacts from life at the farm buried just under the surface. These will include pottery, old bottles, iron hinges, axe heads, oil cans, etc. Most of the items on the surface have been removed. The management plans for the property include the restriction of digging for artifacts and use of metal detectors. Please give any items excavated in trail construction process to the Land Trust. Don't set them out for others to enjoy, as they will probably just disappear from the site, and may encourage deeper exploration.
3. A short side trail is planned to pass into the barn foundation and near the house foundation. Educational signage will be added to this zone. Special care with equipment should be taken around these old structures.
4. An open well rests north and near the large glacial erratics. The well is mostly disguised amongst the honeysuckle. It's location is noted on the site plan map and long strands of flagging tape mark it at the site.

The trail uses an old and crude field road for a couple hundred yards. With clearing and preparation, the road could allow aggregate deliveries to the middle of the trail system. The route connects with North Village Road southwest of the old farm house.

1. Use of this road will require re-naturalizing the construction access
2. A hard barrier to restricts unwanted vehicles is required once construction is complete.
3. Approval from the Land Stewardship Director is required before use.

Several small culverts are planned and none of them contained a stream, instead they relieve the potential of damming in constructing the trail. Only short sections of pipe are required as they cross generally perpendicular to the trailbed.

The trail does not cross wetlands setbacks, shoreland zones or vernal pool setbacks. Sharp edges and steep banks separate the wetland from higher ground on this property. The route does use these banks for viewpoints and viewsheds. Please use special care managing spoil and control drainage during construction near these areas.

1. Use Maine DEP best management practices for erosion and siltation control.
2. Prioritize stabilizing and completing sections near wetlands before moving to higher ground
3. Use silt fence or erosion control mix for natural drains along the heavily traveled sections

Detailed Specifications

Corridor Clearing

Volunteer's labor will clear most growth within the clearing limits or an eight-foot wide and ten-foot high corridor. The contractor is expected to remove some larger trees, tricky snags and bigger downed logs. Expect to fell only a few trees and snags larger than seven inches. Trail is generally aligned to leave large and or notable trees.

Work of clearing, trimming, removing, trees, logs, limbs, branches, brush, plants, and other vegetation within the clearing limits. Work includes the felling of standing dead, snags and other objects deemed safety hazards to either construction or the public.

Remove and dispose of all trees, logs, limbs, and brush, and other vegetation for construction of a trailbed. Whenever possible to maintain a width of eight-feet wide, leave live, sound, and firmly rooted trees of eight inches or greater at Diameter Breast Height (DBH) and realign the trail to avoid the obstacle. Leave live brush, herbaceous plants, in the clearing limits that are less than one foot high and less than a half inch in diameter at the ground line. Except as provided above, cut all limbs and branches more than one inch in diameter that extend into the clearing limits. Cut limbs flush with the tree trunks or cut at the ground surface as shown in clearing limit drawings.

Cut stumps at ground level within the trail bed. Dispose of slash, logs, stumps, brush, and roots outside of the trailbed. Limb all felled trees to lay flat on the ground including designated trees outside the clearing limits.

Do not place slash, logs, stumps, or brush in concentrated piles. Scatter logs, and material outside the clearing limits, and ideally with butt ends away for trail view. Do not place clearing and grubbing debris in watercourses, snow ponds, lakes, meadows, or in locations where it could impede the flows to, through, or from drainage structures.

Excavation

Excavate to remove stumps, root mat, and rocks within the trailbed to form a smooth consistent and compacted sub surface. This work includes excavation, cutting of embankments, and filling or backfilling with crushed stone. Construction required to shape and finish the trailbed, backslopes, drainage dips, rest zones and passing zones. Acceptable trail grade requirements include:

Grades	% of trail Length	Side slope	Tread width	Obstacles Height/ Separation Dist. *	Resting Zone Interval	Rest Zone Size	Rest Zone Side Slope	Side Slope if next to trail	Passing zone interval	Min. Passing Size	Min. Turn Radii
0-5%	endless	0-5%	5'	1"/ 48"		5' W X 5' L	5%	2.08%	1000'	5' X 5'	19' @ 5%
5%-8%	<30%	0-5%	5-6"	"	200'	5' W X 6' L	5%	2.08%	1000'	6'X6'	16.5' @ 6% 14' @ 7% 12.5' @8%
8%-10%	<20%	0-5%	6-0"	"	30'	5' W X 8' L	5%	2.08%	1000'	6'X6'	N/R
10%-12%	<10%	0-5%	6'-0"	"	10'	5'X8'	5%	2.08%	1000'	6'X6'	N/A
12%>	0%	N/A	-	-	-	-	-	-			

Construction

Conserve and use all suitable material for other work specified in the construction processes. Conserve excess excavated rock suitable for drainage beds, culvert head walls, use for curbs at the tight switchbacks, or deterring vehicle access. Use these materials in place of those purchased from the designated sources. Remove all duff and debris from within trailway limits and uniformly spread for erosion control alongside the trailbed, not more than 6 inches in depth. Do not obstruct drainage or create piles, berms, or windrows of debris.

Place excess and unsuitable excavation spoil beyond the downslope edge of the trailbed or spread over surface in areas designated for revegetation. Place rocks over two inches not used in construction off the downslope side. Ensure no blockage of drainage or creation of a windrow occurs.

Excavation for common barrow to use as fill requires permission of the Land Trusts' Stewardship Director prior to excavation. Siting of barrows is dependent on its visual impact from the trail, extent of the planned excavation, setback requirement for protection zones, roadways, property boundaries and the impact of the travel ways on the site.

Minor deviations in vertical alignment and five feet in horizontal alignment with smooth transitions on each side of the deviation are acceptable unless otherwise noted by the project manager. Construct embankments with suitable compacted material. Compact all disturbed soil within the trailbed area. Remove unstable rocks. Leave the finished slope in a uniform and roughened condition suitable for seeding.

Make necessary adjustments of horizontal or vertical alignment, to produce the designed section and balance the earthwork. Such adjustment is not considered a change. **The technique of cutting of high points and filling of low points to provide a uniform trailbed will be inconsistent and difficult on this site. Plan to *add* suitable fill for holes and constructing grades over about a quarter of the system.**

Construct shallow grade reversals at grade dips free of loose rocks, roots, sticks, and other obstructions. Relocation of specified grade dips, substitutions or supplemental dips are acceptable due to changes constructed grades or addition fill requirements.

Where designated, place geotextile flat and parallel to centerline of the trail before placing embankment. Overlap geosynthetics a minimum of eighteen inches. Install anchors or fasteners as recommended by manufacturer. Use 6oz non-woven geotextile fabric in designated areas to separate aggregates from moist subsoils.

Culverts

Install four culverts, and drains including excavation and backfill, selecting and hauling of rock materials, and constructing catch basins and headwalls.

Construction

Place culverts to provide for unobstructed inlet and outlet flow. Remove logs, debris, soil, rock, and other obstructions above and below the culvert that would impede flow into the culvert or away from the trailway. Minimize disturbance to streambeds. Construct a catch basin to facilitate flow from trail ditches into the culvert or drains.

Install pipes at the locations described in Trail Log and shown on the maps. Skew ditch relief culverts and drains to provide a downgrade equal to or greater than the uphill ditch. Excavate and remove all unsuitable material and rocks over 3 inches. Bed pipe with compacted suitable material free of rocks larger than 3 inches and in a stable foundation of compacted soil. Shape bed to fit the lower quadrant of the pipe and provide continuous support along the entire length of the pipe. Backfill and compact around culverts with suitable material that is free of rocks over 3 inches. Provide minimum of eight inches of cover height.

Install headwalls and or rip rap. Select rocks that have a general rectangular shape with flattop and bottom faces. Place the largest rocks on the bottom. Lay each rock stable on the course that supports it, interlocking with surrounding rocks. Do not break, jar, or displace rocks already set. Place the exposed face of each rock parallel to the face of the wall. Stagger vertical joints.

Grade Dips

This work consists of installing grade reversals, including excavation and backfill; selecting rock materials.

Construction

Install grade dips at the locations described in the trail log or as designated on the ground. Excavate trail way and assure finished trail bed dips and drains to daylight as described in the Trail Log.

Around water bars, backfill and compact suitable material that is free of rocks larger than 3 inches. Compact material on the downgrade side of the dip, and assure it is flush with the top of the trail bed.

Out slope the trailbed on the uphill side of the grade dip with slopes greater than the trail grade leading into the dip (5%). This assures all water in the trail flow off the trail at the dip.

Surfacing

Work consists of furnishing, hauling, watering, placing, and compacting aggregate surface material and or base courses and over geotextile fabrics where noted.

Materials

Place a minimum of 4” of 1 ½” crushed rock as a base material and minimum of 7” of ¾” crushed gravel. Rake a thin 1-2” layer of course stone dust as a surface material over all travel surfaces.

Stockpile, remove, transport, and spread aggregates in a manner that will preserve specified gradation and avoid contamination. Do not intermingle stockpiles of aggregate of different gradations.

Construction

Prepare and finish trailbed as required under earthwork descriptions. Obtain written approval of the project manager before placing aggregate. Use aggregate that is uniformly mixed at optimum moisture content and spread and compact in 4” layers to the final minimal thickness of 11” and width of five-feet.

Compact and water. Use a mechanical vibratory compactors over the full area of each layer until visual displacement ceases, but no fewer than three passes immediately following the final

spreading, smoothing, and compacting. Correct any irregularities or depressions that develop by adding or material until the surface is smooth, and uniform.

Establishing a temporary travel way to stockpile material deeper into the system is acceptable. Agreement on suitable sites must be approved by the project manager.

Sign and Blaze Installation

Placing new signs, posts and trail markers is work completed by volunteers.

Obliterate Abandoned Travel ways and Barrows and stockpiles

This work consists of obliteration of travel ways and reestablishment of natural vegetation. Fill holes, ditches and ruts. Remove temporary markers, pin flags, flagging tape and signs on all abandoned segments. Promote re-vegetation of abandon trailways, barrows, and stockpiles, spread duff from construction processes and transplant young conifers. Seed and mulch all disturbed soils. Place rocks, logs, branches, and duff to conceal the abandoned trailway and discourage future use.

Seeding and Mulching

Work consists of preparing seedbeds, furnishing, and placing required seed, and hay mulch. Furnish conservation mix seed, separately or in mixture, Use available mulch hay spread to standard thicknesses for siltation control

Construction

Shape and rake to a reasonably smooth finish cut slopes, fill slopes, embankments, or other areas to be seeded. Prepare soil in revegetation areas, obliterated trails, soil pits and any soils disturbed in the construction processes.

Spread mulch immediately after seeding, to a loose depth of three inches on all disturbed soils and duff.

Trail Log
Great Works Land Trust
Boston Farm Preserve

Wheel Dist. Ft	Meter	Task	Length	Notes	Grade	Sign	Forest Cover
0	0	Mesh trail onto proposed parking lot		edge of divot dbl pink. short access to loop	2%	add kiosk	dead pines young red oak
40	12	loop intersection, log reads clockwise, add sign		add sign, follow ledge on left	2%	add arrow or sign	red oak, dead pine
80	24	add 1foot fill in dip, Type B	30'	open ledge left, soil depth minimal	2%		Red oak dead pine
145	44	Grade dip-- Drain left, fill hole			3%		"
170	52	start fill, raise tread in long rocky swale, 8" culvert, Type C	50	Trail turns though rocky low boulder left	3%		"
210	64	8 culvert		lowest spot near end of curv	1%		"
220	67	Type B	20	out of hole, ledge and rock at start	7%		big oaks, dead pines, pine regen
300	91	Begin fill throgh low, Type C	50	through low spot	1%		"
348	106	End fill, Grade Dip		Trail right between boulders squeeze through pines	7%		red oak, dead pine
397	121	Add soil to ramp up to ledge top 16", Type B	40'	step up big boulder on left, some ledge below	16%		red oak. White Oak, Red maple
460	140	some old stumps		weave through boulders	2%		"
540	165	Fill hole in turn, grade dip, Type B	30'	rocky, ledgy, fill to form tread	2%		"
646	197	fill over holes, remove rocks, Type B	70	rocky, ledgy weaving and bobbing , wet grasses to right	1%		red oak, dead pine
775	236	Grade dip, move rock slight side hill		follow around below ledges, graveyard down and to right	3%		"
790	241	create ramp, Type B	16	step onto ledge 18", boulder on lft	14%		Dead pine
856	261	Grade dip	4'		2%		Scruby
755	230	Grade Dip		Edge of field, bare slightly right	4%		Field
937	286	fill hole	12	hole in contour	2%		Dead Pine, Red Oak
996	304	dismantle stone wall, reconstruct	20	cross stone wall, construct gate way save stone	6%		Red Oak, Dead Pine
1046	319	Add fill, Grade Dip, Type B		After lumpy turn, fill to ease grade	13%		"

1148	350	bench side hill, needs retaining wall stone	55	contouring decent, ledge on rt, retaining wall needed at bottom of slope	7%		Red Oak, Dead Pine, Sugar Maple
1195	364	add fill, retaining walls, 8" culvert, dismantle stone wall Type C	50	tricky crossing of wide swale, ramp off side hill, fill through low, and poison ivy.	5%		Red Oak
1230	375	8" Pipe, Add fill, Type C		Start Switch Back, more PI	1%		Red Oak
1283	391	turn right on ramp above ledge add fill to holes, Type B	40	hard right, switch back turn	6%		"
1337	411	Shape step up to ramp, add fill. remove rock, Type B	6'	ramp up between ledge bands	15%		red oak
1381	421	switch back lft on flat, Type B		switchback around end of upper ledge	5%	Cut Off Tr.	"
				Side Trail Intersection			
150		***Shape to ramp up***		***Side Trail, legnth***	***5%***		
1462	446	Add 8" Culvert, Fill Ditch, Type C	12	minor dip crossing to find natural shelf	2%		Pine & Oak side of old road
1554	474	Lower elevation 6" to reduce grade	20'	minor rise in bench	9%		red oak, Red Maple
1602	488	Grade dip			3%		hemlock
1706	520	grade dip		weave through boulders	0%		"
1849	564	cross stone wall use rock for side hill add fill	15	little steep drop , then stonewall, soil available, crosses into natural swale.	4%		hemlock
1882	574	8" culvert, add fill through swale, Type B	30	wide swale, stones needed to support benching	5%		hemloc, red Oak
1966	599	Rearrange Rocks, Add Fill, Type C	20	lumpy shollow duff, ledge band .	1%		hemlock
					1%		"
2165	660	Add Geotextile and fill, Type C		low flat, soft duffy soils, bring trail up	0%		hem
2271	692	Add fill move rocks, Type C	20	lumpy benieth ledge may need additional fill	1%		red Oak, white pine.
2346	715	add fill to reduce grade, 2' and clear ledge, Type B	45'	circle end of ledge band, build climbing turn reduce hummock far end stone wall is property line	8%		white pine, dead pine, hemlock
2729	832	8"culvert ,	15	small ditch	6%		scrub
2817	859	reduce hummock	20	reducing grades, gather fill	10%		ro
2992	912	add fill through swale, Type C	30	wide swale, drains away both sides stones needed to support benching	3%		hemloc, red oak, white oak
3110	948	add fill in low reduce grade change	25	little drop , then lumpy, soil available,	4%		hemlock
3237	987	grade dip		lump natural bench in side hill, view across swale, oxbow	6%		red oak
3337	1017	Grade dip			2%		red oak. hemloc
3410	1039	grade dip, raise tread, Type C	50	lumpy, old stmps, softer soils	0%		red oak. White pine, dead pine

3508	1069	add fill to build ramp, Type B	10	minor step up to natural shelf	9%		ro, dp wo
3818	1164	add fill to build ramp, Type B	14	step down off ledge, view down bank left	12%		hemlock, white oak, white pine
3955	1205	grade dip, raise tread, Type C	50	old winter rd, a bit low	1%		white pine, hemock, birch
4064	1239	grade dip		mid point of wide turn	3%		beech, rm ro p
4137	1261	build side hill, add retain wall rocks, Type B	73	tricky crossing around ledge, note old road below hill, fill through low,	1%		ro, wo, rm
4262	1299	end tricky type B	55	contouring decent, ledge on rt, retain bottom of slope	7%		red oak, dead pine, sugar maple
4328	1319	gd		steep bank to lft	4%		hemlock
4462	1360	dismantle stone wall, reconstruct	12	op of knoll	2%		hemlock
4515	1376	Grade dip-- Drain lt		at turn	5%		white pine, Red oak, hemlock
4583	1397	inersection, add fill for 2 step downs	32	road splits and peters above, to of switchback on rt	5%		"
4697	1432	add fill in swale, 6" pipe, grade dip	30	raise tread through low.	6%		Field
4817	1468	exit road	140'	step off road to avoid steeper section, old road on right... fill erroded section	4%		Scruby
4905	1495	return to road, Grade dip			14%		dead pine
4947	1508	grade dip, leave road	40	avoid steeper bubble of ledge	3%		"
5052	1540	retun to road		ledge to right	1%		Red Oak
5113	1558	grade dip		on road	2%		"
5209	1588	leave shape bank, fill minor ruts		old road becomes steep, grave yard off to right, wetland to left	2%		"
5312	1619	grade dip at apex of turn, thin honeysuckle for view of rock		turn in small opening near another boulder	7%		red oak, white oak, red maple
5358	1633	grade dip		Trail circls around boulders	4%		red oak, sugar maple, ash
5399	1646	scrape glass and trash, fill with gravels and top soils	50	trail circles erratics, clean up farm dump, revegitate, Old stone water well on left (capped with dubious boards)	4%		honeysuckle, sugar maple, cherry
5482	1671	keep open allow for vehicle to cross trail	20	old field road and possible access for deliveries deeper into property	1%		oak, honeysuckle
5562	1695	gd		turn to rt into honeysockle	5%		red oak, ash, sugar maplem
5593	1705	intersction, add post		**Side Trai**l to barn foundation to rt 120	1%	add sign	sugar maple
120	***37***	***Side trail, existing smooth surfaces, little duff, Create room for educational signage***		***Side Trail Legnth***			
5692	1735	dismatle stone wall use rocks for short retaining wall, fill to taper slope, Type B	20	farm foundation to left, cem right	6%		"

5802	1768	grade Dip		open ledge left	2%	oak, dead pine
5837	1779	grade dip some fill, Type B	15	follow natural shelf	4%	red oak, dead pine
		End at spur to Parking			2%	dead pines young red oak

Trail Clearing Description

Tasks Completed by Volunteers

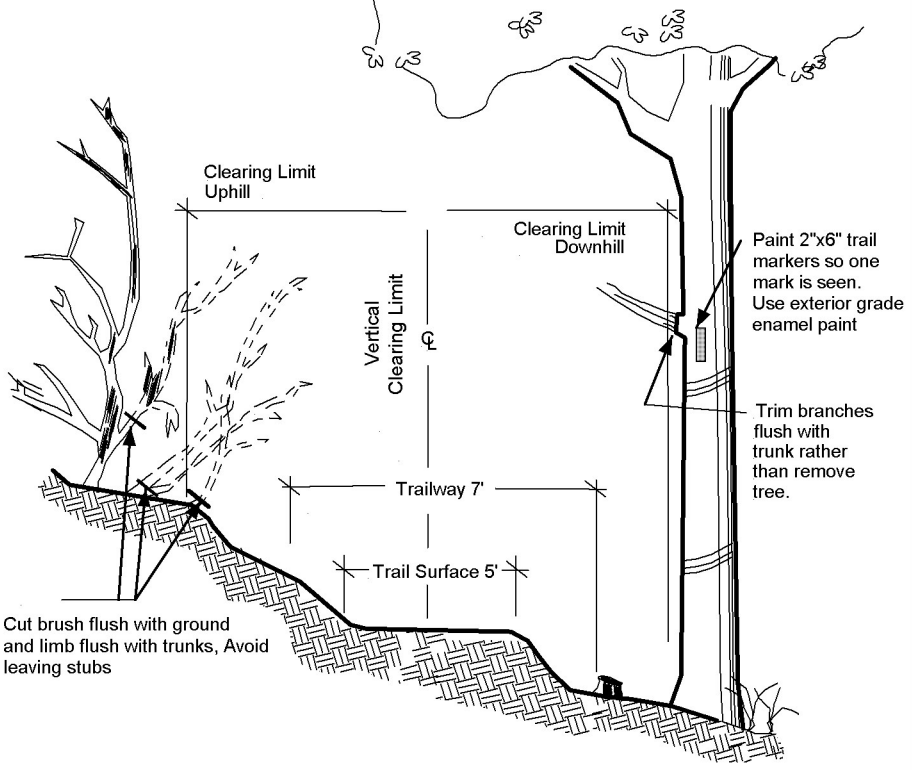
Clearing Limits/ Trailbed Widths

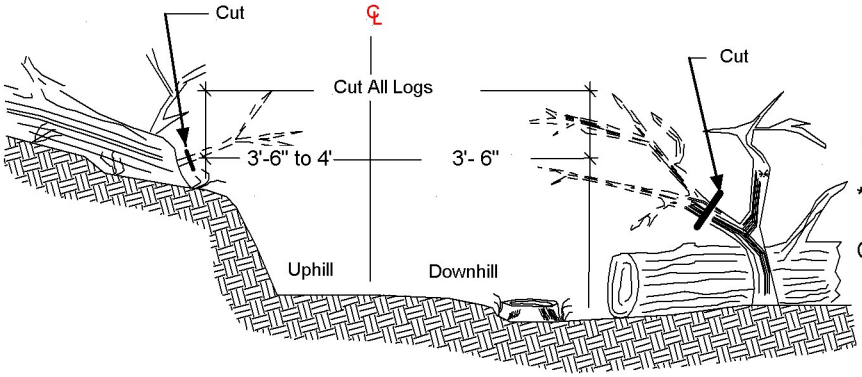
Location	Uphill	Downhill	Vert.	Trailbed (W)
0-5% slope Define w/ clinometer	3'- 6" min From CL Flags	3'- 6" from CL Flags	8' min	5'-0"
5-8% slope Define w/ clinometer	4' min from CL Flags	3'-6" from CL Flags	9'- 0"	5'-6"
8%> side slope	5' min from CL flags	3'-6" from CL flags	10'-0"	5'-0"

Do not remove trees over 6" diameter if they are over 2'-6" from centerline

Remove all woody growth 2" diameter or greater if within 3'-0" of Centerline

Cut through all fallen logs to form 5' to 6' pieces. Large logs removed by contractor.





Trail Clearing Notes

* Tread surface is generally 5 feet wide

Clear vegitation beyond Trailway, 7' to 8'-6
* Minimum clearing width is 6'-0"
* Minimum clearing height is 8'-0"
* For construction purpopses, clearing heights, and widths increase with steeper side slopes
* Cut stumps at or near ground level
* Remove all woody growth in Trailway
* Assure Trail is continuous and obvious
* Remove slash, brush and small logs and place minimum of 25' from clearing limits
* Cut large logs and leave for removal by construction contractor
* Stack brush from pasture pine stand in field for removal by construction contractor

Replace signs at new junctions

Paint 2"X 6" route markers on trees so one is in sight of one other for user reassurance

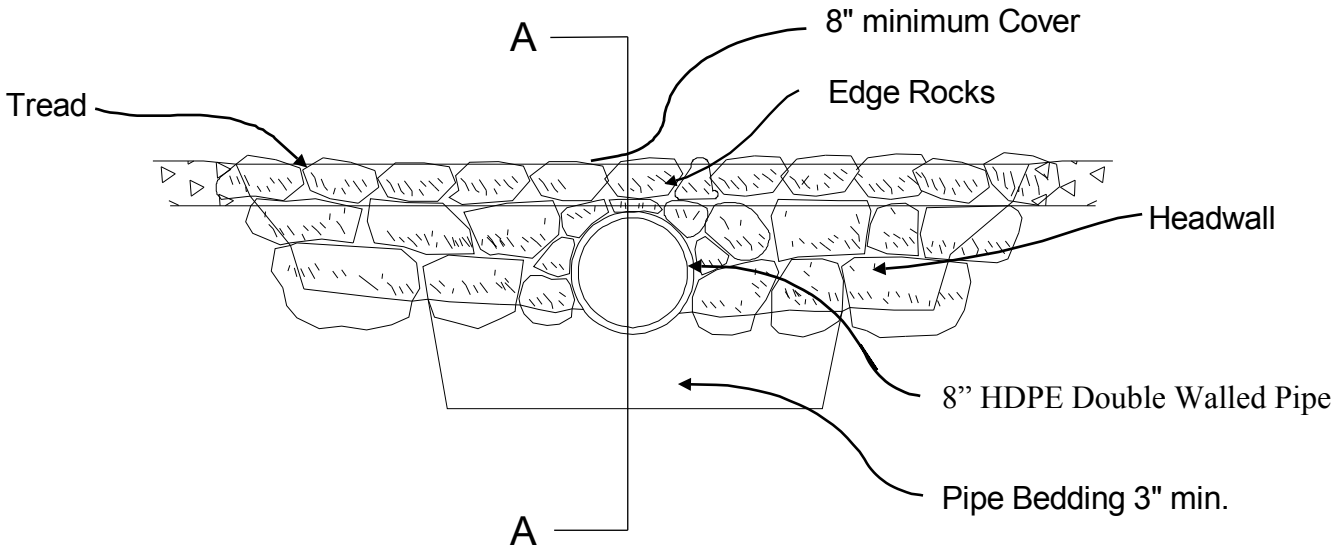
Place information and interpretive signs as required

Stump Height Requirements

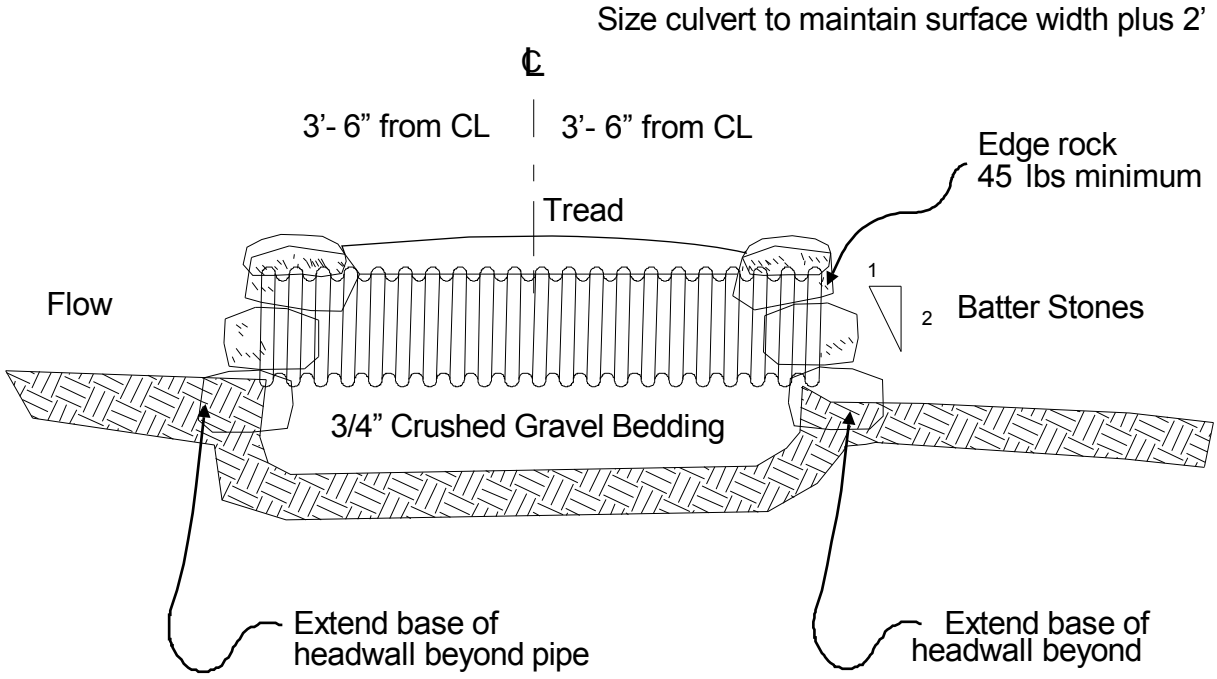
Stump Position	Side Slope	Uphill	Downhill
Stumps between the trailway and clearing limits.	Side slope less than or equal to 7%	Remove	Remove
	Side slope over 8%	Remove	1 1/2"
Stumps outside the clearing limits	Side slope less than or equal to 10%	1 1/2"	3"
	Side slope over 10%	1 1/2"	5"

Clearing Limits

CULVERT WITH HEADWALLS



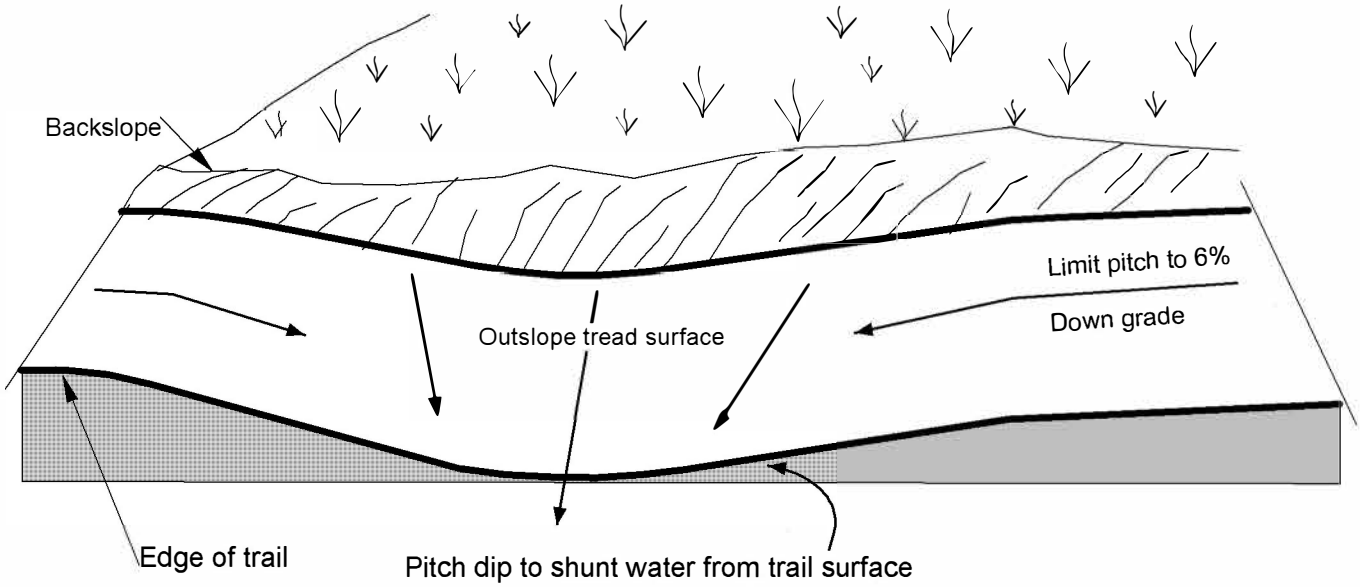
END VIEW



SECTION A-A

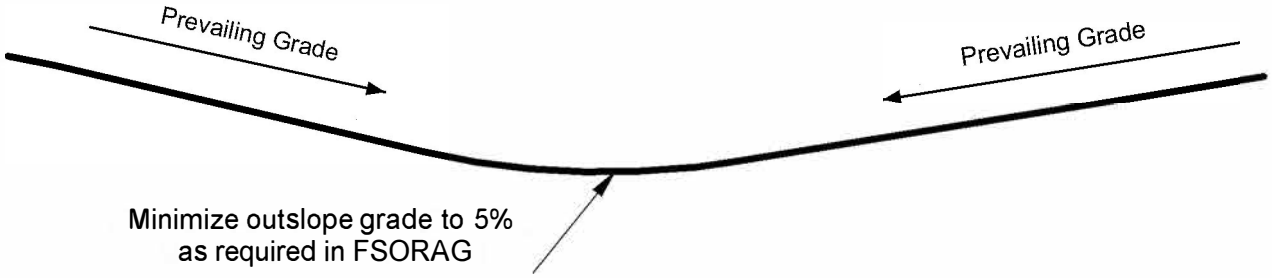
GRADE DIP

NOT TO SCALE



OBLIQUE VIEW

Trail is designed to undulate across slopes and to shed surface water. Allow the moderate climbs and decents to ramain through the construction processes. Asssure unobstructed flow of water off the trail and into the forest.

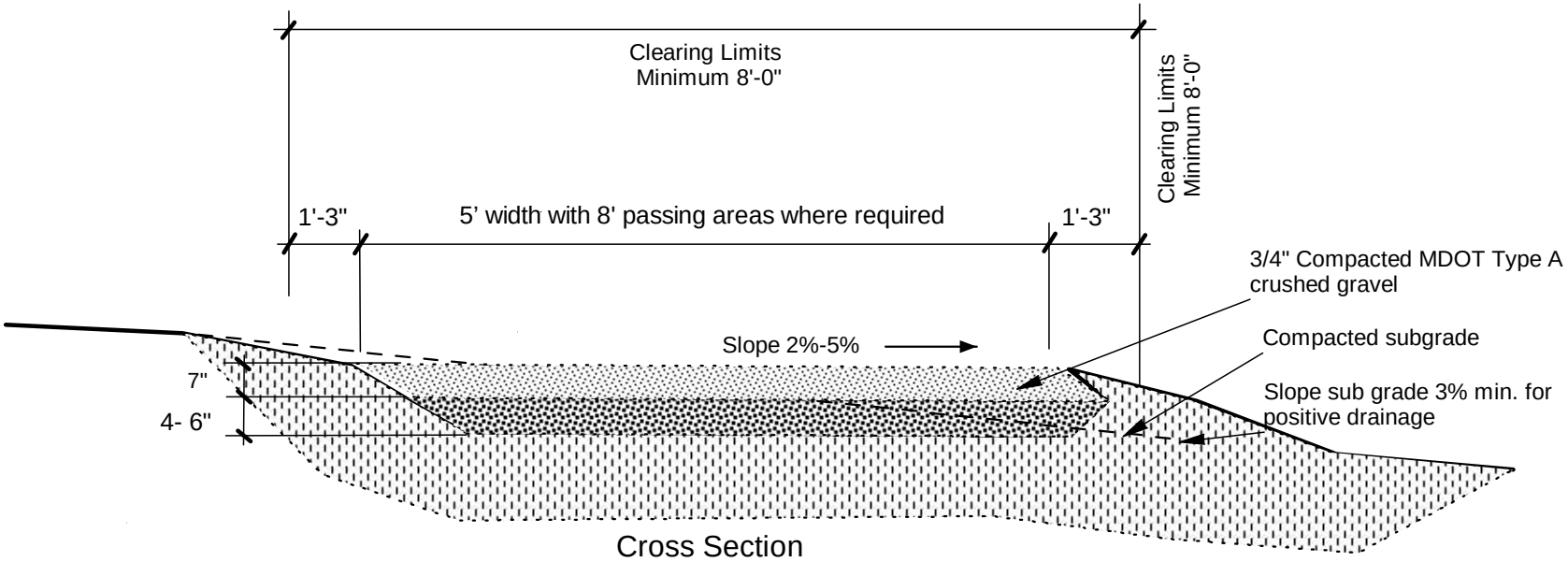


PROFILE

GRADE DIP

Description:

* Type A is the typicale method for most of the route
* 4-6" + of 1 1/2" crushed stone base layer
* 7" layer of compacted 3/4" crushed gravel
* 1-2" top coat of corse rock dust
* Parent soils are a mix of silty sands, gravely sands, and just plain rocky
* Grades typically less than 4% but as high as 7%
* Tread 5 feet wide, compacted, and construction uniform
* Root mat and top soil removal required
* Trail bed shapeing, and softening of grades on about a third of the loop is competed adding 1 1/2" crushed stone.
* Two thirds of the loop has enough soil to shape trail bed.
* Trail drainage provided with outslopes, grade dips and grade reversals
  assure water exists trailway completely
* Clear vegitation beyond trailway



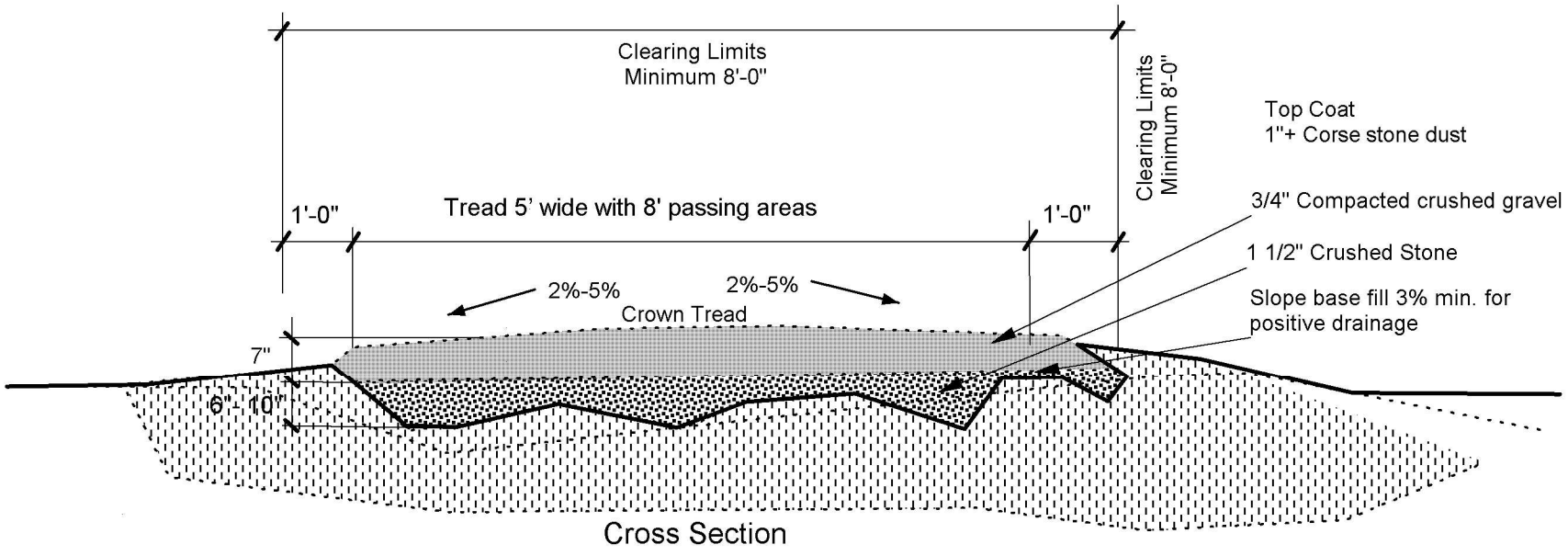
Cross Section

A

Type A Tread Construction

Description:

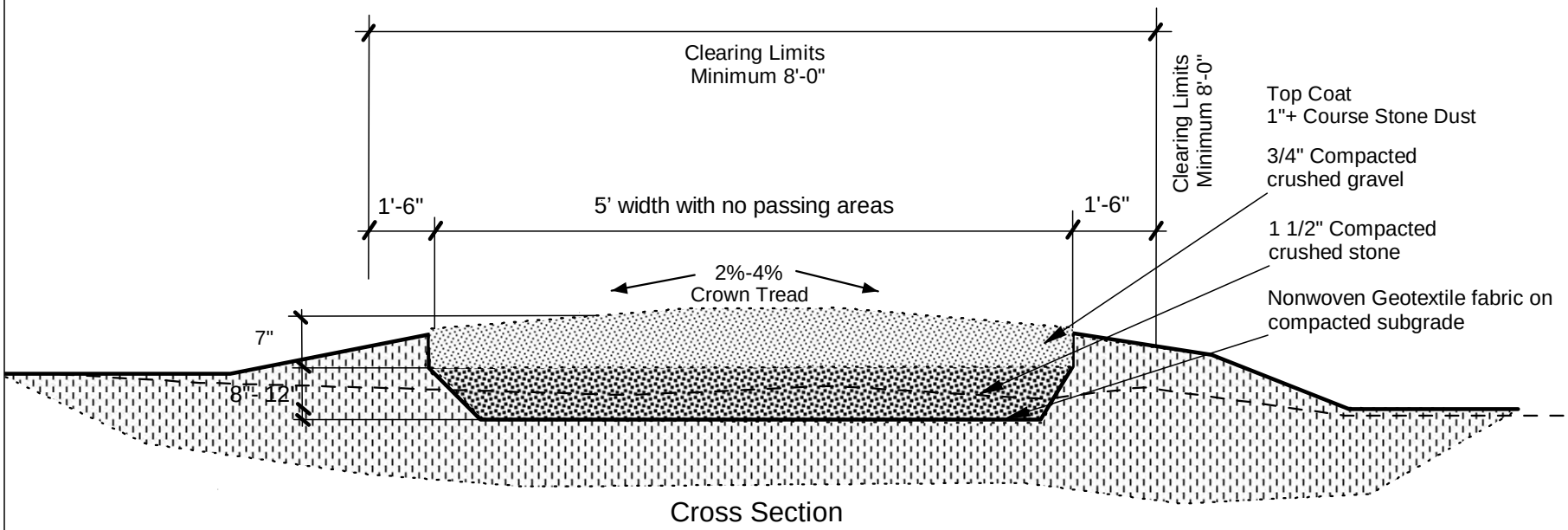
* Type B is typically used on areas of exposed and nearly exposed ledge.
* The plan calls for crushed rock fill as a base over the bedrock.
* Some areas will contain natural steps in the ledge and large racks spaulled and sitting on top.
* Assure rock is essentiallly rooted, the goal is to provide easy drainage across the bedrock
* if possible, remove rocks in natural pockets
* Parent soils are mostly bedrock and usually just below a thin layer of root and moss.
* Grades vary as a couple of swithbacks are near 7% but typically less than 5%
* Limited root mat and top soil removal required as soils are thin, expect corse some gray sand under a duffy root mat.
* Trail bed shape completed with 1 1/2" crushed stone
* Trail drainage provided with grade dips and grade reversals
* Tread 5 feet wide, compacted, and uniform often with a crowned tread, assure water exists trailway
* Clear vegitation beyond trailway



B Type B Tread Construction

Description:

* Type C is typically used in swales between ledge bands
* Most swales are flat or slightly dished. The goal is to raise the tread
* Root mat and top soil removal required
* Trail bed may contain large rocks if rooted and stable, fill over.
* Trail drainage provided with crowning the tread surface, slight grade reversals and for many swales culvert are used to prevent the trail from acting as a dam
* Fabric used to seperate fills from the often a more damp and silty soil
* 8 to 12" Compacted 1 1/2" cruched stone
* 7" compacted 3/4" crushed gravel surface
* Grades through swales are typically less than 3%
* Tread 5 feet wide, compacted, and uniform
* Trail drainage provided with grade dips and grade reversals culverts used to prevent trail acting as a dam
* Assure water exists trailway completely
* Clear vegitation beyond trailway



Cross Section

C

Type C Tread Construction