

Scope of Work for
"City Parks Trail Maintenance & Improvements"

Prepared for

City of Rapid City
Parks & Recreation Department
June 10, 2013

1 Scope of Work:

- A. Layout and Construct sustainable natural surface trail from Founders Park West into Chuck Lien Family Park, which will connect into the Hanson-Larsen Memorial Park trail system. This trail will be the main point of access on the West end of the Park complex and mitigate erosion from the use of existing unsustainable and unsafe trails.
- B. Closure of existing unsustainable trails after the construction of new trails.

1.1 Trail Specifications, Standards, and other Requirements:

Terrain: Partially wooded with moderate to steep side-slopes, soils quality poor to acceptable.
Construction Type: Moderate difficulty 48" *TrailArts* Rolling-Contour Machine-Build with Hand Finishing.
Features: Integration of drainage features; out-slope, grade dips, and grade reversals, into the trail.

TrailArts adherence to Standardized Construction Specifications and Standards consistently provides the highest quality natural surface trails available. The following processes are utilized for all of our *Full-Finish* Natural-Surface Trail Construction.

Tread Preparation:

- 1. Machine assisted excavations and grading of full bench trail tread. This includes, but is not limited to:
 - ✓ Cutting back slopes with proper and appropriate angle of repose.
 - ✓ Filling and rebuilding climbing turns and switchbacks with proper tread slopes and drains.
 - ✓ Cutting, filling and grading the trail tread with proper out slopes of between 3% and 8%.
 - ✓ Balanced Grade Excavation between drainage features.
 - ✓ Installing rolling grade dip and knick drainage features.
 - ✓ Rolling grade dips, or knick drains as the standard drainage feature.
 - ✓ Average trail grades not exceeding 8-10%.
 - ✓ Maximum trail grades not exceeding 12% for hiking and equestrian, 15-17% for biking, and OHV.
 - ✓ All Trail grades verified with a clinometer.
 - ✓ Trail out slope between 3-8% checked with a digital level.
 - ✓ Installing stone retention and culvert structures per project specifications.
 - ✓ Grading and contouring all critical edge berm flush with tread to enhance sheet drainage.
 - ✓ Grading and contouring all down slope berms with proper and appropriate angle of repose.

Tread Preparation: (cont.)

- 2. Hand grooming and finishing of trail corridor and tread. This includes but is not limited to:
 - ✓ Finish raking of back slopes, the trail tread, and down slope berms.
 - ✓ Hand fitting and finishing stonework.
 - ✓ Compacting filled tread zones. This includes switchback and climbing turns, grade dips, and drains, and any area where fill is utilized to correct the tread grade.
 - ✓ Removing rocks protruding from tread greater than 2" and placing on the down slope of the trail.
 - ✓ Removing stones on the surface of the tread larger than 1/4" and placing on the down slope of the trail.
 - ✓ Removing woody material from the trail, i.e. stumps, and logs, roots greater than 1/2" diameter
 - ✓ Removing non-noxious spoils from the trail and dispersing at least 20ft from the trail.
 - ✓ Removing noxious spoils (weed, brush trees) and dispersing only within currently infested areas or removing from site.

Trail Corridor Preparation:

1. Hand and machine assisted pruning and clearing of the trail corridor. This includes but is not limited to:
 - ✓ Flush cut pruning and cutting which leaves no sharp hazards.
 - ✓ Pruning and clearing at least 2' behind the trail edges and a minimum of 10' overhead.
 - ✓ Dispersing non-noxious spoils and woody material at least 20ft from the trail corridor or utilizing to obliterate social trails.
 - ✓ Dispersing noxious spoils (weed, brush trees) only within currently infested areas or removing from site.
 - ✓ Replanting native plant species when appropriate.

2. Closure and obliteration of social and reclaimed trails. This includes but is not limited to.
 - ✓ Ripping and/or tilling tread surface. (Except in noxious infestation zones)
 - ✓ Seeding with native vegetation.
 - ✓ Replanting of native plant species when possible.
 - ✓ Scarifying tread surface and barricading trail corridor with brush and tree cuttings.
 - ✓ Installing and securing straw matting (if specified and provided)
 - ✓ Installing signage (if specified and provided)

1.2 Other Standards and Requirements:

Warranty: Standard Two-Year Warranty. TrailArts provides a standard two-year warranty for problems created by reasonable use and reasonable weather conditions

1.3 Project Schedule:

TrailArts is available to begin work in July 2013. We estimate approximately 2-4 weeks complete the project dependent on weather and soil conditions.

2 Project Cost Estimate:

Trail Consulting and Layout	\$1,700.00
Trail Construction:	\$19,050.00
Structural Climbing Turns	\$1,500.00
Contour Drainage Crossings	\$600.00
Trail Closure (incl.seeding/signage):	\$6,612.50
Mobilization	\$1,473.12
Total	\$30,935.62